One Identity Manager 8.1.5

Administration Guide for Connecting to G Suite

Copyright 2021 One Identity LLC.

ALL RIGHTS RESERVED.

This guide contains proprietary information protected by copyright. The software described in this guide is furnished under a software license or nondisclosure agreement. This software may be used or copied only in accordance with the terms of the applicable agreement. No part of this guide may be reproduced or transmitted in any form or by any means, electronic or mechanical, including photocopying and recording for any purpose other than the purchaser's personal use without the written permission of One Identity LLC .

The information in this document is provided in connection with One Identity products. No license, express or implied, by estoppel or otherwise, to any intellectual property right is granted by this document or in connection with the sale of One Identity LLC products. EXCEPT AS SET FORTH IN THE TERMS AND CONDITIONS AS SPECIFIED IN THE LICENSE AGREEMENT FOR THIS PRODUCT, ONE IDENTITY ASSUMES NO LIABILITY WHATSOEVER AND DISCLAIMS ANY EXPRESS, IMPLIED OR STATUTORY WARRANTY RELATING TO ITS PRODUCTS INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTY OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE, OR NON-INFRINGEMENT. IN NO EVENT SHALL ONE IDENTITY BE LIABLE FOR ANY DIRECT, INDIRECT, CONSEQUENTIAL, PUNITIVE, SPECIAL OR INCIDENTAL DAMAGES (INCLUDING, WITHOUT LIMITATION, DAMAGES FOR LOSS OF PROFITS, BUSINESS INTERRUPTION OR LOSS OF INFORMATION) ARISING OUT OF THE USE OR INABILITY TO USE THIS DOCUMENT, EVEN IF ONE IDENTITY HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES. One Identity makes no representations or warranties with respect to the accuracy or completeness of the contents of this document and reserves the right to make changes to specifications and product descriptions at any time without notice. One Identity does not make any commitment to update the information contained in this document.

If you have any questions regarding your potential use of this material, contact:

One Identity LLC.
Attn: LEGAL Dept
4 Polaris Way
Aliso Viejo, CA 92656

Refer to our Web site (http://www.OneIdentity.com) for regional and international office information.

Patents

One Identity is proud of our advanced technology. Patents and pending patents may apply to this product. For the most current information about applicable patents for this product, please visit our website at http://www.OneIdentity.com/legal/patents.aspx.

Trademarks

One Identity and the One Identity logo are trademarks and registered trademarks of One Identity LLC. in the U.S.A. and other countries. For a complete list of One Identity trademarks, please visit our website at www.OneIdentity.com/legal. All other trademarks are the property of their respective owners.

Legend

WARNING: A WARNING icon highlights a potential risk of bodily injury or property damage, for which industry-standard safety precautions are advised. This icon is often associated with electrical hazards related to hardware.

CAUTION: A CAUTION icon indicates potential damage to hardware or loss of data if instructions are not followed.

One Identity Manager Administration Guide for Connecting to G Suite
Updated - 09 July 2021, 12:38
Version - 8.1.5

Contents

Mapping G Suite in One Identity Manager **9**
Architecture overview 9
One Identity Manager users for managing G Suite 10
Configuration parameter 12

Synchronizing G Suite **13**
Setting up initial synchronization of G Suite 13
Users and permissions for synchronizing with G Suite 14
Setting up required permissions for accessing G Suite 16
Setting up the G Suite synchronization server 17
System requirements for the G Suite synchronization server 17
Installing the One Identity Manager Service 18
Creating a synchronization project for initial synchronization of G Suite 20
Information required for setting up a synchronization project 21
Creating an initial synchronization project for G Suite 22
Configuring the synchronization log 26
Adjusting the synchronization configuration for G Suite environments 27
Configuring synchronization in G Suite 28
Configuring synchronization of different customers 28
Updating schemas 29
Speeding up synchronization with revision filtering 30
Advanced settings for system connection to G Suite 30
Editing connection parameters in the variable set 33
Editing target system connection properties 34
Configuring the provisioning of memberships 35
Configuring single object synchronization 36
Accelerating provisioning and single object synchronization 37
Executing synchronization 38
Starting synchronization 39
Displaying synchronization results 40
Deactivating synchronization 40
Synchronizing single objects 41

Tasks after a synchronization 42
Post-processing outstanding objects 42
Adding custom tables to the target system synchronization 44
Managing user accounts through account definitions 45
Troubleshooting 45

Managing G Suite user accounts and employees 46
Account definitions for G Suite user accounts 47
Creating account definitions 48
Editing account definitions 48
Master data for account definitions 48
Editing manage levels 50
Creating manage levels 51
Master data for manage levels 52
Creating mapping rules for IT operating data 53
Entering IT operating data 54
Modify IT operating data 56
Assigning account definitions to employees 57
Assigning account definitions to departments, cost centers, and locations 58
Assigning account definitions to business roles 58
Assigning account definitions to all employees 59
Assigning account definitions directly to employees 59
Assigning account definitions to system roles 60
Adding account definitions in the IT Shop 60
Assigning account definitions to target systems 62
Deleting account definitions 62
Automatic assignment of employees to G Suite user accounts 65
Editing search criteria for automatic employee assignment 66
Finding employees and directly assigning them to user accounts 67
Changing the manage level in G Suite user accounts 69
Assigning account definitions to linked user accounts 69
Manually linking employees to G Suite user accounts 70
Supported user account types 71
Default user accounts 72
Administrative user accounts 73
Providing administrative user accounts for one employee 73

Providing administrative user accounts for several employees 74
Privileged user accounts 75

Provision of login information for G Suite user accounts 77
Password policies for G Suite user accounts 77
Predefined password policies 78
Using password policies 79
Editing password policies 81
Creating password policies 81
General master data for password policies 81
Policy settings 82
Character classes for passwords 83
Custom scripts for password requirements 84
Script for checking passwords 85
Script for generating a password 86
Editing the excluded list for passwords 87
Checking passwords 87
Testing the generation of passwords 88
Initial password for new G Suite user accounts 88
Email notifications about login data 89

Managing G Suite entitlement assignments 91
Assigning G Suite entitlements to user accounts in One Identity Manager 91
Assigning G Suite entitlements to departments, cost centers, and locations 93
Assigning G Suite entitlements to business roles 94
Adding G Suite entitlements to system roles 95
Adding G Suite entitlements to the IT Shop 95
Assigning G Suite user accounts directly to an entitlement 97
Assigning G Suite entitlements directly to a user account 98
Assigning G Suite groups directly to a customer 98
Assigning G Suite customers directly to a group 99
Effectiveness of G Suite entitlement assignments 99
Inheritance of G Suite entitlements based on categories 101
Overview of all assignments 104

Mapping of G Suite objects in One Identity Manager 106
G Suite customers 106

Creating G Suite customers 106
Editing master data for G Suite customers 107
General master data for G Suite customers 107
G Suite customer address data 109
Defining categories for the inheritance of G Suite entitlements 109
Additional tasks for managing G Suite customers 110
Overview of a G Suite customer 110
Editing the synchronization project for a G Suite customer 110
G Suite user accounts 111
Creating G Suite user accounts 112
Editing master data for G Suite user accounts 113
General master data for G Suite user accounts 114
Password data for G Suite user accounts 117
Phone numbers for G Suite user accounts 118
Addresses for G Suite user accounts 119
Email addresses for G Suite user accounts 119
External IDs for G Suite user accounts 120
Instant messenger data for G Suite user accounts 120
User details for G Suite user accounts 121
Relationships of G Suite user accounts 122
Websites of G Suite user accounts 122
Additional tasks for managing G Suite user accounts 123
Overview of G Suite user accounts 123
Assigning extended properties to G Suite user accounts 124
Moving G Suite user accounts to a different organization 124
Locking G Suite user accounts 124
Deleting and restoring G Suite user accounts 126
Transferring user data to a different G Suite user account 127
G Suite groups 128
Creating G Suite groups 128
Entering master data for G Suite groups 128
General master data for G Suite groups 129
Additional settings for G Suite groups 130
Additional tasks for managing G Suite groups 131
Overview of G Suite groups 132

Assigning extended properties to G Suite groups 132
Assigning group managers 133
Assigning group owners 134
Assigning G Suite groups to G Suite groups 135
Deleting G Suite groups 136
G Suite products and SKUs 136
Editing master data for G Suite products and SKUs 136
General master data for G Suite products and SKUs 136
Additional tasks for managing G Suite products and SKUs 137
Overview of G Suite products and SKUs 138
Assigning extended properties to G Suite products and SKUs 138
G Suite organizations 139
Creating G Suite organizations 139
Editing master data for G Suite organizations 139
General master data for G Suite organizations 140
Additional tasks for managing G Suite organizations 140
Overview of G Suite organizations 141
Moving G Suite organizations 141
Deleting G Suite organizations 141
G Suite domains 142
G Suite domain aliases 142
G Suite admin roles 143
Creating G Suite admin roles 143
Editing master data for G Suite admin roles 143
General master data for G Suite admin roles 144
Additional tasks for managing G Suite admin roles 144
Overview of G Suite admin roles 144
Assigning admin privileges to G Suite admin roles 145
Deleting G Suite admin roles 145
G Suite admin privileges 146
Display master data for G Suite admin privileges 146
Additional tasks for managing G Suite admin privileges 146
Overview of G Suite admin privileges 146
Assigning G Suite admin privileges to admin roles 147
G Suite admin role assignments 147

Creating G Suite admin role designations 147
Additional tasks for managing G Suite admin role assignments 148
Overview of G Suite admin role assignments 148
Assigning user accounts to G Suite admin role designations 148
Deleting G Suite admin role assignments 149
Reports about G Suite objects 149

Handling of G Suite objects in the Web Portal 151

Basic data for managing G Suite 153
Job server for G Suite-specific process handling 154
Editing G Suite Job servers 154
General master data for Job servers 155
Specifying server functions 157
Target system managers for customers 158

Troubleshooting the connection to a G Suite environment 161
Newly added G Suite user accounts are marked as outstanding 161

Appendix: Configuration parameters for managing G Suite 163

Appendix: Default project templates for G Suite 165

Appendix: API scopes for the service account 167

Appendix: Processing G Suite system objects 169

Appendix: Special features in the assignment of G Suite groups 170

About us 171
Contacting us 171
Technical support resources 171

Index 172

1

Mapping G Suite in One Identity Manager

One Identity Manager offers simplified user administration for G Suite. One Identity Manager concentrates on setting up and editing user accounts and providing the required permissions. For this, groups, organizations, permissions, admin roles, products, and SKUs are mapped in One Identity Manager.

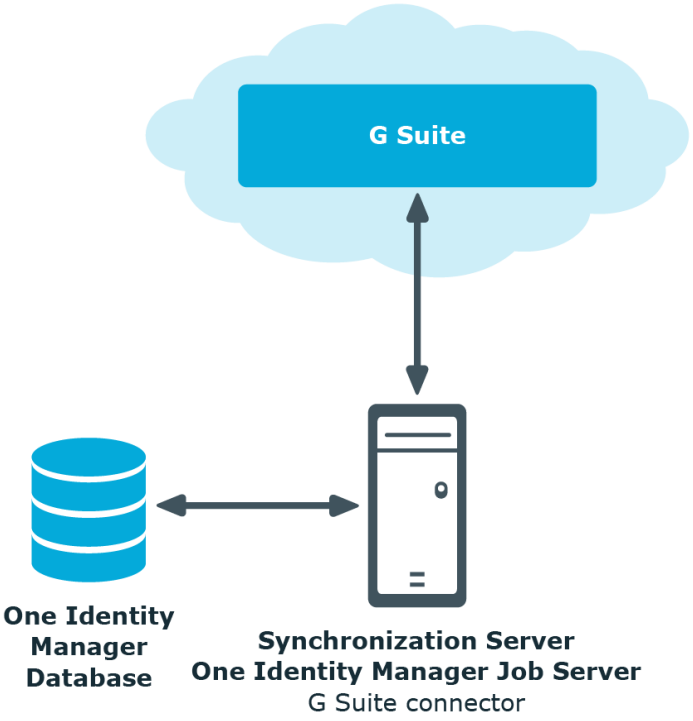
One Identity Manager provides company employees with the user accounts required to allow you to use different mechanisms for connecting employees to their user accounts. You can also manage user accounts independently of employees and therefore set up administrator user accounts.

For more detailed information about the G Suite structure, see the G Suite documentation from Google.

Architecture overview

To access G Suite data, the G Suite connector is installed on a synchronization server. The G Suite connector establishes communication with the G Suite to be synchronized through several Google Inc. REST APIs. The synchronization server ensures data is compared between the One Identity Manager database and G Suite.

Figure 1: Architecture for synchronization



One Identity Manager users for managing G Suite

The following users are used for setting up and administration of G Suite

Table 1: Users

User	Tasks
Target system administrators	Target system administrators must be assigned to the **Target systems | Administrators** application role. Users with this application role: • Administer application roles for individual target system types. • Specify the target system manager. • Set up other application roles for target system managers if required. • Specify which application roles for target system managers are mutually exclusive.

User	Tasks
	• Authorize other employees to be target system administrators. • Do not assume any administrative tasks within the target system.
Target system managers	Target system managers must be assigned to the **Target systems | G Suite** application role or a child application role. Users with this application role: • Assume administrative tasks for the target system. • Create, change, or delete target system objects like user accounts or groups. • Edit password policies for the target system. • Prepare entitlements to add to the IT Shop. • Can add employees who have an other identity than the **Primary identity**. • Configure synchronization in the Synchronization Editor and define the mapping for comparing target systems and One Identity Manager. • Edit the synchronization's target system types and outstanding objects. • Authorize other employees within their area of responsibility as target system managers and create child application roles if required.
One Identity Manager administrators	• Create customized permissions groups for application roles for role-based login to administration tools in the Designer as required. • Create system users and permissions groups for non role-based login to administration tools in the Designer as required. • Enable or disable additional configuration parameters in the Designer as required. • Create custom processes in the Designer as required. • Create and configure schedules as required. • Create and configure password policies as required.

Configuration parameter

Use configuration parameters to configure the behavior of the system's basic settings. One Identity Manager provides default settings for different configuration parameters. Check the configuration parameters and modify them as necessary to suit your requirements.

Configuration parameters are defined in the One Identity Manager modules. Each One Identity Manager module can also install configuration parameters. In the Designer, you can find an overview of all configuration parameters in the **Base data | General | Configuration parameters** category.

For more information, see Configuration parameters for managing G Suite on page 163.

2

Synchronizing G Suite

One Identity Manager supports synchronization with G Suite. The One Identity Manager Service is responsible for synchronizing data between the One Identity Manager database and G Suite.

This sections explains how to:

- Set up synchronization to import initial data from G Suite to the One Identity Manager database.
- Adjust a synchronization configuration, for example, to synchronize different customers with the same synchronization project.
- Start and deactivate the synchronization.
- Analyze synchronization results.

TIP: Before you set up synchronization with G Suite, familiarize yourself with the Synchronization Editor. For detailed information about this tool, see the *One Identity Manager Target System Synchronization Reference Guide*.

Detailed information about this topic

- Setting up initial synchronization of G Suite on page 13
- Adjusting the synchronization configuration for G Suite environments on page 27
- Executing synchronization on page 38
- Troubleshooting on page 45
- Processing G Suite system objects on page 169

Setting up initial synchronization of G Suite

The Synchronization Editor provides a project template that can be used to set up the synchronization of user accounts and permissions for G Suite. You use these project templates to create synchronization projects with which you import the data from G Suite

into your One Identity Manager database. In addition, the required processes are created that are used for the provisioning of changes to target system objects from the One Identity Manager database into the target system.

To load G Suite objects into the One Identity Manager database for the first time

1. Prepare a user with sufficient permissions for synchronizing in G Suite.
2. The One Identity Manager components for managing G Suite environments are available if the **TargetSystem| GoogleApps** configuration parameter is set.
    - In the Designer, check if the configuration parameter is set. Otherwise, set the configuration parameter and compile the database.
    - Other configuration parameters are installed when the module is installed. Check the configuration parameters and modify them as necessary to suit your requirements.
3. Install and configure a synchronization server and declare the server as a Job server in One Identity Manager.
4. Create a synchronization project with the Synchronization Editor.

Detailed information about this topic

- Users and permissions for synchronizing with G Suite on page 14
- System requirements for the G Suite synchronization server on page 17
- Creating a synchronization project for initial synchronization of G Suite on page 20
- Configuration parameters for managing G Suite on page 163
- Default project templates for G Suite on page 165

Users and permissions for synchronizing with G Suite

The following users are involved in synchronizing One Identity Manager with G Suite.

Table 2: Users for synchronization

User	Permissions
User for accessing the target system (synchronization user)	You must provide at least one user with super-user permissions and a service account for authentication for full synchronization of G Suite objects with the supplied One Identity Manager default configuration. • The Google cloud platform project requires access to the following API's. Admin SDK

User	Permissions
	Enterprise License Manager API Groups Settings API • A service account with the associated JSON key and cross domain G Suite delegation is required for authentication. • API access must be enabled in the Google Admin console. • The service account's client ID must be authorized for various API scopes in the Google Admin console: A list of API scopes is available on the One Identity Manager installation medium. You can use this list as a copy template. Directory: `Modules\GAP\dvd\AddOn\ApiAccess` File: `GSuiteRequiredAPIAccess.txt` For more information, see Setting up required permissions for accessing G Suite on page 16.
One Identity Manager Service user account	The user account for One Identity Manager Service requires permissions to carry out operations at file level. For example, assigning permissions and creating and editing directories and files. The user account must belong to the **Domain users** group. The user account must have the **Login as a service** extended user permissions. The user account requires access permissions to the internal web service. NOTE: If One Identity Manager Service runs under the network service (**NT Authority\NetworkService**), you can issue access permissions for the internal web service with the following command line call: `netsh http add urlacl url=http://<IP address>:<port number>/ user="NT AUTHORITY\NETWORKSERVICE"` The user account needs full access to the One Identity Manager Service installation directory in order to automatically update One Identity Manager. In the default installation, One Identity Manager is installed under: • `%ProgramFiles(x86)%\One Identity` (on 32-bit operating systems) • `%ProgramFiles%\One Identity` (on 64-bit operating systems)
User for accessing the One Identity Manager database	The **Synchronization** default system user is provided to execute synchronization with an application server.

Related topics

- API scopes for the service account on page 167
- Advanced settings for system connection to G Suite on page 30

Setting up required permissions for accessing G Suite

To provide the G Suite connector with access to the target system, the required permissions must be set up in two Google web interfaces.

To set up the service account and enable APIs

1. Open the Google Cloud Platform console (https://console.cloud.google.com).
2. Log in as the G Suite super admin.
3. Select a project or create a new one.
4. Enable the APIs **Admin SDK**, **Enterprise License Manager API** and **Groups Settings API**.
5. Create a service account.

   Table 3: Service account properties

Property	Value
Role	
Provide new private key	Enabled
Key type	JSON
Activate cross-domain G Suite delegation	Enabled

6. Note the service account's client ID.

   You will need it for setting up the API privileges.
7. Save the key file locally.

   You will need it for creating the synchronization project.

To enable API access and authorize the service account's client ID for the required API scopes

1. Open the Google Admin console (https://admin.google.com).
2. Log in as the G Suite super admin.
3. Enable API access.
4. Authorize the service account's client ID for the required API scope.

For more information, see User for accessing the target system (synchronization user) on page 14.

5. Set up other users with super admins privileges if necessary.

   Up to eight users with super admin privileges can be used. Each user must log in to G Suite at least once and accept the terms of use.

Setting up the G Suite synchronization server

All One Identity Manager Service actions are executed against the target system environment on the synchronization server. Data entries required for synchronization and administration with the One Identity Manager database are processed by the synchronization server.

The One Identity Manager Service with the G Suite connector must be installed on the synchronization server.

Detailed information about this topic

- System requirements for the G Suite synchronization server on page 17
- Installing the One Identity Manager Service on page 18

System requirements for the G Suite synchronization server

To set up synchronization with G Suite, a server has to be available that has the following software installed on it:

- Windows operating system

  The following versions are supported:

  - Windows Server 2008 R2 (non-Itanium based 64-bit) service pack 1 or later
  - Windows Server 2012
  - Windows Server 2012 R2
  - Windows Server 2016
  - Windows Server 2019
- Microsoft .NET Framework Version 4.7.2 or later

  NOTE: Take the target system manufacturer's recommendations into account.

Installing the One Identity Manager Service

The One Identity Manager Service with the G Suite connector must be installed on the synchronization server. The synchronization server must be declared as a Job server in One Identity Manager.

Table 4: Properties of the Job server

Property	Value
Server function	G Suite connector
Machine role	Server | Job server | G Suite

NOTE: If several target system environments of the same type are synchronized under the same synchronization server, it is recommended that you set up a Job server for each target system for performance reasons. This avoids unnecessary swapping of connections to target systems because a Job server only has to process tasks of the same type (re-use of existing connections).

Use the One Identity Manager Service to install the Server Installer. The program executes the following steps:

- Sets up a Job server.
- Specifies machine roles and server function for the Job server.
- Remotely installs One Identity Manager Service components corresponding to the machine roles.
- Configures the One Identity Manager Service.
- Starts the One Identity Manager Service.

NOTE: To generate processes for the Job server, you need the provider, connection parameters, and the authentication data. By default, this information is determined from the database connection data. If the Job server runs through an application server, you must configure extra connection data in the Designer. For detailed information about setting up Job servers, see the *One Identity Manager Configuration Guide*.

NOTE: The program performs a remote installation of the One Identity Manager Service. Local installation of the service is not possible with this program. Remote installation is only supported within a domain or a trusted domain.

To remotely install the One Identity Manager Service, you must have an administrative workstation on which the One Identity Manager components are installed. For detailed information about installing a workstation, see the *One Identity Manager Installation Guide*.

To remotely install and configure One Identity Manager Service on a server

1. Start the Server Installer program on your administrative workstation.
2. On the **Database connection** page, enter the valid connection credentials for the One Identity Manager database.
3. On the **Server properties** page, specify the server on which you want to install the One Identity Manager Service.
   a. Select a Job server from the **Server** menu.

      - OR -

      To create a new Job server, click **Add**.

   b. Enter the following data for the Job server.
      - **Server**: Name of the Job server.
      - **Queue**: Name of the queue to handle the process steps. Each One Identity Manager Service within the network must have a unique queue identifier. The process steps are requested by the Job queue using this unique queue identifier. The queue identifier is entered in the One Identity Manager Service configuration file.
      - **Full server name**: Full server name in accordance with DNS syntax.

        Syntax:

        ```
        <Name of servers>.<Fully qualified domain name>
        ```

   NOTE: You can use the **Extended** option to make changes to other properties for the Job server. You can also edit the properties later with the Designer.
4. On the **Machine roles** page, select **G Suite**.
5. On the **Server functions** page, select **G Suite connector**.
6. On the **Service Settings** page, enter the connection data and check the One Identity Manager Service configuration.

   NOTE: The initial service configuration is predefined. If further changes need to be made to the configuration, you can do this later with the Designer. For detailed information about configuring the service, see the *One Identity Manager Configuration Guide*.

   - For a direct connection to the database:
     a. Select **Process collection | sqlprovider**.
     b. Click the **Connection parameter** entry, then click the **Edit** button.
     c. Enter the connection data for the One Identity Manager database.
   - For a connection to the application server:
     a. Select **Process collection**, click the **Insert** button and select **AppServerJobProvider**.
     b. Click the **Connection parameter** entry, then click the **Edit** button.
     c. Enter the connection data for the application server.

d. Click the **Authentication data** entry and click the **Edit** button.

e. Select the authentication module. Depending on the authentication module, other data may be required, such as user and password. For detailed information about the One Identity Manager authentication modules, see the *One Identity Manager Authorization and Authentication Guide*.

7. To configure remote installations, click **Next**.
8. Confirm the security prompt with **Yes**.
9. On the **Select installation source** page, select the directory with the install files.
10. On the **Select private key file** page, select the file with the private key.

    NOTE: This page is only displayed when the database is encrypted.
11. On the **Service access** page, enter the service's installation data.
    - **Computer**: Name or IP address of the server that the service is installed and started on.
    - **Service account**: User account data for the One Identity Manager Service.
      - To start the service under the **NT AUTHORITY\SYSTEM** account, set the **Local system account** option.
      - To start the service under another account, disable the **Local system account** option and enter the user account, password and password confirmation.
    - **Installation account**: Data for the administrative user account to install the service.
      - To use the current user's account, set the **Current user** option.
      - To use another user account, disable the **Current user** option and enter the user account, password and password confirmation.
    - To change the install directory, names, display names, or description of the One Identity Manager Service, use the other options.
12. Click **Next** to start installing the service.

    Installation of the service occurs automatically and may take some time.
13. Click **Finish** on the last page of the Server Installer.

    NOTE: In a default installation, the service is entered in the server's service management with the name **One Identity Manager Service**.

Creating a synchronization project for initial synchronization of G Suite

Use the Synchronization Editor to configure synchronization between the One Identity Manager database and G Suite. The following describes the steps for initial configuration of

a synchronization project. For more detailed information about setting up synchronization, see the *One Identity Manager Target System Synchronization Reference Guide*.

After the initial configuration, you can customize and configure workflows within the synchronization project. Use the workflow wizard in the Synchronization Editor for this. The Synchronization Editor also provides different configuration options for a synchronization project.

Information required for setting up a synchronization project

Have the following information available for setting up a synchronization project.

Table 5: Information required for setting up a synchronization project

Data	Explanation
Primary domain	Name of this G Suite's primary domain.
Service account's key file	JSON key file that was saved when the service account was set up .
Super admin email addresses for logging in	You can enter up to eight super administrators for using to synchronize G Suite. The more that are entered, the more accesses can be done in parallel. This improves the total runtime of a request. Provide at least one user with super administrator permissions. For more information, see Users and permissions for synchronizing with G Suite on page 14.
Synchronization server for G Suite	All One Identity Manager Service actions are executed against the target system environment on the synchronization server. Data entries required for synchronization and administration with the One Identity Manager database are processed by the synchronization server. The One Identity Manager Service with the G Suite connector must be installed on the synchronization server. **Table 6: Additional properties for the Job server** Property: Server function — Value: G Suite connector Property: Machine role — Value: Server/Job server/G Suite For more information, see System requirements for the G Suite synchronization server on page 17.
One Identity	• Database server

Data	Explanation
Manager database connection data	• Database • SQL Server login and password • Specifies whether integrated Windows authentication is used. This type of authentication is not recommended. If you decide to use it anyway, ensure that your environment supports Windows authentication.
Remote connection server	To configure synchronization with a target system, One Identity Manager must load the data from the target system. One Identity Manager communicates directly with the target system to do this. Sometimes direct access from the workstation, on which the Synchronization Editor is installed, is not possible. For example, because of the firewall configuration or the workstation does not fulfill the necessary hardware and software requirements. If direct access is not possible from the workstation, you can set up a remote connection. The remote connection server and the workstation must be in the same Active Directory domain. Remote connection server configuration: • One Identity Manager Service is started • **RemoteConnectPlugin** is installed • G Suite connector is installed The remote connection server must be declared as a Job server in One Identity Manager. The Job server name is required. TIP: The remote connection server requires the same configuration as the synchronization server (with regard to the installed software and entitlements). Use the synchronization as remote connection server at the same time, by simply installing the **RemoteConnectPlugin** as well. For more detailed information about setting up a remote connection, see the *One Identity Manager Target System Synchronization Reference Guide*.

