Dell™ One Identity Manager 7.1.3

LDAP Connector for CA Top Secret®
Reference Guide

Legend

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

⚠ **WARNING: A WARNING icon indicates a potential for property damage, personal injury, or death.**

ⓘ **IMPORTANT**, **NOTE**, **TIP**, **MOBILE**, or **VIDEO:** An information icon indicates supporting information.

One Identity Manager LDAP Connector for CA Top Secret® Reference Guide
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Initializing and Configuring the LDAP Connector for CA Top Secret®

This document describes how to initialize and configure the Top Secret LDAP connector into an existing One Identity Manager system. This enables a One Identity Manager system to access, read and update data stored in a Top Secret database on an IBM® mainframe.

Detailed information about this topic

Pre-requisites

- The IBM mainframe must have CA LDAP Server for z/OS installed and configured.
- An LDAP service account must be created on your Top Secret server which has the appropriate permissions to administer users and groups on this platform. The account must be given sufficient privileges so that the profiles being administered fall within the "SCOPE" of the Admin user.

NOTE: Before attempting to connect to the CA LDAP Server with the One Identity Manager connector, it is recommended to first check that the LDAP server is running correctly. This can be tested with any LDAP browser for example the `LDP.exe` tool from Microsoft. For more information, see your LDAP browser documentation.

Platform Support

- The Top Secret LDAP connector has been verified for synchronization against the IBM mainframe running CA Top Secret® 9.0 or later.

Operating Constraints

- There is an eight character limit for user and group names on Top Secret.
- There is an eight character limit for passwords on Top Secret.

How to initialize and configure the Top Secret LDAP connector

NOTE: The following sequence describes how you configure a synchronization project if the Synchronization Editor is in expert mode.

To set up initial synchronization project for Top Secret

1. Start the Synchronization Editor and log in.
2. From the start page, select **Start a new synchronization project**.

   This starts the Synchronization Editor's project wizard.
3. Select **Top Secret LDAP Connector** on the **Choose target system** page.
4. On the **System access** page, click **Next**.
5. On the **Create system connection** page, select **Create new system connection**.
6. On the system connection wizard start page, click **Next**.
7. On the **Network** page:
   a. In the **Server** field, enter the DNS name or IP address of your mainframe server.
   b. In the **Port** field, enter the port number.
   c. Click on the **Test** button to make sure the server is accessible.
   d. CA LDAP Server for z/OS supports LDAP v3. Enter the number 3 in the **Protocol version**.
   e. If SSL is to be used, check the **Use SSL** box.
8. On the **Authentication** page:
   a. Set the **Authentication method** to "Basic".
   b. In the **Credentials** section, enter the full DN and password of the administrator account on your Top Secret system.
   c. Click **Test** to check that the credentials are valid.
9. The schema will be loaded from the Top Secret system.
10. Ignore the **Define virtual classes** page. Click **Next**.

11. On the **Search options** page:
    a. In the **Base DN** drop-down list, select the correct base DN for your system.
    b. Ignore the **Use partitioned search** check box.
12. Ignore the **Modification capabilities** page. Click **Next**.
13. Ignore the **Auxiliary class assignment** page. Click **Next**.
14. On the **System attributes** page, in the **Revision properties** section, deselect the "createTimestamp" and "modifyTimestamp" entries by double clicking on them.
15. Ignore the **Select dynamic group attributes** page. Click **Next**.
16. Ignore the **Password settings** page. Click **Next**.
17. Click **Finish**.

    This takes you back to the Synchronization Editor's project wizard.
18. Enter the database connection data on the **One Identity Manager connection** page.
19. This will load the Top Secret schema into your One Identity Manager system. Wait for this to complete.
20. On the **Select project template** page, select **Create blank project**.
21. On the **General** page, enter a display name for your synchronization project and set a scripting language if required.
22. Click **Finish** to complete the project wizard.
23. Select **Activate project** to activate the project.

