HPE ALM Synchronizer

Software Version: 12.55

Installation Guide

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Contents

Welcome to This Guide

Welcome to HPE ALM Synchronizer. Synchronizer enables you to synchronize HPE Application Lifecycle Management (ALM) data with data in another application.

This guide describes how to install and configure Synchronizer.

You can synchronize between ALM and the following products:

Endpoints that synchronize with ALM	Defects	Requirements
Atlassian JIRA issues (including default, customized, and user-defined). This includes both on-premise and the Atlassian Cloud version of JIRA (JIRA on Demand).	✓	✓
IBM Rational ClearQuest	✓	✗
IBM Rational Team Concert (RTC)	✓	✓
IBM Rational Requisite Pro	✗	✓
Microsoft Team Foundation Server (TFS). This includes both on-premise and TFS in the cloud (certified Visual Studio Team Services).	✓	✓
ALM defects and requirements	✓	✓

> **Note:** The usage of HPE ALM Synchronizer or HPE ALM Synchronizer Adapter SPI to develop an adapter for ALM is not supported.

How This Guide is Organized

The *HPE ALM Synchronizer Installation Guide* describes the system requirements and installation process for HPE ALM Synchronizer.

It contains the following:

"Installing HPE ALM Synchronizer" on page 7	How to install and configure, start, and uninstall HPE ALM Synchronizer.
"Troubleshooting" on page 31	Troubleshooting suggestions for HPE ALM Synchronizer installation.

Documentation Set

The HPE ALM Synchronizer documentation set includes the following guides and references:

- *HPE ALM Synchronizer User Guide* explains how to create and manage synchronization links to synchronize data between ALM and other applications.
- *HPE ALM Synchronizer Installation Guide* explains how to install and configure HPE ALM Synchronizer.
- **Readme** provides last-minute news and information about HPE ALM Synchronizer.

> **Note:** Between releases, additional information for newly supported applications can be found on the HPE Application Lifecycle Management Add-ins page. From the main ALM window, select **Help > Add-ins**.

To access the documentation set:

To access the *HPE ALM Synchronizer User Guide*, from the HPE ALM Synchronizer client, select **Help** > **User Guide**. Alternatively, select **Start>Programs > HPE ALM Synchronizer Client > User Guide**.

Chapter 1: Installing HPE ALM Synchronizer

This chapter describes how to install HPE ALM Synchronizer.

This chapter includes:

The Installation Process

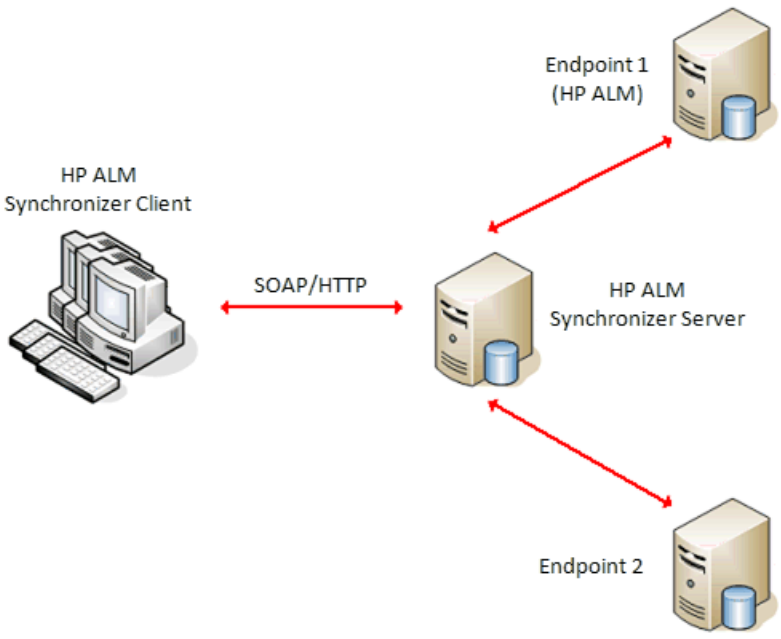
Installing and starting HPE ALM Synchronizer involves the following steps:

- Review the HPE ALM Synchronizer system structure to plan the installation in your network. For details, see "The HPE ALM Synchronizer System" below.
- Make sure that your system meets the minimum requirements. For more information on the minimum requirements for the HPE ALM Synchronizer server and client machines, and the supported endpoint versions, see "System Configurations" on the next page.
- Install the HPE ALM Synchronizer server on the server machine. For details, see "Installing the HPE ALM Synchronizer Server" on the next page.
- Install the HPE ALM Synchronizer client on the client machine. For details, see "Installing the HPE ALM Synchronizer Client" on page 14.
- Start the HPE ALM Synchronizer server. For details, see "Starting and Stopping the HPE ALM Synchronizer Service" on page 24.
- Start the HPE ALM Synchronizer client and log in. For details, see "Starting the HPE ALM Synchronizer Client" on page 25.

The HPE ALM Synchronizer System

This section describes how the HPE ALM Synchronizer system is structured, and how synchronization link data is stored.

The following diagram illustrates the HPE ALM Synchronizer network configuration:



HPE ALM Synchronizer contains the following components:

- **HPE ALM Synchronizer Client.** Displays current links, and provides a user interface for the user to create and manage links, and run link tasks. Sends requests from the user to the HPE ALM Synchronizer server. Communicates with the HPE ALM Synchronizer server using the SOAP protocol over HTTP.
- **HPE ALM Synchronizer Server.** Synchronizes data between HPE Application Lifecycle Management (ALM) and other applications. Manages synchronization and communication between endpoints, and retrieves and stores information in an integrated database. In addition, the server manages connections to link endpoints using the endpoints' application programming interface (API), which must be installed on the server machine.

The client and server components can reside on the same machine or on separate machines.

When you install the HPE ALM Synchronizer server, the PostgreSQL 8.3 database management system is also installed. Link data is stored in a database that is created in PostgreSQL during the installation process. For example, the database stores identity mappings between records in each endpoint of a link by storing the unique IDs of corresponding records in a database table.

System Configurations

You must install the HPE ALM Synchronizer server on a dedicated server machine that meets the following requirements:

- The HPE ALM Synchronizer server machine must not be used as an ALM, ClearQuest, RequisitePro, TFS, RTC, or JIRA server.
- The HPE ALM Synchronizer server cannot be installed on a machine that already has a separate PostgreSQL installation. The HPE ALM Synchronizer server works only with the PostgreSQL instance that is installed with the HPE ALM Synchronizer server.

For information on system requirements, supported environments, and technical specifications for the server, client, and supported endpoints, see HPE ALM Synchronizer Technical Specifications.

Installing the HPE ALM Synchronizer Server

This section explains how to install and configure the HPE ALM Synchronizer server.