Creating an initial synchronization project for G Suite

NOTE: The following sequence describes how to configure a synchronization project if the Synchronization Editor is both:

- Executed in default mode
- Started from the Launchpad

If you execute the project wizard in expert mode or directly from the Synchronization Editor, additional configuration settings can be made. Follow the project wizard instructions through these steps.

To set up an initial synchronization project for G Suite

1. Start the Launchpad and log in to the One Identity Manager database.

   NOTE: If synchronization is executed by an application server, connect the database through the application server.

2. Select the **Target system type G Suite** entry and click **Start**.

   This starts the Synchronization Editor's project wizard.

3. On the **System access** page, specify how One Identity Manager can access the target system.

   - If access is possible from the workstation on which you started the Synchronization Editor, do not change any settings.
   - If access is not possible from the workstation on which you started the Synchronization Editor, you can set up a remote connection.

     Enable the **Connect using remote connection server** option and select the server to be used for the connection under **Job server**.

4. On the **Primary domain and service account** page, enter the primary domain of the G Suite account and the key file for the service account.

   Table 7: Login information for connection to G Suite

Property	Description
Primary domain	Name of this G Suite's primary domain.
Service account's key file	JSON key file saved when the service account was set up. • Drag and drop the key on the field to load it. - OR - • Click **Open key file** and select the path to the key file.

5. On the **G Suite Administrators** page, enter the email addresses of all the super administrators who can use the G Suite connector for logging into the target system.

   You can enter up to eight super administrators. The more that are entered, the more accesses can be done in parallel. This improves the total runtime of a request.

   - Click **Test connection** to test the connection data.

     All administrator accounts are verified and a check is run on whether the correct API scopes are authorized.

6. Specify, on the **Local cache** page, whether the G Suite connector's local cache should be used. This minimizes the number of times G Suite is accessed during full synchronization. It prevents the API contingent from being exceeded through synchronization.

   This option is set by default and should only be disabled for troubleshooting.

7. You can save the connection data on the last page of the system connection wizard.
   - Set the **Save connection locally** option to save the connection data. This can be reused when you set up other synchronization projects.
   - Click **Finish**, to end the system connection wizard and return to the project wizard.

8. On the **One Identity Manager Connection** tab, test the data for connecting to the One Identity Manager database. The data is loaded from the connected database. Reenter the password.

   NOTE: If you use an unencrypted One Identity Manager database and have not yet saved any synchronization projects to the database, you need to enter all connection data again. This page is not shown if a synchronization project already exists.

9. The wizard loads the target system schema. This may take a few minutes depending on the type of target system access and the size of the target system.

10. On the **Restrict target system access** page, specify how system access should work. You have the following options:

Table 8: Specify target system access

Option	Meaning
Read-only access to target system.	Specifies that a synchronization workflow is only to be set up for the initial loading of the target system into the One Identity Manager database. The synchronization workflow has the following characteristics: • Synchronization is in the direction of **One Identity Manager**. • Processing methods in the synchronization steps are only defined for synchronization in the direction of **One Identity Manager**.
Read/write access to target system. Provisioning available.	Specifies whether a provisioning workflow is to be set up in addition to the synchronization workflow for the initial loading of the target system. The provisioning workflow displays the following characteristics: • Synchronization is in the direction of the **Target**

Option	Meaning
	system. • Processing methods are only defined in the synchronization steps for synchronization in the direction of the **Target system**. • Synchronization steps are only created for such schema classes whose schema types have write access.

11. On the **Synchronization server** page, select a synchronization server to execute synchronization.

    If the synchronization server is not declared as a Job server in the One Identity Manager database yet, you can add a new Job server.

    a. Click to add a new Job server.

    b. Enter a name for the Job server and the full server name conforming to DNS syntax.

    c. Click **OK**.

    The synchronization server is declared as a Job server for the target system in the One Identity Manager database.

    NOTE: After you save the synchronization project, ensure that this server is set up as a synchronization server.

12. To close the project wizard, click **Finish**.

    This creates and allocates a default schedule for regular synchronization. Enable the schedule for regular synchronization.

    The synchronization project is created, saved, and enabled immediately.

    NOTE: If enabled, a consistency check is carried out. If errors occur, a message appears. You can decide whether the synchronization project can remain activated or not.

    Check the errors before you use the synchronization project. To do this, in the **General** view on the Synchronization Editor's start page, click **Verify project**.

    NOTE: If you do not want the synchronization project to be activated immediately, disable the **Activate and save the new synchronization project automatically** option. In this case, save the synchronization project manually before closing the Synchronization Editor.

    NOTE: The connection data for the target system is saved in a variable set and can be modified in the **Configuration | Variables** category in the Synchronization Editor.

Related topics

- Configuring the synchronization log on page 26
- Adjusting the synchronization configuration for G Suite environments on page 27
- Default project templates for G Suite on page 165
- API scopes for the service account on page 167

Configuring the synchronization log

All the information, tips, warnings, and errors that occur during synchronization are recorded in the synchronization log. You can configure the type of information to record separately for each system connection.

To configure the content of the synchronization log

1. To configure the synchronization log for target system connection, select the **Configuration | Target system** category in Synchronization Editor.

   - OR -

   To configure the synchronization log for the database connection, select the **Configuration | Synchronization Editor connection** category in One Identity Manager.
2. Select the **General** view and click **Configure**.
3. Select the **Synchronization log** view and set **Create synchronization log**.
4. Enable the data to be logged.

   NOTE: Some content generates a particularly large volume of log data!

   The synchronization log should only contain data required for error analysis and other analyzes.
5. Click **OK**.

Synchronization logs are stored for a fixed length of time.

To modify the retention period for synchronization logs

- In the Designer, enable the **DPR | Journal | LifeTime** configuration parameter and enter the maximum retention period.

Related topics

- Displaying synchronization results on page 40

Adjusting the synchronization configuration for G Suite environments

Having used the Synchronization Editor to set up a synchronization project for initial synchronization of a customer, you can use the synchronization project to load G Suite objects into the One Identity Manager database. If you manage user accounts and their authorizations with One Identity Manager, changes are provisioned in the G Suite.

NOTE: If you want to change the configuration of existing synchronization projects, check the possible effects of these changes on the data that has already been synchronized.

You must customize the synchronization configuration in order to compare the database with G Suite regularly and to synchronize changes.

- To use One Identity Manager as the master system during synchronization, create a workflow with synchronization in the direction of the **Target system**.
- To specify which G Suite objects and database objects are included in synchronization, edit the scope of the target system connection and the One Identity Manager database connection. To prevent data inconsistencies, define the same scope in both systems. If no scope is defined, all objects will be synchronized.
- You can use variables to create generally applicable synchronization configurations that contain the necessary information about the synchronization objects when synchronization starts. Variables can be implemented in base objects, schema classes, or processing methods, for example.
- Use variables to set up a synchronization project for synchronizing different customers. Store a connection parameter as a variable for logging in to the respective G Suite customer.
- Update the schema in the synchronization project if the One Identity Manager schema or target system schema has changed. Then you can add the changes to the mapping.
- To synchronize additional schema properties, update the schema in the synchronization project. Include the schema extensions in the mapping.
- Add your own schema types if you want to synchronize data, which does not have schema types in the connector schema. Include the schema extensions in the mapping.

For more detailed information about configuring synchronization, see the *One Identity Manager Target System Synchronization Reference Guide*.

Detailed information about this topic

- Configuring synchronization in G Suite on page 28
- Configuring synchronization of different customers on page 28
- Updating schemas on page 29
- Advanced settings for system connection to G Suite on page 30

Configuring synchronization in G Suite

The synchronization project for initial synchronization provides a workflow for initial loading of target system objects (initial synchronization) and one for provisioning object modifications from the One Identity Manager database to the target system (provisioning). To use One Identity Manager as the master system during synchronization, you also require a workflow with synchronization in the direction of the **Target system**.

To create a synchronization configuration for synchronizing G Suite

1. Open the synchronization project in the Synchronization Editor.
2. Check whether existing mappings can be used for synchronizing the target system. Create new maps if required.
3. Create a new workflow with the workflow wizard.

   This creates a workflow with **Target system** as its synchronization direction.
4. Create a new start up configuration. Use the new workflow to do this.
5. Save the changes.
6. Run a consistency check.

Related topics

- Configuring synchronization of different customers on page 28

Configuring synchronization of different customers

In some circumstances, you can use a synchronization project to synchronize different customers.

Prerequisites

- The customer target systems schema are identical.
- All virtual schema properties used in the mapping must exist in the customer's extended schemas.
- The connection parameters to the target system are defined as variables.

To customize a synchronization project for synchronizing another customer

1. Supply a user in the customer with sufficient permissions for accessing G Suite.
2. Open the synchronization project in the Synchronization Editor.

3. Create a new base object for the other customer. Use the wizard to attach a base object.
    - In the wizard, select the G Suite connector and declare the connection parameters. The connection parameters are saved in a special variable set.

      A start up configuration is created that uses the newly created variable set.
4. Change other elements of the synchronization configuration as required.
5. Save the changes.
6. Run a consistency check.

Related topics

- Configuring synchronization in G Suite on page 28

Updating schemas

All the schema data (schema types and schema properties) of the target system schema and the One Identity Manager schema are available when you are editing a synchronization project. Only a part of this data is really needed for configuring synchronization. If a synchronization project is finished, the schema is compressed to remove unnecessary data from the synchronization project. This can speed up the loading of the synchronization project. Deleted schema data can be added to the synchronization configuration again at a later point.

If the target system schema or the One Identity Manager schema has changed, these changes must also be added to the synchronization configuration. Then the changes can be added to the schema property mapping.

To include schema data that have been deleted through compression and schema modifications in the synchronization project, update each schema in the synchronization project. This may be necessary if:

- A schema was changed by:
    - Changes to a target system schema
    - Customizations to the One Identity Manager schema
    - A One Identity Manager update migration
- A schema in the synchronization project was shrunk by:
    - Enabling the synchronization project
    - Saving the synchronization project for the first time
    - Compressing a schema

To update a system connection schema

1. Open the synchronization project in the Synchronization Editor.
2. Select the **Configuration | Target system** category.

- OR -

Select the **Configuration | One Identity Manager connection** category.

3. Select the **General** view and click **Update schema**.
4. Confirm the security prompt with **Yes**.

   This reloads the schema data.

To edit a mapping

1. Select the **Mappings** category.
2. Select a mapping in the navigation view.

   Opens the Mapping Editor. For more detailed information about mappings, see the *One Identity Manager Target System Synchronization Reference Guide*.

NOTE: The synchronization is deactivated if the schema of an activated synchronization project is updated. Reactivate the synchronization project to synchronize.

Speeding up synchronization with revision filtering

Synchronization with G Suite does not support revision filtering.

Advanced settings for system connection to G Suite

You can make various additional changes to the target system connection settings, for example, defining the number of retries or timeouts. When you set up synchronization for the first time, these system connection properties are set to default values. You can modify the default values to help analysis of synchronization problems, for example.

There are two ways to change the default values.

a. Specify a specialized variable set and change the values of the affected variables.

   The default values remain untouched in the default variable set. The variables can be reset to the default values at any time. - Recommended action

   For more information, see Editing connection parameters in the variable set on page 33.

b. Edit the target system connection with the system connection wizard and change the effected values.

   The system connection wizard supplies additional explanations of the settings. The default values can only be restored under particular conditions.

   For more information, see Editing target system connection properties on page 34.

NOTE: If the project wizard is started directly from the Synchronization Editor when you set up initial synchronization, you can edit the advanced settings when you set up the synchronization project. In this case, the default values are immediately overwritten by your settings.

Table 9: Target system connection advanced settings

Property	Description
Read-only API access	Specifies if the API scopes were only entered for read-only access in the G Suite Admin Console Enable this option if no write access to the target system may be assigned. The connector only has read access to the target system. • The service account's client ID must be authorized for various API scopes in the Google Admin console: A list of API scopes is available on the One Identity Manager installation medium. You can use this list as a copy template. Directory: `Modules\GAP\dvd\AddOn\ApiAccess` File: `GSuiteRequiredAPIAccessReadOnly.txt` If this option is disabled, read-write access is possible. Other API scopes must be authorized for this.
Use the local cache	Specifies whether the G Suite connector's local cache is used. Local cache is used to prevent the API contingent from being exceeded through synchronization. Accesses to G Suite are minimized during full synchronization. The option is ignored during provisioning. This option is set by default and can be disabled for troubleshooting. For detailed information, see *One Identity Manager Target System Synchronization Reference Guide*.
Polling count	Specifies how many attempts are made to load a new value into the target system during provisioning or synchronization before an error occurs. The result of saving certain user account properties (such as phone numbers or Instant Messenger settings) appears after a delay in G Suite and cannot be used for other operations straightaway.
Batch retry count	Specifies the number of retries allowed for failed batch operations in the target system, for example, when synchronizing group memberships.
Batch timeout	Timeout between retries of failed batch operations.
Transfer user data before delete	Specifies whether user data is transferred to a different user account before user accounts are deleted. User data such as Google Drive data, Google+ pages, and Google calendar, can be transferred to a different user account before final deletion.

Property	Description
	Variable: `CP_TransferUserDataBeforeDelete`
Default email address for data transfer	Default email address of the destination user account for the transfer of user data when a user account is deleted. The email address of the destination user account belongs to the primary domain of the customer to which the deleted user account belongs. This email address is used if no email address can be determined by the manager of the deleted user account. Variable: `CP_DefaultDataTransferTargetEmail`

Products and SKUs XML	Product IDs and Stock keeping unit IDs as XML file.
	The list of available products and SKUs is defined by Google and therefore fixed in the G Suite connector. If Google changes this list, you can enter an XML file here, which overwrites the list in the G Suite connector.
	Example:
	`<products>`
	`<product name="G Suite" id="Google-Apps">`
	`<sku id="Google-Apps-Unlimited" name="G Suite Business"/>`
	`<sku id="Google-Apps-For-Business" name="G Suite Basic" />`
	`<sku id="Google-Apps-Lite" name="G Suite Lite"/>`
	`<sku id="Google-Apps-For-Postini" name="Google Apps Message Security"/>`
	`</product>`
	`<product name="Google Drive storage" id="Google-Drive-storage">`
	`<sku id="Google-Drive-storage-20GB" name="Google Drive storage 20 GB"/>`
	`<sku id="Google-Drive-storage-50GB" name="Google Drive storage 50 GB"/>`
	`<...>`
	`<sku id="Google-Drive-storage-16TB" name="Google Drive storage 16 TB"/>`
	`</product>`
	`<...>`
	`</products>`

Related topics

- Transferring user data to a different G Suite user account on page 127
- API scopes for the service account on page 167
- Users and permissions for synchronizing with G Suite on page 14

Editing connection parameters in the variable set

The connection parameters for advanced settings were saved as variables when synchronization was set up. You can change the values in these variables to suit you requirements and assign the variable set to a start up configuration and a base object. This means that you always have the option to user default values from the default variable set.

NOTE: To guarantee data consistency in the connected target system, ensure that the start-up configuration for synchronization and the base object for provisioning use the same variable set. This especially applies if a synchronization project for synchronization use different customers.

To modify advanced settings in a specialized variable set

1. Open the synchronization project in the Synchronization Editor.
2. Select the **Configuration | Target system** category.
3. Open the **Connection parameters** view.

   Some connection parameters can be converted to variables here. For other parameters, variables are already created.
4. Select one of the following parameters and click **Convert**.
   - Polling count
   - Batch retry count
   - Batch timeout
   - Use the local cache
   - Read-only API access

   For more information, see Advanced settings for system connection to G Suite on page 30.
5. Select the **Configuration | Variables** category.

   All specialized variable sets are shown in the lower part of the document view.
6. Select a specialized variable set or click on in the variable set view's toolbar.
   - To rename the variable set, select the variable set and click the variable set view in the toolbar . Enter a name for the variable set.
7. Select the previously added variable and enter a new value.
8. Select the **Configuration | Start up configurations** category.
9. Select a start up configuration and click **Edit...**.
10. Select the **General** tab.
11. Select the specialized variable set in the **Variable set** menu.
12. Select the **Configuration | Base objects** category.
13. Select the base object and click .

    - OR -

Click to add a new base object.

14. Select the specialized variable set in the **Variable set** menu.
15. Save the changes.

For detailed information about using variables and variable sets, or restoring default values and adding base objects, see the *One Identity Manager Target System Synchronization Reference Guide*.

Editing target system connection properties

The extended settings of the target system connection can also be changed using the system connection wizard. If variables are defined for the settings, the changes are transferred to the active variable set.

NOTE: In the following circumstances, the default values cannot be restored:

- The connection parameters are not defined as variables.
- The default variable set is selected as an active variable set.

In both these cases, the system connection wizard overwrites the default values. They cannot be restored at a later time.

To edit advanced settings with the system connection wizard

1. Open the synchronization project in the Synchronization Editor.
2. In the toolbar, select the active variable set to be used for the connection to the target system.

   NOTE: If the default variable set is selected, the default values are overwritten and cannot be restored at a later time.
3. Select the **Configuration | Target system** category.
4. Click **Edit connection**.

   This starts the system connection wizard.
5. On the system connection wizard's start page, enable **Show advanced options**.
6. On the **G Suite administrators** page, you can also enable the **Read-only API access** option.

   When you test the connection, a check is carried out to verify if the appropriate API scopes are authorized.

   For more information, see Advanced settings for system connection to G Suite on page 30.
7. On the **Local cache** page, you can set the **Use the local cache** option.

   For more information, see Advanced settings for system connection to G Suite on page 30.
8. Customize the properties as required on the **Advanced settings** page.

For more information, see Advanced settings for system connection to G Suite on page 30.

9. Save the changes.

Configuring the provisioning of memberships

Memberships, such as user accounts in groups, are saved in assignment tables in the One Identity Manager database. During provisioning of modified memberships, changes made in the target system may be overwritten. This behavior can occur under the following conditions:

- Memberships are saved in the target system as an object property in list form (Example: List of user accounts in the `Members` property of a `group`).
- Memberships can be modified in either of the connected systems.
- A provisioning workflow and provisioning processes are set up.

If one membership in One Identity Manager changes, by default, the complete list of members is transferred to the target system. Therefore, memberships that were previously added to the target system are removed in the process and previously deleted memberships are added again.

To prevent this, provisioning can be configured such that only the modified membership is provisioned in the target system. The corresponding behavior is configured separately for each assignment table.

To allow separate provisioning of memberships

1. In the Manager, select the **G Suite | Basic configuration data | Target system types** category.
2. In the result list, select the **G Suite** target system type.
3. Select the **Configure tables for publishing** task.
4. Select the assignment tables that you want to set up for single provisioning. Multi-select is possible.
    - This option can only be enabled for assignment tables that have a base table with an `XDateSubItem` column.
    - Assignment tables that are grouped together in a virtual schema property in the mapping must be marked identically.
5. Click **Merge mode**.
6. Save the changes.

For each assignment table labeled like this, the changes made in One Identity Manager are saved in a separate table. During modification provisioning, the members list in the target system is compared to the entries in this table. This means that only modified memberships are provisioned and not the entire members list.

NOTE: The complete members list is updated by synchronization. During this process, objects with changes but incomplete provisioning are not handled. These objects are logged in the synchronization log.

You can restrict single provisioning of memberships with a condition. Once merge mode has been disabled for a table, the condition is deleted. Tables that have had the condition deleted or edited are marked with the following icon: . You can restore the original condition at any time.

To restore the default condition

1. Select the auxiliary table for which you want to restore the condition.
2. Right-click on the selected row and select the **Restore original values** context menu item.
3. Save the changes.

For more detailed information about provisioning memberships, see the *One Identity Manager Target System Synchronization Reference Guide*.

Configuring single object synchronization

Changes made to individual objects in the target system can be immediately applied in the One Identity Manager database without having to start a full synchronization of the target system environment. Individual objects can only be synchronized if the object is already present in the One Identity Manager database. The changes are applied to the mapped object properties. If a member list is belongs to one of these properties, then the entries in the assignment table will also be updated. If the object is no longer present in the target system, then it is deleted from the One Identity Manager database.

Prerequisites

- A synchronization step exists that can import the changes to the changed object into One Identity Manager.
- The path to the base object of the synchronization is defined for the table that contains the changed object.

Single object synchronization is fully configured for synchronization projects created using the default project template. If you want to incorporate custom tables into this type of synchronization project, you must configure single object synchronization for these tables. For detailed information, see *One Identity Manager Target System Synchronization Reference Guide*.

To define the path to the base object for synchronization for a custom table

1. In the Manager, select the **G Suite | Basic configuration data | Target system types** category.
2. In the result list, select the target system type**G Suite**.

3. Select the **Assign synchronization tables** task.
4. In the **Add assignments** pane, assign the custom table for which you want to use single object synchronization.
5. Save the changes.
6. Select the **Configure tables for publishing** task.
7. Select the custom table and enter the **Root object path**.

   Enter the path to the base object in the ObjectWalker notation of the VI.DB.

   Example: `FK(UID_GAPCustomer).XObjectKey`
8. Save the changes.

Related topics

- Synchronizing single objects on page 41
- Post-processing outstanding objects on page 42

Accelerating provisioning and single object synchronization

To smooth out spikes in data traffic, handling of processes for provisioning and single object synchronization can be distributed over several Job servers. This will also accelerate these processes.

Load balancing is only used for single provisioning processes in G Suite, to prevent inconsistent data being generated in the target system through parallel processing. If the maximum number of instances on the process task or process component is set to **1** or **-1**, load balancing cannot take place.

NOTE: You should not implement load balancing for provisioning or single object synchronization on a permanent basis. Parallel processing of objects might result in dependencies not being resolved because referenced objects from another Job server have not been completely processed.

Once load balancing is no longer required, ensure that the synchronization server executes the provisioning processes and single object synchronization.

To configure load balancing

1. Configure the server and declare it as a Job server in One Identity Manager.
   - Assign the **G Suite connector** server function to the Job server.

   All Job servers must access the same customer as the synchronization server for the respective base object.
2. In the Synchronization Editor, assign a custom server function to the base object.

This server function is used to identify all the Job servers being used for load balancing.

If there is no custom server function for the base object, create a new one.

For more information about editing base objects, see the *One Identity Manager Target System Synchronization Reference Guide*.

3. In the Manager, assign this server function to all the Job servers that will be processing provisioning and single object synchronization for the base object.

   Only select those Job servers that have the same configuration as the base object's synchronization server.

Once all the processes have been handled, the synchronization server takes over provisioning and single object synchronization again.

To use the synchronization server without load balancing.

- In the Synchronization Editor, remove the server function from the base object.

For detailed information about load balancing, see the *One Identity Manager Target System Synchronization Reference Guide*.

Detailed information about this topic

- Editing G Suite Job servers on page 154

Executing synchronization

Synchronization is started using scheduled process plans. It is possible to start synchronization manually in the Synchronization Editor. You can simulate synchronization beforehand to estimate synchronization results and discover errors in the synchronization configuration. If synchronization was terminated unexpectedly, you must reset the start information to be able to restart synchronization.

If you want to specify the order in which target systems are synchronized, use the start up sequence to run synchronization. In a start up sequence, you can combine start up configurations from different synchronization projects and specify the order of execution. For detailed information about start up configurations, see the *One Identity Manager Target System Synchronization Reference Guide*.

Detailed information about this topic

- Starting synchronization on page 39
- Deactivating synchronization on page 40
- Displaying synchronization results on page 40

Starting synchronization

When setting up the initial synchronization project using the Launchpad, a default schedule for regular synchronizations is created and assigned. To execute regular synchronizations, activate this schedule.

To synchronize on a regular basis

1. Open the synchronization project in the Synchronization Editor.
2. Select the **Configuration | Start up configurations** category.
3. Select a start up configuration in the document view and click **Edit schedule**.
4. Edit the schedule properties.
5. To enable the schedule, click **Activate**.
6. Click **OK**.

You can also start synchronization manually if there is no active schedule.

To start initial synchronization manually

1. Open the synchronization project in the Synchronization Editor.
2. Select the **Configuration | Start up configurations** category.
3. Select a start up configuration in the document view and click **Execute**.
4. Confirm the security prompt with **Yes**.

IMPORTANT: As long as a synchronization process is running, you must not start another synchronization process for the same target system. This especially applies, if the same synchronization objects would be processed.

- If another synchronization process is started with the same start up configuration, the process is stopped and is assigned **Frozen** status. An error message is written to the One Identity Manager Service log file.
    - Ensure that start up configurations that are used in start up sequences are not started individually at the same time. Assign start up sequences and start up configurations different schedules.
- Starting another synchronization process with different start up configuration that addresses same target system may lead to synchronization errors or loss of data. Specify One Identity Manager behavior in this case, in the start up configuration.
    - Use the schedule to ensure that the start up configurations are run in sequence.
    - Group start up configurations with the same start up behavior.

Displaying synchronization results

Synchronization results are summarized in the synchronization log. You can specify the extent of the synchronization log for each system connection individually. One Identity Manager provides several reports in which the synchronization results are organized under different criteria.

To display a synchronization log

1. Open the synchronization project in the Synchronization Editor.
2. Select the **Logs** category.
3. Click ▶ in the navigation view toolbar.

   Logs for all completed synchronization runs are displayed in the navigation view.
4. Select a log by double-clicking it.

   An analysis of the synchronization is shown as a report. You can save the report.

To display a provisioning log

1. Open the synchronization project in the Synchronization Editor.
2. Select the **Logs** category.
3. Click ↯ in the navigation view toolbar.

   Logs for all completed provisioning processes are displayed in the navigation view.
4. Select a log by double-clicking it.

   An analysis of the provisioning is shown as a report. You can save the report.

The log is marked in color in the navigation view. This mark shows you the status of the synchronization/provisioning.

TIP: The logs are also displayed in the Manager under the **<target system> | synchronization log** category.

Related topics

- Configuring the synchronization log on page 26
- Troubleshooting on page 45

Deactivating synchronization

Regular synchronization cannot be started until the synchronization project and the schedule are active.

To prevent regular synchronization

1. Open the synchronization project in the Synchronization Editor.
2. Select the start up configuration and deactivate the configured schedule.

   Now you can only start synchronization manually.

An activated synchronization project can only be edited to a limited extend. The schema in the synchronization project must be updated if schema modifications are required. The synchronization project is deactivated in this case and can be edited again.

Furthermore, the synchronization project must be deactivated if synchronization should not be started by any means (not even manually).

To deactivate the synchronization project

1. Open the synchronization project in the Synchronization Editor.
2. Select the **General** view on the start page.
3. Click **Deactivate project**.

