# ONE IDENTITY™

## One Identity Manager 8.1.5

## LDAP Connector for CA ACF2 Reference Guide

# Contents

# Initializing and configuring the LDAP connector for CA ACF2

This document describes how to initialize and configure the ACF2 LDAP connector into an existing One Identity Manager system. This enables One Identity Manager to access, read, and update data stored in an ACF2 database on an IBM mainframe.

**Detailed information about this topic**

# Prerequisites

- The IBM mainframe must have the CA LDAP Server for z/OS installed and configured. It is recommended that you remove the search size limit on the CA LDAP Server. You can do this by editing the configuration file `slapd.conf` on the server. Set the `sizelimit` value to unlimited as follows.

  For versions of CA LDAP Server version 14 or earlier

  `sizelimit 0`

  For versions of CA LDAP Server version 15 or later

  `sizelimit unlimited`

- An LDAP service account must be created on your ACF2 server that 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 administrator user.

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

# Platform support

The ACF2 LDAP connector has been verified for synchronization against the IBM mainframe running CA ACF2 version 9.0 or later.

# Operating constraints

- There is an eight-character limit for user names on ACF2.
- There is an eight-character limit for passwords on ACF2.

# How to initialize and configure the ACF2 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 ACF2***

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

   This starts the Synchronization Editor project wizard.
3. On the **Choose target system** page, select **ACF2 LDAP Connector**.
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 **Test** ensure the server is accessible.

d. The CA LDAP server for z/OS supports LDAP v3. Enter the number 3 in the **Protocol version**.

e. If SSL is used, select the **Use SSL** check 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 ACF2 system. The account DN can take the format CN=<account id> or acf2lid=<account id>.

   c. Click **Test** to check that the credentials are valid.

   The schema is loaded from the ACF2 system.

9. Ignore the **Define virtual classes** page. Click **Next**.

10. On the **Search options** page:

    a. In the **Base DN** drop-down list, select the correct base DN for your system.

    b. Ignore **Use partitioned search**.

11. Ignore the **Modification capabilities** page. Click **Next**.

12. Ignore the **Auxiliary class assignment** page. Click **Next**.

13. On the **System attributes** page, in the **Revision properties** section, clear the **createTimestamp** and **modifyTimestamp** entries by double-clicking them.

14. Ignore the **Select dynamic group attributes** page. Click **Next**.

15. Ignore the **Password settings** page. Click **Next**.

16. Click **Finish**.

    This takes you back to the Synchronization Editor project wizard.

17. On the **One Identity Manager connection** page, enter the database connection data.

    This loads the ACF2 schema into your One Identity Manager. Wait for this to complete.

18. On the **Select project template** page, select **Create blank project**.

19. On the **General** page, enter a display name for your synchronization project and set a scripting language if required.

20. Click **Finish**.

21. Select **Activate project**.

**Related topics**

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# System variables

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

**Table 1: System variables**

| Name | Value |
| --- | --- |
| IdentDomain | The name of your ACF2 domain, for example, `MAINFRAME2` |
| UserLocation | Parent DN of your ACF2 user container, for example, `acf2admingrp=lids,host=mainframe2,o=mycompany,c=com` |

**Related topics**

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# Domain filter setting

A domain filter must be created to identify information that has been retrieved from the ACF2 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 ACF2 project.
   b. Select **Configuration | One Identity Manager connection**.
   c. In the **General** section, click **Update schema**.
   d. Click **Yes** in the next two dialogs.
   e. Click **OK** when complete.
2. In the Manager
   a. Select **LDAP | Domains**.
   b. In the result list toolbar, click ⬜.

c. On the **General** tab, enter the following general master data.

**Table 2: Domain master data**

| Property | Description |
|---|---|
| Display name | Display name, for example, `ACF2 Domain` |
| Distinguished name | Distinguished name of the domain, for example, `host=mainframe2,o=mycompany,c=com` |
| Domain | Domain name, for example, `MAINFRAME2` |
| Structural object class | Structural object class representing the object type; enter **DCOBJECT** |

d. Save the changes.

3. In the Synchronization Editor, open your ACF2 project.

a. Select **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 *One Identity Manager Target System Synchronization Reference Guide*.

**Related topics**

- System variables on page 7

# User mapping information

This section shows a possible mapping between a user account in CA ACF2 and the standard One Identity Manager database table called `LDAPAccount`.

- Set up a new mapping from `LDAPAccount(all)` to `acf2lid(all)`.