This section includes the following topics:

Server Installation Notes and Guidelines

Review the following notes and guidelines before installing the HPE ALM Synchronizer server:

- If you are upgrading from a previous version of HPE ALM Synchronizer, see "Upgrading HPE ALM Synchronizer" on page 29.
- You must remove any applications that use ports 1098 or 1099.
- By default, HPE ALM Synchronizer uses port 7064. You must remove any applications that use this port or change the port used by HPE ALM Synchronizer. For information on changing the HPE ALM Synchronizer port, see HPE Software Self-solve knowledge base article KM306335.
- If you are working with the HPE ALM Synchronizer server by proxy, the user you use to work with the HPE ALM Synchronizer server should have the same settings as the proxy server user, not the local system user.
- If you change the port used by HPE ALM Synchronizer and you are working securely with HTTPS connections, do the following:
  - Change the port number in the JBoss configuration.
  - Change the **WEBAPP_NON_HTTPS_URL** HPE ALM Synchronizer parameter. For details, contact HPE Software Support.
- To enable synchronization between Rational ClearQuest and ALM, you must install a ClearQuest client on the HPE ALM Synchronizer server machine. Make sure the ClearQuest server and client are the same version.
- To enable synchronization between Rational RequisitePro and ALM, you must install a RequisitePro client on the HPE ALM Synchronizer server machine. Make sure the RequisitePro server and client are the same version.
- To enable synchronization between Microsoft Team Foundation Server (TFS) and ALM, you must do the following:
  - **Prerequisite for TFS 2010 through TFS 2013:** Before installation, you must install Microsoft Visual Studio Team Explorer 2010, 2012, 2013, or 2015, depending on the TFS version with which you are working.
    - If working with TFS 2010, you must have Microsoft Visual Studio Team Explorer 2010 installed.
    - If working with TFS 2012, you must have Microsoft Visual Studio Team Explorer 2012 installed.
    - If working with TFS 2013 and HPE ALM Synchronizer 12.55, you must have Microsoft Visual Studio Team Explorer 2013 installed.
  - **Prerequisite for TFS 2015:** Install .NET Framework 4.5.

    Before registering the TFS assembly file in the next step, perform the following:
    - Navigate to **C:\Program Files\Common Files\Microsoft Shared\Team Foundation Server\14.0** on the machine where Visual Studio 2015 is installed.
    - Copy all files to **C:\Program Files\HPE\HPE ALM Synchronizer\ adapters\net2015** on the machine on which HPE ALM Synchronizer server is installed.

> **Note:** Microsoft Visual Studio Team Explorer is not a prerequisite for TFS 2015.

  - After installing the HPE ALM Synchronizer server, you must register the TFS assembly file. For details, see "Configuring TFS Connection" on page 23.
- If you encounter problems during the HPE ALM Synchronizer installation process, see "Troubleshooting" on page 31 for troubleshooting suggestions.

Installing the HPE ALM Synchronizer Server

This section describes how to install the HPE ALM Synchronizer server.

To install the HPE ALM Synchronizer server:

1. Uninstall any previous versions of the HPE ALM Synchronizer server. For more information, see "Uninstalling HPE ALM Synchronizer" on page 27.
2. Download the appropriate version of HPE ALM Synchronizer from Marketplace to your HPE ALM Synchronizer server machine.
3. Open the HPE ALM Synchronizer zip file and unzip the ALM Synchronizer Server file.
4. Run the **setup.exe** file. The installation wizard opens.
5. In the Welcome dialog box of the installation wizard, click **Next**. The License Agreement dialog box opens.

   To accept the terms of the license agreement, select **I accept the terms of the license agreement**.

   Click **Next**.
6. The Installation Location dialog box opens.

   In the **Directory Name** box, specify the location where you want to install HPE ALM Synchronizer. You can click the **Browse** button, select a location, and click **Open**.

   Click **Next**.
7. The Summary Information dialog box opens. Click **Next** to start the installation process.
8. When the installation process completes, the Installation Complete dialog box opens. Click **Finish** to proceed to the server configuration process.

   The HPE ALM Synchronizer Server Configuration wizard opens.
9. The configuration wizard installs and configures the PostgreSQL database management system, and creates a service on the HPE ALM Synchronizer server machine. Click **Next**.
10. The HPE ALM Configuration dialog box opens.

    Select the ALM version with which you are working. Click **Next**.
11. The Service Configuration dialog box opens.

    To allow the service to run using the Windows Local System account, leave all fields empty.

> **Note:** This does not apply to RequisitePro. To work with RequisitePro, you must fill in the

> fields. Enter the **User Name**, **Password**, and **Domain** for a Windows domain user with administrator permissions. The user must have permissions to log on as a service. This user must also have the required settings to use endpoint connectivity.

For more information about permissions to log on as a service, see "Verifying User Permissions for Service Logon" on the next page.

For more information on endpoint connectivity, refer to the appropriate appendix in the*HPE ALM Synchronizer User Guide*.

Click **Next**.

12. If you have been working with a previous version of HPE ALM Synchronizer, the Database Configuration dialog box opens.

    Select a database option:

    Upgrade Existing Database. Upgrades the existing database. When you upgrade, the database is first backed up, and the backup file is created in the **C:\postgres** directory in the following format: SAVEDBACKUP<_yyyy_MM_dd_HH_mm_SynchronizerVersion>.backup. For example, **SAVEDBACKUP_2010_12_31_11_45_1.3.backup**.

    Delete Existing Database. Deletes the existing database and creates a new database.

    > **Caution:** Deleting the database permanently deletes all HPE ALM Synchronizer link data.

    Click **Next**. If you selected to delete the existing database, click **OK** in the confirmation box.

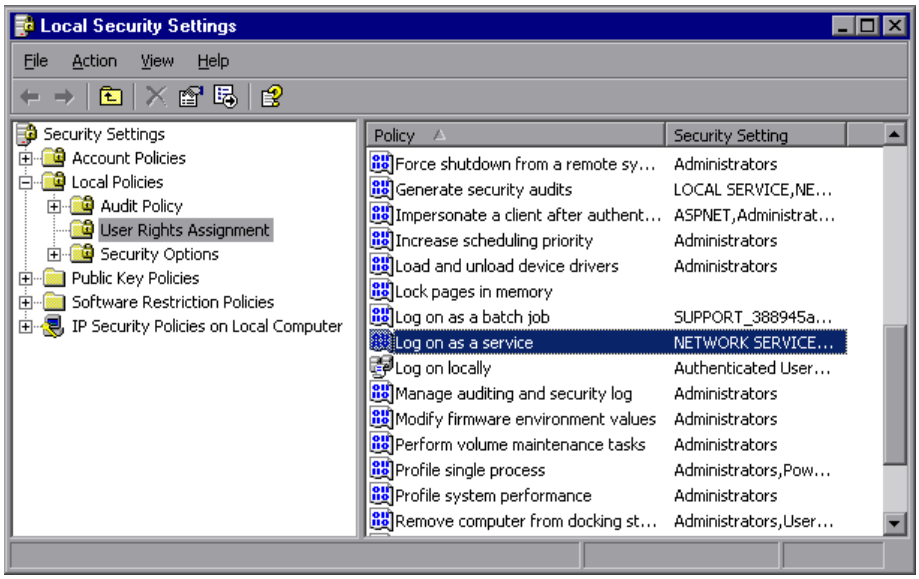
13. The Configuration Information dialog box opens. Click **Next** to start the configuration.
14. When the configuration completes, the Configuration Status dialog box opens.
    - To start the HPE ALM Synchronizer service and exit the wizard, click **Finish**.
    - To start the HPE ALM Synchronizer service later, clear the **Start HPE ALM Synchronizer service** checkbox. You will need to start the service manually to begin working with HPE ALM Synchronizer.
15. To enable synchronization between Microsoft Team Foundation Server (TFS) and ALM, you must register the TFS assembly file. For details, see "Configuring TFS Connection" on page 23.