Synchronizing single objects

Individual objects can only be synchronized if the object is already present in the One Identity Manager database. The changes are applied to the mapped object properties. If a member list is belongs to one of these properties, then the entries in the assignment table will also be updated.

NOTE: If the object is no longer present in the target system, then it is deleted from the One Identity Manager database.

To synchronize a single object

1. In the Manager, select the **G Suite** category.
2. Select the object type in the navigation view.
3. In the result list, select the object that you want to synchronize.
4. Select the **Synchronize this object** task.

   A process for reading this object is entered in the job queue.

NOTE: The **Synchronize this object** task is executed for the object selected in the results list. If you want to synchronize changes to memberships, execute the single object synchronization on the base object of the assignment.

Example:

An admin role was assigned to a user in the target system. To synchronize this assignment, in the Manager select the admin role assignment to which the user account was assigned, and execute single object synchronization. When you do this, all memberships for this admin role assignment are synchronized. If single object synchronization is

executed in the user account, no memberships are synchronized, as the `GAPUser` table does not represent the base table of the assignment.

The base table of an assignment contains an `XDateSubItem` column containing information about the last change to the memberships.

Detailed information about this topic

- Configuring single object synchronization on page 36

Tasks after a synchronization

After the synchronization of data from the target system into the One Identity Manager database, rework may be necessary. Check the following tasks:

- Post-processing outstanding objects on page 42
- Managing user accounts through account definitions on page 45

Post-processing outstanding objects

Objects, which do not exist in the target system, can be marked as outstanding in One Identity Manager by synchronizing. This prevents objects being deleted because of an incorrect data situation or an incorrect synchronization configuration.

Outstanding objects:

- Cannot be edited in One Identity Manager.
- Are ignored by subsequent synchronizations.
- Are ignored by inheritance calculations.

This means, all memberships and assignments remain intact until the outstanding objects have been processed.

Start target system synchronization to do this.

To post-process outstanding objects

1. In the Manager, select the **G Suite | Target system synchronization: G Suite** category.

   All the synchronization tables assigned to the **G Suite** target system type are displayed in the navigation view.

2. On the **Target system synchronization** form, in the **Table / object** column, open the node of the table for which you want to post-process outstanding objects.

   All objects that are marked as outstanding are shown. The **Last log entry** and **Last method run** columns display the time at which the last entry was made in the

synchronization log and which processing method was executed. The **No log available** entry can mean the following:

- The synchronization log has already been deleted.

  - OR -

- An assignment from a member list has been deleted from the target system.

  The base object of the assignment was updated during the synchronization. A corresponding entry appears in the synchronization log. The entry in the assignment table is marked as outstanding, but there is no entry in the synchronization log.

- An object that contains a member list has been deleted from the target system.

  During synchronization, the object and all corresponding entries in the assignment tables are marked as outstanding. However, an entry in the synchronization log appears only for the deleted object.

TIP:

To display object properties of an outstanding object

a. Select the object on the target system synchronization form.

b. Open the context menu and click **Show object**.

3. Select the objects you want to rework. Multi-select is possible.
4. Click on one of the following icons in the form toolbar to execute the respective method.

Table 10: Methods for handling outstanding objects

Icon	Method	Description
	Delete	The object is immediately deleted from the One Identity Manager database. Deferred deletion is not taken into account. The **Outstanding** label is removed from the object. Indirect memberships cannot be deleted.
	Publish	The object is added to the target system. The **Outstanding** label is removed from the object. The method triggers the `HandleOutstanding` event. This runs a target system specific process that triggers the provisioning process for the object. Prerequisites: • The table containing the object can be published. • The target system connector has write access to the target system.
	Reset	The **Outstanding** label is removed for the object.

5. Confirm the security prompt with **Yes**.

NOTE: By default, the selected objects are processed in parallel, which speeds up execution of the selected method. If an error occurs during processing, the action is stopped and all changes are discarded.

Bulk processing of objects must be disabled if errors are to be localized, which means the objects are processed sequentially. Failed objects are named in the error message. All changes that were made up until the error occurred are saved.

To disable bulk processing

- In the form's toolbar, click to disable bulk processing.

NOTE: The target system connector must have write access to the target system in order to publish outstanding objects that are being post-processed. This means that the **Connection is read-only** option is not set in the target system connection and the **Read-only API access** option is not set in the in the system connection wizard.

Related topics

- Adding custom tables to the target system synchronization on page 44
- Advanced settings for system connection to G Suite on page 30

Adding custom tables to the target system synchronization

You must customize your target system synchronization to synchronize custom tables.

To add tables to target system synchronization

1. In the Manager, select the **G Suite | Basic configuration data | Target system types** category.
2. In the result list, select the **G Suite** target system type.
3. Select the **Assign synchronization tables** task.
4. In the Add assignments pane, assign **custom** tables to the outstanding objects you want to handle.
5. Save the changes.
6. Select the **Configure tables for publishing** task.
7. Select the custom tables that contain the outstanding objects that can be published in the target system and set the **Publishable** option.
8. Save the changes.

Related topics

- Post-processing outstanding objects on page 42

Managing user accounts through account definitions

Following a synchronization, employees are automatically created for the user accounts in the default installation. If an account definition for the customer is not yet known at the time of synchronization, user accounts are linked with employees. However, account definitions are not assigned. The user accounts are therefore in a **Linked** state.

To manage the user accounts using account definitions, assign an account definition and a manage level to these user accounts.

Detailed information about this topic

- Assigning account definitions to linked user accounts on page 69

Troubleshooting

Synchronization Editor helps you to analyze and eliminate synchronization errors.

- Simulating synchronization

  The simulation allows you to estimate the result of synchronization. This means you can, for example, recognize potential errors in the synchronization configuration.

- Analyzing synchronization

  You can generate the synchronization analysis report for analyzing problems which occur during synchronization, for example, insufficient performance.

- Logging messages

  One Identity Manager offers different options for logging errors. These include the synchronization log, the log file for One Identity Manager Service, the logging of messages with NLOG, and similar.

- Reset start information

  If synchronization was terminated unexpectedly, for example, because a server was not available, the start information must be reset manually. Only then can the synchronization be restarted.

For more information about these topics, see the *One Identity Manager Target System Synchronization Reference Guide*.

Related topics

- Displaying synchronization results on page 40

3

Managing G Suite user accounts and employees

The main feature of One Identity Manager is to map employees together with the master data and permissions available to them in different target systems. To achieve this, information about user accounts and permissions can be read from the target system into the One Identity Manager database and linked to employees. This provides an overview of the permissions for each employee in all of the connected target systems. One Identity Manager offers the option of managing user accounts and their permissions. You can provision modifications in the target systems. Employees are supplied with the necessary permissions in the connected target systems according to their function in the company. Regular synchronization keeps data consistent between target systems and the One Identity Manager database.

Because requirements vary between companies, One Identity Manager offers different methods for supplying user accounts to employees. One Identity Manager supports the following methods for linking employees and their user accounts:

- Employees can automatically obtain their account definitions using user account resources. If an employee does not yet have a user account in a customer, a new user account is created. This is done by assigning account definitions to an employee using the integrated inheritance mechanism and subsequent process handling.

  When you manage account definitions through user accounts, you can specify the way user accounts behave when employees are enabled or deleted.
- When user accounts are inserted, they can be automatically assigned to an existing employee or a new employee can be created if necessary. In the process, the employee master data is created on the basis of existing user account master data. This mechanism can be implemented if a new user account is created manually or by synchronization. However, this is not the One Identity Manager default method. You must define criteria for finding employees for automatic employee assignment.
- Employees and user accounts can be entered manually and assigned to each other.

For more detailed information about employee handling and administration, see the *One Identity Manager Target System Base Module Administration Guide*.

Related topics

- Account definitions for G Suite user accounts on page 47
- Automatic assignment of employees to G Suite user accounts on page 65
- Editing master data for G Suite user accounts on page 113

Account definitions for G Suite user accounts

One Identity Manager has account definitions for automatically allocating user accounts to employees during working hours. You can create account definitions for every target system. If an employee does not yet have a user account in a target system, a new user account is created. This is done by assigning account definitions to an employee.

Specify the manage level for an account definition for managing user accounts. The user account's manage level specifies the extent of the employee's properties that are inherited by the user account. This allows an employee to have several user accounts in one target system, for example:

- Default user account that inherits all properties from the employee.
- Administrative user account that is associated to an employee but should not inherit the properties from the employee.

For more detailed information about the principles of account definitions, manage levels, and determining the valid IT operating data, see the *One Identity Manager Target System Base Module Administration Guide*.

The following steps are required to implement an account definition:

- Creating account definitions
- Configuring manage levels
- Creating the formatting rules for IT operating data
- Collecting IT operating data
- Assigning account definitions to employees and target systems

Detailed information about this topic

- Creating account definitions on page 48
- Editing manage levels on page 50
- Creating mapping rules for IT operating data on page 53
- Entering IT operating data on page 54
- Assigning account definitions to employees on page 57
- Assigning account definitions to target systems on page 62

Creating account definitions

To create a new account definition

1. In the Manager, select the **G Suite | Basic configuration data | Account definitions | Account definitions** category.
2. Click in the result list.
3. On the master data form, enter the master data for the account definition.
4. Save the changes.

Related topics

- Master data for account definitions on page 48
- Editing account definitions on page 48

Editing account definitions

To edit an account definition

1. In the Manager, select the **G Suite | Basic configuration data | Account definitions | Account definitions** category.
2. Select an account definition in the result list.
3. Select the **Change master data** task.
4. Enter the account definition's master data.
5. Save the changes.

Related topics

- Master data for account definitions on page 48
- Creating account definitions on page 48

Master data for account definitions

Enter the following data for an account definition:

Table 11: Master data for an account definition

Property	Description
Account	Account definition name.

Property	Description
definition	
User account table	Table in the One Identity Manager schema that maps user accounts.
Target system	Target system to which the account definition applies.
Required account definition	Required account definition. Define the dependencies between . When this is requested or assigned, the required is automatically requested or assigned with it. Leave empty for G Suite.
Description	Text field for additional explanation.
Manage level (initial)	Manage level to use by default when you add new user accounts.
Risk index	Value for evaluating the risk of account definition assignments to employees. Enter a value between 0 and 1. This input field is only visible if the **QER | CalculateRiskIndex** configuration parameter is set. For more detailed information, see the *One Identity Manager Risk Assessment Administration Guide*.
Service item	Service item through which you can request the account definition in the IT Shop. Assign an existing service item or add a new one.
IT Shop	Specifies whether the account definition can be requested through the IT Shop. The account definition can be ordered by an employee over the Web Portal and distributed using a defined approval process. The account definition can also be assigned directly to employees and roles outside the IT Shop.
Only for use in IT Shop	Specifies whether the account definition can only be requested through the IT Shop. The account definition can be ordered by an employee over the Web Portal and distributed using a defined approval process. This means, the account definition cannot be directly assigned to roles outside the IT Shop.
Automatic assignment to employees	Specifies whether the account definition is assigned automatically to all internal employees. The account definition is assigned to every employee not marked as external, on saving. New employees automatically obtain this account definition as soon as they are added. IMPORTANT: Only set this option if you can ensure that all current internal employees in the database and all pending newly added internal employees obtain a user account in this target system.

Property	Description
	Disable this option to remove automatic assignment of the account definition to all employees. The account definition cannot be reassigned to employees from this point on. Existing account definition assignments remain intact.
Retain account definition if permanently disabled	Specifies the account definition assignment to permanently disabled employees. Option set: the account definition assignment remains in effect. The user account stays the same. Option not set: the account definition assignment is not in effect. The associated user account is deleted.
Retain account definition if temporarily disabled	Specifies the account definition assignment to temporarily disabled employees. Option set: the account definition assignment remains in effect. The user account stays the same. Option not set: the account definition assignment is not in effect. The associated user account is deleted.
Retain account definition on deferred deletion	Specifies the account definition assignment on deferred deletion of employees. Option set: the account definition assignment remains in effect. The user account stays the same. Option not set: the account definition assignment is not in effect. The associated user account is deleted.
Retain account definition on security risk	Specifies the account definition assignment to employees posing a security risk. Option set: the account definition assignment remains in effect. The user account stays the same. Option not set: the account definition assignment is not in effect. The associated user account is deleted.
Resource type	Resource type for grouping account definitions.
Spare field 01 - spare field 10	Additional company-specific information. Use the Designer to customize display names, formats, and templates for the input fields.

Editing manage levels

One Identity Manager supplies a default configuration for manage levels:

- **Unmanaged**: User accounts with the **Unmanaged** manage level are linked to the employee but they do no inherit any further properties. When a new user account is added with this manage level and an employee is assigned, some of the employee's properties are transferred initially. If the employee properties are changed at a later date, the changes are not passed onto the user account.
- **Full managed**: User accounts with the **Full managed** manage level inherit defined properties of the assigned employee. When a new user account is created with this manage level and an employee is assigned, the employee's properties are transferred in an initial state. If the employee properties are changed at a later date, the changes are passed onto the user account.

To edit a manage level

1. In the Manager, select the **G Suite | Basic configuration data | Account definitions | Manage levels** category.
2. Select the manage level in the result list.
3. Select the **Change master data** task.
4. Edit the manage level's master data.
5. Save the changes.

Related topics

- Master data for manage levels on page 52
- Creating manage levels on page 51

Creating manage levels

One Identity Manager supplies a default configuration for the **Unmanaged** and **Full managed** manage levels. You can define other manage levels depending on your requirements.

IMPORTANT: In the Designer, extend the templates by adding the procedure for the additional manage levels. For detailed information about templates, see the *One Identity Manager Configuration Guide*.

To create a manage level

1. In the Manager, select the **G Suite | Basic configuration data | Account definitions | Manage levels** category.
2. Click in the result list.
3. On the master data form, edit the master data for the manage level.
4. Save the changes.

Related topics

- Master data for manage levels on page 52
- Editing manage levels on page 50

Master data for manage levels

Enter the following data for a manage level.

Table 12: Master data for manage levels

Property	Description
Manage level	Name of the manage level.
Description	Text field for additional explanation.
IT operating data overwrites	Specifies whether user account data formatted from IT operating data is automatically updated. Permitted values are: • **Never**: Data is not updated. • **Always**: Data is always updated. • **Only initially**: Data is only determined at the start.
Retain groups if temporarily disabled	Specifies whether user accounts of temporarily disabled employees retain their group memberships.
Lock user accounts if temporarily disabled	Specifies whether user accounts of temporarily disabled employees are locked.
Retain groups if permanently disabled	Specifies whether user accounts of permanently disabled employees retain group memberships.
Lock user accounts if permanently disabled	Specifies whether user accounts of permanently disabled employees are locked.
Retain groups on deferred deletion	Specifies whether user accounts of employees marked for deletion retain their group memberships.
Lock user accounts if deletion is deferred	Specifies whether user accounts of employees marked for deletion are locked.
Retain groups on security risk	Specifies whether user accounts of employees posing a security risk retain their group memberships.
Lock user accounts if security is at risk	Specifies whether user accounts of employees posing a security risk are locked.
Retain groups if user account disabled	Specifies whether disabled user accounts retain their group memberships.

Creating mapping rules for IT operating data

An account definition specifies which rules are used to form the IT operating data and which default values will be used if no IT operating data can be found through the employee's primary roles.

The following IT operating data is used in the One Identity Manager default configuration for automatically creating user accounts for an employee in the target system and modifying them.

- G Suite Organization
- Groups can be inherited
- Identity
- Privileged user account
- Change password at next login

To create a mapping rule for IT operating data

1. In the Manager, select the **G Suite | Basic configuration data | Account definitions | Account definitions** category.
2. Select an account definition in the result list.

3. Select the **Edit IT operating data mapping** task and enter the following data.

Table 13: Mapping rule for IT operating data

Property	Description
Column	User account property for which the value is set. In the menu, you can select the columns that use the `TSB_ITDataFromOrg` script in their template. For detailed information, see the *One Identity Manager Target System Base Module Administration Guide*.
Source	Specifies which roles to use in order to find the user account properties. You have the following options: • Primary department • Primary location • Primary cost center • Primary business roles NOTE: Only use the primary business role if the Business Roles Module is installed. • Empty If you select a role, you must specify a default value and set the **Always use default value** option.
Default value	Default value of the property for an employee's user account if the value is not determined dynamically from the IT operating data.
Always use default value	Specifies whether user account properties are always filled with the default value. IT operating data is not determined dynamically from a role.
Notify when applying the standard	Specifies whether email notification to a defined mailbox is sent when the default value is used. The **Employee - new user account with default properties created** mail template is used. To change the mail template, adjust the **TargetSystem | GoogleApps | Accounts | MailTemplateDefaultValues** configuration parameter.

4. Save the changes.

Entering IT operating data

To create user accounts with the **Full managed** manage level, the required IT operating data must be determined. The operating data required to automatically supply an employee with IT resources is shown in the business roles, departments, locations, or cost centers. An employee is assigned a primary business role, primary location, primary department, or primary cost center. The necessary IT operating data is ascertained from

these assignments and used in creating the user accounts. Default values are used if valid IT operating data cannot be found over the primary roles.

You can also specify IT operating data directly for a specific account definition.

Example

Normally, each employee in department A obtains a default user account in the customer A. In addition, certain employees in department A obtain administrative user accounts in the customer A.

Create an account definition A for the default user account of the customer A and an account definition B for the administrative user account of customer A. Specify the "Department" property in the IT operating data formatting rule for the account definitions A and B in order to determine the valid IT operating data.

Specify the effective IT operating data of department A for the customer A. This IT operating data is used for standard user accounts. In addition, for department A, specify the effective IT operating data of account definition B. This IT operating data is used for administrative user accounts.

To define IT operating data

1. In the Manager, select the role in the **Organizations** or **Business roles** category.
2. Select the **Edit IT operating data** task.

3. Click **Add** and enter the following data.

Table 14: IT operating data

Property	Description
Effects on	IT operating data application scope. The IT operating data can be used for a target system or a defined account definition. To specify an application scope a. Click → next to the field. b. Under **Table**, select the table that maps the target system for select the `TSBAccountDef` table or an account definition. c. Select the specific target system or account definition under **Effects on**. d. Click **OK**.
Column	User account property for which the value is set. In the menu, you can select the columns that use the `TSB_ITDataFromOrg` script in their template. For detailed information, see the *One Identity Manager Target System Base Module Administration Guide*.
Value	Concrete value which is assigned to the user account property.

4. Save the changes.

Related topics

- Creating mapping rules for IT operating data on page 53

Modify IT operating data

If IT operating data changes, you must transfer the changes to the existing user accounts. To do this, templates must be rerun on the affected columns. Before you can run the templates, you can check what effect a change to the IT operating data has on the existing user accounts. You can decide whether the change is transferred to the One Identity Manager database in the case of each affected column in each affected database.

Prerequisites

- The IT operating data of a department, a cost center, a business role, or a location have been changed.

  - OR -

- The default values in the IT operating data template were modified for an account definition.

NOTE: If the assignment of an employee to a primary department, cost center, business role or to a primary location changes, the templates are automatically executed.

To execute the template

1. In the Manager, select the **G Suite | Basic configuration data | Account definitions | Account definitions** category.
2. Select an account definition in the result list.
3. Select the **Execute templates** task.

   This displays a list of all user accounts that were created with the selected account definition and whose properties were changed by modifying the IT operating data.

Old value:	Current value of the object property.
New value:	Value that the object property would have following modification of the IT operating data.
Selection:	Specifies whether or not the new value is transferred to the user account.

4. Mark all the object properties in the **selection** column that will be given the new value.
5. Click **Apply**.

   The templates are applied to all selected user accounts and properties.

Assigning account definitions to employees

Account definitions are assigned to company employees.

Indirect assignment is the default method for assigning account definitions to employees. Account definitions are assigned to departments, cost centers, locations, or roles. The employees are categorized into these departments, cost centers, locations, or roles depending on their function in the company and thus obtain their account definitions. To react quickly to special requests, you can assign individual account definitions directly to employees.

You can automatically assign special account definitions to all company employees. It is possible to assign account definitions to the IT Shop as requestable products. Department managers can then request user accounts from the Web Portal for their staff. It is also possible to add account definitions to system roles. These system roles can be assigned to employees through hierarchical roles or added directly to the IT Shop as products.

In the One Identity Manager default installation, the processes are checked at the start to see if the employee already has a user account in the target system that has an account definition. If no user account exists, a new user account is created with the account definition's default manage level.

NOTE: If a user account already exists and is disabled, then it is re-enabled. In this case, you must change the user account manage level afterward.

Prerequisites for indirect assignment of account definitions to employees

- Assignment of employees and account definitions is permitted for role classes (departments, cost centers, locations, or business roles).

NOTE: As long as an account definition for an employee is valid, the employee retains the user account that was created by it. If the assignment of an account definition is removed, the user account that was created from this account definition is deleted.

For detailed information about preparing role classes to be assigned, see the *One Identity Manager Identity Management Base Module Administration Guide*.

Assigning account definitions to departments, cost centers, and locations

To add account definitions to hierarchical roles

1. In the Manager, select the **G Suite | Basic configuration data | Account definitions | Account definitions** category.
2. Select an account definition in the result list.
3. Select the **Assign organizations** task.
4. In the **Add assignments** pane, assign the organizations:
   - On the **Departments** tab, assign departments.
   - On the **Locations** tab, assign locations.
   - On the **Cost centers** tab, assign cost centers.

   TIP: In the **Remove assignments** pane, you can remove assigned organizations.

   To remove an assignment
   - Select the organization and double-click ✓.
5. Save the changes.

Assigning account definitions to business roles

Installed modules: Business Roles Module

To add account definitions to hierarchical roles

1. In the Manager, select the **G Suite | Basic configuration data | Account definitions | Account definitions** category.
2. Select an account definition in the result list.
3. Select the **Assign business roles** task.
4. In the **Add assignments** pane, assign business roles.

   TIP: In the **Remove assignments** pane, you can remove assigned business roles.

   To remove an assignment

   - Select the business role and double-click ✓.
5. Save the changes.

Assigning account definitions to all employees

To assign an account definition to all employees

1. In the Manager, select the **G Suite | Basic configuration data | Account definitions | Account definitions** category.
2. Select an account definition in the result list.
3. Select the **Change master data** task.
4. On the **General** tab, enable the **Automatic assignment to employees** option.

   IMPORTANT: Only set this option if you can ensure that all current internal employees in the database and all pending newly added internal employees obtain a user account in this target system.
5. Save the changes.

The account definition is assigned to every employee that is not marked as external. New employees automatically obtain this account definition as soon as they are added. The assignment is calculated by the DBQueue Processor.

NOTE: Disable **Automatic assignment to employees** to remove automatic assignment of the account definition to all employees. The account definition cannot be reassigned to employees from this point on. Existing assignments remain intact.

Assigning account definitions directly to employees

To assign an account definition directly to employees

1. In the Manager, select the **G Suite | Basic configuration data | Account definitions | Account definitions** category.

2. Select an account definition in the result list.
3. Select the **Assign to employees** task.
4. In the **Add assignments** pane, add employees.

   TIP: In the **Remove assignments** pane, you can remove assigned employees.

   To remove an assignment

   - Select the employee and double-click ✓.
5. Save the changes.

Assigning account definitions to system roles

Installed modules: System Roles Module

NOTE: Account definitions with the **Only use in IT Shop** option can only be assigned to system roles that also have this option set.

To add account definitions to a system role

1. In the Manager, select the **G Suite | Basic configuration data | Account definitions | Account definitions** category.
2. Select an account definition in the result list.
3. Select the **Assign system roles** task.
4. In the **Add assignments** pane, assign system roles.

   TIP: In the **Remove assignments** pane, you can remove assigned system roles.

   To remove an assignment

   - Select the system role and double-click ✓.
5. Save the changes.

Adding account definitions in the IT Shop

An account definition can be requested by shop customers when it is assigned to an IT Shop shelf. To ensure it can be requested, further prerequisites need to be guaranteed.

- The account definition must be labeled with the **IT Shop** option.
- The account definition must be assigned to a service item.

  TIP: In the Web Portal, all products that can be requested are grouped together by service category. To make the account definition easier to find in the Web Portal, assign a service category to the service item.
- If the account definition is only assigned to employees using IT Shop assignments,

you must also set the **Only for use in IT Shop** option. Direct assignment to hierarchical roles may not be possible.

NOTE: IT Shop administrators can assign account definitions to IT Shop shelves if login is role-based. Target system administrators are not authorized to add account definitions in the IT Shop.

To add an account definition to the IT Shop

1. In the Manager, select the **G Suite | Basic configuration data | Account definitions | Account definitions** (non role-based login) category.

   - OR -

   In the Manager, select the **Entitlements | Account definitions** (role-based login) category.
2. Select an account definition in the result list.
3. Select the **Add to IT Shop** task.
4. In the **Add assignments** pane, assign the account definitions to the IT Shop shelves.
5. Save the changes.

To remove an account definition from individual IT Shop shelves

1. In the Manager, select the **G Suite | Basic configuration data | Account definitions | Account definitions** (non role-based login) category.

   - OR -

   In the Manager, select the **Entitlements | Account definitions** (role-based login) category.
2. Select an account definition in the result list.
3. Select the **Add to IT Shop** task.
4. In the **Remove assignments** pane, remove the account definitions from the IT Shop shelves.
5. Save the changes.

To remove an account definition from all IT Shop shelves

1. In the Manager, select the **G Suite | Basic configuration data | Account definitions | Account definitions** (non role-based login) category.

   - OR -

   In the Manager, select the **Entitlements | Account definitions** (role-based login) category.
2. Select an account definition in the result list.
3. Select the **Remove from all shelves (IT Shop)** task.
4. Confirm the security prompt with **Yes**.

5. Click **OK**.

   The account definition is removed from all shelves by the One Identity Manager Service. At the same time, any requests and assignment requests with this account definition are canceled.

For more information about requests from company resources through the IT Shop, see the *One Identity Manager IT Shop Administration Guide*.

Related topics

- Master data for account definitions on page 48

Assigning account definitions to target systems

The following prerequisites must be fulfilled if you implement automatic assignment of user accounts and employees resulting in administered user accounts (**Linked configured** state):

- The account definition is assigned to the target system.
- The account definition has the default manage level.

User accounts are only linked to the employee (**Linked** state) if no account definition is given. This is the case on initial synchronization, for example.

To assign the account definition to a target system

1. In the Manager, select the customer in the **G Suite | Customers** category.
2. Select the **Change master data** task.
3. From the **Account definition (initial)** menu, select the account definition for user accounts.
4. Save the changes.

Related topics

- Automatic assignment of employees to G Suite user accounts on page 65

Deleting account definitions

You can delete account definitions if they are not assigned to target systems, employees, hierarchical roles or any other account definitions.

