



Helix ALM Data Warehouse

User Guide

Version 2017.2

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Perforce Software, Inc. and its subsidiaries

400 N 1st Avenue

Suite 200

Minneapolis, Minnesota 55401

USA

+1 510.864.7400

documentation@seapine.com

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About Helix ALM Data Warehouse

Helix ALM Data Warehouse imports data from other product databases and stores it in a separate database for reporting purposes. The data warehouse automatically imports user data from the Helix ALM License Server. It can also import data from Helix ALM, QA Wizard Pro, and Surround SCM databases. See [Importing Data, page 13](#).

Note: Before users can access the data warehouse, an administrative user must install and configure it. See [Installing ALM Data Warehouse, page 3](#).

You can view product data in reports created in third-party reporting tools, such as SQL Server Reporting Services (SSRS) or Oracle Reports. Sample SSRS reports that you can use in your environment are installed with the data warehouse. See [Viewing Reports, page 21](#).

Installing ALM Data Warehouse

During installation, the ALM Data Warehouse Server and web application are installed. You can also install the Helix ALM SQLite Importer if you will import data from product databases hosted in SQLite on Windows, such as Helix ALM native databases.

Perform the following tasks to install ALM Data Warehouse.

1. Review important installation information. See [Before you install, page 3](#).
2. Create an empty Oracle, PostgreSQL, or SQL Server database for the data warehouse. See [Before you install, page 3](#).
3. Install the data warehouse. See [Running the installer, page 5](#).
4. If you will import data from Helix ALM, Helix ALM License Server, or QA Wizard Pro databases hosted in SQLite on Windows, install the SQLite Importer on the computers hosting the databases to import from. See [Running the installer, page 5](#).
5. Start and configure the data warehouse. See [After installation, page 6](#).

Before you install

Review the following information before installing ALM Data Warehouse.

Note: To install and configure ALM Data Warehouse, you must have permission to administer all license server functions in the Helix ALM License Server Admin Utility.

System requirements

Review the [system requirements](#) for supported operating systems, Helix ALM product versions, and RDBMS databases.

Data warehouse database

You must create an empty Oracle, PostgreSQL, or SQL Server database for ALM Data Warehouse before installing. Tables are automatically created in the database when you configure the data warehouse database connection. The database does not need to be the same type as product databases you are importing from.

Additional database configuration tasks may be required before installation depending on the RDBMS you are using. See [Database configuration tasks, page 4](#).

Helix ALM product databases

ALM Data Warehouse can import data from Helix ALM product databases stored in any [supported RDBMS format](#) except SQLite on Linux. If a product database is stored in SQLite on Windows, you must install the SQLite Importer on the host computer. The SQLite Importer is included in the ALM Data Warehouse installer.

Upgrades

Make sure that the data warehouse version you are installing is compatible with the Helix ALM product versions you are using. See [ALM Data Warehouse Compatibility](#) for compatible products and versions.

If you use the SQLite Importer, you must upgrade the importer on any computers hosting databases you import from when you upgrade the data warehouse. The SQLite Importer and data warehouse applications must be the same version.

Database configuration tasks

Depending on the database type you are using for the ALM Data Warehouse database and product databases, you may need to make the following changes before installing.

Oracle

If you use an Oracle database for the data warehouse, the following database permissions must be enabled before the schema is created:

- CREATE ANY INDEX
- CREATE ANY PROCEDURE
- CREATE ANY SEQUENCE
- CREATE ANY TABLE
- CREATE ANY VIEW
- DELETE ANY TABLE
- DROP ANY TABLE
- INSERT ANY TABLE
- LOCK ANY TABLE
- SELECT ANY TABLE
- UPDATE ANY TABLE

PostgreSQL

For security reasons, remote connections are disabled when PostgreSQL is installed with Surround SCM. Before the data warehouse can import data from Surround SCM PostgreSQL databases, you must modify the PostgreSQL configuration to allow a connection.