Verifying User Permissions for Service Logon

The user account you enter during server configuration must have permissions to log on as a service. For details, see "Installing the HPE ALM Synchronizer Server" on page 9.

To verify user permissions for service logon:

1. From the **Start** menu, select **Run** and type **secpol.msc**.
2. Click **OK**. The Local Security Settings dialog box opens.



3. Under **Security Settings**, expand **Local Policies** and select **User Rights Assignments**. In the right pane, double-click **Log on as a service**. The Log on as a service Properties dialog box opens.
4. Verify that your user is listed, or click **Add User or Group** to add it to the list.

Configuring Secure Access for HPE ALM Synchronizer

The following procedure describes how to configure a Secure Socket Layer (SSL) connection when ALM HPE ALM Synchronizer is installed on a Windows system.

To configure SSL:

1. Verify that all Synchronizer clients are disconnected from the Synchronizer server, and stop the HPE ALM Synchronizer Service by selecting **Start > All Programs > HPE ALM HPE ALM Synchronizer > Stop HPE ALM Synchronizer**.
2. Back up the file: **<HPE ALM Synchronizer installation directory>\jboss\server\default\deploy\jbossweb.sar\server.xml**.
3. Enable the HTTPS connector. Edit the **<HPE ALM Synchronizer installation directory>\jboss\server\default\deploy\jbossweb.sar\server.xml** file.
   - Un-comment the **SSL/TLS Connector configuration s**ection.
   - Make sure to replace **your_keystore** and **your_password** with your keystore file absolute location

and keystore file password.

- The truststore you specify as the **truststoreFile** value should contain trusted certificates, such as trusted Certificate Authority (CA) certificates. If the server certificate was issued by CA, import the trusted certificate to into this truststore or the location of cacerts in the default java installation.

```
<!-- SSL/TLS Connector configuration using the admin devl guide keystore -->
<Connector protocol="HTTP/1.1" SSLEnabled="true"
port="8443" address="${jboss.bind.address}"
scheme="https" secure="true" clientAuth="false"
keystoreFile="your_keystore "
keystorePass="your_password"
truststoreFile="your_keystore"
truststorePass="your_password"
sslProtocol = "TLS" />
```

Caution: Do not disable HTTP connections, because HPE ALM Synchronizer uses HTTP for internal communication between its various server modules. Leave the HTTP port open. This does not compromise security because communication between the HPE ALM Synchronizer server and client is secure using HTTPS.

4. If you are not using the default port for HPE ALM Synchronizer (7064), change the **WEBAPP_NON_HTTPS_URL** Synchronizer parameter to the correct port number. For details, contact HPE Software Support.
5. Restart the HPE ALM Synchronizer service.

For instructions on using HTTPS connections after configuration, see "Starting the HPE ALM Synchronizer Client" on page 25.

Installing the HPE ALM Synchronizer Client

After you install the HPE ALM Synchronizer server, you can install the HPE ALM Synchronizer client.

Note: If you have been working with a previous version of the HPE ALM Synchronizer, you do not need to first uninstall the client. During installation, the previous version is detected, and you can choose to uninstall it at that time.

To install the HPE ALM Synchronizer client:

1. Download the appropriate version of HPE ALM Synchronizer from Marketplace.
2. Open the HPE ALM Synchronizer zip file and run the client installation file.

> **Note:** If a previous version of the **HPE ALM Synchronizer** client is installed on your computer, select the **Remove** option when prompted to remove the previous version. When complete, run the client installation file again to install the new version.

3. Follow the instructions on your screen to complete the installation of the HPE ALM Synchronizer client.

Additional Instructions for Working with ALM 14.00 SaaS

This section describes additional instructions needed for ensuring the ALM Synchronizer can connect to the ALM 14.00 SaaS server.

Perform the following steps:

1. Stop the ALM Synchronizer service. For more details, see "Stopping the HPE ALM Synchronizer Service" on page 25.
2. Make sure that the Synchronizer service started under a user that installs certificates, meaning, not the **Local System** user.
3. On the Synchronizer server, install ALM server, IDP, IDM certificates (CA with complete keychain, CERT, or both) using the Microsoft Management Console (MMC).

   To use MMC, run the command **mmc**. For details on MMC, see Step-by-Step Guide to the Microsoft Management Console.
4. Add the ALM certificate to the Synchronizer Java CA Certificates Store using the **keytool** utility included with Java. The default location of the utility is **C:\Program Files\HPE\HPE ALM Synchronizer\java\bin**.
5. To register the IDM file, perform the following steps:
   a. navigate to **C:\Program Files\HPE\HPE ALM Synchronizer\adapters\idmreg**.
   b. Run **RegGenerator.bat**.
   c. Run **slmreg**.
6. To register the ALM Client and configuration tool, perform the following steps:
   a. Run the HPE ALM Client Registration add-in from the HPE Application Lifecycle Management Add-ins page. From the main ALM window, select **Help > Add-ins**.
   b. Run the ALM Configuration add-in from the HPE Application Lifecycle Management Add-ins page. From the main ALM window, select **Help > Add-ins**.

      In the ALM Configuration Tool, enter the IDP user name and password.
7. Restart the ALM Synchronizer service. For more details, see "Stopping the HPE ALM Synchronizer Service" on page 25.

Additional Instructions for Installing and Configuring Clients by Adapter

Most endpoints do not need additional installation or configuration instructions.

This section describes additional installation steps needed for:

Configuring JIRA Connection

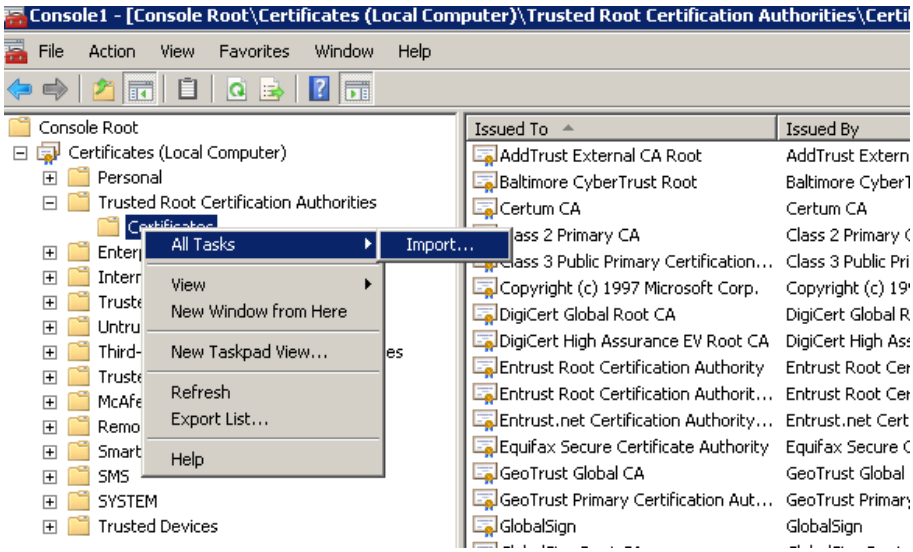
Do the following to configure JIRA.