To delete an account definition

1. Remove automatic assignments of the account definition from all employees.
    a. In the Manager, select the **G Suite | Basic configuration data | Account definitions | Account definitions** category.
    b. Select an account definition in the result list.
    c. Select the **Change master data** task.
    d. On the **General** tab, disable the **Automatic assignment to employees** option.
    e. Save the changes.
2. Remove direct assignments of the account definition to employees.
    a. In the Manager, select the **G Suite | Basic configuration data | Account definitions | Account definitions** category.
    b. Select an account definition in the result list.
    c. Select the **Assign to employees** task.
    d. In the **Remove assignments** pane, remove the employees.
    e. Save the changes.
3. Remove the account definition's assignments to departments, cost centers, and locations.
    a. In the Manager, select the **G Suite | Basic configuration data | Account definitions | Account definitions** category.
    b. Select an account definition in the result list.
    c. Select the **Assign organizations** task.
    d. In the **Remove assignments** pane, remove the relevant departments, cost centers, and locations.
    e. Save the changes.
4. Remove the account definition's assignments to business roles.
    a. In the Manager, select the **G Suite | Basic configuration data | Account definitions | Account definitions** category.
    b. Select an account definition in the result list.
    c. Select the **Assign business roles** task.

        In the **Remove assignments** pane, remove the business roles.
    d. Save the changes.
5. If the account definition was requested through the IT Shop, it must be canceled and removed from all IT Shop shelves.

    For more detailed information about unsubscribing requests, see the *One Identity Manager Web Portal User Guide*.

To remove an account definition from all IT Shop shelves

a. In the Manager, select the **G Suite | Basic configuration data | Account definitions | Account definitions** (non role-based login) category.

   - OR -

   In the Manager, select the **Entitlements | Account definitions** (role-based login) category.

b. Select an account definition in the result list.

c. Select the **Remove from all shelves (IT Shop)** task.

d. Confirm the security prompt with **Yes**.

e. Click **OK**.

   The account definition is removed from all shelves by the One Identity Manager Service. At the same time, any requests and assignment requests with this account definition are canceled.

6. Remove the required account definition assignment. As long as the account definition is required for another account definition, it cannot be deleted. Check all the account definitions.

   a. In the Manager, select the **G Suite | Basic configuration data | Account definitions | Account definitions** category.

   b. Select an account definition in the result list.

   c. Select the **Change master data** task.

   d. From the **Required account definition** menu, remove the account definition.

   e. Save the changes.

7. Remove the account definition's assignments to target systems.

   a. In the Manager, select the customer in the **G Suite | Customers** category.

   b. Select the **Change master data** task.

   c. On the **General** tab, remove the assigned account definitions.

   d. Save the changes.

8. Delete the account definition.

   a. In the Manager, select the **G Suite | Basic configuration data | Account definitions | Account definitions** category.

   b. Select an account definition in the result list.

   c. Click to delete an account definition.

Automatic assignment of employees to G Suite user accounts

When you add a user account, an existing employee can be assigned automatically. This mechanism can be triggered after a new user account is created either manually or through synchronization. Define criteria for finding employees to apply to automatic employee assignment. If a user account is linked to an employee through the current mode, the user account is given, through an internal process, the default manage level of the account definition entered in the user account's target system. You can customize user account properties depending on how the behavior of the manage level is defined.

If you run this procedure during working hours, automatic assignment of employees to user accounts takes place from that moment onwards. If you disable the procedure again later, the changes only affect user accounts added or updated after this point in time. Existing employee assignments to user accounts remain intact.

NOTE: It is not recommended to assign employees using automatic employee assignment in the case of administrative user accounts. Use **Change master data** to assign employees to administrative user accounts for the respective user account.

Run the following tasks to assign employees automatically.

- If you want employees to be assigned during the synchronization of user accounts, in the Designer, set the **TargetSystem | GoogleApps | PersonAutoFullsync** configuration parameter and select the required mode.
- If you want employees to be assigned outside synchronization, in the Designer, set the **TargetSystem | GoogleApps | PersonAutoDefault** configuration parameter and select the required mode.
- In the **TargetSystem | GoogleApps | PersonExcludeList** configuration parameter, define the user accounts for which no automatic assignment to employees shall take place.

  Example:

  `ADMINISTRATOR*`
- Use the **TargetSystem | GoogleApps | PersonAutoDisabledAccounts** configuration parameter to specify whether employees can be automatically assigned to disabled user accounts. User accounts do not obtain an account definition.
- Assign an account definition to the customer. Ensure that the manage level to be used is entered as the default manage level.
- Define the search criteria for employee assignment to this customer.

NOTE:

The following applies for synchronization:

- Automatic employee assignment takes effect if user accounts are added or updated.

The following applies outside synchronization:

- Automatic employee assignment takes effect if user accounts are added.

NOTE:

Following a synchronization, employees are automatically created for the user accounts in the default installation. If an account definition for the customer is not yet known at the time of synchronization, user accounts are linked with employees. However, account definitions are not assigned. The user accounts are therefore in a **Linked** state.

To manage the user accounts using account definitions, assign an account definition and a manage level to these user accounts.

For more information, see Managing user accounts through account definitions on page 45.

For more detailed information about assigning employees automatically, see the *One Identity Manager Target System Base Module Administration Guide*.

Related topics

- Creating account definitions on page 48
- Assigning account definitions to target systems on page 62
- Changing the manage level in G Suite user accounts on page 69
- Editing search criteria for automatic employee assignment on page 66

Editing search criteria for automatic employee assignment

The criteria for employee assignments are defined for the customer. In this case, you specify which user account properties must match the employee's properties such that the employee can be assigned to the user account. You can limit search criteria further by using format definitions. The search criterion is written in XML notation to the **Search criteria for automatic employee assignment** column (`AccountToPersonMatchingRule`) in the `GAPCustomer` table.

Search criteria are evaluated when employees are automatically assigned to user accounts. Furthermore, you can create a suggestion list for assignments of employees to user accounts based on the search criteria and make the assignment directly.

NOTE: When the employees are assigned to user accounts on the basis of search criteria, user accounts are given the default manage level of the account definition entered in the user account's target system. You can customize user account properties depending on how the behavior of the manage level is defined.

It is not recommended to make assignments to administrative user accounts based on search criteria. Use **Change master data** to assign employees to administrative user accounts for the respective user account.

To specify criteria for employee assignment

1. In the Manager, select the **G Suite | G Suite customers** category.
2. Select the customer in the result list.
3. Select the **Define search criteria for employee assignment** task.
4. Specify which user account properties must match with which employee so that the employee is linked to the user account.

   Table 15: Default search criteria for user accounts

Apply to	Column for employee	Column for user account
G Suite user accounts	Default email address (`DefaultEmailAddress`)	Primary email address (`PrimaryEmail`)

5. Save the changes.

For more detailed information about defining search criteria, see the *One Identity Manager Target System Base Module Administration Guide*.

Related topics

- Automatic assignment of employees to G Suite user accounts on page 65
- Finding employees and directly assigning them to user accounts on page 67

Finding employees and directly assigning them to user accounts

Based on the search criteria, you can create a suggestion list for the assignment of employees to user accounts and make the assignment directly. User accounts are grouped in different views for this.

Table 16: Manual assignment view

View	Description
Suggested assignments	This view lists all user accounts to which One Identity Manager can assign an employee. All employees are shown who were found using the search criteria and can be assigned.
Assigned user accounts	This view lists all user accounts to which an employee is assigned.
Without employee assignment	This view lists all user accounts to which no employee is assigned and for which no employee was found using the search criteria.

To apply search criteria to user accounts

1. In the Manager, select the **G Suite | G SuiteCustomers** category.
2. In the result list, select the customer.
3. Select the **Define search criteria for employee assignment** task.
4. At the bottom of the form, click **Reload**.

   All possible assignments based on the search criteria are found in the target system for all user accounts. The three views are updated.

TIP: By double-clicking on an entry in the view, you can view the user account and employee master data.

The assignment of employees to user accounts creates connected user accounts (**Linked** state). To create managed user accounts (**Linked configured** state), you can assign an account definition at the same time.

To assign employees directly over a suggestion list

- Click **Suggested assignments**.
  1. Click the **Selection** box of all user accounts to which you want to assign the suggested employees. Multi-select is possible.
  2. (Optional) Select an account definition in the **Assign this account definition** menu, and select a manage level in the **Assign this account manage level** menu.
  3. Click **Assign selected**.
  4. Confirm the security prompt with **Yes**.

     The employees determined using the search criteria are assigned to the selected user accounts. If an account definition was selected, this is assigned to all selected user accounts.

  - OR -

- Click **No employee assignment**.
  1. Click **Select employee** for the user account to which you want to assign an employee. Select an employee from the menu.
  2. Click the **Selection** box of all user accounts to which you want to assign the selected employees. Multi-select is possible.
  3. (Optional) Select an account definition in the **Assign this account definition** menu, and select a manage level in the **Assign this account manage level** menu.
  4. Click **Assign selected**.
  5. Confirm the security prompt with **Yes**.

     The employees displayed in the **Employee** column are assigned to the selected user accounts. If an account definition was selected, this is assigned to all selected user accounts.

To remove assignments

- Click **Assigned user accounts**.
    1. Click the **Selection** box of all the user accounts you want to delete the employee assignment from. Multi-select is possible.
    2. Click **Remove selected**.
    3. Confirm the security prompt with **Yes**.

       The assigned employees are removed from the selected user accounts.

Changing the manage level in G Suite user accounts

The default manage level is applied if you create user accounts using automatic employee assignment. You can change a user account manage level later.

To change the manage level for a user account

1. In the Manager, select the **G Suite | User accounts** category.
2. Select the user account in the result list.
3. Select the **Change master data** task.
4. On the **General** tab, select the manage level in the **Manage level** menu.
5. Save the changes.

Related topics

- General master data for G Suite user accounts on page 114

Assigning account definitions to linked user accounts

An account definition can be subsequently assigned to user accounts with **Linked** status. This may be necessary, for example, if:

- Employees and user accounts have been linked manually.
- Automatic employee assignment is configured, but an account definition is not yet assigned to the customer when inserting a user account.

To select user accounts through account definitions

1. Create an account definition.
2. Assign an account definition to the customer.

3. Assign a user account in the **Linked** state to the account definition. The account definition's default manage level is applied to the user account.
    a. In the Manager, select the **G Suite | User accounts | Linked but not configured | <Customer>** category.
    b. Select the **Assign account definition to linked accounts** task.
    c. In the **Account definition** menu, select the account definition.
    d. Select the user accounts that contain the account definition.
    e. Save the changes.

Detailed information about this topic

- Account definitions for G Suite user accounts on page 47
- Assigning account definitions to target systems on page 62

Manually linking employees to G Suite user accounts

An employee can be linked to multiple G Suite user accounts, for example, so that you can assign an administrative user account in addition to the default user account. One employee can also use default user accounts with different types.

NOTE: To enable working with identities for user accounts, the employees also need identities. You can only link user accounts to which an identity is assigned with employees who have this same identity.

To manually assign user accounts to an employee

1. In the Manager, select the **Employees | Employees** category.
2. Select the employee in the result list and run the **Assign G Suite user accounts** task.
3. Assign the user accounts.
4. Save the changes.

Related topics

- Supported user account types on page 71

Supported user account types

Different types of user accounts, such as default user accounts, administrative user accounts, service accounts, or privileged user accounts, can be mapped in One Identity Manager.

The following properties are used for mapping different user account types.

- Identity

  The **Identity** property (`IdentityType` column) is used to describe the type of user account.

  Table 17: Identities of user accounts

Identity	Description	Value of the IdentityType column
Primary identity	Employee's default user account.	Primary
Organizational identity	Secondary user account used for different roles in the organization, for example for subcontracts with other functional areas.	Organizational
Personalized admin identity	User account with administrative permissions, used by one employee.	Admin
Sponsored identity	User account that is used for a specific purpose, such as training.	Sponsored
Shared identity	User account with administrative permissions, used by several employees.	Shared
Service identity	Service account.	Service

  NOTE: To enable working with identities for user accounts, the employees also need identities. You can only link user accounts to which an identity is assigned with employees who have this same identity.

  The primary identity, the organizational identity, and the personalized admin identity are used for different user accounts, which can be used by the same actual employee to perform their different tasks within the company.

  To provide user accounts with a personalized admin identity or an organizational identity for an employee, you create subidentities for the employee. These subidentities are then linked to user accounts, enabling you to assign the required permissions to the different user accounts.

User accounts with a sponsored identity, group identity, or service identity are linked to dummy employees that do not refer to a real person. These dummy employees are needed so that permissions can be inherited by the user accounts. When evaluating reports, attestations, or compliance checks, check whether dummy employees need to be considered separately.

For detailed information about mapping employee identities, see the *One Identity Manager Identity Management Base Module Administration Guide*.

- Privileged user account

  Privileged user accounts are used to provide employees with additional privileges. This includes administrative user accounts or service accounts, for example. The user accounts are labeled with the **Privileged user account** property (`IsPrivilegedAccount` column).

Detailed information about this topic

- Default user accounts on page 72
- Administrative user accounts on page 73
- Providing administrative user accounts for one employee on page 73
- Providing administrative user accounts for several employees on page 74
- Privileged user accounts on page 75

Default user accounts

Normally, each employee obtains a default user account, which has the permissions they require for their regular work. The user accounts are linked to the employee. The effect of the link and the scope of the employee's inherited properties on the user accounts can be configured through an account definition and its manage levels.

To create default user accounts through account definitions

1. Create an account definition and assign the **Unmanaged** and **Full managed** manage levels.
2. Specify the effect of temporarily or permanently disabling, deleting, or the security risk of an employee on its user accounts and group memberships for each manage level.
3. Create a formatting rule for IT operating data.

   You use the mapping rule to define which rules are used to map the IT operating data for the user accounts, and which default values are used if no IT operating data can be determined through a person's primary roles.

   Which IT operating data is required depends on the target system. The following setting are recommended for default user accounts:

- In the mapping rule for the `IsGroupAccount` column, use the default value **1** and enable the **Always use default value** option.
- In the mapping rule for the `IdentityType` column, use the default value **Primary** and enable **Always use default value**.

4. Enter the effective IT operating data for the target system. Select the concrete target system under **Effects on**.

   Specify in the departments, cost centers, locations, or business roles that IT operating data should apply when you set up a user account.

5. Assign the account definition to employees.

   When the account definition is assigned to an employee, a new user account is created through the inheritance mechanism and subsequent processing.

Related topics

- Account definitions for G Suite user accounts on page 47

Administrative user accounts

An administrative user account must be used for certain administrative tasks. Administrative user accounts are usually predefined by the target system and have fixed names and login names, such as **Administrator**.

Administrative user accounts are imported into One Identity Manager during synchronization.

NOTE: Some administrative user accounts can be automatically identified as privileged user accounts. To do this, in the Designer, enable the **Mark selected user accounts as privileged** schedule.

Related topics

- Providing administrative user accounts for one employee on page 73
- Providing administrative user accounts for several employees on page 74

Providing administrative user accounts for one employee

Prerequisites

- The user account must be labeled as a personalized admin identity.
- The employee who will be using the user account must be labeled as a personalized admin identity.
- The employee who will be using the user account must be linked to a main identity.

To prepare an administrative user account for a person

1. Label the user account as a personalized admin identity.
    a. In the Manager, select the **G Suite | User accounts** category.
    b. Select the user account in the result list.
    c. Select the **Change master data** task.
    d. On the **General** tab, in the **Identity** selection list, select **Personalized administrator identity**.
2. Link the user account to the employee who will be using this administrative user account.
    a. In the Manager, select the **G Suite | User accounts** category.
    b. Select the user account in the result list.
    c. Select the **Change master data** task.
    d. On the **General** tab, in the **Person** selection list, select the employee who will be using this administrative user account.

    TIP: If you are the target system manager, you can choose to create a new person.

Related topics

- Providing administrative user accounts for several employees on page 74
- For detailed information about mapping employee identities, see the *One Identity Manager Identity Management Base Module Administration Guide*.

Providing administrative user accounts for several employees

Prerequisite

- The user account must be labeled as a shared identity.
- A dummy employee must exist. The dummy employee must be labeled as a shared identity and must have a manager.
- The employees who are permitted to use the user account must be labeled as a primary identity.

To prepare an administrative user account for multiple employees

1. Label the user account as a shared identity.
    a. In the Manager, select the **G Suite | User accounts** category.
    b. Select the user account in the result list.

c. Select the **Change master data** task.

d. On the **General** tab, in the **Identity** menu, select **Shared identity**.

2. Link the user account to a dummy employee.

a. In the Manager, select the **G Suite | User accounts** category.

b. Select the user account in the result list.

c. Select the **Change master data** task.

d. On the **General** tab, select the dummy employee from the **Employee** menu.

TIP: If you are the target system manager, you can choose to create a new dummy employee.

3. Assign the employees who will use this administrative user account to the user account.

a. In the Manager, select the **G Suite | User accounts** category.

b. Select the user account in the result list.

c. Select the **Assign employees authorized to use** task.

d. In the **Add assignments** pane, add employees.

TIP: In the **Remove assignments** pane, you can remove assigned employees.

To remove an assignment

- Select the employee and double-click .

Related topics

- Providing administrative user accounts for one employee
- For detailed information about mapping employee identities, see the *One Identity Manager Identity Management Base Module Administration Guide*.

Privileged user accounts

Privileged user accounts are used to provide employees with additional privileges. This includes administrative user accounts or service accounts, for example. The user accounts are labeled with the **Privileged user account** property (`IsPrivilegedAccount` column).

NOTE: The criteria according to which user accounts are automatically identified as privileged are defined as extensions to the view definition (ViewAddOn) in the `TSBVAccountIsPrivDetectRule` table (which is a table of the **Union** type). The evaluation is done in the `TSB_SetIsPrivilegedAccount` script.

To create privileged users through account definitions

1. Create an account definition. Create a new manage level for privileged user accounts and assign this manage level to the account definition.
2. If you want to prevent the properties for privileged user accounts from being overwritten, set the **IT operating data overwrites** property for the manage level to **Only initially**. In this case, the properties are populated just once when the user accounts are created.
3. Specify the effect of temporarily or permanently disabling or deleting, or the security risk of an employee on its user accounts and group memberships for each manage level.
4. Create a formatting rule for the IT operating data.

   You use the mapping rule to define which rules are used to map the IT operating data for the user accounts, and which default values are used if no IT operating data can be determined through a person's primary roles.

   Which IT operating data is required depends on the target system. The following settings are recommended for privileged user accounts:

   - In the mapping rule for the `IsPrivilegedAccount` column, use the default value **1** and set the **Always use default value** option.
   - You can also specify a mapping rule for the `IdentityType` column. The column owns different permitted values that represent user accounts.
   - To prevent privileged user accounts from inheriting the entitlements of the default user, define a mapping rule for the `IsGroupAccount` column with a default value of **0** and set the **Always use default value** option.
5. Enter the effective IT operating data for the target system.

   Specify in the departments, cost centers, locations, or business roles which IT operating data should apply when you set up a user account.
6. Assign the account definition directly to employees who work with privileged user accounts.

   When the account definition is assigned to an employee, a new user account is created through the inheritance mechanism and subsequent processing.

TIP: If customization requires that the primary email addresses of privileged user accounts follow a defined naming convention, create the template according to which the primary email addresses are formed.

Related topics

- Account definitions for G Suite user accounts on page 47

4

Provision of login information for G Suite user accounts

When new user accounts are created in One Identity Manager, the passwords needed to log in to the target system are created immediately also. Various options are available for assigning the initial password. Predefined password policies are applied to the passwords, and you can adjust these policies to suit your individual requirements if necessary. You can set up email notifications to distribute the login information generated to users.

Detailed information about this topic

- Password policies for G Suite user accounts on page 77
- Initial password for new G Suite user accounts on page 88
- Email notifications about login data on page 89

Password policies for G Suite user accounts

One Identity Manager provides you with support for creating complex password policies, for example, for system user passwords, the employees' central password as well as passwords for individual target systems. Password polices apply not only when the user enters a password but also when random passwords are generated.

Predefined password policies are supplied with the default installation that you can use or customize if required. You can also define your own password policies.

Detailed information about this topic

- Predefined password policies on page 78
- Using password policies on page 79
- Creating password policies on page 81
- Custom scripts for password requirements on page 84

- Editing the excluded list for passwords on page 87
- Checking passwords on page 87
- Testing the generation of passwords on page 88

Predefined password policies

You can customize predefined password policies to meet your own requirements, if necessary.

Password for logging in to One Identity Manager

The **One Identity Manager password policy** is applied for logging in to One Identity Manager. This password policy defines the settings for the system user passwords (`DialogUser.Password` and `Person.DialogUserPassword`) as well as the passcode for a one time log in on the Web Portal (`Person.Passcode`).

NOTE: The **One Identity Manager password policy** is marked as the default policy. This password policy is applied if no other password policy can be found for employees, user accounts, or system users.

For detailed information about password policies for employees, see the *One Identity Manager Identity Management Base Module Administration Guide*.

Password policy for forming employees' central passwords

An employee's central password is formed from the target system specific user accounts by respective configuration. The **Employee central password policy** defines the settings for the (`Person.CentralPassword`) central password. Members of the **Identity Management | Employees | Administrators** application role can adjust this password policy.

IMPORTANT: Ensure that the **Employee central password policy** does not violate the target system-specific requirements for passwords.

For detailed information about password policies for employees, see the *One Identity Manager Identity Management Base Module Administration Guide*.

Password policies for user accounts

Predefined password policies are provided, which you can apply to the user account password columns of the user accounts.

IMPORTANT: If you do not use password policies that are specific to the target system, the **One Identity Manager password policy** default policy applies. In this case, ensure that the default policy does not violate the target systems requirements.

The **G Suite password policy** is predefined for the customer. You can apply this password policy to customer user accounts (`GAPUser.Password`).

If the customers' password requirements differ, it is recommended that you set up your own password policies for each customer.

Furthermore, you can apply password policies based on the account definition of the user accounts or based on the manage level of the user accounts.

Using password policies

The **G Suite password policy** is predefined for the customer. You can apply this password policy to customer user accounts (`GAPUser.Password`).

If the customers' password requirements differ, it is recommended that you set up your own password policies for each customer.

Furthermore, you can apply password policies based on the account definition of the user accounts or based on the manage level of the user accounts.

The password policy that is to be used for a user account is determined in the following sequence:

1. Password policy of the account definition of the user account.
2. Password policy of the manage level of the user account.
3. Password policy for the G Suite customer of the user account.
4. The **One Identity Manager password policy** (default policy).

IMPORTANT: If you do not use password policies that are specific to the target system, the **One Identity Manager password policy** default policy applies. In this case, ensure that the default policy does not violate the target systems requirements.

To reassign a password policy

1. In the Manager, select the **G Suite | Basic configuration data | Password policies** category.
2. Select the password policy in the result list.
3. Select the **Assign objects** task.

4. Click **Add** in the **Assignments** section and enter the following data.

Table 18: Assigning a password policy

Property	Description
Apply to	Application scope of the password policy. ***To specify an application scope*** a. Click → next to the field. b. Select one of the following references under **Table**: • The table that contains the base objects of synchronization. • To apply the password policy based on the account definition, select the `TSBAccountDef` table. • To apply the password policy based on the manage level, select the `TSBBehavior` table. c. Under **Apply to**, select the table that contains the base objects. • If you have selected the table containing the base objects of synchronization, next select the specific target system. • If you have selected the `TSBAccountDef` table, next select the specific account definition. • If you have selected the `TSBBehavior` table, next select the specific manage level. d. Click **OK**.
Password column	The password column's identifier.
Password policy	The identifier of the password policy to be used.

5. Save the changes.

To change a password policy's assignment

1. In the Manager, select the **G Suite | Basic configuration data | Password policies** category.
2. Select the password policy in the result list.
3. Select the **Assign objects** task.
4. In the **Assignments** pane, select the assignment you want to change.
5. From the **Password Policies** menu, select the new password policy you want to apply.
6. Save the changes.

Editing password policies

To edit a password policy

1. In the Manager, select the **G Suite | Basic configuration data | Password policies** category.
2. In the result list, select the password policy.
3. Select the **Change master data** task.
4. Edit the password policy's master data.
5. Save the changes.

Detailed information about this topic

- General master data for password policies on page 81
- Policy settings on page 82
- Character classes for passwords on page 83
- Custom scripts for password requirements on page 84

Creating password policies

To create a password policy

1. In the Manager, select the **G Suite | Basic configuration data | Password policies** category.
2. Click in the result list.
3. On the master data form, enter the master data for the password policy.
4. Save the changes.

Detailed information about this topic

- General master data for password policies on page 81
- Policy settings on page 82
- Character classes for passwords on page 83
- Custom scripts for password requirements on page 84

General master data for password policies

Enter the following master data for a password policy.

Table 19: Master data for a password policy

Property	Meaning
Display name	Password policy name. Translate the given text using the button.
Description	Text field for additional explanation. Translate the given text using the button.
Error Message	Custom error message generated if the policy is not fulfilled. Translate the given text using the button.
Owner (Application Role)	Application roles whose members can configure the password policies.
Default policy	Mark as default policy for passwords. NOTE: The **One Identity Manager password policy** is marked as the default policy. This password policy is applied if no other password policy can be found for employees, user accounts, or system users.

Policy settings

Define the following settings for a password policy on the **Password** tab.

Table 20: Policy settings

Property	Meaning
Initial password	Initial password for newly created user accounts. The initial password is used if a password is not entered when you create a user account or if a random password is not generated.
Password confirmation	Reconfirm password.
Minimum Length	Minimum length of the password. Specify the number of characters a password must have.
Max. length	Maximum length of the password. Specify the number of characters a password can have. The maximum permitted value is **256**.
Max. errors	Maximum number of errors. Set the number of invalid passwords attempts. Only taken into account when logging in to One Identity Manager. This data is only taken into account if the One Identity Manager login was through a system user or employee based authentication module. If a user has reached the number of

Property	Meaning
	maximum failed logins, the employee or system user can no longer log in to One Identity Manager. You can use the Password Reset Portal to reset the passwords of employees and system users who have been blocked. For more detailed information, see the *One Identity Manager Web Portal User Guide*.
Validity period	Maximum age of the password. Enter the length of time a password can be used before it expires.
Password history	Enter the number of passwords to be saved. If, for example, a value of **5** is entered, the user's last five passwords are stored.
Minimum password strength	Specifies how secure the password must be. The higher the password strength, the more secure it is. The value **0** means that the password strength is not tested. The values **1**, **2**, **3** and **4** specify the required complexity of the password. The value **1** represents the lowest requirements in terms of password strength. The value **4** requires the highest level of complexity.
Name properties denied	Specifies whether name properties are permitted in the password. If this option is set, name properties are not permitted in passwords. The values of these columns are taken into account if the **Contains name properties for password check** option is set. In the Designer, adjust this option in the column definition. For more detailed information, see the *One Identity Manager Configuration Guide*.

Character classes for passwords

Use the **Character classes** tab to specify which characters are permitted for a password.

Table 21: Character classes for passwords

Property	Meaning
Min. number letters	Specifies the minimum number of alphabetical characters the password must contain.
Min. number lowercase	Specifies the minimum number of lowercase letters the password must contain.
Min. number uppercase	Specifies the minimum number of uppercase letters the password must contain.