Related Topics

- Domain Filter Setting on page 7
- User Mapping Information on page 8
- Group Mapping Information on page 12

System Variables

The following system variables need to be defined for the attribute mappings. For more detailed information about variables, see the Dell One Identity Manager Target System Synchronization Reference Guide.

Table 1: System variables

Name	Value
IdentDomain	The name of your Top Secret domain e.g. `TOPSECRET1`
UserLocation	Parent DN of your Top Secret user container, e.g. `tssadmingrp=acids,host=topsecret1,o=mycompany,c=com`
GroupLocation	Parent DN of your Top Secret group container, e.g. `tssadmingrp=groups,host=topsecret1,o=mycompany,c=com`

Related Topics

- Domain Filter Setting on page 7
- Property Mapping Rules on page 8
- Property Mapping Rules on page 12

Domain Filter Setting

A domain filter needs to be created to identify information that has been retrieved from the Top Secret database to keep it separate from other imported data.

1. Update the One Identity Manager schema so that all entries are included.
    a. In the Synchronization Editor, open your Top Secret project.
    b. Select the category **Configuration | One Identity Manager connection**.
    c. Then in the "General" section on the right-hand side, click **Update schema**.
    d. Click on **Yes** in the next two dialog boxes.
    e. Click **Ok** when completed.
2. In the Manager
    a. Select the category **LDAP | Domains**.
    b. In the result list toolbar, click  .
    c. Enter at least the following general master data on the **General** tab.

    Table 2: Domain Master Data

Property	Description
Display name	Display name e.g. `Top Secret Domain`
Distinguished name	Distinguished name of the domain e.g. `host=topsecret1,o=mycompany,c=com`
Domain	Domain name e.g. `TOPSECRET1`
Structural object class	Structural object class representing the object type, enter `DCOBJECT`

    d. Save the changes.
3. In the Synchronization Editor, open your Top Secret project.
    a. Select the category **Configuration | One Identity Manager connection**.
    b. Select the **Scope view** and click **Edit scope**.
    c. Select the object type `LDPDomain` in the **Scope hierarchy** list and set the **Object filter** to: `Ident_Domain ='$IdentDomain$'`.
    d. Save the changes.

For more detailed information about scopes, see the Dell One Identity Manager Target System Synchronization Reference Guide.

Related Topics

- System Variables on page 6

User Mapping Information

This section shows a possible mapping between a user account in Top Secret and the standard One Identity Manager database table called `LDAPAccount`.

- Set up a new mapping from `LDAPAccount(all)` to `tssacid(all)`.

For more detailed information about setting up mappings, see the Dell One Identity Manager Target System Synchronization Reference Guide.

Detailed information about this topic

- Mandatory Top Secret User Attributes on page 8
- Property Mapping Rules on page 8
- Object Matching Rules on page 11
- Sample User Mapping on page 11

Mandatory Top Secret User Attributes

When creating a user in the Top Secret database, the following LDAP attributes must be defined:

- objectclass
- tssacid
- name
- Department
- userPassword

Related Topics

- Property Mapping Rules on page 8
- Object Matching Rules on page 11

Property Mapping Rules

- CanonicalName ← vrtEntryCanonicalName

  `vrtEntryCanonicalName` is a virtual property, set to the canonical name of the object in the connector.

  Sample value:

  `COM/MYCOMPANY/TOPSECRET1/ACIDS/USER1234`

- cn ←→ tssacid

  On the Top Secret system, `tssacid` is the user ID.

  Sample value:

  `USER1234`

- DistinguishedName ← vrtEntryDN

  `vrtEntryDN` is a virtual property, set to the DN of the object in the connector. Once this mapping rule has been created, edit the mapping rule by clicking on it. Then check the box marked **Force mapping against direction of synchronization**.

  Sample value:

  `tssacid=USER1234,tssadmingrp=acids,host=topsecret1,o=mycompany,c=com`

- ObjectClass ←→ objectClass

  The `objectClass` attribute (multi-valued) on the Top Secret system. Activate the check box **Ignore case sensitivity**.