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

**Detailed information about this topic**

- Mandatory ACF2 user attributes on page 9
- Property mapping rules on page 9

# Mandatory ACF2 user attributes

When creating a user in the ACF2 database, the following LDAP attributes must be defined:

- objectclass
- acf2lid
- userPassword

**Related topics**

# 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/MAINFRAME2/LIDS/USER1234`

- cn ←→ acf2lid

  On the ACF2 system, `acf2lid` 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. Select the **Force mapping against direction of synchronization** check box.

  Sample value:

  `acf2lid=USER1234,acf2admingrp=lids,host=mainframe2,o=mycompany,c=com`

- ObjectClass ←→ objectClass

  The `objectClass` attribute (multi-valued) on the ACF2 system. Select the **Ignore case sensitivity** check box.

  Sample value:

`ACF2LID`

- StructuralObjectClass ← vrtStructuralObjectClass

  `vrtStructuralObjectClass` on the ACF2 system defines the single object class for the object type.

  Sample value:

  `ACF2LID`

- UID_LDPDomain ← vrtIdentDomain

  Create a fixed value property variable on the ACF2 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 resolve 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. Clear **Save unresolvable keys**.
     b. Select **Handle failure to resolve as error**.
  5. To close the Property Mapping Rule Conflict Wizard, click **OK**.

  Sample value:

  `MAINFRAME2`

- vrtParentDN → vrtEntryParentDN

  Create a fixed-value property variable on the One Identity Manager side called `vrtParentDN` equal to a fixed string with the value $UserLocation$. Map this to `vrtEntryParentDN` on the ACF2 side.

  Sample value:

  `acf2admingrp=lids,host=mainframe2,o=mycompany,c=com`

- vrtRDN → vrtEntryRDN

  Create a new variable on the One Identity Manager side of type **Format Defined Property** with the name `vrtRDN`. Set its value to `acf2lid=%CN%`. Then map this to `vrtEntryRDN` on the ACF2 side.

  Sample value:

  `acf2lid=USER1234`

- userPassword → userPassword

  Used to change a user's ACF2 password. 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 **Add condition** and set the following condition (a blank password is indicated by using two apostrophe characters).

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

**Related topics**

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## 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 ACF2 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:

```
acf2lid=USER1234,acf2admingrp=lids,host=mainframe2,o=mycompany,c=com
```

**Related topics**

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## Sample user mapping

The following figure shows the user 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 | ← | | → | acf2lid |
| DistinguishedName | ← | | | vrtEntryDN |
| ObjectClass | ← | | → | objectClass |
| StructuralObjectClass | ← | | | vrtStructuralObjectClass |
| VRT_UID_LDPDomain | ← | | | vrtIdentDomain |
| UserPassword | ← | ? | → | userPassword |
| vrtParentDN | | | → | vrtEntryParentDN |
| vrtRDN | | | → | vrtEntryRDN |

# ACF2 attributes

The following table lists the ACF2 attributes that are made available to One Identity Manager by the ACF2 LDAP connector.

**Table 3: List of ACF2 attributes**

| Attribute name |
| --- |
| AccessCount |
| AccessDate |
| AccessRileMustValidate |
| AccessShiftName |
| AccessSource |
| AccessSourceName |
| AccessTime |
| AccessZoneName |
| ACF2AccountPriv |
| ACF2AuditPriv |
| ACF2CICSSecurity |
| ACF2ConsultPriv |
| ACF2DynamicPrivileges |
| ACF2LeaderPriv |
| acf2lid |
| ACF2RefreshPriv |
| ACF2SecurityPriv |
| ActiveDate |

| Attribute name |
| --- |
| AllowJOBFROMStmtUsage |
| AuthSubmissionPgm |
| AutomaticDump |
| BatchJobAuthority |
| BulkDataTransfer |
| BypassCmdLimiting |
| BypassManVioProcessing |
| BypassMusassAccessStats |
| BypassStepMustComplete |
| BypassTapeLabelLimited |
| BypassTapeLabelProcessing |
| BypassTSOCmdList |
| CancelDate |
| CICSAccess |
| CICSControlRecSYSID |
| CICSMultipleSignons |
| CICSOpClass |
| CICSOpId |
| CICSPriority |
| CICSRsrcAccessKey |
| CICSSecKey1-3 |
| CICSSecKeyLast5 |
| CICSTargetUsage |
| DDBHomenode |
| DoNotStoreACF2Rules |
| EUARoutine1 |
| EUARoutine2 |
| EUARoutine3 |
| EUARoutine4 |