Property	Meaning
Min. number digits	Specifies the minimum number of digits the password must contain.
Min. number special characters	Specifies the minimum number of special characters the password must contain.
Permitted special characters	List of permitted special characters.
Max. identical characters in total	Specifies the maximum number of identical characters that can be present in the password in total.
Max. identical characters in succession	Specifies the maximum number of identical character that can be repeated after each other.
Denied special characters	List of special characters that are not permitted.
Do not generate lowercase letters	Specifies whether or not a generated password can contain lowercase letters. This setting only applies when passwords are generated.
Do not generate uppercase letters	Specifies whether or not a generated password can contain uppercase letters. This setting only applies when passwords are generated.
Do not generate digits	Specifies whether or not a generated password can contain digits. This setting only applies when passwords are generated.
Do not generate special characters	Specifies whether or not a generated password can contain special characters. If this option is set, only letters, numbers, and spaces are allowed in passwords. This setting only applies when passwords are generated.

Custom scripts for password requirements

You can implement custom scripts for testing and generating passwords if the password requirements cannot be mapped with the existing settings options. Scripts are applied in

addition to the other settings.

Detailed information about this topic

- Script for checking passwords on page 85
- Script for generating a password on page 86

Script for checking passwords

You can implement a script if additional policies need to be used for checking a password that cannot be mapped with the available settings.

Syntax of check scripts

```
Public Sub CCC_CustomPwdValidate( policy As VI.DB.Passwords.PasswordPolicy, spwd As System.Security.SecureString)
```

With parameters:

policy = password policy object

spwd = password to check

TIP: To use a base object, take the `Entity` property of the `PasswordPolicy` class.

Example of a script that checks a password

A password cannot start with **?** or **!** . The password cannot start with three identical characters. The script checks a given password for validity.

```
Public Sub CCC_PwdValidate( policy As VI.DB.Passwords.PasswordPolicy, spwd As System.Security.SecureString)
    Dim pwd = spwd.ToInsecureArray()
    If pwd.Length>0
        If pwd(0)="?" Or pwd(0)="!"
            Throw New Exception(#LD("Password can't start with '?' or '!'")#)
        End If
    End If
    If pwd.Length>2
        If pwd(0) = pwd(1) AndAlso pwd(1) = pwd(2)
            Throw New Exception(#LD("Invalid character sequence in password")#)
        End If
    End If
End Sub
```

To use a custom script for checking a password

1. In the Designer, create your script in the **Script Library** category.
2. Edit the password policy.
    a. In the Manager, select the **G Suite | Basic configuration data | Password policies** category.
    b. In the result list, select the password policy.
    c. Select the **Change master data** task.
    d. On the **Scripts** tab, enter the name of the script to be used to check a password in the **Check script** field.
    e. Save the changes.

Related topics

- Script for generating a password on page 86

Script for generating a password

You can implement a generating script if additional policies need to be used for generating a random password, which cannot be mapped with the available settings.

Syntax for generating script

```
Public Sub CCC_PwdGenerate( policy As VI.DB.Passwords.PasswordPolicy, spwd As
System.Security.SecureString)
```

With parameters:

policy = password policy object

spwd = generated password

TIP: To use a base object, take the `Entity` property of the `PasswordPolicy` class.

Example for a script to generate a password

The script replaces the **?** and **!** characters at the beginning of random passwords with **_**.

```
Public Sub CCC_PwdGenerate( policy As VI.DB.Passwords.PasswordPolicy, spwd As
System.Security.SecureString)
    Dim pwd = spwd.ToInsecureArray()
    ' replace invalid characters at first position
    If pwd.Length>0
        If pwd(0)="?" Or pwd(0)="!"
            spwd.SetAt(0, CChar("_"))
        End If
```

```
    End If
End Sub
```

To use a custom script for generating a password

1. In the Designer, create your script in the **Script Library** category.
2. Edit the password policy.
    a. In the Manager, select the **G Suite | Basic configuration data | Password policies** category.
    b. In the result list, select the password policy.
    c. Select the **Change master data** task.
    d. On the **Scripts** tab, enter the name of the script to be used to generate a password in the **Generating script** field.
    e. Save the changes.

Related topics

- Script for checking passwords on page 85

Editing the excluded list for passwords

You can add words to a list of restricted terms to prohibit them from being used in passwords.

NOTE: The restricted list applies globally to all password policies.

To add a term to the restricted list

1. In the Designer, select the **Base Data | Security settings | Restricted passwords** category.
2. Create a new entry with the **Object | New** menu item and enter the term you want to exclude from the list.
3. Save the changes.

Checking passwords

When you check a password, all the password policy settings, custom scripts, and the restricted passwords are taken into account.

To check if a password conforms to the password policy

1. In the Manager, select the **G Suite | Basic configuration data | Password policies** category.
2. Select the password policy in the result list.
3. Select the **Change master data** task.
4. Select the **Test** tab.
5. Select the table and object to be tested in **Base object for test**.
6. Enter a password in **Enter password to test**.

   A display next to the password shows whether it is valid or not.

Testing the generation of passwords

When you generate a password, all the password policy settings, custom scripts and the restricted passwords are taken into account.

To generate a password that conforms to the password policy

1. In the Manager, select the **G Suite | Basic configuration data | Password policies** category.
2. In the result list, select the password policy.
3. Select the **Change master data** task.
4. Select the **Test** tab.
5. Click **Generate**.

   This generates and displays a password.

Initial password for new G Suite user accounts

You can issue an initial password for a new user account in the following ways:

- Create user accounts manually and enter a password in their master data.
- Assign a randomly generated initial password to enter when you create user accounts.
  - In the Designer, set the **TargetSystem | GoogleApps | Accounts | InitialRandomPassword** configuration parameter.
  - Apply target system specific password policies and define the character sets

that the password must contain.

- Specify which employee will receive the initial password by email.

- Use the employee's central password. The employee's central password is mapped to the user account password. For detailed information about an employee's central password, see the *One Identity Manager Identity Management Base Module Administration Guide*.

Related topics

- Password policies for G Suite user accounts on page 77
- Email notifications about login data on page 89

Email notifications about login data

You can configure the login information for new user accounts to be sent by email to a specified person. In this case, two messages are sent with the user name and the initial password. Mail templates are used to generate the messages. The mail text in a mail template is defined in several languages. This means the recipient's language can be taken into account when the email is generated. Mail templates are supplied in the default installation with which you can configure the notification procedure.

The following prerequisites must be fulfilled in order to use notifications:

- Ensure that the email notification system is configured in One Identity Manager. For more detailed information, see the *One Identity Manager Installation Guide*.
- In the Designer, set the **Common | MailNotification | DefaultSender** configuration parameter and enter the sender address for sending the email notifications.
- Ensure that all employees have a default email address. Notifications are sent to this address. For more detailed information, see the *One Identity Manager Identity Management Base Module Administration Guide*.
- Ensure that a language can be determined for all employees. Only then can they receive email notifications in their own language. For more detailed information, see the *One Identity Manager Identity Management Base Module Administration Guide*.

When a randomly generated password is issued for the new user account, the initial login data for a user account is sent by email to a previously specified person.

To send initial login data by email

1. Enable the **TargetSystem | GoogleApps | Accounts | InitialRandomPassword** configuration parameter in the Designer.
2. In the Designer, set the **TargetSystem | GoogleApps | Accounts | InitialRandomPassword | SendTo** configuration parameter and enter the

notification recipient as a value.

If no recipient can be found, the email is sent to the address stored in the **TargetSystem | GoogleApps | DefaultAddress** configuration parameter.

3. In the Designer, set the **TargetSystem | GoogleApps | Accounts | InitialRandomPassword | SendTo | MailTemplateAccountName** configuration parameter.

   By default, the message sent uses the **Employee - new user account created** mail template. The message contains the name of the user account.

4. In the Designer, set the **TargetSystem | GoogleApps | Accounts | InitialRandomPassword | SendTo | MailTemplatePassword** configuration parameter.

   By default, the message sent uses the **Employee - initial password for new user account** mail template. The message contains the initial password for the user account.

TIP: To use custom mail templates for emails of this type, change the value of the configuration parameter.

5

Managing G Suite entitlement assignments

In G Suite, the users can have different entitlements, which are mapped in One Identity Manager as follows:

- Entitlement for logging on to G Suite

  Table: **G Suite Products and SKUs** (GAPPaSku)
- Administrative entitlements

  Table: **G Suite Admin role designations** (GAPOrgAdminRole)
- Entitlement for the use of G Suite groups

  Table: **G Suite Groups** (GAPGroup)

Entitlement assignments refer to the assignment of the various entitlements to user accounts. These include:

- G Suite user accounts: assignments to products and SKUs (GAPUserInPaSku table)
- G Suite user accounts: assignments to groups (GAPUserInGroup table)
- G Suite groups: assignments to customers (GAPCustomerInGroup table)

Assigning G Suite entitlements to user accounts in One Identity Manager

In One Identity Manager, G Suite entitlements can be assigned directly or indirectly to employees.

In the case of indirect assignment, employees, and entitlements are organized in hierarchical roles. The number of entitlements assigned to an employee is calculated from the position in the hierarchy and the direction of inheritance. If the employee has a G Suite user account, the entitlements are assigned to this user account.

Entitlements can also be assigned to employees through IT Shop requests. To enable the assignment of entitlements using IT Shop requests, employees are added as customers in

a shop. All entitlements assigned to this shop as products can be requested by the customers. After approval is granted, requested entitlements are assigned to the employees.

You can use system roles to group entitlements together and assign them to employees as a package. You can create system roles that contain only G Suite entitlements. System entitlements from different target systems can also be grouped together in a system role.

To react quickly to special requests, you can also assign the entitlements directly to user accounts.

Prerequisites

- For departments, cost centers, locations, or business roles, the assignment of persons, G Suite products and SKUs and G Suite groups is permitted.
- The **Entitlements can be inherited** option is selected for the user accounts.
- The user accounts are linked with an employee through the `UID_Person` (**Person**) column.
- User accounts and entitlements belong to the same customer.

For detailed information see the following guides:

Theme	Guide
Inheritance of company resources	*One Identity Manager Identity Management Base Module Administration Guide* *One Identity Manager Business Roles Administration Guide*
Assigning company resources through IT Shop requests	*One Identity Manager IT Shop Administration Guide*
System roles	*One Identity Manager System Roles Administration Guide*

Detailed information about this topic

- Assigning G Suite entitlements to departments, cost centers, and locations on page 93
- Assigning G Suite entitlements to business roles on page 94
- Assigning G Suite user accounts directly to an entitlement on page 97
- Adding G Suite entitlements to system roles on page 95
- Adding G Suite entitlements to the IT Shop on page 95
- Assigning G Suite entitlements directly to a user account on page 98
- Assigning G Suite groups directly to a customer on page 98
- Assigning G Suite customers directly to a group on page 99

Assigning G Suite entitlements to departments, cost centers, and locations

Assign groups and products and SKUs to departments, cost centers, or locations in order to assign them to user accounts through these organizations.

To assign a permission to a department, cost center or location (non role-based login):

1. Select one of the following categories.
    - **G Suite | Groups**
    - **G Suite | Products and SKUs**
2. Select the entitlements in the result list.
3. Select the **Assign organizations** task.
4. In the **Add assignments** pane, assign the organizations:
    - On the **Departments** tab, assign departments.
    - On the **Locations** tab, assign locations.
    - On the **Cost centers** tab, assign cost centers.

    TIP: In the **Remove assignments** pane, you can remove assigned organizations.

    To remove an assignment

    - Select the organization and double-click .
5. Save the changes.

To assign permissions to a department, cost center or location (role-based login)

1. Select the **Organizations | Departments** category.

    - OR -

    Select the **Organizations | Cost centers** category.

    - OR -

    Select the **Organizations | Locations** category.
2. Select the department, cost center or location in the result list.
3. Select one of the following tasks.
    - **G Suite Assign groups**
    - **G Suite Assign products and SKUs**
4. In the **Add assignments** pane, assign the entitlements.

    - OR -

In the **Remove assignments** pane, remove the entitlements.

5. Save the changes.

Related topics

- One Identity Manager users for managing G Suite on page 10

Assigning G Suite entitlements to business roles

Installed modules: Business Roles Module

You assign entitlements to business roles so that these entitlements are assigned to user accounts through these business roles.

To assign an entitlement to business roles (non role-based login):

1. Select one of the following categories.
   - **G Suite | Groups**
   - **G Suite | Products and SKUs**
2. Select the entitlements in the result list.
3. Select the **Assign business roles** task.
4. In the **Add assignments** pane, assign business roles.

   TIP: In the **Remove assignments** pane, you can remove assigned business roles.

   To remove an assignment
   - Select the business role and double-click ✓.
5. Save the changes.

To assign entitlements to a business role (role-based login):

1. Select the **Business roles | <Role class>** category.
2. Select the business role in the result list.
3. Select one of the following tasks.
   - **G Suite Assign groups**
   - **G Suite Assign products and SKUs**
4. In the **Add assignments** pane, assign the entitlements.

   - OR -

   In the **Remove assignments** pane, remove the entitlements.
5. Save the changes.

Related topics

- One Identity Manager users for managing G Suite on page 10

Adding G Suite entitlements to system roles

Installed modules: System Roles Module

Use this task to add an entitlement to system roles. When you assign a system role to an employee, the entitlement is inherited by all user accounts of this employee.

NOTE: Groups with the **Only use in IT Shop** option can only be assigned to system roles that also have this option set. For detailed information, see the *One Identity Manager System Roles Administration Guide*.

To assign a group to system roles:

1. Select one of the following categories.
   - **G Suite | Groups**
   - **G Suite | Products and SKUs**
2. Select the entitlements in the result list.
3. Select the **Assign system roles** task.
4. In the **Add assignments** pane, assign system roles.

   TIP: In the **Remove assignments** pane, you can remove assigned system roles.

   To remove an assignment
   - Select the system role and double-click .
5. Save the changes.

Adding G Suite entitlements to the IT Shop

When you assign a permission to an IT Shop shelf, it can be requested by the shop customers. To ensure it can be requested, further prerequisites need to be guaranteed:

- The permissions must be labeled with the **IT Shop** option.
- The permission must be assigned a service item.

  TIP: In the Web Portal, all products that can be requested are grouped together by service category. To make the permission easier to find in the Web Portal, assign a service category to the service item.
- If you only want the permission to be assigned to employees through IT Shop requests, the permissions must also be labeled with the **Use only in IT Shop**

option. Direct assignment to hierarchical roles or user accounts is no longer permitted.

NOTE: With role-based login, the IT Shop administrators can assign permissions to IT Shop shelves. Target system administrators are not authorized to add permissions to IT Shop.

To add a permission to the IT Shop.

1. In the Manager, select the one of the following categories (non role-based login) category.
   - **G Suite | Groups**
   - **G Suite | Products and SKUs**

   - OR -

   In the Manager select one of the following categories (role-based login) category.
   - **Entitlements | G Suite Groups**
   - **Entitlements | G Suite Products and SKUs**
2. In the result list, select the permission.
3. Select the **Add to IT Shop** task.
4. In the **Add assignments** pane, the entitlement to the IT Shop shelves.
5. Save the changes.

To remove, an entitlement from individual shelves of the IT Shop

1. In the Manager, select the one of the following categories (non role-based login) category.
   - **G Suite | Groups**
   - **G Suite | Products and SKUs**

   - OR -

   In the Manager select one of the following categories (role-based login) category.
   - **Entitlements | G Suite Groups**
   - **Entitlements | G Suite Products and SKUs**
2. In the result list, select the permission.
3. Select the **Add to IT Shop** task.
4. In the **Remove assignments** pane, the entitlement from the IT Shop shelves.
5. Save the changes.

To remove, an entitlement from all shelves of the IT Shop

1. In the Manager, select the one of the following categories (non role-based login) category.

- **G Suite | Groups**
- **G Suite | Products and SKUs**

- OR -

In the Manager select one of the following categories (role-based login) category.

- **Entitlements | G Suite Groups**
- **Entitlements | G Suite Products and SKUs**

2. In the result list, select the permission.
3. Select the **Remove from all shelves (IT Shop)** task.
4. Confirm the security prompt with **Yes**.
5. Click **OK**.

   The entitlement is removed from all shelves by the One Identity Manager Service. All requests and assignment requests with this entitlement are canceled.

For more detailed information about requesting company resources through the IT Shop, see the *One Identity Manager IT Shop Administration Guide*.

Related topics

- General master data for G Suite groups on page 129
- General master data for G Suite products and SKUs on page 136
- One Identity Manager users for managing G Suite on page 10

Assigning G Suite user accounts directly to an entitlement

To react quickly to special requests, you can assign the entitlements directly to user accounts.

To assign an entitlement directly to user accounts

1. Select one of the following categories.
   - **G Suite | Groups**
   - **G Suite | Products and SKUs**
2. Select the entitlements in the result list.
3. Select the **Assign members** task.
4. Select the **User** tab.
5. In the **Add assignments** pane, assign user accounts.

   - OR -

In the **Remove assignments** pane, remove user accounts.

6. Save the changes.

Assigning G Suite entitlements directly to a user account

To enable a quick response to special requests, you can assign entitlements directly to a user account.

To assign entitlements directly to a user account

1. Select the **G Suite | User accounts** category.
2. Select the user account in the result list.
3. Select one of the following tasks.
    - **Assign groups**
    - **Assign products and SKUs**
    - **Admin role designations**
4. In the **Add assignments** pane, assign the entitlements.

    - OR -

    In the **Remove assignments** pane, remove the entitlements.
5. Save the changes.

Assigning G Suite groups directly to a customer

To add all user accounts of a customer as members in a G Suite group, assign the groups directly to the G Suite customer. In the calculation of inheritance, for all user accounts of the customer, an entry is made in the `GAPUserInGroup` table. The origin of the assignment is indicated in the `XOrigin` column with the value **16**.

To assign groups directly to a customer

1. Select the **G Suite | G Suite customers** category.
2. Select the customer in the result list.
3. Select the **Assign groups** task.
4. In the **Add assignments** pane, assign groups.

    - OR -

In the **Remove assignments** pane, remove groups.

5. Save the changes.

Related topics

- Special features in the assignment of G Suite groups on page 170

Assigning G Suite customers directly to a group

To add all user accounts of a customer as members in a G Suite group, assign the G Suite customers directly to the group. In the calculation of inheritance, for all user accounts of the customer, an entry is made in the `GAPUserInGroup` table. The origin of the assignment is indicated in the `XOrigin` column with the value **16**.

To assign customers directly to a group

1. Select the **G Suite | Groups**.
2. Select the group in the result list.
3. Select **Assign G Suite customer as member**.
4. Assign the customers in the **Add assignments** view.

   - OR -

   Remove the customers in **Remove assignments** category.
5. Save the changes.

Related topics

- Special features in the assignment of G Suite groups on page 170

Effectiveness of G Suite entitlement assignments

When groups are assigned to user accounts an employee may obtain two or more groups, which are not permitted in this combination. To prevent this, you can declare mutually exclusive groups. To do this, you specify which of the two groups should apply to the user accounts if both are assigned.

It is possible to assign an excluded group at any time either directly, indirectly, or with an IT Shop request. One Identity Manager determines whether the assignment is effective.

NOTE:

- You cannot define a pair of mutually exclusive groups. That means, the definition "Group A excludes group B" AND "Group B excludes groups A" is not permitted.
- You must declare each group to be excluded from a group separately. Exclusion definitions cannot be inherited.
- One Identity Manager does not check if membership of an excluded group is permitted in another group (GAPGroupInGroup table).

The effectiveness of the assignments is mapped in the GAPUserInGroup and GAPBaseTreeHasGroup tables by the XIsInEffect column.

Example of the effect of group memberships

- The groups A, B, and C are defined in a customer.
- Group A is assigned through the "Marketing" department, group B through "Finance", and group C through the "Control group" business role.

Clara Harris has a user account in this customer. She primarily belongs to the "Marketing" department. The "Control group" business role and the "Finance" department are assigned to her secondarily. Without an exclusion definition, the user account obtains all the permissions of groups A, B, and C.

By using suitable controls, you want to prevent an employee from obtaining authorizations of groups A and group B at the same time. That means, groups A, B, and C are mutually exclusive. A user, who is a member of group C cannot be a member of group B at the same time. That means, groups B and C are mutually exclusive.

Table 22: Specifying excluded groups (GAPGroupExclusion table)

Effective group	Excluded group
Group A	
Group B	Group A
Group C	Group B

Table 23: Effective assignments

Employee	Member in role	Effective group
Ben King	Marketing	Group A
Jan Bloggs	Marketing, finance	Group B
Clara Harris	Marketing, finance, control group	Group C
Jenny Basset	Marketing, control group	Group A, Group C

Only the group C assignment is in effect for Clara Harris. It is published in the target system. If Clara Harris leaves the "control group" business role at a later date, group B also takes effect.

The groups A and C are in effect for Jenny Basset because the groups are not defined as mutually exclusive. If this should not be allowed, define further exclusion for group C.

Table 24: Excluded groups and effective assignments

Employee	Member in role	Assigned group	Excluded group	Effective group
Jenny Basset	Marketing	Group A		Group C
	Control group	Group C	Group B	
			Group A	

Prerequisites

- The **QER | Structures | Inherite | GroupExclusion** configuration parameter is set.
- Mutually exclusive groups belong to the same customer.

To exclude a group

1. In the Manager, select the **G Suite | Groups** category.
2. Select a group in the result list.
3. Select the **Exclude groups** task.
4. In the **Add assignments** pane, assign the groups that are mutually exclusive to the selected group.

   - OR -

   In the **Remove assignments** pane, remove the groups that are not longer mutually exclusive.
5. Save the changes.

Inheritance of G Suite entitlements based on categories

In One Identity Manager, entitlements can be selectively inherited by user accounts. For this purpose, the entitlements and the user accounts are divided into categories. The categories can be freely selected and are specified using a mapping rule. Each category is

given a specific position within the template. The mapping rule contains different tables. Use the user account table to specify categories for target system dependent user accounts. In the other tables enter your categories for the permissions. Each table contains the **Position 1** to **Position 31** category positions.

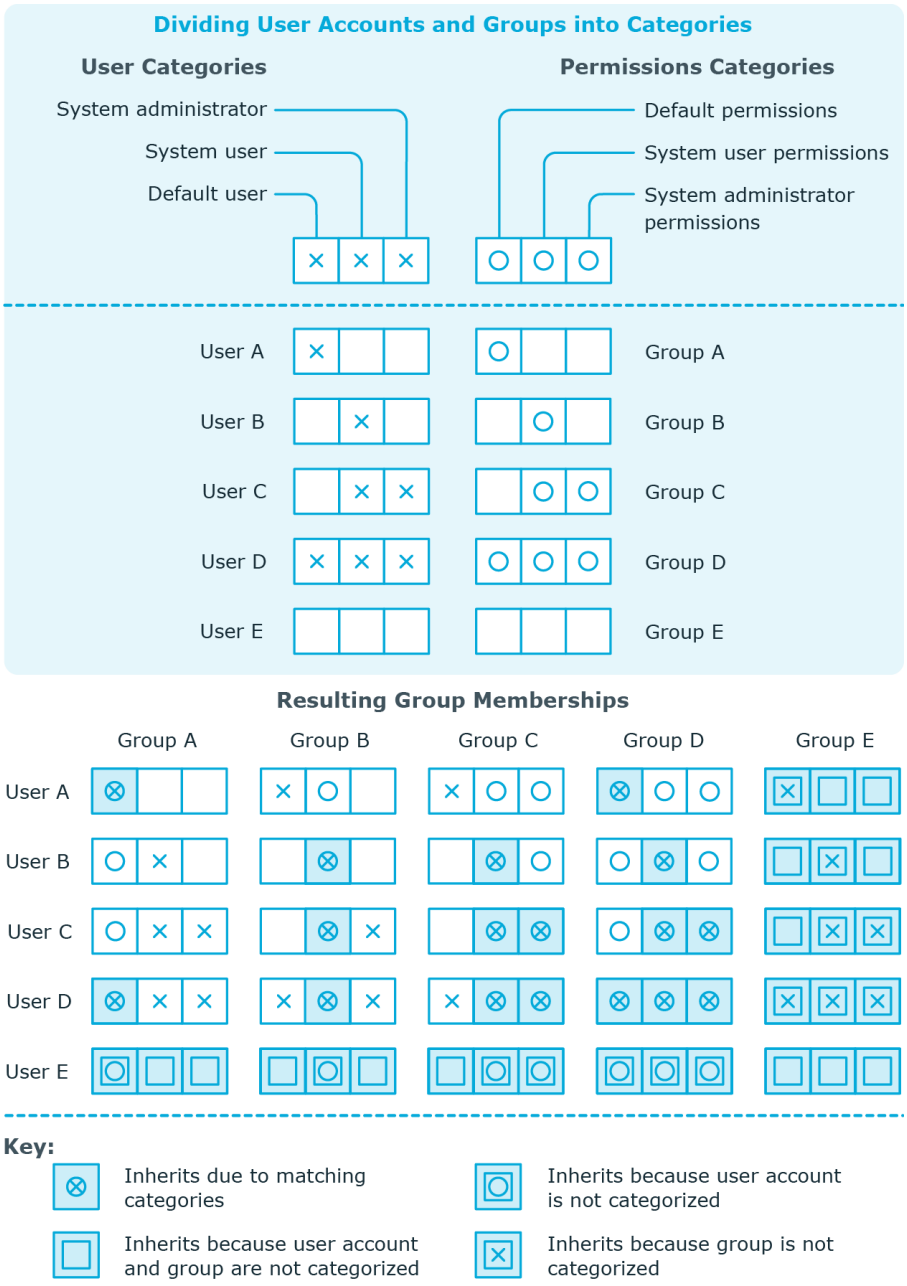
Every user account can be assigned to one or more categories. Each entitlement can also be assigned to one or more categories. If at least one of the category positions between the user account and the assigned entitlement is the same, the entitlement is inherited by the user account. If the entitlement or the user account is not classified in a category, the entitlement is also inherited by the user account.

NOTE: Inheritance through categories is only taken into account when entitlements are assigned indirectly through hierarchical roles. Categories are not taken into account when entitlements are directly assigned to user accounts.

Table 25: Category examples

Category position	Categories for user accounts	Categories for entitlements
1	Default user	Default group
2	Administrator	Administrator group

Figure 2: Example of inheriting through categories.



To use inheritance through categories

- Define the categories for the G Suite customer.
- Assign categories to user accounts through their master data.
- Assign categories to groups, products, and SKUs through their master data.

Related topics

- Defining categories for the inheritance of G Suite entitlements on page 109
- General master data for G Suite user accounts on page 114
- General master data for G Suite groups on page 129
- General master data for G Suite products and SKUs on page 136

Overview of all assignments

The **Overview of all assignments** report is displayed for some objects, such as authorizations, compliance rules, or roles. The report finds all the roles, for example, departments, cost centers, locations, business roles, and IT Shop structures in which there are employees who own the selected base object. In this case, direct as well as indirect base object assignments are included.