  Sample value:

  `TSSACID`

- StructuralObjectClass ← vrtStructuralObjectClass

  `vrtStructuralObjectClass` on the Top Secret system defines the single object class for the object type.

  Sample value:

  `TSSACID`

- UID_LDPDomain ← vrtIdentDomain

  Create a fixed value property variable on the Top Secret side called `vrtIdentDomain` that is set to the value `$IdentDomain$`. Map this to `UID_LDPDomain`. This will cause a conflict and the Property Mapping Rule Conflict Wizard opens automatically.

  To solve the conflict

  1. In the Property Mapping Rule Conflict Wizard, select the first option and click **OK**.
  2. On the **Select an element...** page, select **Ident_Domain** and click **OK**.
  3. Confirm the security prompt with **OK**.
  4. On the Edit property... page,
     a. Deactivate **Save unresolvable keys**.
     b. Activate **Handle failure to resolve as error**.
     c. To close the Property Mapping Rule Conflict Wizard, click **OK**.

  Sample value:

  `TOPSECRET1`

- vrtParentDN → vrtEntryParentDN

  Create a fixed value property variable on the One Identity Manager side called `vrtParentDN` equal to a fixed string with value `$UserLocation$`. Map this to `vrtEntryParentDN` on the Top Secret side.

Sample value:

```
tssadmingrp=acids,host=topsecret1,o=mycompany,c=com
```

- vrtDep → Department

  Create a new fixed value property on the One Identity Manager side of type "String" with the name of your department. Call the property `vrtDept`. Map this to `Department` on the Top Secret side.

- vrtName → name

  Create a new variable on the One Identity Manager side of type "Format Defined Property" with name `vrtName`. Set its value to `name=%CN%`. Then map this to `name` on the Top Secret side.

  Sample value:

  ```
  name=USER123
  ```

- vrtRDN → vrtEntryRDN

  Create a new variable on the One Identity Manager side of type "Format Defined Property" with name `vrtRDN`. Set its value to `%CN%`. Then map this to `vrtEntryRDN` on the Top Secret side.

  Sample value:

  ```
  USER123
  ```

- userPassword → userPassword

  Used to change a user's password in Top Secret. A condition needs to be set on this rule to map the password only when there is a value to be copied.

  ### *To add a condition*

  1. Create the mapping.
  2. Edit the property mapping rule.
  3. Expand the **Condition for execution** section at the bottom of the dialog.
  4. Click on **Add condition** and set the following condition (a blank password is indicated by using two apostrophe characters).

     ```
     Left.UserPassword<>''
     ```

- UID_LDAPContainer ← vrtEmpty

  This is a workaround needed to support group mappings. Create a new fixed value variable on the TopSecret side of type "String" with no value called `vrtEmpty`. Map this to `UID_LDAPContainer`. This generates a property mapping rule conflict.

  ### *To solve the conflict*

  - In the Property Mapping Rule Conflict Wizard, highlight **Select this option if you do not want to change anything** and click **OK**.

Related Topics

- Mandatory Top Secret User Attributes on page 8
- System Variables on page 6
- Object Matching Rules on page 11
- Sample User Mapping on page 11

Object Matching Rules

- DistinguishedName (primary rule) vrtEntryDN

  `vrtEntryDN` is a virtual property, set to the DN of the object in the connector. This forms a unique ID to distinguish individual user objects on the Top Secret system.

  To convert this mapping into an object matching rule

  1. Select the property mapping rule in the rule window.
  2. Click in the rule view toolbar.

     A message appears.
  3. Click **Yes** to convert the property mapping rule into an object matching rule and save a copy of the property mapping rule. Do not mark this rule as case sensitive (leave the check box unchecked).