1. Configure JIRA to work under HTTPS. For details, see information about running JIRA over SSL or HTTPS.
2. Make sure that the Synchronizer service started under a user that installs certificates, meaning, not the **Local System** user.
3. On the Synchronizer server, install a certificate (CA with complete keychain, CERT, or both) using the Microsoft Management Console (MMC).

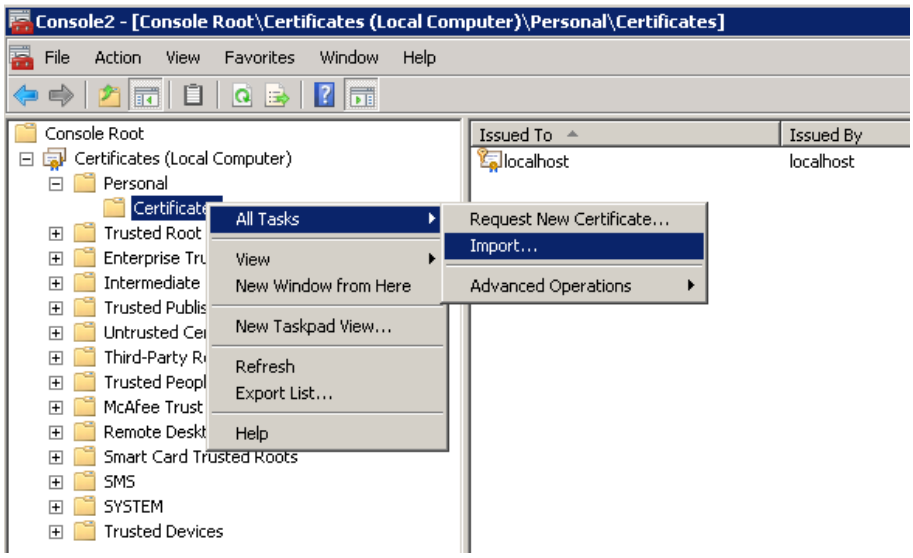
   To use MMC, run the command **mmc**. For details on MMC, see Step-by-Step Guide to the Microsoft Management Console.

   > **Note:** If you don't have a certificate (public key), you can export it from the JIRA Web site. For details, see "Exporting Certificate Authorities (CAs) from a Website" on page 18.

   - Install a CA certificate with a complete keychain or unsigned CERT to Trusted Root Certification Authorities:



- Install a CERT certificate to the personal store (default location). This should be done both for signed and unsigned CERTs:



4. Add a CA/CERT certificate to the Synchronizer Java CA Certificates Store using the **keytool** utility included with Java. The default location of the utility is **C:\Program Files\HPE\HPE ALM Synchronizer\java\bin**.
   a. Make sure you have write access to the Synchronizer Java Certificates Store. The default path is **C:\Program Files\HPE\HPE ALM Synchronizer\java\lib\security\cacerts**.
   b. Import the CA/CERT certificate using the following command:

      ```
      keytool -keystore <certificates_store_path> -import -alias <alias_name> -file
      <path to the .cer file>
      ```

      Example:

```
keytool -keystore "C:\Program Files\HPE\HPE ALM
Synchronizer\java\lib\security\cacerts" -import -alias adtestca -file
C:\AdTestCA.cer
```

Notes

- When prompted for the store password, enter the default password: **changeit**
- To check if your certificate is trusted after importing it, enter the following command:

  ```
  keytool -keystore <certificates_store_path> -list -alias <alias_name>
  ```

  ```
  keytool -keystore "C:\Program Files\HPE\HPE ALM
  Synchronizer\java\lib\security\cacerts" -list -alias adtestca
  ```

5. Restart the Synchronizer server.

Exporting Certificate Authorities (CAs) from a Website

To export a CA (or a group of CAs):

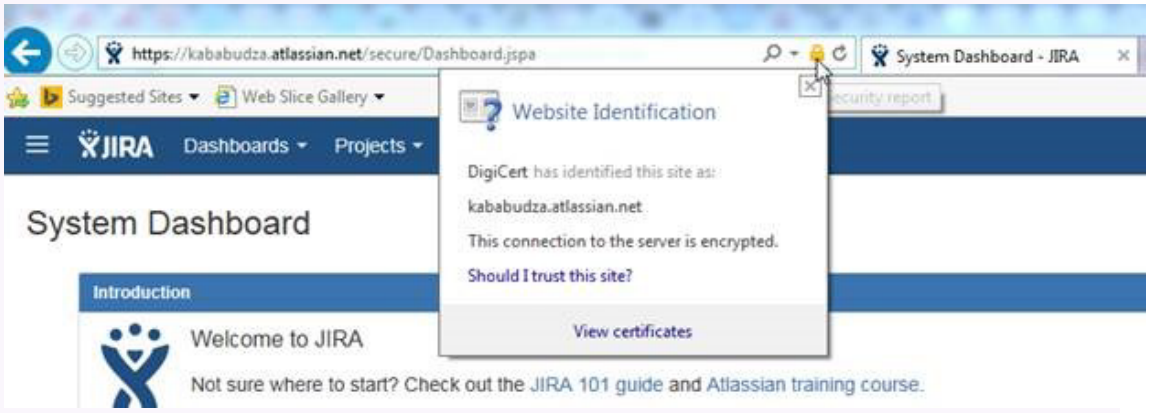
1. Open your web browser to the URL that is used in the web services.

   Example:

   If we were accessing www.paypal.com, we would enter that in our web browser (preferably Chrome, but Internet Explorer works too).

2. Once at the site, if it uses SSL you'll see a small padlock or some other icon that we can click to get more information about the certificate used at that site.