Examples

- If the report is created for a resource, all roles are determined in which there are employees with this resource.
- If the report is created for a group or another system entitlement, all roles are determined in which there are employees with this group or system entitlement.
- If the report is created for a compliance rule, all roles are determined in which there are employees who violate this compliance rule.
- If the report is created for a department, all roles are determined in which employees of the selected department are also members.
- If the report is created for a business role, all roles are determined in which employees of the selected business role are also members.

To display detailed information about assignments

- To display the report, select the base object from the navigation or the result list and select the **Overview of all assignments** report.
- Click the **Used by** button in the report toolbar to select the role class for which you want to determine whether roles exist that contain employees with the selected base object.

  All the roles of the selected role class are shown. The color coding of elements identifies the role in which there are employees with the selected base object. The meaning of the report control elements is explained in a separate legend. To access the legend, click the icon in the report's toolbar.
- Double-click a control to show all child roles belonging to the selected role.
- By clicking the button in a role's control, you display all employees in the role with the base object.

- Use the small arrow next to to start a wizard that allows you to bookmark this list of employees for tracking. This creates a new business role to which the employees are assigned.

Figure 3: Toolbar of the Overview of all assignments report.

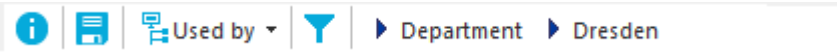


Table 26: Meaning of icons in the report toolbar

Icon	Meaning
	Show the legend with the meaning of the report control elements
	Saves the current report view as a graphic.
	Selects the role class used to generate the report.
	Displays all roles or only the affected roles.

6

Mapping of G Suite objects in One Identity Manager

You use One Identity Manager to manage all objects of the G Suite, that are required for the optimization of access control in the target system. These objects are imported into the One Identity Manager database during synchronization. You cannot display or edit their properties in the Manager.

G Suite customers

The target system for the synchronization of G Suite is the primary domain of a G Suite customer. G Suite customers are created as base objects for the synchronization in One Identity Manager. They are used for the configuration of provisioning processes, the automatic assignment of employees to user accounts, and the passing on of G Suite entitlements to user accounts.

Creating G Suite customers

NOTE: The Synchronization Editor sets up the G Suite customers in the One Identity Manager database. If necessary, customers can also be created in the Manager.

To set up a customer

1. In the Manager, select the **G Suite | G Suite customers** category.
2. Click in the result list.
3. On the master data form, edit the master data for the customer.
4. Save the changes.

Related topics

- General master data for G Suite customers on page 107
- G Suite customer address data on page 109
- Defining categories for the inheritance of G Suite entitlements on page 109
- Editing master data for G Suite customers on page 107

Editing master data for G Suite customers

To edit the master data for a customer

1. In the Manager, select the **G Suite | G Suite customers** category.
2. Select the customer in the result list.
3. Select the **Change master data** task.
4. Edit the master data for the customer.
5. Save the changes.

Related topics

- General master data for G Suite customers on page 107
- G Suite customer address data on page 109
- Defining categories for the inheritance of G Suite entitlements on page 109
- Creating G Suite customers on page 106

General master data for G Suite customers

On the **General** tab, you enter the following master data:

Table 27: General master data for G Suite customers

Property	Description
G Suite customer	Unique ID of the G Suite customer.
Customer primary domain	Name of this customer's primary domain.
Customer creation time	Time at which the customer was created.

Property	Description
Alternative email address	Second email address for the customer. This email address must not be in the customer's domain.
Phone	Customer's telephone number in E.164 format.
Country	Unique country ID.
Language	Name of the language.
Account definition (initial)	Initial account definition for creating user accounts. This account definition is used if automatic assignment of employees to user accounts is used for this customer and if user accounts are to be created that are already managed (**Linked configured**). The account definition's default manage level is applied. User accounts are only linked to the employee (**Linked** state) if no account definition is given. This is the case on initial synchronization, for example.
Target system managers	Application role in which the customer's target system managers are defined. Target system managers only edit objects from customers to whom they are assigned. A different target system manager can be assigned to each customer. Select the One Identity Manager application role whose members are responsible for the administration of this customer. Use the button to add a new application role.
Synchronized by	Type of synchronization through which data is exchanged between the customer and One Identity Manager. You can no longer change the synchronization type once objects for this customer are present in One Identity Manager. When you create a customer with the Synchronization Editor, **One Identity Manager** is used. **Table 28: Permitted values** **Value** / **Synchronization by** / **Provisioned by** One Identity Manager / G Suite connector / G Suite connector No synchronization / None / None NOTE: If you select **No synchronization**, you can define custom processes to exchange data between One Identity Manager and the target system.

Related topics

- Assigning account definitions to target systems on page 62
- Account definitions for G Suite user accounts on page 47
- Automatic assignment of employees to G Suite user accounts on page 65
- Target system managers for customers on page 158

G Suite customer address data

On the **Postal address** tab, enter the following master data:

Table 29: G Suite customer address data

Property	Description
Organization name	Name of the organization for the customer's postal address.
Name of contact person	Customer's contact person.
Address line 1-3	Customer's postal address.
Region	Region of the postal address
City	City of the postal address
Zip code	Zip code of the postal address

Defining categories for the inheritance of G Suite entitlements

In One Identity Manager, entitlements can be selectively inherited by user accounts. For this purpose, the entitlements and the user accounts are divided into categories. The categories can be freely selected and are specified using a mapping rule. Each category is given a specific position within the template. The mapping rule contains different tables. Use the user account table to specify categories for target system dependent user accounts. In the other tables enter your categories for the permissions. Each table contains the **Position 1** to **Position 31** category positions.

To define a category

1. In the Manager, select the customer in the **G Suite | Customers** category.
2. Select the **Change master data** task.
3. Switch to the **Mapping rule category** tab.
4. Extend the relevant roots of a table.

5. To enable the category, double-click .
6. Enter a category name of your choice for user accounts and groups and products and SKUs in the login language that you use.
7. Save the changes.

Detailed information about this topic

- Inheritance of G Suite entitlements based on categories on page 101

Additional tasks for managing G Suite customers

After you have entered the master data, you can run the following tasks.

Task	Theme
G Suite customers overview	Overview of a G Suite customer on page 110
Assign groups	Assigning G Suite groups directly to a customer on page 98
Define search criteria for employee assignment	Editing search criteria for automatic employee assignment on page 66
Edit synchronization project	Editing the synchronization project for a G Suite customer on page 110
Synchronize this object	Synchronizing single objects on page 41

Overview of a G Suite customer

To obtain an overview of a G Suite customer

1. In the Manager, select the **G Suite | G Suite customers** category.
2. Select the customer in the result list.
3. Select the **G Suite customer overview** task.

Editing the synchronization project for a G Suite customer

Synchronization projects in which a G Suite customer is already used as a base object can also be opened in the Manager. You can, for example, check the configuration or view the synchronization log in this mode. The Synchronization Editor is not started with its full

functionality. You cannot run certain functions, such as, running synchronization or simulation, starting the target system browser and others.

NOTE: The Manager is locked for editing throughout. To edit objects in the Manager, close the Synchronization Editor.

To open an existing synchronization project in the Synchronization Editor:

1. In the Manager, select the **G Suite | G Suite customers** category.
2. Select the customer in the result list.
3. Select the **Change master data** task.
4. Select the **Edit synchronization project** task.

Related topics

- Adjusting the synchronization configuration for G Suite environments on page 27

G Suite user accounts

Use One Identity Manager to manage G Suite users. The user data for the registered users is represented in One Identity Manager as user accounts. You can use the user accounts to manage the user's permissions, for example, membership of G Suite groups or administrative permissions.

A user account can be linked to an employee in One Identity Manager. You can also manage user accounts separately from employees.

NOTE: It is recommended to use account definitions to set up user accounts for company employees. In this case, some of the master data described in the following is mapped through templates from employee master data.

NOTE: If employees are to obtain their user accounts through account definitions, the employees must own a central user account and obtain their IT operating data through assignment to a primary department, a primary location, or a primary cost center.

Related topics

- Managing G Suite user accounts and employees on page 46
- Account definitions for G Suite user accounts on page 47
- Default project templates for G Suite on page 165
- Editing master data for G Suite user accounts on page 113
- Managing G Suite entitlement assignments on page 91

Creating G Suite user accounts

To create a user account

1. In the Manager, select the **G Suite | User accounts** category.
2. Click in the result list.
3. On the master data form, edit the master data for the user account.
4. Save the changes.

Various communication data and organizational data can be assigned to user accounts, such as e-mail addresses, website, information about the user's organization or relationships to other users.

To assign communication data to a user account

1. Select the required tabs on the master data form.
2. Click **Add**.

   This inserts a new row in the table.
3. Select this row and edit the master data.
4. Save the changes.

To edit communication data

1. Select the required tabs on the master data form.
2. In the table, select the row that you want to edit.
3. Edit the master data.
4. Save the changes.

To remove the assignment of communication data

1. Select the required tabs on the master data form.
2. In the table, select the row that you want to remove.
3. Click **Delete**.
4. Save the changes.

Detailed information about this topic

- General master data for G Suite user accounts on page 114
- Password data for G Suite user accounts on page 117
- Phone numbers for G Suite user accounts on page 118
- Addresses for G Suite user accounts on page 119
- Email addresses for G Suite user accounts on page 119
- External IDs for G Suite user accounts on page 120

- Instant messenger data for G Suite user accounts on page 120
- User details for G Suite user accounts on page 121
- Relationships of G Suite user accounts on page 122
- Websites of G Suite user accounts on page 122

Related topics

- Editing master data for G Suite user accounts
- Deleting and restoring G Suite user accounts

Editing master data for G Suite user accounts

To edit master data for a user account

1. In the Manager, select the **G Suite | User accounts** category.
2. Select the user account in the result list and run the **Change master data** task.
3. Edit the user account's resource data.
4. Save the changes.

Various communication data and organizational data can be assigned to user accounts, such as e-mail addresses, website, information about the user's organization or relationships to other users.

To assign communication data to a user account

1. Select the required tabs on the master data form.
2. Click **Add**.

   This inserts a new row in the table.
3. Select this row and edit the master data.
4. Save the changes.

To edit communication data

1. Select the required tabs on the master data form.
2. In the table, select the row that you want to edit.
3. Edit the master data.
4. Save the changes.

To remove the assignment of communication data

1. Select the required tabs on the master data form.
2. In the table, select the row that you want to remove.
3. Click **Delete**.
4. Save the changes.

Detailed information about this topic

- General master data for G Suite user accounts on page 114
- Password data for G Suite user accounts on page 117
- Phone numbers for G Suite user accounts on page 118
- Addresses for G Suite user accounts on page 119
- Email addresses for G Suite user accounts on page 119
- External IDs for G Suite user accounts on page 120
- Instant messenger data for G Suite user accounts on page 120
- User details for G Suite user accounts on page 121
- Relationships of G Suite user accounts on page 122
- Websites of G Suite user accounts on page 122

Related topics

- Creating G Suite user accounts
- Deleting and restoring G Suite user accounts
- Locking G Suite user accounts

General master data for G Suite user accounts

On the **General** tab, you enter the following master data:

Table 30: Additional master data for a user account

Property	Description
Employee	Employee that uses this user account. An employee is already entered if the user account was generated by an account definition. If you create the user account manually, you can select an employee in the menu. If you are using automatic employee assignment, an associated employee is found and added to the user account when you save the user account.

Property	Description
	You can create a new employee for a user account with an identity of type **Organizational identity**, **Personalized administrator identity**, **Sponsored identity**, **Shared identity**, or **Service identity**. To do this, click next to the input field and enter the required employee master data. Which login data is required depends on the selected identity type. NOTE: To enable working with identities for user accounts, the employees also need identities. You can only link user accounts to which an identity is assigned with employees who have this same identity.
Account definition	Account definition through which the user account was created. Use the account definition to automatically fill user account master data and to specify a manage level for the user account. One Identity Manager finds the IT operating data of the assigned employee and enters it in the corresponding fields in the user account. NOTE: The account definition cannot be changed once the user account has been saved.
Manage level	Manage level of the user account. Select a manage level from the menu. You can only specify the manage level can if you have also entered an account definition. All manage levels of the selected account definition are available in the menu.
G Suite customer	Customer to which the user account belongs.
Unique ID	G Suite internal ID of the user account.
First name	User's first name.
Last name	User's last name.
Primary email address	Primary email address for the user account.
G Suite Organization	G Suite organization to which the user account belongs.
Creation time	Time at which the user account was created.
Deletion time	Time at which the user account was deleted. The user account can be restored within five days.
Risk index (calculated)	Maximum risk index value of all assigned entitlements. The property is only visible if the **QER | CalculateRiskIndex** configuration parameter is set. For detailed information, see the *One Identity Manager Risk Assessment Administration Guide*.
Category	Categories for the inheritance of G Suite permissions to the user account.

Property	Description
	User accounts can selectively inherit permissions. To do this, entitlements, and user accounts are divided into categories. Select one or more categories from the menu.
Notes content type	Format of notes.
Notes	Text field for additional explanation.
Suspended	Specifies whether the user account is locked.
Suspension reason	Reason for the suspension of the user account.
Aliases	List of all alias email addresses that are set up for this user account.
Non editable aliases	List of all email addresses that cannot be changed. These email addresses do not belong to the primary domain or its subdomains.
Identity	User account's identity type Permitted values are: • **Primary identity**: Employee's default user account. • **Organizational identity**: Secondary user account used for different roles in the organization, for example for subcontracts with other functional areas. • **Personalized administrator identity**: User account with administrative permissions, used by one employee. • **Sponsored identity**: User account that is used for a specific purpose, such as training. • **Shared identity**: User account with administrative permissions, used by several employees. Assign all employees that use this user account. • **Service identity**: Service account.
Entitlements can be inherited	Specifies whether the user account may inherit G Suite permissions through the employee. If this option is set, the user account inherits permissions through hierarchical roles or IT Shop requests. 1. Example: An employee with a G Suite user account is a member of a department. A G Suite product and SKU are assigned to this department. If this option is set, the user account inherits this product and SKU. 2. Example: An employee with a G Suite user account requests a G Suite group in the IT Shop. The request is approved and assigned. The user account only inherits this group if this option is active.
Privileged	Specifies whether this is a privileged user account.

Property	Description
user account	
Include in global address list	Specifies whether the user account is displayed in the global address list.
Included in white list	Specifies whether the IP address for the user account is included in the white list for emails.
Is super admin	Specifies whether the user account has super admin permissions.
Delegated administrator	Specifies whether the user account has delegated admin permissions.
G Suite agreement accepted	Specifies whether the user has performed an initial logon to GSuite and has accepted the G Suite (online) agreement.
Google mailbox is created	Specifies whether a Google mailbox has been created for the user account.
2-step verification is enrolled	Specifies whether **2-step verification** for the user account is enrolled.
2-step verification enforced	Specifies whether **2-step verification** for the user account is enforced.

Related topics

- Managing G Suite user accounts and employees on page 46
- Account definitions for G Suite user accounts on page 47
- Automatic assignment of employees to G Suite user accounts on page 65
- Inheritance of G Suite entitlements based on categories on page 101
- Locking G Suite user accounts on page 124
- Supported user account types on page 71
- Providing administrative user accounts for one employee on page 73
- Providing administrative user accounts for several employees on page 74
- Moving G Suite user accounts to a different organization on page 124

Password data for G Suite user accounts

On the **Password** tab, enter the password for logging in to G Suite.

Table 31: User account password data

Property	Description
Password	Password for the user account. The employee's central password can be mapped to the user account password. For detailed information about an employee's central password, see *One Identity Manager Identity Management Base Module Administration Guide*. If you use an initial password for the user accounts, it is automatically entered when a user account is created. The password is deleted from the database after publishing to the target system. NOTE: One Identity Manager password policies are taken into account when a user password is being verified. Ensure that the password policy does not violate the target system's requirements.
Confirmation	Reconfirm password.
Last login	Time of the last login to G Suite.
Change password at next login	Specifies whether the user has to change their password the next time they log in.

Related topics

- Initial password for new G Suite user accounts on page 88

Phone numbers for G Suite user accounts

On the **Phone numbers** tab, you can edit user account email addresses.

Table 32: Phone number properties

Property	Description
Type	Type of the telephone number.
Custom type	User-defined type of the telephone number. If the **Custom** value is selected in the **Type** field, you can enter your own phone number type here.
Phone	Telephone number in any format.
Primary phone number	Specifies whether this is the primary telephone number.

Related topics

- Editing master data for G Suite user accounts on page 113

Addresses for G Suite user accounts

On the **Addresses** tab, you can edit the addresses of the user account.

Table 33: Properties of an address

Property	Description
Type	Type of the address
Custom type	User-defined type of the address. If the **Custom** value is selected in the **Type** field, you can enter your own address type here.
Extended address	Extended address, for example, for entering a specific region
Address	Full address.
Street	The street name of the address.
Zip code	The zip code of the address.
City	The city of the address.
Region	Region, if required
Mailbox	Mailbox, if applicable
Country ID	Unique country ID.
Primary address	Specifies whether this address is the user's primary address.
Source is structured	Specifies whether the address is provided in a structured format.

Related topics

- Editing master data for G Suite user accounts on page 113

Email addresses for G Suite user accounts

On the **Email addresses** tab, you can edit user account email addresses.

Table 34: Properties of an email address

Property	Description
Type	Type of the email address.
Custom type	User-defined type of the email address. If the **Custom** value is selected in the **Type** field, you can enter your own email address type here.
Email address	Additional email addresses. This value can also be the user account's primary email address or an alias.

Related topics

- Editing master data for G Suite user accounts on page 113

External IDs for G Suite user accounts

On the **External IDs** tab, you can edit the external IDs of the user account.

Table 35: Properties of an external ID

Property	Description
Type	Type of the external ID.
Custom type	User-defined type of the external ID. If the **Custom** value is selected in the **Type** field, you can enter your own ID type type here.
External ID	Value of the external ID.

Related topics

- Editing master data for G Suite user accounts on page 113

Instant messenger data for G Suite user accounts

On the **Instant Messenger** tab, you can edit the Instant Messenger data for the user account.

Table 36: Instant messenger properties

Property	Description
Type	Type of Instant Messenger
Custom type	Type of Instant Messenger defined by the user If the **Custom** value is selected in the **Type** field, you can enter your own Instant Messenger type here.
Protocol	Network protocol of the Instant Messenger You can set a custom protocol or a standard protocol.
Custom protocol	If the **Custom** value is selected in the **Protocol** field, you can enter your own protocol type here.
Network ID of the Instant Messenger	Network ID of the Instant Messenger.
Primary Instant Messenger	Specifies whether this is the primary Instant Messenger.

Related topics

Editing master data for G Suite user accounts on page 113

User details for G Suite user accounts

On the **Organizations** tab, you can edit various organization data for the user account.

Table 37: Properties of user details

Property	Description
Type	Type of the organization.
Custom type	User-defined type of the organization. If the **Unknown** value is selected in the **Type** field, you can enter your own organization type here.
Organization name	Name of the organization for which the user details are being maintained.
Cost center	A cost center within the organization.
Department	A department within the organization.
Domain	Domain to which the organization belongs.
Location	Location of the organization.
Icon	Text symbol for the organization, for example **GOOG** for Google.

Property	Description
Title	Title of the user withing the organization, for example **Member** or **Engineer**.
Description	Description of user details.
Primary organization	Specifies whether this organization is the user's primary organization.

Related topics

- Editing master data for G Suite user accounts on page 113

Relationships of G Suite user accounts

On the **Relations** tab, you can edit the relationships of the user account.

Table 38: Properties of a relationship

Property	Description
Type	Type of the relationship.
Custom type	User-defined type of the relationship. If the **Custom** value is selected in the **Type** field, you can enter your own relation type here.
Relation	Primary email address of the user to whom the relationship exists.

Related topics

- Editing master data for G Suite user accounts on page 113

Websites of G Suite user accounts

On the **Websites** tab, you can edit the websites of the user account.

Table 39: Properties of a website

Property	Description
Type	Type or purpose of the website.
Custom type	User-defined type of the website. If the **Custom** value is selected in the **Type** field, you can enter your own website type here.
Website	URL of the website.

Property	Description
URL	
Primary website.	Specifies whether this is the primary website.

Related topics

- Editing master data for G Suite user accounts on page 113

Additional tasks for managing G Suite user accounts

After you have entered the master data, you can run the following tasks.

Task	Theme
Overview of G Suite user accounts	Overview of G Suite user accounts on page 123
Assign groups	Assigning G Suite entitlements directly to a user account on page 98
Assign products and SKUs	Assigning G Suite entitlements directly to a user account on page 98
Admin role designations	Assigning G Suite entitlements directly to a user account on page 98
Assigning extended properties	Assigning extended properties to G Suite user accounts on page 124
Synchronize object	Synchronizing single objects on page 41
Change G Suite organization	Moving G Suite user accounts to a different organization on page 124

Overview of G Suite user accounts

To obtain an overview of a user account

1. In the Manager, select the **G Suite | User accounts** category.
2. Select the user account in the result list.
3. Select the **G Suite user account overview** task.

Assigning extended properties to G Suite user accounts

Extended properties are meta objects, such as operating codes, cost codes, or cost accounting areas that cannot be mapped directly in One Identity Manager.

To specify extended properties for a user account

1. In the Manager, select the **G Suite | User accounts** category.
2. Select the user account in the result list.
3. Select the **Assign extended properties** task.
4. In the **Add assignments** pane, assign extended properties.

   TIP: In the **Remove assignments** pane, you can remove assigned extended properties.

   To remove an assignment

   - Select the extended property and double-click .
5. Save the changes.

For detailed information about extended properties, see the *One Identity Manager Identity Management Base Module Administration Guide*.

Moving G Suite user accounts to a different organization

Within the organizational hierarchy of a G Suite customer, user accounts can be moved to a different organization.

To move a user account to another organization

1. In the Manager, select the **G Suite | User accounts** category.
2. Select the user account in the result list and run the **Change master data** task.
3. Select the **Change G Suite organizational unit** task.
4. Confirm the security prompt with **Yes**.
5. Select the new organization from the **G Suite organization unit** menu on the **General** tab.
6. Save the changes.

Locking G Suite user accounts

The way you lock user accounts depends on how they are managed.

Scenario:

- The user account is linked to employees and is managed through account definitions.

User accounts managed through account definitions are locked when the employee is temporarily or permanently disabled. The behavior depends on the user account manage level. Accounts with the **Full managed** manage level are disabled depending on the account definition settings. For user accounts with a manage level, configure the required behavior using the template in the `GAPUser.IsSuspended` column.

Scenario:

- The user accounts are linked to employees. No account definition is applied.

User accounts managed through user account definitions are locked when the employee is temporarily or permanently disabled. The behavior depends on the **QER | Person | TemporaryDeactivation** configuration parameter

- If the configuration parameter is set, the employee's user accounts are locked when the employee is permanently or temporarily disabled.
- If the configuration parameter is not set, the employee's properties do not have any effect on the associated user accounts.

To lock the user account when the configuration parameter is disabled

1. In the Manager, select the **G Suite | User accounts** category.
2. Select the user account in the result list.
3. Select the **Change master data** task.
4. On the **General** tab, set the **Locked** option.
5. Save the changes.

Scenario:

- User accounts not linked to employees.

To lock a user account that is no longer linked to an employee

1. In the Manager, select the **G Suite | User accounts** category.
2. Select the user account in the result list.
3. Select the **Change master data** task.
4. On the **General** tab, set the **Locked** option.
5. Save the changes.

To unlock a user account

1. In the Manager, select the **G Suite | User accounts** category.
2. Select the user account in the result list.

3. Select the **Change master data** task.
4. Disable the **Locked** option on the **General** tab.
5. Save the changes.

For more detailed information about deactivating and deleting employees and user accounts, see the *One Identity Manager Target System Base Module Administration Guide*.

Related topics

- Account definitions for G Suite user accounts on page 47
- Creating manage levels on page 51
- Deleting and restoring G Suite user accounts on page 126

Deleting and restoring G Suite user accounts

If a user account is deleted in One Identity Manager, it is initially marked for deletion. The user account is therefore locked. Depending on the deferred deletion setting, the user account is either deleted from the One Identity Manager database immediately, or at a later date.

NOTE: As long as an account definition for an employee is valid, the employee retains the user account that was created by it. If the assignment of an account definition is removed, the user account that was created from this account definition is deleted.

To delete a user account that is not managed using an account definition

1. In the Manager, select the **G Suite | User accounts** category.
2. Select the user account in the result list.
3. Click to delete the user account.
4. Confirm the security prompt with **Yes**.

To restore a user account

1. In the Manager, select the **G Suite | User accounts** category.
2. Select the user account in the result list.
3. Click in the result list.

Configuring deferred deletion

By default, user accounts are finally deleted from the database after 30 days.The user accounts are initially locked. You can reenable the user accounts until deferred deletion is run. After deferred deletion is run, the user accounts are deleted from the database and cannot be restored anymore.In the Designer, you can set an alternative delay on the `GAPUser` table.

Related topics

- Locking G Suite user accounts on page 124
- Transferring user data to a different G Suite user account on page 127

Transferring user data to a different G Suite user account

When a user account is deleted, various user data can be transferred to a different user account. After the deletion delay has expired, the data transfer is first initiated in the G Suite environment. As soon as the data transfer has been successfully completed in the target system, the user account is permanently deleted.

Prerequisites

- Data transfer is approved for the customer. To enable this, the **Transfer user data before delete** setting must be enabled, or the `CP_TransferUserDataBeforeDelete` variable is set to **True**.
- A manager has been assigned to the employee to whom the deleted user account is linked.

  - OR -

  The deleted user account has a relationship of the **Manager** type.
- The manager's email address belongs to the primary domain of the customer to which the deleted user account belongs.
- In the event that no valid email address can be determined in this way, a valid default email address is defined. This is specified in the target system connection using the **Default email address for data transfer** setting or in the `CP_DefaultDataTransferTargetEmail` variable.

Detailed information about this topic

- Advanced settings for system connection to G Suite on page 30
- General master data for G Suite user accounts on page 114
- Relationships of G Suite user accounts on page 122

Related topics

- Deleting and restoring G Suite user accounts on page 126

G Suite groups

Users of G Suite can use groups to exchange information or organize meetings. This information is only made available to the members of a group. In One Identity Manager, you can create and edit groups and manage group members.

Creating G Suite groups

To create a group

1. In the Manager, select the **G Suite | Groups** category.
2. Click in the result list.
3. On the master data form, edit the master data for the group.
4. Save the changes.

Detailed information about this topic

- General master data for G Suite groups on page 129
- Additional settings for G Suite groups on page 130

Related topics

- Entering master data for G Suite groups on page 128
- Deleting G Suite groups on page 136

Entering master data for G Suite groups

To edit group master data

1. In the Manager, select the **G Suite | Groups** category.
2. Select the group in the result list and run the **Change master data** task.
3. On the master data form, edit the master data for the group.
4. Save the changes.

Detailed information about this topic

- General master data for G Suite groups on page 129
- Additional settings for G Suite groups on page 130

Related topics

- Creating G Suite groups on page 128
- Deleting G Suite groups on page 136

General master data for G Suite groups

On the **General** tab, edit the following master data.