  Sample value:

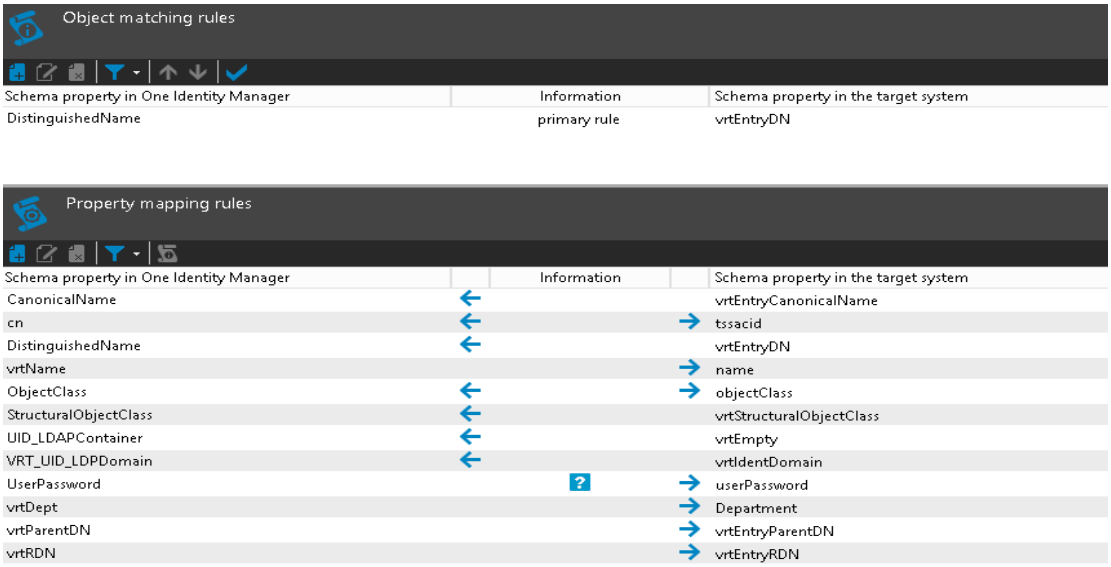
  `tssacid=USER1234,tssadmingrp=acids,host=topsecret1,o=mycompany,c=com`

Related Topics

- Mandatory Top Secret User Attributes on page 8
- Property Mapping Rules on page 8
- Sample User Mapping on page 11

Sample User Mapping

The following figure shows the above user mapping in operation.



Group Mapping Information

This section shows a possible mapping between a user account in Top Secret and the standard One Identity Manager database table called `LDAPGroup`.

- Set up a new mapping from `LDAPGroup(all)` to `tssgroup(all)`.

For more detailed information about setting up mappings, see the Dell One Identity Manager Target System Synchronization Reference Guide.

Detailed information about this topic

- Mandatory Top Secret Group Attributes on page 12
- Property Mapping Rules on page 12
- Object Matching Rules on page 15
- Sample Group Mapping on page 15

Mandatory Top Secret Group Attributes

When creating a group in the Top Secret database, the following LDAP attributes must be defined:

- objectclass
- tssgroup
- name
- Department
- User-Type

Related Topics

- Property Mapping Rules on page 12
- Object Matching Rules on page 15

Property Mapping Rules

- CanonicalName ← vrtEntryCanonicalName

  `vrtEntryCanonicalName` is a virtual property, set to the canonical name of the object in the connector.

  Sample value:

  `COM/MYCOMPANY/TOPSECRET1/GROUPS/GROUP123`

- cn ←→ tssgroup

  On the Top Secret system, `tssgroup` is the group ID.

  Sample value:

  `GROUP123`

- DistinguishedName ← vrtEntryDN

  `vrtEntryDN` is a virtual property, set to the DN of the object in the connector.

  Sample value:

  `tssgroup=GROUP123,tssadmingrp=groups,host=topsecret1,o=mycompany,c=com`

- ObjectClass ←→ objectClass

  The `objectClass` attribute (multi-valued) on the Top Secret system. Activate the check box **Ignore case sensitivity**.

  Sample value:

  `TSSGROUP`

- StructuralObjectClass ← vrtStructuralObjectClass

  `vrtStructuralObjectClass` on the Top Secret system defines the single object class for the object type.