1. Stop the PostgreSQL server.
2. Add the following line to the end of the `pg_hba.conf` file, which is stored in the PostgreSQL data directory. Replace the IP address with your network IP address.

```
host    all    all    192.168.17.0/24    md
```

3. Modify the `listen_address` parameter in the `postgresql.conf` file, which is stored in the PostgreSQL data directory. This allows PostgreSQL to listen on all IP addresses for the server it is running on instead of only the default `localhost`.

```
listen_address = '*'
```

4. Start the PostgreSQL server.

SQLite

If any Helix ALM, Helix ALM License Server, or QA Wizard Pro databases are stored in SQLite on Windows, you must install the SQLite Importer on any computers that host databases to import from and configure it in

the data warehouse. See [Importing data from SQLite databases, page 17](#).

SQL Server

If the Helix ALM, QA Wizard Pro, or Surround SCM Server uses a SQL Server database and the user that connects to the database is configured to use Windows authentication, you need to perform some additional setup tasks.

- Make sure the ALM Data Warehouse Server is running on Windows. Other operating systems are not supported.
- Change the ALM Data Warehouse Server to run as the same user the Helix ALM, QA Wizard Pro, or Surround SCM Server uses to connect to SQL Server.
- Change the ALM Data Warehouse application directory security to give the database user Full Control permissions.

Running the installer

The following installers are available:

- **almdwwininstall.exe**—Use to install the 32-bit ALM Data Warehouse or SQLite Importer on a 32-bit Windows computer.
- **almdwwininstall64.exe**—Use to install the 64-bit ALM Data Warehouse or SQLite Importer on a 64-bit Windows computer. The 64-bit SQLite Importer is required if one or more 64-bit Helix ALM product servers use SQLite databases.

Double-click the installation file to start the installation.

Installation set

Select the applications to install.

- **Helix ALM Data Warehouse**—Installs the ALM Data Warehouse web application and server components.
- **Helix ALM SQLite Importer**—Installs the SQLite Importer only. If product databases to import from are on different computers, install only the SQLite Importer on those computers so it can communicate with the data warehouse. When the SQLite Importer is installed, information about all product SQLite databases is imported. See [Importing data from SQLite databases, page 17](#).

Installation folder

The default installation folders are:

- **32-bit**—C:\Program Files (x86)\Perforce\Helix ALM Data Warehouse
- **64-bit**—C:\Program Files\Perforce\Helix ALM Data Warehouse

You can select a different folder.

Data warehouse configuration

By default, browsers communicate with ALM Data Warehouse on port 8080 (HTTP) and 8999 (HTTPS). You can enter different port numbers.

Note: ALM Data Warehouse supports SSL and TLS for stronger security through HTTPS. By default, HTTPS connections use a self-signed certificate and the default Java KeyStore and TrustStore to secure communication between browsers and the ALM Data Warehouse Server. If you used the Java keytool utility to generate KeyStore and TrustStore files for your own SSL certificate, you can use these files instead of the default files after installation. See [Modifying ALM Data Warehouse server options, page 11](#).

SQLite Importer configuration

By default, the SQLite Importer listens on port 8191. You can enter a different port number.

Enter and confirm a password for the SQLite Importer. You will need this password when you configure imports from SQLite databases in the data warehouse.

Note: After installation, you need to configure the data warehouse before users can access it. See [After installation, page 6](#).

After installation

Perform the following tasks when installation is complete.

1. Start the ALM Data Warehouse Server. See [Starting the ALM Data Warehouse Server, page 7](#).
If you installed the SQLite Importer on computers that host SQLite product databases, start the importer on those computers. See [Starting the Helix ALM SQLite Importer, page 7](#).
2. Log in to ALM Data Warehouse. See [Logging in, page 7](#).
3. Configure the Helix ALM License Server connection. See [Configuring the Helix ALM License Server connection, page 9](#).
4. Configure the data warehouse database connection. See [Configuring the ALM Data Warehouse database location, page 10](#).
5. Import license server data and configure import settings for other products. See [Scheduling imports, page 14](#).
6. Configure and use the sample reports, or create your own reports using third-party reporting tools. See [Viewing Reports, page 21](#).

Getting Started

Use the ALM Data Warehouse web application to administer the data warehouse. See [Logging in, page 7](#) for information about accessing the application.