Table 40: Entering master data for a group

Property	Description
G Suite customer	Customer to which the group belongs.
Group ID	Unique ID of the group.
Group name	Name of the group.
Email address	Group's email address
Service item	Service item data for requesting the group through the IT Shop.
IT Shop	Specifies whether the group can be requested through the IT Shop. If this option is set, the group can be requested by the employees through the Web Portal and distributed with a defined approval process. The group can still be assigned directly to hierarchical roles.
Only for use in IT Shop	Specifies whether the group can only be requested through the IT Shop. If this option is set, the group can be requested by the employees through the Web Portal and distributed with a defined approval process. Direct assignment of the group to hierarchical roles or user accounts is not permitted.
Risk index	Value for evaluating the risk of assigning the group to user accounts. Enter a value between 0 and 1. This input field is only visible if the **QER | CalculateRiskIndex** configuration parameter is activated. For more detailed information, see the *One Identity Manager Risk Assessment Administration Guide*.
Category	Categories for group inheritance. Groups can be selectively inherited by user accounts. To do this, groups and user accounts are divided into categories. Select one or more categories from the menu.
Description	Text field for additional explanation.

Property	Description
Is admin created	Specifies whether the group was created by an administrator. If this option is disable, the group was created by a user.
Aliases	List of additional email addresses under which emails can be sent to the group.
Non editable aliases	List of all email addresses that cannot be changed. These email addresses do not belong to the primary domain or its subdomains.

Related topics

- Inheritance of G Suite entitlements based on categories on page 101
- Adding G Suite entitlements to the IT Shop on page 95

Additional settings for G Suite groups

On the **Settings** tab, edit the following master data.

Table 41: Additional settings for groups

Property	Description
Language	Name of the language, for example, es-ES.
Allow external members	Specifies whether users from other domains are permitted as members. If this option is set, in the **Join the group** field, define which users are permitted to become members.
Join the group	Select which users are permitted to become members of the group. You can only select the **Public** value if the **Allow external members** option is set.
Spam messages	Select how suspected spam messages are handled. Possible values: • **Allow**: Post in the group without moderation. • **Moderate**: Send to the moderation queue and send a message to the moderators. • **Silently moderate**: Send to the moderation queue, but do not send a message to the moderators. • **Reject**: Reject immediately.
Post replies	Select who receives the replies to posts. If **Use a custom address to send replies to** is selected, a valid email address must be entered in the **Post replies to** field.

Property	Description
Send replies to	Email address to which the replies to posts are sent. If **Use a custom address to send replies to** is selected in the **Post replies** field, you must enter a valid email address.
Notify authors when their messages are rejected	Specifies whether the author of a post is informed if their post is rejected by the moderators. If this option is set, enter a notification text in the **Rejected author notification** field.
Rejected author notification	Notification that is sent to authors if their post is rejected. The maximum text length is 10,000 characters. Notifications are only sent if the **Notify authors when moderators reject their messages** option is set.
Max message size	Maximum size of the messages that can be sent to this group in bytes.
Allow Google communication	Specifies whether Google is permitted to contact the group managers.
Allow web posting	Specifies whether users are permitted to post in the group from the web interface. If this option is disabled, the users can only use GMail for communication with the group.
Post as the group	Specifies whether group members are permitted to use the email address of the group to post posts.
Archive messages to the group	Specifies whether messages sent to the group are archived.
Include in global address list	Specifies whether the group is displayed in the global address list.
List this group in the directory	Specifies whether the group is entered in the group directory.

Additional tasks for managing G Suite groups

After you have entered the master data, you can run the following tasks.

Task	Theme
Overview of G Suite Groups	Overview of G Suite groups on page 132

Task	Theme
Assigning extended properties	Assigning extended properties to G Suite groups on page 132
Assigning group managers	Assigning group managers on page 133
Assigning group owners	Assigning group owners
assign user accounts	Assigning G Suite user accounts directly to an entitlement on page 97
Assign groups	Assigning G Suite groups to G Suite groups on page 135
Assign customer as member	Assigning G Suite customers directly to a group
Exclude groups	Effectiveness of G Suite entitlement assignments on page 99
Assign system roles	Adding G Suite entitlements to system roles on page 95
Assign business roles	Assigning G Suite entitlements to business roles on page 94
Assign organizations	Assigning G Suite entitlements to departments, cost centers, and locations on page 93
Add to IT Shop	Adding G Suite entitlements to the IT Shop on page 95
Synchronize object	Synchronizing single objects on page 41

Overview of G Suite groups

Use this task to obtain an overview of the most important information about a group.

To obtain an overview of a group

1. Select the **G Suite | Groups** category.
2. Select the group in the result list.
3. Select the **G Suite group overview** task.

Assigning extended properties to G Suite groups

Extended properties are meta objects, such as operating codes, cost codes, or cost accounting areas that cannot be mapped directly in One Identity Manager.

To specify extended properties for a group

1. In the Manager, select the **G Suite | Groups** category.
2. Select the group in the result list.
3. Select the **Assign extended properties** task.
4. In the **Add assignments** pane, assign extended properties.

   TIP: In the **Remove assignments** pane, you can remove assigned extended properties.

   To remove an assignment

   - Select the extended property and double-click ✓.
5. Save the changes.

For more detailed information about setting up extended properties, see the *One Identity Manager Identity Management Base Module Administration Guide*.

Assigning group managers

Define the group managers for a group.

To define the group managers for a group

1. Select the **G Suite | Groups** category.
2. Select the group in the result list.
3. Select the **Assign group managers** task.
4. In the **Table** menu, select the **G Suite user accounts** table.
5. In the **Add assignments** pane, assign user accounts.

   - OR -

   In the **Remove assignments** pane, remove user accounts.
6. Save the changes.

NOTE: By default, G Suite customers and groups cannot be assigned as group managers. However, these assignments are possible in the Google admin console. If these assignments exist in the target system, they are imported into the One Identity Manager database during synchronization. Existing assignments can be displayed in the Manager.

To check whether groups are assigned to a group as the group manager

1. Select the **G Suite | Groups** category.
2. Select the group in the result list.
3. Select the **Assign group managers** task.
4. In the **Table** menu, select the **G Suite groups** table.

   In the **Remove assignments** pane, all assigned groups are displayed.

To check whether the customer is assigned to a group as the group manager

1. Select the **G Suite | Groups** category.
2. Select the group in the result list.
3. Select the **Assign group managers** task.
4. In the **Table** menu, select the **G Suite customers** table.

   In the **Remove assignments** pane, the assigned customer is displayed.

In the Manager, customers and groups cannot be assigned as group managers.

Assigning group owners

Define the group owners for a G Suite group.

To define user accounts as group owners of a group

1. Select the **G Suite | Groups** category.
2. Select the group in the result list.
3. Select the **Assign group owners** task.
4. In the **Table** menu, select the **G Suite user accounts** table.
5. Assign user accounts in **Add assignments**.

   - OR -

   Remove user accounts from **Remove assignments**.
6. Save the changes.

NOTE: By default, G Suite customers and groups cannot be assigned as group owners. However, these assignments are possible in the Google admin console. If these assignments exist in the target system, they are imported into the One Identity Manager database during synchronization. Existing assignments can be displayed in the Manager.

To check whether groups are assigned to a group as the group owner

1. Select the **G Suite | Groups** category.
2. Select the group in the result list.
3. Select the **Assign group owners** task.
4. In the **Table** menu, select the **G Suite groups** table.

   In **Remove assignments**, all assigned groups are displayed.

To check whether the customer is assigned to a group as the group owner

1. Select the **G Suite | Groups** category.
2. Select the group in the result list.

3. Select the **Assign group owners** task.
4. In the **Table** menu, select the **G Suite customers** table.

   In **Remove assignments**, the assigned customer is displayed.

In the Manager, customers and groups cannot be assigned as group owners.

Assigning G Suite groups to G Suite groups

G Suite groups can themselves be members of other G Suite groups. This means that the groups can be hierarchically structured.

To assign groups directly to a group as members

1. Select the **G Suite | Groups** category.
2. Select the group in the result list.
3. Select the **Assign groups** task.
4. Select the **Has members** tab.
5. Assign child groups in **Add assignments**.

   TIP: In the **Remove assignments** pane, you can remove the assignment of groups.

   To remove an assignment

   - Select the group and double-click ✓.
6. Save the changes.

To add a group as a member of other groups

1. Select the **G Suite | Groups** category.
2. Select the group in the result list.
3. Select the **Assign groups** task.
4. Select the **Is member of** tab.
5. In the **Add assignments** pane, assign parent groups.

   TIP: In the **Remove assignments** pane, you can remove the assignment of groups.

   To remove an assignment

   - Select the group and double-click ✓.
6. Save the changes.

Related topics

- Assigning G Suite user accounts directly to an entitlement on page 97

Deleting G Suite groups

To delete a group

1. In the Manager, select the **G Suite | Groups** category.
2. Select the group in the result list.
3. Click .
4. Confirm the security prompt with **Yes**.

The group is deleted completely from the One Identity Manager database and from G Suite.

G Suite products and SKUs

Products and related services, as well as the licenses required for login, are represented in One Identity Manager as products and SKUs (Stock-Keeping-Units). To provide users with the required permissions to log on to G Suite, assign the product SKUs to the user accounts.

Editing master data for G Suite products and SKUs

To edit the master data of a product SKU

1. In the Manager, select the **G Suite | Products and SKUs** category.
2. Select the product SKU in the result list.
3. Select the **Change master data** task.
4. Edit the master data for the product SKU.
5. Save the changes.

Detailed information about this topic

- General master data for G Suite products and SKUs on page 136

General master data for G Suite products and SKUs

For products and SKUs, edit the following master data.

Table 42: General master data of a product SKU

Property	Description
G Suite customer	Customer to which the product SKU belongs.
Product name	Display name of the product.
SKU name	Display name of the SKU.
Service item	Enter a service item for requesting the product SKU through the IT Shop.
IT Shop	Specifies whether the product SKU can only be requested through the IT Shop. The product SKU can be requested by employees through the Web Portal and distributed with a defined approval process. The product SKU can still be assigned directly to user accounts and hierarchical roles.
Only for use in IT Shop	Specifies whether the product SKU can only be requested through the IT Shop. The product SKU can be requested by employees through the Web Portal and distributed with a defined approval process. Direct assignment of the product SKU to hierarchical roles or user accounts is not permitted.
Risk index	Value for evaluating the risk of assignments to the product SKU. Enter a value between **0** and **1**. This field is only visible if the **QER | CalculateRiskIndex** configuration parameter is set. For more detailed information, see the *One Identity Manager Risk Assessment Administration Guide*.
Category	Categories for passing on the product SKU to user accounts. Product SKUs can be selectively passed on to user accounts. To do this, the product SKUs and user accounts are divided into categories. Select one or more categories from the menu.

Related topics

- Inheritance of G Suite entitlements based on categories on page 101
- Adding G Suite entitlements to the IT Shop on page 95

Additional tasks for managing G Suite products and SKUs

After you have entered the master data, you can run the following tasks.

Task	Theme
Overview of the G Suite product and the SKU	Overview of G Suite products and SKUs on page 138
Assigning extended properties	Assigning extended properties to G Suite products and SKUs on page 138
assign user accounts	Assigning G Suite user accounts directly to an entitlement on page 97
Assign system roles	Adding G Suite entitlements to system roles on page 95
Assign business roles	Assigning G Suite entitlements to business roles on page 94
Assign organizations	Assigning G Suite entitlements to departments, cost centers, and locations on page 93
Add to IT Shop	Adding G Suite entitlements to the IT Shop on page 95
Synchronize object	Synchronizing single objects on page 41

Overview of G Suite products and SKUs

You use this task to obtain an overview of the most important information for a product SKU.

To obtain an overview of a product SKU

1. Select the **G Suite | Products and SKUs** category.
2. Select the product SKU in the result list.
3. Select the **G Suite product and SKU overview** task.

Assigning extended properties to G Suite products and SKUs

Extended properties are meta objects, such as operating codes, cost codes, or cost accounting areas that cannot be mapped directly in One Identity Manager.

To specify extended properties for a product SKU

1. In the Manager, select **G Suite | Products and SKUs**.
2. Select the product SKU in the result list.
3. Select **Assign extended properties**.
4. In the **Add assignments** pane, assign extended properties.

TIP: In the **Remove assignments** pane, you can remove assigned extended properties.

To remove an assignment

- Select the extended property and double-click .

5. Save the changes.

For more detailed information about setting up extended properties, see the *One Identity Manager Identity Management Base Module Administration Guide*.

G Suite organizations

Organizations are used to define the settings for G Suite users. Each customer has one parent organization. You can set up additional organizations below this organization and therefore create an organizational hierarchy. Child organizations inherit the settings of the relevant parent organization. User accounts are assigned to exactly one organization.

Creating G Suite organizations

To create an organization

1. In the Manager, select **G Suite | Organizations**.
2. Click in the result list.
3. On the master data form, edit the master data for the organization.
4. Save the changes.

Related topics

- General master data for G Suite organizations on page 140
- Editing master data for G Suite organizations on page 139

Editing master data for G Suite organizations

To edit organization master data

1. In the Manager, select **G Suite | Organizations**.
2. Select the organization from the result list.
3. Select the **Change master data** task.

4. Edit the master data for the organization.
5. Save the changes.

Related topics

- General master data for G Suite organizations on page 140
- Creating G Suite organizations on page 139

General master data for G Suite organizations

For organizations, edit the following master data:

Table 43: General master data for organizations

Property	Description
G Suite customer	Customer to which the organization belongs.
Organization ID	ID of the organization
Organization name	Display name of the organization
Full path	Full path of the organization.
Parent organization	The parent organization.
Description	Text field for additional explanation.

Additional tasks for managing G Suite organizations

After you have entered the master data, you can run the following tasks.

Task	Theme
Overview of the G Suite organization	Overview of G Suite organizations on page 141
Synchronize object	Synchronizing single objects on page 41
Changing parent organizations	Moving G Suite organizations on page 141

Overview of G Suite organizations

Use this task to obtain an overview of the most important information about an organization.

To obtain an overview of an organization

1. Select the **G Suite | Organizations** category.
2. Select the organization from the result list.
3. Select the **G Suite organization overview** task.

Moving G Suite organizations

Child organizations can be moved within an organizational hierarchy. To move a child organization, assign a different parent organization to the child organization.

To move an organization

1. Select the **G Suite | Organizations** category.
2. Select the organization from the result list.
3. Select the **Change master data** task.
4. Select the **Change parent organizational unit** task.
5. Confirm the security prompt with **Yes**.
6. Select the new organization from the **Parent organization** menu.
7. Save the changes.

Deleting G Suite organizations

To delete an organization

1. In the Manager, select **G Suite | Organizations**.
2. Select the organization from the result list.
3. Click .
4. Confirm the security prompt with **Yes**.

The organization is permanently deleted from the One Identity Manager database and from G Suite.

G Suite domains

In G Suite, the primary domain of a customer and additional Internet domains are mapped as One Identity Manager domains. Domains are imported into the One Identity Manager database during synchronization. You cannot edit their properties. Changes to the object properties of individual domains can be transferred by single object synchronization.

To display the properties of a domain:

1. In the Manager, select the **G Suite | Domains** category.
2. Select the domain in the result list.
3. Select the **Change master data** task.

To obtain an overview of a domain

1. In the Manager, select the **G Suite | Domains** category.
2. Select the domain in the result list.
3. Select the **G Suite domain overview** task.

Related topics

- Synchronizing single objects on page 41

G Suite domain aliases

Domain aliases provide the users of a primary domain with additional email addresses. Domain aliases are imported into the One Identity Manager database during synchronization. You cannot edit their properties. Changes to the object properties of individual domain privileges can be transferred by single object synchronization.

To display the properties of a domain alias

1. In the Manager, select the **G Suite | Domain aliases** category.
2. Select a domain alias in the result list.
3. Select the **Change master data** task.

To obtain an overview of a domain alias

1. In the Manager, select the **G Suite | Domain aliases** category.
2. Select a domain alias in the result list.
3. Select the **G Suite domain alias overview** task.

Related topics

- Synchronizing single objects on page 41

G Suite admin roles

Admin roles are used to grant users administrative privileges in G Suite. You can create custom admin roles in One Identity Manager. To ensure that the users receive the privileges, assign the admin roles to user accounts.

Creating G Suite admin roles

To create an admin role

1. In the Manager, select the **G Suite | Admin roles** category.
2. Click in the result list.
3. On the master data form, edit the master data for the admin role.
4. Save the changes.

Related topics

- General master data for G Suite admin roles on page 144
- Editing master data for G Suite admin roles on page 143

Editing master data for G Suite admin roles

To edit the master data for an admin role

1. In the Manager, select the **G Suite | Admin roles** category.
2. Select the admin role in the result list.
3. Select the **Change master data** task.
4. Edit the master data for the admin role.
5. Save the changes.

Related topics

- General master data for G Suite admin roles on page 144
- Creating G Suite admin roles on page 143

General master data for G Suite admin roles

For admin roles, edit the following master data:

Table 44: General master data for an admin role

Property	Description
G Suite customer	Customer to which the admin role belongs.
Role identifier	Unique ID of the role. For new admin roles, the ID is allocated in the target system.
Role name	Display name of the role
Description	Text field for additional explanation.
Is super admin	Specifies whether the admin role is a super admin role.
Is system role	Specifies whether the admin role is a predefined admin role.

Additional tasks for managing G Suite admin roles

After you have entered the master data, you can run the following tasks.

Task	Theme
G Suite admin role overview	Overview of G Suite admin roles on page 144
Assign admin privileges	Assigning admin privileges to G Suite admin roles on page 145
Synchronize object	Synchronizing single objects on page 41

Overview of G Suite admin roles

You use this task to obtain an overview of the most important information for an admin role.

To obtain an overview of an admin role

1. Select the **G Suite | Admin roles** category.
2. Select the admin role in the result list.
3. Select the **G Suite admin role overview** task.

Assigning admin privileges to G Suite admin roles

Assign all the privileges to the custom admin roles that you want the user accounts to receive through this admin role.

To assign admin privileges to a custom admin role

1. In the Manager, select the **G Suite | Admin roles** category.
2. Select the admin role in the result list.
3. Select the **Assign admin privileges** task.
4. Assign the admin privileges in the **Add assignments** area.

   TIP: You can remove the assignment of admin privileges in **Remove assignments**.

   To remove an assignment

   - Select the admin privilege and double-click .
5. Save the changes.

Related topics

- Assigning G Suite admin privileges to admin roles on page 147

Deleting G Suite admin roles

Custom admin roles can be deleted in the Manager. System roles cannot be deleted.

To delete a custom admin role

1. In the Manager, select the **G Suite | Admin roles** category.
2. Select the admin role in the result list.
3. Click .
4. Confirm the security prompt with **Yes**.

The admin role is permanently deleted from the One Identity Manager database and from G Suite.

G Suite admin privileges

Admin privileges represent the administrative privileges that user accounts receive through the assigned admin roles. Admin privileges are imported into the One Identity Manager database during synchronization. You cannot edit their properties. Changes to the object properties of individual admin privileges can be transferred by single object synchronization.

Display master data for G Suite admin privileges

To display the master data for an admin privilege

1. In the Manager, select the **G Suite | Admin privileges** category.
2. Select the admin privileges in the result list.
3. Select the **Change master data** task.

Related topics

- Overview of G Suite admin privileges on page 146

Additional tasks for managing G Suite admin privileges

After you have entered the master data, you can run the following tasks.

Task	Theme
Overview of G Suite admin privileges	Overview of G Suite admin privileges on page 146
Admin role designations	Assigning G Suite admin privileges to admin roles on page 147
Synchronize object	Synchronizing single objects on page 41

Overview of G Suite admin privileges

You use this task to obtain an overview of the most important information for an admin privilege.

To obtain an overview of admin privileges

1. Select the **G Suite | Admin privileges** category.
2. Select the admin privileges in the result list.
3. Select the **G Suite admin privilege overview** task.

Assigning G Suite admin privileges to admin roles

You assign an admin privilege to various custom admin roles.

To assign admin privileges to custom admin roles

1. In the Manager, select the **G Suite | Admin privileges** category.
2. Select the admin privileges in the result list.
3. Select the **Assign admin role** task.
4. Assign the admin roles in the **Add assignments** area.

   TIP: You can remove the assignment of admin roles in **Remove assignments**.

   To remove an assignment

   - Select the admin role and double-click .
5. Save the changes.

Related topics

- Assigning admin privileges to G Suite admin roles on page 145

G Suite admin role assignments

Administrative privileges can be limited to individual organizations. To enable this, assign the admin roles to organizations. User accounts that are assigned this type of admin role can use the related administrative privileges only in the assigned organization.

Creating G Suite admin role designations

To assign an organization to an admin role

1. In the Manager, select the **G Suite | Admin role assignments** category.
2. Click in the result list.
3. On the master data form, edit the assignment.

- Select the required admin role from the **Admin role** menu.
- Select the required organization from the **G Suite organization** menu.

4. Save the changes.

Related topics

- Assigning user accounts to G Suite admin role designations on page 148

Additional tasks for managing G Suite admin role assignments

After you have entered the master data, you can run the following tasks.

Task	Theme
G Suite admin role assignment overview	Overview of G Suite admin role assignments on page 148
assign user accounts	Assigning user accounts to G Suite admin role designations on page 148
Synchronize object	Synchronizing single objects on page 41

Overview of G Suite admin role assignments

You use this task to obtain an overview of the most important information for an admin role assignment.

To obtain an overview of admin role assignments

1. Select the **G Suite | Admin role assignments** category.
2. Select the admin role assignment in the result list.
3. Select the **G Suite admin role assignment overview** task.

Assigning user accounts to G Suite admin role designations

Assign all user accounts that you want to receive the administrative privileges for the organization to the admin role designations.

To assign user accounts to an admin role designation

1. In the Manager, select the **G Suite | Admin role designations** category.
2. Select the admin role designation in the result list.
3. Select the **Assign user accounts** task.
4. In the **Add assignments** pane, assign user accounts.

   TIP: In the **Remove assignments** pane, you can remove assigned user accounts.

   To remove an assignment

   - Select the user accounts and double-click .
5. Save the changes.

Deleting G Suite admin role assignments

To delete an admin role assignment

1. In the Manager, select the **G Suite | Admin role assignments** category.
2. Select the admin role assignment in the result list.
3. Click .
4. Confirm the security prompt with **Yes**.

The admin role is permanently deleted from the One Identity Manager database and from G Suite.

Reports about G Suite objects

One Identity Manager makes various reports available containing information about the selected base object and its relations to other One Identity Manager database objects. The following reports are available for G Suite environments.

Table 45: Reports for the target system

Report	Description
Overview of all assignments (customer)	This report finds all roles containing employees with at least one user account in the selected customer environment.
Overview of all assignments (group)	This report finds all roles containing employees with the selected group.

Report	Description
Overview of all assignments (product and SKU)	This report finds all roles containing employees who have the selected product SKU.
G Suite user account and group administration	This report contains a summary of user account and permission assignment in all customer environments. You can find the report in the **My One Identity Manager | Target system overviews** category.
Show unused user accounts	This report contains all user accounts in the customer environment that have not been used in the last few months. The report contains group memberships, product SKUs and risk assessment. You can find the report in the **My One Identity Manager | Data quality analysis** category.
Show entitlement drifts	This report shows all entitlements from the selected customer environment that are the result of manual operations in the target system rather than provisioned by One Identity Manager. You can find the report in the **My One Identity Manager | Data quality analysis** category.
Show user accounts with an above average number of system entitlements	The report contains all user accounts in the selected customer environment that have an above-average number of assigned groups and product SKUs. You can find the report in the **My One Identity Manager | Data quality analysis** category.
Show orphaned user accounts	The report contains all orphaned user accounts in the selected customer environment, including their assigned groups and product SKUs. You can find the report in the **My One Identity Manager | Data quality analysis** category.
Data quality summary for G Suite user accounts	This report contains different evaluations of user account data quality in all customer environments. You can find the report in the **My One Identity Manager | Data quality analysis** category.

7

Handling of G Suite objects in the Web Portal

One Identity Manager enables its users to perform various tasks simply using a Web Portal. The Web Portal supports the administration of G Suite for the following tasks:

- Managing user accounts and employees

  An account definition can be requested by shop customers in the Web Portal if it is assigned to an IT Shop shelf. The request undergoes a defined approval procedure. The user account is not created until it has been agreed by an authorized person, such as a manager.

- Managing entitlement assignments

  When an entitlement is assigned to an IT Shop shelf, the G Suite entitlement can be requested by the customer in the Web Portal. The request undergoes a defined approval procedure. The entitlement is not assigned until it has been approved by an authorized person.

  In the Web Portal, managers and administrators of organizations can assign G Suite entitlements to the departments, cost centers, or locations for which they are responsible. The entitlements are inherited by all persons who are members of these departments, cost centers, or locations.

  If the Business Roles Module is available, managers and administrators of business roles in the Web Portal can assign G Suite entitlements to the business roles for which they are responsible. The entitlements are inherited by all persons who are members of these business roles.

  If the System Roles Module is available, supervisors of system roles in the Web Portal can assign G Suite entitlements to the system roles. The entitlements are inherited by all persons to whom these system roles are assigned.

- Attestation

  If the Attestation Module is available, the correctness of the properties of target system objects and of entitlement assignments can be verified on request. To enable this, attestation policies are configured in the Manager. The attesters use the Web Portal to approve attestation cases.

- Governance administration

If the Compliance Rules Module is available, you can define rules that identify the invalid entitlement assignments and evaluate their risks. The rules are checked regularly, and if changes are made to the objects in One Identity Manager. Compliance rules are defined in the Manager. Supervisors use the Web Portal to check and resolve rule violations and to grant exception approvals.

If the Company Policies Module is available, company policies can be defined for the target system objects mapped in One Identity Manager and their risks evaluated. Company policies are defined in the Manager. Supervisors use the Web Portal to check policy violations and to grant exception approvals.

- Risk assessment

  You can use the risk index of G Suite entitlements to evaluate the risk of entitlement assignments for the company.One Identity Manager provides default calculation functions for this. The calculation functions can be modified in the Web Portal.

- Reports and statistics

  The Web Portal provides a range of reports and statistics about the employees, user accounts, and their entitlements and risks.

For more information about the named topics, see Assigning G Suite entitlements to user accounts in One Identity Manager on page 91 and refer to the following guides:

- One Identity Manager Web Portal User Guide
- One Identity Manager Attestation Administration Guide
- One Identity Manager Compliance Rules Administration Guide
- One Identity Manager Company Policies Administration Guide
- One Identity Manager Risk Assessment Administration Guide

8

Basic data for managing G Suite

To manage G Suite in One Identity Manager, the following data is relevant.

- Account definitions

  One Identity Manager has account definitions for automatically allocating user accounts to employees during working hours. You can create account definitions for every target system. If an employee does not yet have a user account in a target system, a new user account is created. This is done by assigning account definitions to an employee.