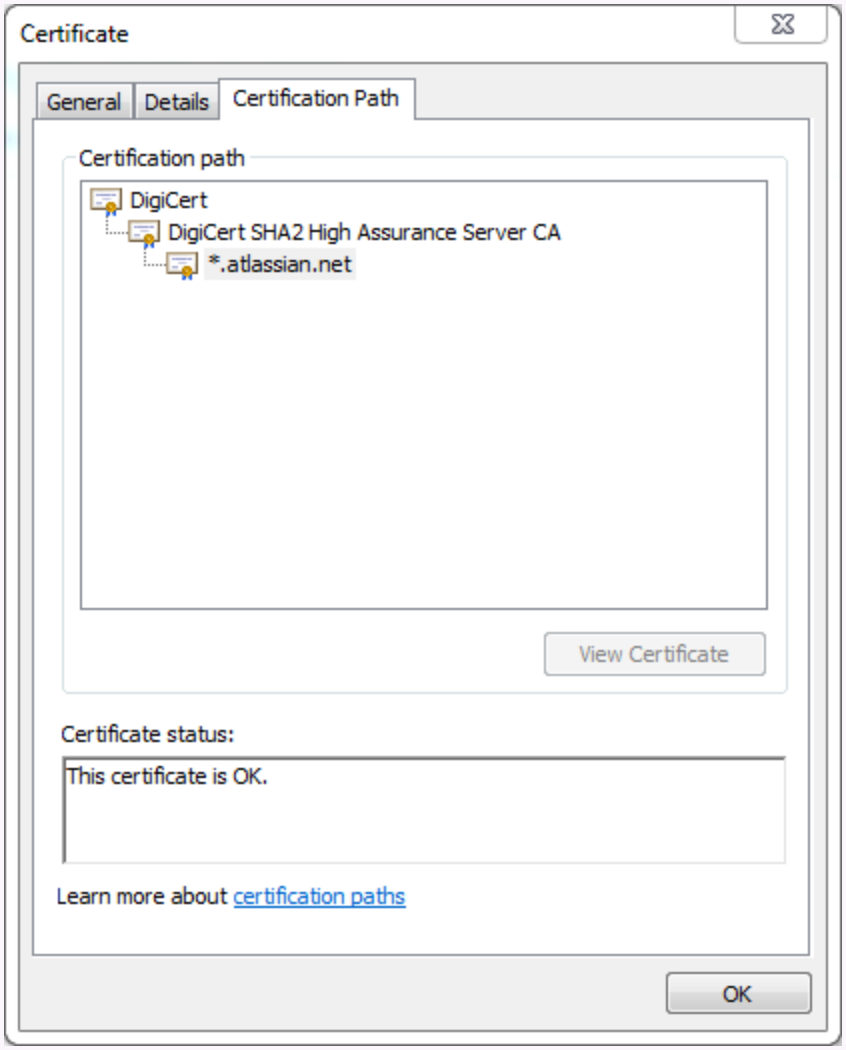
   Example:



3. Click the padlock to view certificate information, including the certificate authority (or authorities) that have signed the certificate.

Example:

Clicking the padlock shows atlassian.net at the bottom of the chain.



In this case, as with many certificates, our certificate is signed by one or more CAs, also known as a chained root. The topmost CA is the root, and any CAs following are known as intermediate CAs.

We are interested in the two topmost items, DigCert and DigCert CA. These are the CAs we need to export from the website and import into the *SYSTEM certificate store on our machine.

4. Export each separate CA.

   To import these CAs into our machine, we must first export them starting from the topmost CA.

Example:

In the example above, DigCert.

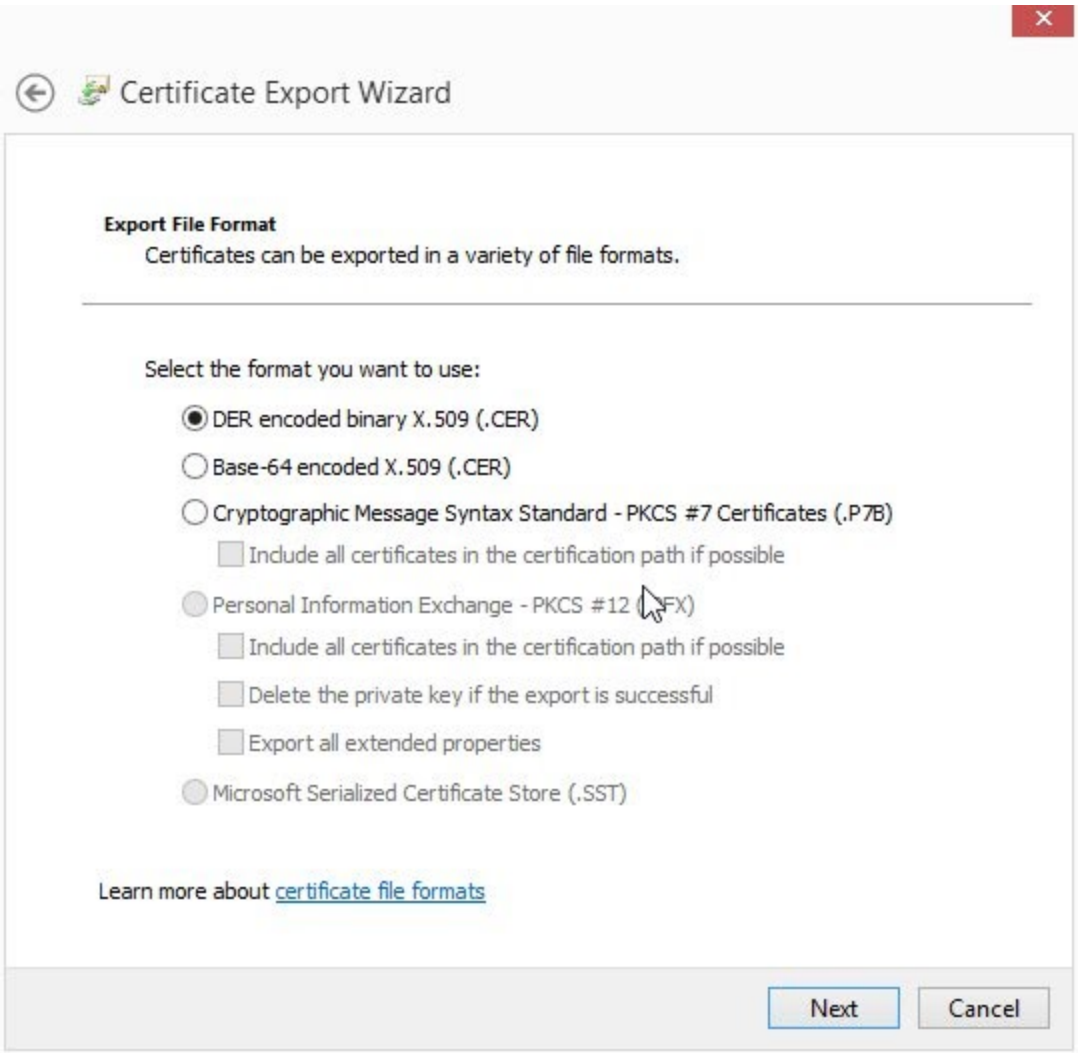
Follow these steps to export the CAs:

a. Double-click the CA in the list you wish to export. This opens another Certificate window.

b. Click the **Details** tab.

c. Click **Copy to File**. This opens the Certificate Export Wizard.

d. Click **Next** to see a page similar to the following:



e. Select **DER encoded binary X.509 (.CER)** and click **Next**.

f. When asked to name the file, choose any name, but be sure to include the path in the file name.

Tip: When exporting chained CAs, number them in the order needed to import them. For example, **C:\temp\cert1.cer** for the top level CA, **C:\temp\cert2.cer** for the next

level, and so on.

g. You are notified if the export was successful.

h. Repeat with each CA in the chain until all CAs are exported.