  Sample value:

  `TSSGROUP`

- UID_LDPDomain ← vrtIdentDomain

  Create a fixed value property variable on the Top Secret side called `vrtIdentDomain` that is set to the value `$IdentDomain$`. Map this to `UID_LDPDomain`. This will cause a conflict and the Property Mapping Rule Conflict Wizard opens automatically.

  To solve the conflict

  1. In the Property Mapping Rule Conflict Wizard, select the first option and click **OK**.
  2. On the **Select an element...** page, select **Ident_Domain** and click **OK**.
  3. Confirm the security prompt with **OK**.
  4. On the Edit property... page,
     a. Deactivate **Save unresolvable keys**.
     b. Activate **Handle failure to resolve as error**.
     c. To close the Property Mapping Rule Conflict Wizard, click **OK**.

  Sample value:

  `TOPSECRET1`

- vrtParentDN → vrtEntryParentDN

  Create a virtual attribute on the One Identity Manager side equal to a fixed string representing the parent DN for the object that is being manipulated.

  Sample value:

  `tssadmingrp=groups,host=topsecret1,o=mycompany,c=com`

- vrtRDN → vrtEntryRDN

  Create a new variable on the One Identity Manager side of type "Format Defined Property" with name `vrtRDN`. Set its value to `%CN%`. Then map this to `vrtEntryRDN` on the Top Secret side.

  Sample value:

GROUP123

- vrtName → name

  Create a new variable on the One Identity Manager side of type "Format Defined Property" with name vrtName. Set its value to name=%CN%. Then map this to name on the Top Secret side.

  Sample value:

  name=GROUP123

- UID_LDAPContainer ← vrtEmpty

  This is a workaround needed to support group mappings. Create a new fixed value variable on the Top Secret side of type "String" with no value called vrtEmpty. This is mapped to UID_LDAPContainer. This generates a property mapping rule conflict.

  To solve the conflict

  - In the Property Mapping Rule Conflict Wizard, highlight **Select this option if you do not want to change anything** and click **OK**.

- vrtMember ←→ memberOf

  This mapping is used to synchronize group membership information.

  1. Create a new virtual entry on the One Identity Manager side of type “Members of M:N schema types” with name vrtMember. Activate the boxes to **Ignore case** and **Enable relative component handling**.
  2. Add the following M:N schema types:
     a. Add an entry for LDAPAccountInLDAPGroup. Set the left box to UID_LDAPGroup and the right box to UID_LDAPAccount. Set the **Primary Key Property** to DistinguishedName.
     b. Add an entry for LDAPGroupInLDAPGroup. Set the left box to UID_LDAPGroupChild and the right box to UID_LDAPGroupParent. Set the **Primary Key Property** to DistinguishedName.
  3. Create a new mapping rule of type "Multi-reference mapping rule". Set the rule name to "Member" and the mapping direction to "Both directions". Set the One Identity Manager schema property to vrtMember and the Top Secret schema property to memberOf.

- vrtType → User-Type

  Create a new fixed value property on the One Identity Manager side of type "String" with the value GROUP. Call the property vrtType. Map this to User-Type on the Top Secret side.

- vrtDept → Department

  Create a new fixed value property on the One Identity Manager side of type "String" with the name of your department. Call the property vrtDept. Map this to Department on the Top Secret side.

Related Topics

- Mandatory Top Secret Group Attributes on page 12
- Object Matching Rules on page 15
- Sample Group Mapping on page 15

Object Matching Rules

- DistinguishedName (primary rule) vrtEntryDN

  `vrtEntryDN` is a virtual property, set to the DN of the object in the connector. This forms a unique ID to distinguish individual user objects on the Top Secret system.

  To convert this mapping into an object matching rule

  1. Select the property mapping rule in the rule window.
  2. Click in the rule view toolbar.

     A message appears.
  3. Click **Yes** to convert the property mapping rule into an object matching rule and save a copy of the property mapping rule.