  For more information, see Account definitions for G Suite user accounts on page 47.

- Password policy

  One Identity Manager provides you with support for creating complex password policies, for example, for system user passwords, the employees' central password as well as passwords for individual target systems. Password polices apply not only when the user enters a password but also when random passwords are generated.

  Predefined password policies are supplied with the default installation that you can use or customize if required. You can also define your own password policies.

  For more information, see Password policies for G Suite user accounts on page 77.

- Target system types

  Target system types are required for configuring target system comparisons. Tables containing outstanding objects are maintained on target system types.

  For more information, see Post-processing outstanding objects on page 42.

- Server

  In order to handle G Suite -specific processes in One Identity Manager, the synchronization server and its server functions must be declared.

  For more information, see Job server for G Suite-specific process handling on page 154.

- Target system managers

  A default application role exists for the target system manager in One Identity Manager. Assign the employees who are authorized to edit all G Suite objects in One Identity Manager to this application role.

Define additional application roles if you want to limit the edit permissions for target system managers to individual customers. The application roles must be added under the default application role.

For more information, see Target system managers for customers on page 158.

Job server for G Suite-specific process handling

In order to handle G Suite -specific processes in One Identity Manager, the synchronization server and its server functions must be declared. You have several options for defining a server's functionality:

- In the Designer, create an entry for the Job server in the **Base Data | Installation | Job server** category. For detailed information, see *One Identity Manager Configuration Guide*.
- In the Manager, select an entry for the Job server in the **G Suite | Basic configuration data | Server** category and edit the Job server master data.

  Use this task if the Job server has already been declared in One Identity Manager and you want to configure special functions for the Job server.

Related topics

- System requirements for the G Suite synchronization server on page 17

Editing G Suite Job servers

To edit a Job server and its functions

1. In the Manager, select the **G Suite | Basic configuration data | Server** category.
2. Select the Job server entry in the result list.
3. Select the **Change master data** task.
4. Edit the Job server's master data.
5. Select the **Assign server functions** task and specify server functionality.
6. Save the changes.

Detailed information about this topic

- General master data for Job servers on page 155
- Specifying server functions on page 157

General master data for Job servers

NOTE: All editing options are also available in the Designer under **Base Data | Installation | Job server**.

NOTE: More properties may be available depending on which modules are installed.

Table 46: Job server properties

Property	Meaning
Server	Job server name.
Full server name	Full server name in accordance with DNS syntax. Example: `<Name of server>.<Fully qualified domain name>`
Target system	Computer account target system.
Language	Language of the server.
Server is cluster	Specifies whether the server maps a cluster.
Server belongs to cluster	Cluster to which the server belongs. NOTE: The **Server is cluster** and **Server belongs to cluster** properties are mutually exclusive.
IP address (IPv6)	Internet protocol version 6 (IPv6) server address.
IP address (IPv4)	Internet protocol version 4 (IPv4) server address.
Copy process (source server)	Permitted copying methods that can be used when this server is the source of a copy action. At present, only copy methods that support the `Robocopy` and `rsync` programs are supported. If no method is given, the One Identity Manager Service determines the operating system of the server during runtime. Replication is then performed with the `Robocopy` program between servers with a Windows operating system or with the `rsync` program between servers with a Linux operating system. If the operating systems of the source and destination servers differ, it is important that the right copy method is applied for successful replication. A copy method is chosen that supports both servers.
Copy process (target	Permitted copying methods that can be used when this server is the destination of a copy action.

Property	Meaning
server)	
Coding	Character set coding that is used to write files to the server.
Parent Job server	Name of the parent Job server.
Executing server	Name of the executing server. The name of the server that exists physically and where the processes are handled. This input is evaluated when the One Identity Manager Service is automatically updated. If the server is handling several queues, the process steps are not supplied until all the queues that are being processed on the same server have completed their automatic update.
Queue	Name of the queue to handle the process steps. Each One Identity Manager Service within the network must have a unique queue identifier. The process steps are requested by the Job queue using this exact queue name. The queue identifier is entered in the One Identity Manager Service configuration file.
Server operating system	Operating system of the server. This input is required to resolve the path name for replicating software profiles. The values **Win32**, **Windows**, **Linux**, and **Unix** are permitted. If no value is specified, **Win32** is used.
Service account data	One Identity Manager Service user account information. In order to replicate between non-trusted systems (non-trusted domains, Linux server), the One Identity Manager Service user information has to be declared for the servers in the database. This means that the service account, the service account domain, and the service account password have to be entered for the server.
One Identity Manager Service installed	Specifies whether a One Identity Manager Service is installed on this server. This option is enabled by the `QBM_PJobQueueLoad` procedure the moment the queue is called for the first time. The option is not automatically removed. If necessary, you can reset this option manually for servers whose queue is no longer enabled.
Stop One Identity Manager Service	Specifies whether the One Identity Manager Service has stopped. If this option is set for the Job server, the One Identity Manager Service does not process any more tasks. You can make the service start and stop with the appropriate administrative permissions in the Job Queue Info program. For more detailed information, see the *One Identity Manager Process Monitoring and Troubleshooting Guide*.
No automatic software update	Specifies whether to exclude the server from automatic software updating. NOTE: Servers must be manually updated if this option is set.

Property	Meaning
Software update running	Specifies whether a software update is currently running.
Last fetch time	Last time the process was collected.
Last timeout check	The time of the last check for loaded process steps with a dispatch value that exceeds the one in the **Common | Jobservice | LoadedJobsTimeOut** configuration parameter.
Server function	Server functionality in One Identity Manager. One Identity Manager processes are handled with respect to the server function.

Related topics

- Specifying server functions on page 157

Specifying server functions

NOTE: All editing options are also available in the Designer under **Base Data | Installation | Job server**.

The server function defines the functionality of a server in One Identity Manager. One Identity Manager processes are handled with respect to the server function.

NOTE: More server functions may be available depending on which modules are installed.

Table 47: Permitted server functions

Server function	Remark
Update server	This server automatically updates the software on all the other servers. The server requires a direct connection to the database server that One Identity Manager database is installed on. It can run SQL tasks. The server with the One Identity Manager database installed on it is labeled with this functionality during initial installation of the schema.
SQL processing server	It can run SQL tasks. The server requires a direct connection to the database server that One Identity Manager database is installed on. Several SQL processing servers can be set up to spread the load of SQL processes. The system distributes the generated SQL processes throughout all the Job servers with this server function.
CSV script server	This server can process CSV files using the `ScriptComponent` process component.

Server function	Remark
One Identity Manager Service installed	Server on which a One Identity Manager Service is installed.
SMTP host	Server from which One Identity Manager Service sends email notifications. Prerequisite for sending mails using One Identity Manager Service is SMTP host configuration.
Default report server	Server on which reports are generated.
G Suite connector	Server on which the G Suite connector is installed. This server synchronizes the G Suite target system.

Related topics

- General master data for Job servers on page 155

Target system managers for customers

A default application role exists for the target system manager in One Identity Manager. Assign the employees who are authorized to edit all G Suite objects in One Identity Manager to this application role.

Define additional application roles if you want to limit the edit permissions for target system managers to individual customers. The application roles must be added under the default application role.

For detailed information about implementing and editing application roles, see the *One Identity Manager Authorization and Authentication Guide*.

Implementing application roles for target system managers

1. The One Identity Manager administrator allocates employees to be target system administrators.
2. These target system administrators add employees to the default application role for target system managers.

   Target system managers with the default application role are authorized to edit all the customer systems in One Identity Manager.
3. Target system managers can authorize other employees within their area of responsibility as target system managers and if necessary, create additional child application roles and assign these to individual customers.

Table 48: Default application roles for target system managers

User	Tasks
Target system managers	Target system managers must be assigned to the **Target systems | G Suite** application role or a child application role. Users with this application role: • Assume administrative tasks for the target system. • Create, change, or delete target system objects like user accounts or groups. • Edit password policies for the target system. • Prepare entitlements to add to the IT Shop. • Can add employees who have an other identity than the **Primary identity**. • Configure synchronization in the Synchronization Editor and define the mapping for comparing target systems and One Identity Manager. • Edit the synchronization's target system types and outstanding objects. • Authorize other employees within their area of responsibility as target system managers and create child application roles if required.

To initially specify employees to be target system administrators

1. Log in to the Manager as a One Identity Manager administrator (**Base role \| Administrators** application role)
2. Select the **One Identity Manager Administration \| Target systems \| Administrators** category.
3. Select the **Assign employees** task.
4. Assign the employee you want and save the changes.

To add the first employees to the default application as target system managers

1. Log in to the Manager as a target system administrator (**Target systems \| Administrators** application role).
2. Select the **One Identity Manager Administration \| Target systems \| G Suite** category.
3. Select the **Assign employees** task.
4. Assign the employees you want and save the changes.

To authorize other employees as target system managers when you are a target system manager

1. Log in to the Manager as a target system manager.
2. Select the application role in the **G Suite | Basic configuration data | Target system managers** category.
3. Select the **Assign employees** task.
4. Assign the employees you want and save the changes.

To specify target system managers for individual customers

1. Log in to the Manager as a target system manager.
2. Select the **G Suite | Customers** category.
3. Select the customer in the result list.
4. Select the **Change master data** task.
5. On the **General** tab, select the application role in the **Target system manager** menu.

   - OR -

   Next to the **Target system manager** menu, click to create a new application role.

   a. Enter the application role name and assign the **Target systems | G Suite** parent application role.

   b. Click **OK** to add the new application role.
6. Save the changes.
7. Assign employees to this application role who are permitted to edit the customer in One Identity Manager.

Related topics

- One Identity Manager users for managing G Suite on page 10
- General master data for G Suite customers on page 107

9

Troubleshooting the connection to a G Suite environment

Newly added G Suite user accounts are marked as outstanding

If G Suite is synchronized with the One Identity Manager database shortly after provisioning new user accounts, these user accounts might be marked as outstanding in One Identity Manager (or deleted, depending on the configuration of the synchronization). This error only occurs if a scope has been defined in the synchronization project for the target system.

Probable reason

Adding new user account in G Suite takes about 24 hours. If synchronization with the One Identity Manager database is started within these 24 hours, the error described can occur.

Solution

To prevent this error

- Avoid declaring a scope for this target system.

If a scope is required

1. Configure the user account synchronization so that objects that do not exist in One Identity Manager are marked as outstanding.
2. If the error occurs, run a target system comparison.

   For more information, see Post-processing outstanding objects on page 42.

   a. Select the object that have been wrongly marked as outstanding.

   b. Apply the **Reset** method.

      This removes the **Outstanding** mark. the next time synchronization is run, the error should not occur.

For more detailed information about defining a scope and specifying handling methods for synchronization steps, see the One Identity Manager Target System Synchronization Reference Guide.

Appendix A

Configuration parameters for managing G Suite

The following configuration parameters are additionally available in One Identity Manager after the module has been installed.

Table 49: Configuration parameters for synchronizing G Suite

Configuration parameter	Meaning if Set
TargetSystem | GoogleApps	Preprocessor relevant configuration parameter for controlling the database model components for the administration of the target system G Suite. If the parameter is set, the target system components are available. Changes to this parameter require the database to be recompiled.
TargetSystem | GoogleApps | Accounts	Parameter for configuring G Suite user account data.
TargetSystem | GoogleApps | Accounts | InitialRandomPassword	This configuration parameter specifies whether a random generated password is issued when a new user account is added. The password must contain at least those character sets that are defined in the password policy.
TargetSystem | GoogleApps | Accounts | InitialRandomPassword | SendTo	Specifies to which employee the email with the random generated password should be sent (manager cost center/department/location/role, employee's manager or `XUserInserted`). If no recipient can be found, the email is sent to the address stored in the configuration parameter **TargetSystem | GoogleApps | DefaultAddress**.
TargetSystem | GoogleApps | Accounts | InitialRandomPassword | SendTo | MailTemplateAccountName	This configuration parameter contains the name of the mail template sent to provide users with the login data for their user accounts. The **Employee - new user account created** mail template is used.
TargetSystem | GoogleApps | Accounts |	This configuration parameter contains the name of the mail template sent to provide users with information about

Configuration parameter	Meaning if Set
InitialRandomPassword | SendTo | MailTemplatePassword	their initial password. The **Employee - initial password for new user account** mail template is used.
TargetSystem | GoogleApps | Accounts | MailTemplateDefaultValues	This configuration parameter contains the mail template used to send notifications if default IT operating data mapping values are used for automatically creating a user account. The **Employee - new user account with default properties created** mail template is used.
TargetSystem | GoogleApps | Accounts | PrivilegedAccount	This configuration parameter allows configuration of settings for privileged user accounts.
TargetSystem | GoogleApps | Accounts | TransferJPegPhoto	This configuration parameter specifies whether changes to the employee's picture are published in existing G Suite user accounts. The picture is not part of default synchronization. It is only published when employee data is changed.
TargetSystem | GoogleApps | DefaultAddress	The configuration parameter contains the recipient's default email address for sending notifications about actions in the target system.
TargetSystem | GoogleApps | MaxFullsyncDuration	This configuration parameter contains the maximum runtime for synchronization. No recalculation of group memberships by the DBQueue Processor can take place during this time. If the maximum runtime is exceeded, group membership are recalculated.
TargetSystem | GoogleApps | PersonAutoDefault	This configuration parameter specifies the mode for automatic employee assignment for user accounts added to the database outside synchronization.
TargetSystem | GoogleApps | PersonAutoDisabledAccounts	This configuration parameter specifies whether employees are automatically assigned to disabled user accounts. User accounts do not obtain an account definition.
TargetSystem | GoogleApps | PersonAutoFullsync	This configuration parameter specifies the mode for automatic employee assignment for user accounts added to or updated in the database through synchronization.
TargetSystem | GoogleApps | PersonExcludeList	List of all user accounts for which automatic employee assignment should not take place. Names are listed in a pipe (|) delimited list that is handled as a regular search pattern.

Appendix B

Default project templates for G Suite

A default project template ensures that all required information is added in One Identity Manager. This includes mappings, workflows, and the synchronization base object. If you do not use a default project template you must declare the synchronization base object in One Identity Manager yourself.

Use a default project template for initially setting up the synchronization project. For custom implementations, you can extend the synchronization project with the Synchronization Editor.

The template uses mappings for the following schema types.

Table 50: Mapping G Suite schema types to tables in the One Identity Manager schema

Schema Type in G Suite	Table in the One Identity Manager Schema
AdminPrivilege	GAPPrivilege
AdminRole	GAPAdminRole
AdminRoleAssignment	GAPOrgAdminRole
Customer	GAPCustomer
Domain	GAPDomain
DomainAlias	GAPDomainAlias
Group	GAPGroup
OrgUnit	GAPOrgUnit
ProductAndSku	GAPPaSku
User	GAPUser
UserAddress	GAPUserAddress
UserEmail	GAPUserEmail

Schema Type in G Suite	Table in the One Identity Manager Schema
UserExternalId	GAPUserExternalId
UserIm	GAPUserIM
UserOrganization	GAPUserOrganization
UserPhone	GAPUserPhone
UserRelation	GAPUserRelation
UserWebsite	GAPUserWebSite

Appendix C

API scopes for the service account

The service account's client ID must be authorized for various API scopes in the Google Admin console:

For read and write access:

```
https://www.googleapis.com/auth/admin.directory.customer,
https://www.googleapis.com/auth/admin.directory.device.chromeos,
https://www.googleapis.com/auth/admin.directory.device.mobile,
https://www.googleapis.com/auth/admin.directory.device.mobile.action,
https://www.googleapis.com/auth/admin.directory.domain,
https://www.googleapis.com/auth/admin.directory.group,
https://www.googleapis.com/auth/admin.directory.group.member,
https://www.googleapis.com/auth/admin.directory.notifications,
https://www.googleapis.com/auth/admin.directory.orgunit,
https://www.googleapis.com/auth/admin.directory.resource.calendar,
https://www.googleapis.com/auth/admin.directory.rolemanagement,
https://www.googleapis.com/auth/admin.directory.user,
https://www.googleapis.com/auth/admin.directory.user.alias,
https://www.googleapis.com/auth/admin.directory.user.security,
https://www.googleapis.com/auth/admin.directory.userschema,
https://www.googleapis.com/auth/apps.groups.settings,
https://www.googleapis.com/auth/admin.datatransfer,
https://www.googleapis.com/auth/apps.licensing
```

For read-only access:

```
https://www.googleapis.com/auth/admin.directory.customer.readonly,
https://www.googleapis.com/auth/admin.directory.device.chromeos.readonly,
https://www.googleapis.com/auth/admin.directory.device.mobile.readonly,
https://www.googleapis.com/auth/admin.directory.domain.readonly,
https://www.googleapis.com/auth/admin.directory.group.readonly,
https://www.googleapis.com/auth/admin.directory.group.member.readonly,
https://www.googleapis.com/auth/admin.directory.orgunit.readonly,
https://www.googleapis.com/auth/admin.directory.resource.calendar.readonly,
https://www.googleapis.com/auth/admin.directory.rolemanagement.readonly,
https://www.googleapis.com/auth/admin.directory.user.readonly,
```

```
https://www.googleapis.com/auth/admin.directory.user.alias.readonly,
https://www.googleapis.com/auth/admin.directory.userschema.readonly,
https://www.googleapis.com/auth/apps.groups.settings,
https://www.googleapis.com/auth/admin.datatransfer.readonly,
https://www.googleapis.com/auth/apps.licensing
```

Appendix D

Processing G Suite system objects

The following table describes permitted processing methods for G Suite schema types.

Table 51: Methods available for editing schema types

Schema type	Read	Paste	Delete	Refresh
G Suite customer (Customer)	Yes	No	No	Yes
Domain (Domain)	Yes	No	No	No
Domain alias (DomainAlias)	Yes	No	No	No
Organization (OrgUnit)	Yes	Yes	Yes	Yes
User account (User)	Yes	Yes	Yes	Yes
Group (Group)	Yes	Yes	Yes	Yes
Product and SKU (ProductAndSku)	Yes	No	No	Yes
User account: address(UserAddress)	Yes	Yes	Yes	Yes
User account: Email address (UserEmail)	Yes	Yes	Yes	Yes
User account: external ID (UserExternalId)	Yes	Yes	Yes	Yes
User account: instant messenger (UserIm)	Yes	Yes	Yes	Yes
User account: user details (UserOrganization)	Yes	Yes	Yes	Yes
User account: phone number (UserPhone)	Yes	Yes	Yes	Yes
User account: relation (UserRelation)	Yes	Yes	Yes	Yes
User account: website (UserWebsite)	Yes	Yes	Yes	Yes
Admin role (AdminRole)	Yes	Yes	Yes	Yes
Admin privilege (AdminPrivilege)	Yes	No	No	No
Admin roles assignments (AdminRoleAssignment)	Yes	Yes	Yes	Yes

Appendix E

Special features in the assignment of G Suite groups

In One Identity Manager, entitlements can be assigned directly or indirectly to user accounts. The type of assignment is indicated in the `XOrigin` column in the assignment tables. In the `GAPUserInPaSku` and `GAPUserInGroup` assignment tables, `XOrigin` can have the default values **1** to **15** (bit 0 to 3).

Through the assignment of a G Suite groups to a G Suite customer, all the customer's user accounts can become members of the group. In the calculation of inheritance, an entry is made in the `GAPUserInGroup` table for each of the customer's user accounts. The origin of these assignments is indicated in `GAPUserInGroup.XOrigin` with the value **16** (bit 4).

Table 52: Origin of entitlement assignments

Assignment table	Type of assignment	Origin (`XOrigin` column)
GAPUserInPaSku GAPUserInGroup	direct	1
	indirect	2
	dynamic	4
	assignment request	8
GAPUserInGroup	via customers	16

For detailed information about the calculation of assignments in One Identity Manager, see the *One Identity Manager Identity Management Base Module Administration Guide*.

Related topics

- Assigning G Suite entitlements to user accounts in One Identity Manager on page 91

About us

One Identity solutions eliminate the complexities and time-consuming processes often required to govern identities, manage privileged accounts and control access. Our solutions enhance business agility while addressing your IAM challenges with on-premises, cloud and hybrid environments.

Contacting us

For sales and other inquiries, such as licensing, support, and renewals, visit https://www.oneidentity.com/company/contact-us.aspx.

Technical support resources

Technical support is available to One Identity customers with a valid maintenance contract and customers who have trial versions. You can access the Support Portal at https://support.oneidentity.com/.

The Support Portal provides self-help tools you can use to solve problems quickly and independently, 24 hours a day, 365 days a year. The Support Portal enables you to:

- Submit and manage a Service Request
- View Knowledge Base articles
- Sign up for product notifications
- Download software and technical documentation
- View how-to videos at www.YouTube.com/OneIdentity
- Engage in community discussions
- Chat with support engineers online
- View services to assist you with your product

Index

A

account definition 47
- add to IT Shop 60
- assign automatically 59
- assign to all employees 59
- assign to business role 58
- assign to cost center 58
- assign to customers 62
- assign to department 58
- assign to employee 57, 59
- assign to location 58
- assign to system roles 60
- assign to user account 69
- create 48
- creating manage level 51
- delete 62
- edit 48
- editing manage level 50
- IT operating data 53-54

address 119

admin privilege
- admin role designations 147
- display 146
- overview 146

admin role assignment
- add 147
- insert 147

admin roles
- add 143
- assign admin privileges 145
- assign to organization 147
- assign user accounts 148
- create 143
- delete 145
- edit 143
- insert 143
- overview 144
- predefined 144
- super admin 144
- system role 144

admin roles assignment
- assign user accounts 148
- create 147
- delete 149
- overview 148

API scope 14, 30

application roles for G Suite 10

authorization assignment
- direct 97-98

B

base object 33, 36

C

cache 33

calculation schedule 39
- disable 40

category 109

configuration parameter 12, 163

convert connection parameter 33

customer
account definition 107
account definition (initial) 62
add 106
address 109
alternative email address 107
assign group 98, 170
category 101
contact person 109
create 106
domain 107
edit 107
insert 106
organizations 109
overview 110
report 149
synchronization type 107
target system manager 10, 158

D

data transfer 127
default email address for data transfer 127
default user accounts 72
direction of synchronization
direction target system 22, 28
in Manager 22
domain 142
overview 142
synchronizing 142
domain alias 142
overview 142
synchronizing 142
dummy employee 74

E

email address 119
email notification 89
employee
assign user account 70
group identity 74
main identity 73
personalized admin identity 73
primary identity 74
employee assignment
manual 67
remove 67
search criteria 66
exclusion definition 99
extended property
G Suite group 132
G Suite products and SKUs 138
user account 124
external ID 120

G

G Suite
troubleshooting 161
G Suite customer 110
group
about IT Shop requests 129
add to IT Shop 95
additional settings 130
Aliases 129
assign business role 94
assign category 129
assign cost center 93
assign customer 99

assign department 93
assign extended properties 132
assign group 135
assign location 93
assign system role 95
assign user account 91, 97
assigning through customers 170
category 101
create 128
delete 136
edit 128
effective 99
email address 129
exclusion 99
inheriting through roles 91
inheriting through system roles 95
language 130
manager 133
overview 132
overview of all assignments 104
owner 134
parent 135
risk index 129
spam message 130
subordinate 135
group identity 74
group manager 133
group owner 134

I

identity 71
inheritance
category 101
IT operating data
change 56
IT Shop shelf
assign account definition 60
assign group 95
assign products and SKUs 95

J

Job server 154
edit 18, 154
load balancing 37
properties 155

L

load balancing 37
log file 45
login data 89

M

manage level
create 51
edit 50
membership
modify provisioning 35

N

NLog 45
notification 89

O

object
delete immediately 42
outstanding 42
publish 42

organization hierarchy
change 141
organizations 121
add 139
assign to admin role 147
change 124
changing parent organizations 141
create 139
customer 140
delete 141
edit 139, 141
insert 139
move 141
overview 141
parent 140
outstanding object 42

P

password
initial 88-89
password policy 77
assign 79
character sets 83
check password 87
conversion script 84, 86
create 81
default policy 79, 81
display name 81
edit 81
error message 81
excluded list 87
failed logins 82
generate password 88
initial password 82
name components 82
new 81
password age 82
password cycle 82
password length 82
password strength 82
predefined 78
test script 84-85
permission
add to IT Shop 95
assign business role 94
assign organizations 93
assign system role 95
assign user account 97
category 101
effective 99
exclusion 99
group 91
inheriting through categories 109
inheriting through system roles 95
overview of all assignments 104
product and SKU 91
personalized admin identity 73
phone 118
polling count 33
product and SKU
about IT Shop requests 136
add to IT Shop 95
assign business role 94
assign category 136
assign cost center 93
assign department 93
assign extended properties 138
assign location 93
assign system role 95
assign user account 91, 97

category 101
edit 136
inheriting through roles 91
inheriting through system roles 95
overview 138
overview of all assignments 104
risk index 136
project template 165
provisioning
accelerate 37
members list 35

R

relation 122
reset revision 45
reset start up data 45
retries 33
revision filter 30
risk assessment
group 129
product and SKU 136
user account 114

S

schema
changes 29
shrink 29
update 29
scope 161
server 154
server function 157
single object synchronization 36, 41
accelerate 37
site 122
start up configuration 33
synchronization
accelerate 30
API access 14
authorizations 14
base object
create 28
calculation schedule 39
configure 22, 27
connection parameter 22, 27-28
different customers 28
extended schema 28
prerequisite 13
prevent 40
scope 27, 161
simulate 45
start 22, 39
synchronization project
create 22
target system schema 28
user 14
variable 27
variable set 28
workflow 22, 28
synchronization analysis report 45
synchronization configuration
customize 27-28
synchronization log 40, 45
contents 26
create 26
synchronization project
create 22
disable 40
edit 110
project template 165

synchronization server 17, 154
configure 17
edit 154
install 18
Job server 18
server function 157
system requirements 17
synchronization workflow
create 22, 28
synchronize single object 41
system
employee assignment 66
specify category 109
system connection
advanced settings 30, 34
API access 30
cache 30
enabled variable set 34
polling count 30
retries 30
timeout 30

T

target system manager 158
specify 107
target system synchronization 42
template
IT operating data, modify 56
timeout 33

U

user account 111
address 119
admin role designations 98
administrative user account 73
apply template 56
assign employee 65
assign extended properties 124
assign group 98
assign permissions 98
assign products and SKUs 98
assigned employee 114
assigned permissions 149
assigning through customers 170
category 101
change organization 124
connected 69
create 112
customer 114
data quality 149
default user accounts 72
deferred deletion 126
delete 126-127
edit 113, 124
email address 114, 119
external ID 120
group identity 74
identity 71
instant messenger 120
lock 124, 126
manage level 69
move 124
organizations 114, 121
outstanding 161
overview 123
password 88, 117
notification 89
personalized admin identity 73
privileged user account 71, 73, 75

relations 122
restore 126
risk index 114
site 122
synchronization 161
telephone number 118
type 71-72, 75
unused 149
user details 121
user data
transfer 127
user detail 121

V

variable set 33
active 34

X

XOrigin
bit 4 170