Before users can log in, the ALM Data Warehouse Server must be running. See [Starting the ALM Data Warehouse Server, page 7](#).

Starting the ALM Data Warehouse Server

The ALM Data Warehouse Server must be running before users can log in.

Note: The Helix ALM License Server and product servers to import data from must be running before you start the ALM Data Warehouse Server.

In the Windows Services Control Manager, right-click **Helix ALM Data Warehouse** and choose **Start**.

Starting the Helix ALM SQLite Importer

The SQLite Importer must be running on computers that host SQLite product databases to import from.

In the Windows Services Control Manager, right-click **Helix ALM SQLite Importer** and choose **Start**.

Logging in

Before you log in, make sure you have the ALM Data Warehouse URL and login information. If you just started the ALM Data Warehouse Server, you may need to wait a few minutes before you can log in.

Note: To log in, you must have permission to administer all license server functions on the Helix ALM License Server.

1. Start a web browser and enter the ALM Data Warehouse URL.
The URL includes the server name or IP address of the computer that hosts the data warehouse and the port number (default is 8080). For example: `http://yourserver.com:8080`.
2. Enter your **Username** and **Password**. Use the same credentials you use to log in to other Helix ALM products or ask your administrator for help.
If the connection to the Helix ALM License Server is not configured, the License Server page opens. The license server connection must be configured before users can log in to ALM Data Warehouse. See [Configuring the Helix ALM License Server connection, page 9](#).
3. Click **Log In**.
ALM Data Warehouse opens.

Logging out

Log out of ALM Data Warehouse when you finish working in it.

1. Click **Log Out**.
You are logged out and return to the login page.

Configuring ALM Data Warehouse

Before you can import data from Helix ALM products, you need to configure a connection to the Helix ALM License Server and ALM Data Warehouse databases. You can also change the connections if the databases are moved or connection issues occur. See [Configuring the Helix ALM License Server connection, page 9](#) and [Configuring the ALM Data Warehouse database location, page 10](#)

Note: After you configure the data warehouse, you need to configure data imports. See [Importing Data, page 13](#).

Configuring the Helix ALM License Server connection

Before users can access ALM Data Warehouse, you need to configure a connection to the Helix ALM License Server. If you move the license server to a different computer or have connection issues, you can update the connection information.

Note: If the Helix ALM License Server database is in SQLite format, make sure that the SQLite Importer is installed and running on the license server computer before you configure the connection. See [Running the installer, page 5](#) and [Starting the Helix ALM SQLite Importer, page 7](#).

1. Click **Configure** and choose **License Server**.

The License Server page opens.

The screenshot shows a dialog box titled "License Server" with a title bar containing "Apply", "Save and Close", and "Cancel" buttons. The dialog has the following fields and options:

- Server address:** A text input field containing "server.wysicorp.com".
- Port:** A text input field containing "5100".
- Communications password:** A text input field with masked characters (dots).
- License server uses SQLite**
- SQLite Importer port:** A text input field containing "8191".
- SQLite Importer password:** A text input field with masked characters (dots). To the right of this field is a [Change password](#) link.
- Test:** A button located below the password fields.

2. Enter the license server **Server address** and **Port**. The default port is 5100.
3. Enter the license server **Communications password**.

The communications password provides additional security for communication between the Helix ALM product servers and the Helix ALM License Server. Enter the password to allow ALM Data Warehouse to communicate with the license server if a password is already used to communicate with other Helix ALM products.

4. If the license server database is in SQLite format, select **License server uses SQLite**.

Enter the **SQLite Importer port**. The default is 8191. Enter the **SQLite Importer password**. The password provides additional security for communication between the Helix ALM License Server and ALM Data Warehouse. The password is initially set when you install the SQLite Importer. To change the password, click **Change password**. See [Changing the SQLite Importer password, page 18](#). The Change password link is not available when you configure the license server connection for the first time.

Note: If you no longer want to import from the SQLite license server database, clear the **License server uses SQLite** option.