  Sample value:

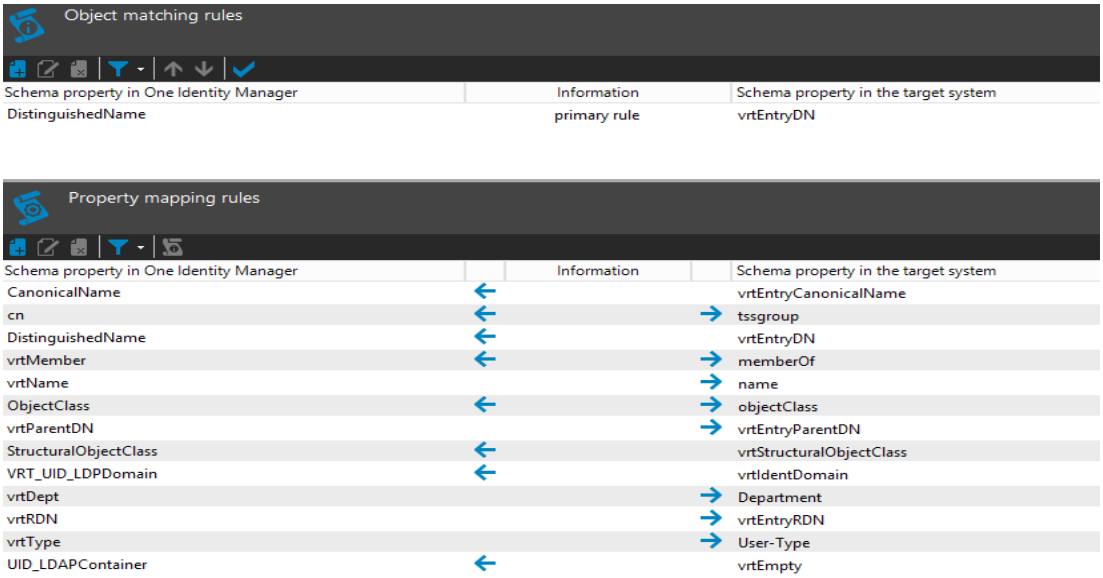
  `tssgroup=GROUP123,tssadmingrp=groups,host=topsecret1,o=mycompany,c=com`

Related Topics

- Mandatory Top Secret Group Attributes on page 12
- Property Mapping Rules on page 12
- Sample Group Mapping on page 15

Sample Group Mapping

The following figure shows the above group mapping in operation.



Object matching rules

Schema property in One Identity Manager	Information	Schema property in the target system
DistinguishedName	primary rule	vrtEntryDN

Property mapping rules

Schema property in One Identity Manager		Information		Schema property in the target system
CanonicalName	←			vrtEntryCanonicalName
cn	←		→	tssgroup
DistinguishedName	←			vrtEntryDN
vrtMember	←		→	memberOf
vrtName			→	name
ObjectClass	←		→	objectClass
vrtParentDN			→	vrtEntryParentDN
StructuralObjectClass	←			vrtStructuralObjectClass
VRT_UID_LDPDomain	←			vrtIdentDomain
vrtDept			→	Department
vrtRDN			→	vrtEntryRDN
vrtType			→	User-Type
UID_LDAPContainer	←			vrtEmpty

Synchronizing Top Secret Group Members

The members of a Top Secret group can be found in the group attribute called `memberOf`. This is a multi-valued attribute that contains a list of all the group's members (tssacids). The CA LDAP Server does not allow this attribute to be updated directly, but it can be updated via the connector. When the connector receives a request to update a group's `memberOf` attribute, it performs all the necessary LDAP calls behind the scenes to perform the synchronization of the group members.

How the Connector Performs Group Member Synchronization

When the connector receives a request to update a group's `memberOf` attribute, it first performs an LDAP search to find out what the group's current `memberOf` attribute contains. It then compares this with the supplied update and creates a list of users that need to be added and / or deleted in order to perform the synchronization.

For each user to be added, the connector creates an LDAP object of type `tssacidlist` for the group that contains the new user's name. This adds the user to the group and the CA LDAP Server then automatically updates the group's `memberOf` attribute to include the new user.