Enabling Forward Proxy Support for JIRA Endpoints

To enable JIRA endpoints to support basic authentication and non-authenticated forward proxies for **new** links, perform the following.

Note: Basic authentication proxies are supported for HTTP only.

Enabling support for forward proxies

Note: To enable use of proxies for **existing** links, see HPE Software Self-solve knowledge base article KM02130519.

1. Stop the Synchronizer service.
2. Open the **JIRA.adapter.settings.xml** file. This file is usually located at **C:\Program Files\HPE\HPE ALM Synchronizer\adapters\dat\JIRA**.
3. Edit the file by changing the following attributes.

Attribute	Description
<connection-proxy available=" ">	Turns proxy support on or off. Valid values: • **true**. Proxy support is on. • **false**. Proxy support is off. Default value: **false**
<default-host>	Default proxy host address (can be an IP address or a domain) when creating a new link to a JIRA endpoint. **Note:** If either the host or the port value is missing, proxy settings are ignored.
<default-port>	Default proxy port used creating a new link to a JIRA endpoint. **Note:** If either the host or the port value is missing, proxy settings are ignored.

Attribute	Description
<default-user>	Name of the user for additional authentication on proxy only. If blank, proxy authentication is not performed.

Example:

```
<?xml version="1.0" encoding="UTF-8" ?>

<gossip-jira-adapter-settings>

        <connection-proxy available="true">

                <default-host>127.0.0.1</default-host>

                <default-port>8888</default-port>

                <default-user>proxy-user</default-user>

        </connection-proxy>
```

4. Save the file and restart the Synchronizer service.

Modifying Proxy Support when Creating Connections

If **connection-proxy-available** is set to true in the **JIRA.adapter.settings.xml** file, additional fields for the host, port, user and password are available when creating a new link to a JIRA endpoint. These fields can be edited for any link created after turning on the proxy connection.

Note: The only way to modify the user password is when creating a new link to a JIRA endpoint, or when editing an existing link in a JIRA endpoint. You cannot modify the password directly in the **JIRA.adapter.settings.xml** file.

For details on modifying proxy fields when creating connections, see the information about JIRA connection properties in the *Synchronizer User Guide*.

Configuring TFS Connection

Synchronization between ALM TFS is supported for defects and requirements.

Note: Synchronization for both TFS 2015 on-premise and TFS 2015 in the cloud (certified Visual Studio Team Services) is also supported for defects and requirements.

- "Configure TFS on-premise" on the next page
- "Configure TFS in the Cloud (Certified Visual Studio Team Services)" on the next page

Configure TFS on-premise

Do the following to configure TFS on-premise.

1. **For TFS 2015:**
   a. Navigate to **C:\Program Files\Common Files\Microsoft Shared\Team Foundation Server\14.0** on the machine where Visual Studio 2015 is installed.
   b. Copy all files to **C:\Program Files\HPE\HPE ALM Synchronizer\adapters\net2015** on the machine where the HPE ALM Synchronizer Server is installed.
2. Register the TFS assembly file

   Register the TFS assembly file by running **Register-TFS-Adapter.exe** as an administrator. The file is located:

TFS Version	Location
TFS 2010	**<HPE ALM Synchronizer installation directory>\adapters\net2010**
TFS 2012	**<HPE ALM Synchronizer installation directory>\adapters\net2012**
TFS 2013	**<HPE ALM Synchronizer installation directory>\adapters\net2013**
TFS 2015	**<HPE ALM Synchronizer installation directory>\adapters\net2015**

3. Restart the Synchronizer server.

Configure TFS in the Cloud (Certified Visual Studio Team Services)

Do the following to configure TFS in the cloud (certified Visual Studio Team Services).

1. Configure and manage a Microsoft account and project at Visual Studio Team Services.

   For details see:

   Team Services: Sign up for Agile, Scrum, Git, Team Foundation version control, DevOps, continuous integration, and continuous delivery for your team projects

   For other Cloud providers, consult the relevant documentation.
2. Provide alternative credentials for the Microsoft account. For details, see Basic authentication for the REST APIs.
3. Set the TFS connection properties for the cloud in the Synchronizer client. For details, see TFS Connection Properties in the *HPE ALM Synchronizer User Guide*.

Starting and Stopping the HPE ALM Synchronizer Service

This section describes how to start and stop the HPE ALM Synchronizer service.

Starting the HPE ALM Synchronizer Service

You start the HPE ALM Synchronizer service from the HPE ALM Synchronizer server machine. The HPE ALM Synchronizer service must be running to work with the HPE ALM Synchronizer client.

If you encounter problems starting the HPE ALM Synchronizer service, see "HPE ALM Synchronizer Service Does Not Start" on page 34 for troubleshooting suggestions.

To start the HPE ALM Synchronizer service:

On the HPE ALM Synchronizer server machine, choose **Start > Programs > HPE ALM Synchronizer > Start HPE ALM Synchronizer**.

> **Note:** The HPE ALM Synchronizer service is started in the background. It may take a few minutes before the HPE ALM Synchronizer client can connect to the server.

Stopping the HPE ALM Synchronizer Service

You stop the HPE ALM Synchronizer service from the HPE ALM Synchronizer server machine.

To stop the HPE ALM Synchronizer service:

1. Make sure that no tasks are running for any link. You can check whether link tasks are currently running from the **Running** field in the Links Grid. For more information on the Links Grid, refer to the *HPE ALM Synchronizer User Guide*.

   > **Note:** To ensure that no tasks can run on any link, disable all links before you stop the HPE ALM Synchronizer service. For more information on disabling links, refer to the *HPE ALM Synchronizer User Guide*.

2. On the HPE ALM Synchronizer server machine, choose **Start > Programs > HPE ALM Synchronizer > Stop HPE ALM Synchronizer**.

Starting the HPE ALM Synchronizer Client

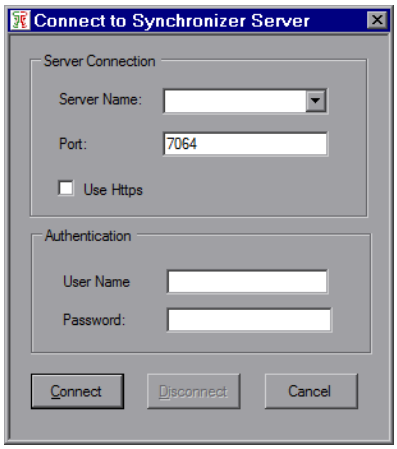
After you have installed the HPE ALM Synchronizer server and client, and started the server, you can start the HPE ALM Synchronizer client and connect to the server.

> Notes:
>
> You can work with more than one client connected to the server at the same time. To avoid unexpected results, if you work with more than one client, you must make sure that no link is worked on by more than one client at the same time.

The HPE ALM Synchronizer client is automatically disconnected from the HPE ALM Synchronizer server after an extended period of inactivity. For information on reconnecting, see "Disconnecting from and Reconnecting to the HPE ALM Synchronizer Server" on the next page.