| Attribute name |
| --- |
| EUARoutine5 |
| EUARoutine6 |
| EUARoutine7 |
| EUARoutine8 |
| ExpirePassword |
| FullName |
| GeneralIDMSAccess |
| GeneralIMSAccess |
| GeneralTSOAccess |
| GeneralVAXAccess |
| GeneralVMAccess |
| GeneralVM-ESAAccess |
| GenerateDumps |
| GroupName |
| HasAccesToSystem |
| HomeDirectory |
| IdleTime |
| IDMSClistVersion |
| IDMSMusassOpts10-2 |
| IDMSMusassStartPgm |
| IDMSSignonClist |
| InvalidPswdDate |
| InvalidPswdTime |
| KerberosCruV |
| KerberosVios |
| LastUpdatedDateTime |
| LDAPDirectorySync |
| LidExpireDate |
| LIDTEMP |

| Attribute name |
| --- |
| LIDZMAX |
| LIDZMIN |
| LinuxName |
| LogAccessOutsideShift |
| LogActiveLibBatchAccess |
| LogActiveLibBatchAccessVios |
| LotusName |
| MaintPrivilege |
| MaxAddrSpaceSize |
| MaxCPUTime |
| MaxDataSpacePages |
| MaxDaysBetweenPswdChange |
| MonitorLogon |
| MonitorLogonSecurityAlert |
| MountDevices |
| MusassDefaultLid |
| MusassID |
| MusassInfoCall |
| MusassLid |
| MusassUpdateAuth |
| NonCancelPrivilege |
| NovellName |
| NumericUserID |
| PasswordForExtract |
| PCFControl |
| Phone |
| PrefixTSOMessages |
| PromptForMissingParms |
| PswdChgDateTime |

| Attribute name |
| --- |
| PswdEntrySource |
| PSWD-MIX |
| PSWD-MX8 |
| PSWD-UPP |
| PswdViolations |
| PTICKET |
| ReadAccessToAll |
| ReceiveTSOMailMsgs |
| ReceiveTSOMessages |
| ReceiveTSONotices |
| RecentPswdViolations |
| RestrictedLogonid |
| RsrcRuleMustValidate |
| RuleKeyPrefix |
| ScopeList |
| SecurityViolations |
| ShellProgram |
| SMSDefaultValues |
| SpecifyTSOAcctNum |
| SpecifyTSOLogonSize |
| SpecifyTSOLogonTime |
| SpecifyTSOLogonUnit |
| SpecifyTSOMsgClass |
| SpecifyTSOOutputDest |
| SpecifyTSOPerformance |
| SpecifyTSOProcedure |
| SpecifyTSORecover |
| StartedTaskAccess |
| SubmitJobThruAPFOnly |

| Attribute name |
| --- |
| SuspendedLid |
| SynchronizedLogonNode |
| SYSPEXCL |
| TargetNodes |
| TraceAllEvents |
| TraceTSOCommands |
| TSOAccountPriv |
| TSOAccountRequired |
| TSOCommandListModule |
| TSOConsole |
| TSODefaultAccount |
| TSODefaultPerformance |
| TSODefaultProcedure |
| TSODefaultRegionSize |
| TSODefaultTime |
| TSODefaultUnit |
| TSODelChar |
| TSOFullScreenLogon |
| TSOHoldClass |
| TSOLineDelChar |
| TSOMailIndexRecordPtr |
| TSOModalMsgs |
| TSOMsgClass |
| TSOMsgPause |
| TSOOperator |
| TSOPrefix |
| TSOProcedureRequired |
| TSORecover |
| TSORegionSizeMax |

| Attribute name |
|---|
| TSOSubmitAuthority |
| TSOSubmitClass |
| TSOSysoutClass |
| TSOSysoutDest |
| UnicenterTNGSync |
| UseProtectedPrograms |
| UserCancelled |
| UserIdentificationString |
| userPassword |
| UserWhoSetCancel |
| UsingLID |
| ValidateRestrictAccess |
| ValidateTSOAccount |
| ValidateTSOProcedure |
| VMAutologAll |
| VMAutologNoPswd |
| VMAutologOnly |
| VMBypassDialValidation |
| VMDefaultAccount |
| VMDiagnose84 |
| VMGroupLogonId |
| VMIdleMinutes |
| VMIssueD4Diagnose |
| VMLastLogonId |
| VMNoSpoolFoundAction |
| VMOptionalGroupId |
| VMPVMAccess |
| VMSAFDiagnose |
| VMSFS |

| Attribute name |
| --- |
| VMSRFAccess |
| VMSRFAccessFromVSE |
| VMSyntaxErrorAction |
| VMTargetDiagnose |
| VMTargetDiagnoseReset |
| VMTempRuleMustExit |
| VMValidateAccounting |

# 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.

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