Similarly, for each user to be deleted, the connector removes the LDAP object of type `tssacidlist` for the group associated with the user to be deleted. This removes the user from the group and the CA LDAP Server then automatically updates the group's `memberOf` attribute to remove the user.

Once all this has been done, the `memberOf` attribute for the group will then match the value that was passed in to the connector, effectively synchronizing the two values. This approach has been used in the sample group mapping that appears in this document.

Related Topics

- Group Mapping Information on page 12

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Appendix: Top Secret Attributes

The following table lists the Top Secret user and group attributes that are made available to One Identity Manager by the Top Secret LDAP connector.

Table 3: List of Top Secret User and Groups Attributes

Attribute Name
AcidRecordSize
AdminAcid
AdminListData
AdminMisc1
AdminMisc2
AdminMisc3
AdminMisc4
AdminMisc5
AdminMisc6
AdminMisc7
AdminMisc8
AdminMisc9
AdminSuspend
APPC-Sysout-AcctNum
APPC-Sysout-Addr1
APPC-Sysout-Addr2
APPC-Sysout-Addr3
APPC-Sysout-Addr4
APPC-Sysout-Bldg
APPC-Sysout-Dept
APPC-Sysout-Name
APPC-Sysout-Room

Attribute Name
Audit-Attr
Bypass-Dsn-Check
Bypass-Job-Submission-Check
Bypass-Limited-Cmd-Facility-Check
Bypass-Minidisklink-Check
Bypass-Resource-Check
Bypass-Volume-Check
CICS-Oper-Class
CICS-Oper-Identification
CICS-Oper-Priority
CICS-Security-Key
Console-Auth
Created-Date
Default-Remote-Nodes
Department
Division
DUF-Extract
DUF-Update
Expires
For-Number-of-Days
Globally-Admin-Profile
groupmemberOf
IMS-Multi-Sys-Coupling
Installation-Data
InstallationExitSuspended
Language-Pref
Last-Access-Count
Last-Accessed-From-CPU
Last-Used-Date
Last-Used-Facility
Last-Used-Time
LDAP-Destinations

Attribute Name
LDAPUser
LinuxName
LotusName
Master-Facility
MaxAddrSpaceSize
MaxCPUTime
MaxDataSpacePages
MaxFilesPerProcess
MaxProcesses
MaxPthreadsCreated
MCS-Alternate-Grp
MCS-Authorized-Cmds
MCS-Auto-Cmds
MCS-Cmd-Target-System
MCS-Delete-Oper-Cmds
MCS-Display-Format
MCS-Keywords
MCS-Log-Cmds
MCS-Migration-ID
MCS-Monitor
MCS-Msgs-Quese-Storage
MCS-Msgs-Received
MCS-Routing-Code
MCS-Undelivered-Msgs
memberOf
Modified-Date
Modified-Time
Multi-Region-Optimized-Signon
name
No-Automatic-Dsn-Protection
No-Automatic-Terminal-Signon
No-OMVS-Default-User

Attribute Name
NovellName
No-Vthresh-Suspend
OMVS-Dflt-Group
OMVS-Group-ID
OMVS-Home-Subdir
OMVS-Program
OMVS-User-ID
Operating-Mode
PasswordSuspended
Physical-Security-Key
SMS-Application-ID
SMS-Data-Class
SMS-Mgmt-Class
SMS-Storage-Class
Source-Reader
Target-Nodes-for-Cmds
Terminal-Lock-Time
Time-Zone
Trace-ACID-Activity
TSO-Hold-Class
TSO-Job-Class
TSO-Logon-Account
TSO-Logon-Command
TSO-Logon-Proc
TSO-Max-Region-Size
TSO-Message-Class
TSO-Multiple-Passwords
TSO-Options
TSO-Output-Destination
TSO-Performance-Grp
TSO-Region-Size
TSO-Sysout-Class

Attribute Name
TSO-Unit
TSO-User-Data
tssacid
Until-Date
Until-Access
userPassword
userPassword-Expire
userPassword-Interval
User-Suspend
User-Type
Using-Acid
ViolationSuspended

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The Support Portal enables you to:

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