To start the HPE ALM Synchronizer client:

1. On the HPE ALM Synchronizer client machine, choose **Start > Programs > HPE ALM Synchronizer Client > HPE ALM Synchronizer Client**. The Connect to HPE ALM Synchronizer Server dialog box opens.



2. In the **Server name** and **Port** boxes respectively, type the machine name and port of the HPE ALM Synchronizer server to which you want to connect.

   The default port, 7064, is displayed.

   Tip: To connect to a HPE ALM Synchronizer server installed on your local machine, type **localhost**.

3. Select the **Use Https** checkbox if you want to use Hypertext Transfer Protocol Secure (HTTPS) for a secure connection between the HPE ALM Synchronizer server and the HPE ALM Synchronizer client.

   For details on setting up secure connections, see "Configuring Secure Access for HPE ALM Synchronizer" on page 13

4. In the **User Name** box, type your user name.

   The first time you connect to a HPE ALM Synchronizer server, you must log in as the HPE ALM Synchronizer administrator, with the user name **admin**. After you connect, you can create additional users. For details, refer to the HPE ALM Synchronizer.

5. In the **Password** box, type your password. The initial password is blank.

   Note: To increase the security of your HPE ALM Synchronizer data, change the password from the default blank password as soon as possible. For more information on changing the

server password, refer to the HPE ALM Synchronizer.

6. Click **Connect**. HPE ALM Synchronizer connects to the server you specified and the HPE ALM Synchronizer client opens.

Tip: To close the HPE ALM Synchronizer client, choose **Connection > Exit**.

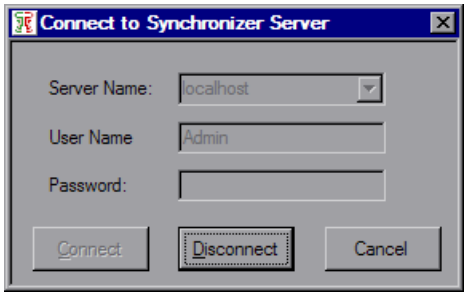
Disconnecting from and Reconnecting to the HPE ALM Synchronizer Server

You can disconnect from the HPE ALM Synchronizer server manually when needed. For example, you may want to connect to a different server. Additionally, if you receive a warning that the HPE ALM Synchronizer client is not connected to the server, you need to manually disconnect from the HPE ALM Synchronizer server. This can occur, for example, after an extended period of inactivity.

After you disconnect from a server, you must connect to another server or reconnect to the same server to continue working with the HPE ALM Synchronizer.

To disconnect from and reconnect to a HPE ALM Synchronizer server:

1. Select **Connection > Disconnect**, or click the **Disconnect** button. The Connect to HPE ALM Synchronizer Server dialog box opens.



2. Click the **Disconnect** button. The **Server name, User Name,** and **Password** boxes become editable.
3. Enter the logon credentials as described in step 2 under "Starting the HPE ALM Synchronizer Client" on page 25.
4. Click the **Connect** button. The HPE ALM Synchronizer connects to the server you specified and the HPE ALM Synchronizer client opens.

Uninstalling HPE ALM Synchronizer

This section describes how to uninstall the HPE ALM Synchronizer server and client. It also describes how to uninstall the PostgreSQL database management system.

This section includes:

Uninstalling the HPE ALM Synchronizer Server

This section describes how to uninstall the HPE ALM Synchronizer server.

To uninstall the HPE ALM Synchronizer server:

1. Stop the HPE ALM Synchronizer service. For details, see "Stopping the HPE ALM Synchronizer Service" on page 25.
2. On the HPE ALM Synchronizer server machine, choose **Start > Settings > Control Panel > Add or Remove Programs**.
3. In the **Currently installed programs** list, select **HPE ALM Synchronizer**.
4. Click **Remove** and follow the instructions on your screen.
5. If you have no other applications that use PostgreSQL, uninstall PostgreSQL.

> **Caution:** Do not uninstall PostgreSQL if you are uninstalling the HPE ALM Synchronizer server as part of the upgrade process. During the server installation you can choose to upgrade the existing database or delete it and create a new database.

For details, see "Uninstalling PostgreSQL" on the next page.

Uninstalling the HPE ALM Synchronizer Client

This section describes how to uninstall the HPE ALM Synchronizer client.

> **Note:** If you are upgrading the HPE ALM Synchronizer, you do not need to uninstall the HPE ALM Synchronizer client. The previous version is detected and uninstalled as part of the client installation process.

To uninstall the HPE ALM Synchronizer client:

1. On the HPE ALM Synchronizer client machine, choose **Start > Settings > Control Panel > Add or Remove Programs**.
2. In the **Currently installed programs** list, select **HPE ALM Synchronizer Client**.
3. Click **Remove** and follow the instructions on your screen.

Uninstalling PostgreSQL

This section describes how to uninstall the PostgreSQL database management system and delete the PostgreSQL user.

> **Caution:**
> - Uninstalling the PostgreSQL database deletes all HPE ALM Synchronizer link data.
> - You should only uninstall PostgreSQL if there are no other applications that are dependent on it.

To uninstall PostgreSQL:

1. On the HPE ALM Synchronizer server machine, choose **Start > Settings > Control Panel > Add or Remove Programs**.
2. In the **Currently installed programs** list, select the appropriate **PostgreSQL** version.
3. Click **Remove** and follow the instructions on your screen.
4. Delete the PostgreSQL installation directory. By default, this is **C:\Users\postgres**.

To delete the PostgreSQL user:

1. On the HPE ALM Synchronizer server machine, right-click **My Computer** and choose **Manage**. The Computer Management utility opens.
2. In the Computer Management utility, under **System Tools**, under **Local Users and Groups**, select **Users**.
3. In the users list in the right pane, select the **postgres** user.
4. Choose **Action > Delete**. Click **Yes** to confirm.

Upgrading HPE ALM Synchronizer

If a previous version of the HPE ALM Synchronizer is installed, you must upgrade to work with HPE ALM Synchronizer 12.55. Consider the following when upgrading:

- When upgrading from a previous version, you can choose to upgrade the existing database. Upgrading the database enables you to continue working with your existing HPE ALM Synchronizer links and maintains link data. For details, see "Installing the HPE ALM Synchronizer Server" on page 11(step 16).
- If you are working with an earlier version of HPE ALM Synchronizer using PostgreSQL 8.1, the PostgreSQL database version is upgraded to PostgreSQL 8.3.

To upgrade from a previous version of HPE ALM Synchronizer:

1. Make sure that your system meets the minimum requirements. For more information on the minimum requirements for the HPE ALM Synchronizer server and client machines, and the supported endpoint versions, see "System Configurations" on page 9.
2. Uninstall the previous version of the HPE ALM Synchronizer server. For details, see "Uninstalling

HPE ALM Synchronizer" on page 27.