5. Click **Test**.

A results message is displayed. If the connection fails, make sure you are using the correct server information and communications password. If the **License server uses SQLite option** is selected, make sure the SQLite Importer service is running on the computer that hosts the license server, and the importer port number and password are correct.

6. Click **Save and Close**.

The connection information is saved.

Configuring the ALM Data Warehouse database location

Before you can import data from Helix ALM products, you need to configure the ALM Data Warehouse database location.

1. Click **Configure** and choose **Database**.

The Configure Database page opens.

Configure Database

Oracle
 SQL Server
 PostgreSQL

Database name

Host name

Port

Username

Password

2. Select the RDBMS type for the ALM Data Warehouse database.
3. Enter the **Service name** (Oracle) or **Database name** (PostgreSQL or SQL Server).
4. Enter the **Host name** and **Port** for the RDBMS server. The default ports are:
 - Oracle—1521
 - PostgreSQL—5432

- SQL Server—1433

Note: If you are using a SQL Server database in a named instance, enter the port number for the instance.

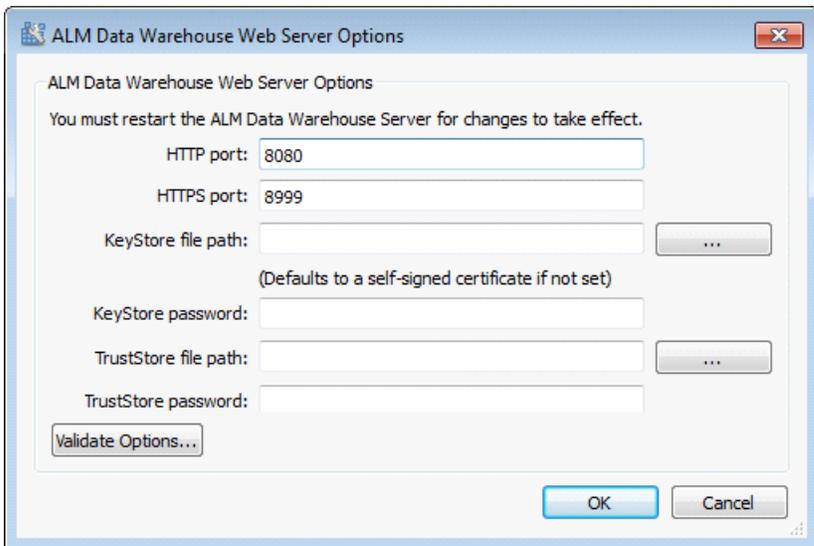
5. Enter the database **Username** and **Password**.
6. Click **Test**.
A connection results message is displayed. If the connection fails, errors from the RDBMS are displayed.
7. Click **Save and Close**.
The connection is saved.

Modifying ALM Data Warehouse server options

Use the ALM Data Warehouse Server Utility to modify settings for the ALM Data Warehouse Server in the local computer's system registry. You can set the HTTP and HTTPS ports and files to use for SSL certificates.

The data warehouse supports SSL and TLS for stronger security through HTTPS. By default, HTTPS connections use a self-signed certificate and the default Java KeyStore and TrustStore to secure communication between browsers and the ALM Data Warehouse Server. If you used the Java keytool utility to generate KeyStore and TrustStore files for your own SSL certificate, you can use these files instead of the default files.

1. Double-click **ALM Data Warehouse Server Utility.exe** in the ALM Data Warehouse application directory to start the server utility.



2. Make any changes to the server information.

Field	Description
HTTP port	Data warehouse HTTP port number. The default port is 8080. Valid values are 1-65535.

Field	Description
HTTPS port	Data warehouse HTTPS port number. The default port is 8999. Valid values are 1-65535.
KeyStore file path	Path to the Java KeyStore file that contains the identify certificate for the data warehouse. Click ... to select the file. If not set, HTTP connections use the default self-signed certificate, which is stored in the ALM Data Warehouse application directory.
KeyStore password	Password used to create the selected KeyStore file.
TrustStore file path	Path to the Java TrustStore file that contains trusted certificate authorities. Click ... to select the file. If not set, the ALM Data Warehouse Server uses the default Java TrustStore.
TrustStore password	Password used to create the selected TrustStore file.