3. Download and install the HPE ALM Synchronizer server from the HPE Application Lifecycle Management Add-ins page. During installation, select the option to upgrade the existing database. For details, see "Installing the HPE ALM Synchronizer Server" on page 9.
4. **For TFS 2013:** If upgrading from previous HPE ALM Synchronizer versions with active TFS 2013 links:
   a. Install Microsoft Visual Studio Team Explorer 2013.
   b. Re-register TFS the 2013 adapter. For details, see "Register the TFS assembly file" on page 24.
   c. Restart the HPE ALM Synchronizer service.
5. Install the HPE ALM Synchronizer client on the client machine from theHPE Application Lifecycle Management Add-ins page. You do not need to first uninstall the HPE ALM Synchronizer client. During installation, the previous version is detected, and you can choose to uninstall it at that time. For details, see "Installing the HPE ALM Synchronizer Client" on page 14.
6. Start the HPE ALM Synchronizer server. For details, see "Starting and Stopping the HPE ALM Synchronizer Service" on page 24.
7. Start the HPE ALM Synchronizer client and log in. For details, see "Starting the HPE ALM Synchronizer Client" on page 25.

Chapter 2: Troubleshooting

This chapter contains troubleshooting suggestions for dealing with issues related to the HPE ALM Synchronizer installation.

This chapter includes:

Previous HPE ALM Synchronizer Uninstall Incomplete

During installation, an error message displays indicating that the previous HPE ALM Synchronizer version was not uninstalled. This can occur even when **HPE ALM Synchronizer** in not listed in Windows Add or Remove Programs.

This may indicate that a previous HPE ALM Synchronizer installation was not completely uninstalled. References to the previous installation may remain in the **vpd.properties** file, located in the Windows system root folder.

To remove all remaining references to a previous installation:

1. Verify that the HPE ALM Synchronizer was uninstalled by checking that it is not listed in Windows Add or Remove Programs.
2. Navigate to the Windows system root (**%systemroot%**) folder and backup the **vpd.properties** file.
3. In a text editor, open the **vpd.properties** file and delete all rows containing references to HPE ALM Synchronizer.

HPE ALM Synchronizer Server Configuration Errors

During installation of the HPE ALM Synchronizer server, the HPE ALM Synchronizer Server Configuration wizard installs and configures the PostgreSQL database management system, and creates a service on the HPE ALM Synchronizer server machine. If a problem is encountered during server configuration, an error message displays in the configuration results dialog box. This section lists problems that may occur and suggestions for handling them.

Problem	**Suggested Solution**
Installation of PostgreSQL does not complete successfully.	If you uninstalled a previous installation of PostgreSQL, verify that it was removed completely, and rerun the server configuration. For more information on uninstalling PostgreSQL, see "Uninstalling PostgreSQL" on page 29. To rerun the server configuration, navigate to the **<HPE ALM Synchronizer installation directory>\bin** directory and run the **run_config_tool.bat** file. If the above steps do not resolve the problem, run **install_postgre.bat** located in the **<HPE ALM Synchronizer installation directory>\bin** directory. Then rerun the server configuration.

Problem	Suggested Solution
Unable to create the HPE ALM Synchronizer schema on the PostgreSQL database management system.	Verify that PostgreSQL access is not locked by another user, and rerun the server configuration. To rerun the server configuration, navigate to the **<HPE ALM Synchronizer installation directory>\bin** directory and run the **run_config_tool.bat** file.
Installation of the HPE ALM Synchronizer service does not complete successfully.	Verify the following: • The user account you enter during server configuration has administrator permissions. • The user account you enter during server configuration has permissions to log on as a service. For details, see "Verifying User Permissions for Service Logon" on page 13. • The user running the installation has administrator permissions on the machine on which the HPE ALM Synchronizer is being installed. Then run the following files located in the **<HPE ALM Synchronizer installation directory>\bin** directory: 1. To uninstall any previous version of the service, run **stop_and_remove_synchronizer_service.bat**. 2. To install the service, run **sync_service_install.bat.**
Upgrade of the HPE ALM Synchronizer database does not complete successfully.	Resolve any problem that caused the upgrade to fail. Then run the following files located in the **<HPE ALM Synchronizer installation directory>\bin** directory: 1. To restore the HPE ALM Synchronizer database to it's previous state, run **run_recovery_tool.bat**. 2. To rerun the server configuration, run **run_config_tool.bat**.

HPE ALM Synchronizer Service Does Not Start

If the HPE ALM Synchronizer service does not start, verify the following:

Description	Action
The service was installed with appropriate permissions.	To verify service properties: 1. From the **Start** menu, select **Run** and type services.msc. Click **OK**. 2. Right-click **HPE ALM Synchronizer** and select **Properties**. In the **Log On** tab, verify that the account listed is an administrator user. 3. Verify that the password was typed correctly.
The service account has appropriate permissions.	Verify that the user account you entered during server configuration has permissions to log on as a service. For details, see "Verifying User Permissions for Service Logon" on page 13.
PostgreSQL is installed.	Verify that PostgreSQL is listed in Windows Add or Remove Programs.
PostgreSQL is running.	To verify that the PostgreSQL service is running: 1. From the **Start** menu, select **Run** and type services.msc. Click **OK**. 2. Verify that PostgreSQL Database Server 8.3 is listed.

Cannot Connect to an Endpoint

If the HPE ALM Synchronizer cannot connect to one of the endpoints, you can use script files provided by the HPE ALM Synchronizer to check that the endpoint's API is functioning properly.

To check connectivity to an endpoint:

1. Navigate to the **<HPE ALM Synchronizer installation directory>\bin** directory and locate the appropriate file for the endpoint. The following files are available:
   - **checkCqConnectivity.vbs** for a Rational ClearQuest endpoint
   - **checkRpConnectivity.vbs** for a Rational RequisitePro endpoint
   - **checkQcConnectivity.vbs** for an HPE ALM endpoint

   > **Tip:** You can also try redefining the link from an **HPE-ALM endpoint** (using HPE ALM Open Test Architecture) to an **HPE-ALM-REST** endpoint (or the opposite) to see if that solves the problem.

2. Edit the relevant script file to include the connection properties for the endpoint. For more information on connection properties, see the appropriate appendix in the *HPE ALM Synchronizer*

User Guide.

3. Double-click the script file. If connection is successful, a confirmation message displays.

HPE ALM Synchronizer server stops while synchronizing many links

HPE ALM Synchronizer server synchronizes many links simultaneously (as is usually the case with scheduled synchronization).

HPE ALM Synchronizer uses an internal postgres database. The synchronization process opens up database connections for each link.

If the number of database connections exceeds the maximum default value, a message is issued. To continue synchronization, you can increase the maximum allowed connections on the postgres database side.

To increase the maximum allowed connections on the postgres database side:

1. Stop the Synchronizer service to ensure that no synchronization is currently running.
2. Navigate to **<*Postgres_installation_folder*>\data**. The default is **C:\postgres\data**.
3. Edit the **postgresql.conf** file:
   a. Increase the number in the string: **"max_connections = 100"**
   b. If the new "max connections" value will be greater than 2048, consider increasing the "**shared_buffers**" parameter, using the formula **16kB* max_connections**.
4. Restart the postgreSQL database server service (this may take some time to start).
5. Start the Synchronizer service.

Send Us Feedback

Let us know how we can improve your experience with the Installation Guide.

Send your email to: docteam@hpe.com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