3. Click **Validate Options** to validate the information. If validation fails, check the following:
 - Make sure the ALM Data Warehouse Server is running.
 - If you use your own KeyStore and TrustStore files, make sure the file paths and passwords are correct.
4. Click **OK** to save the changes.

Note: You must restart the ALM Data Warehouse Server for changes to take effect. See [Starting the ALM Data Warehouse Server, page 7](#).

Importing Data

ALM Data Warehouse imports data from Helix ALM, QA Wizard Pro, and Surround SCM source databases based on a schedule you set or on demand, and stores it in a separate database. Imported data is used to populate reports. Data from the Helix ALM License Server is automatically imported before other imports start or on demand.

ALM Data Warehouse can import data from Helix ALM product databases stored in any [supported RDBMS format](#) except SQLite on Linux. If a product database to import from is stored in SQLite on Windows, you need to perform some additional configuration before importing. See [Importing data from SQLite databases, page 17](#).

Import information is displayed when you log in to the data warehouse if you have permission to administer all license server functions on the license server. You can configure which databases to import from and the import schedule. See [Managing databases, page 16](#) and [Scheduling imports, page 14](#).

Managing imports

Import data regularly to make sure reports include current product data. You should import data during periods of low activity, such as overnight, to avoid impacting application performance.

You can view a summary of import information, schedule imports, perform manual imports, and manage databases you are importing from on the Import Schedule page. This page is displayed when you log in to ALM Data Warehouse if you have permission to administer all license server functions in the Helix ALM License Server Admin Utility.

1. Click **Configure** and choose **Imports**.

The Import Schedule page opens.

The following information is displayed for all product servers that the license server can detect:

- **Status icon**—Indicates an issue connecting to the product server it is displayed next to. Mouse over the icon for details.
- **Project/Mainline/Default database/Database**—Helix ALM project, Helix ALM License Server database, QA Wizard Pro Server database, or Surround SCM mainline branch data is imported from.
- **Last Import**—Icon that indicates the success or failure of the last import, and the date and time of the last import or a status message. Click the link to view the log for the current or last import.
- **Last Duration**—Duration of the last import.
- **Next Import**—Next import date and time if automatic imports are scheduled.

Tip: To sort data by a specific value, click a column heading. Click the heading again to switch the sort order.

[View Log](#)**Helix ALM Server (test.wysicorp.com)** [Manage databases](#) [Schedule imports](#) [Import all now](#)

Project	Last Import	Last Duration	Next Import
Marketing	 4/13/2017 11:35:12 AM	0 min 32 sec	No import scheduled Import now
Sample Project	 4/13/2017 03:00:16 PM	0 min 34 sec	4/13/2017 04:00:00 PM Import now
Sample Scrum Project	 4/13/2017 11:35:12 AM	< 0 sec	No import scheduled Import now

Surround SCM Server (test.wysicorp.com) [Manage databases](#) [Schedule imports](#) [Import all now](#)

Mainline	Last Import	Last Duration	Next Import
Development	 4/13/2017 03:19:51 PM	0 min 11 sec	No import scheduled Import now

License Server (test.wysicorp.com) [Manage database](#)

Database	Last Import	Last Duration
LSServer.db	 4/13/2017 03:17:27 PM	0 min 16 sec

- Click **Import now** to immediately import data from a specific product database or click **Import all now** to immediately import data from all databases for a product server. See [Manually importing data, page 18](#).
The Import now link is not available if an import is in progress. The page refreshes automatically when an import is complete.
- Click **Schedule imports** to choose the databases to import from for the product and set the import schedule. See [Scheduling imports, page 14](#)
- Click **Manage databases** to display information about the databases for the product that the data warehouse imports data from, view database status information, and enable imports from SQLite databases used for the product. See [Managing databases, page 16](#).
- Click **View Log** to view the reporting database log, which is helpful for troubleshooting issues. See [Viewing the log, page 26](#).

Scheduling imports

You can select the Helix ALM projects, QA Wizard Pro Servers, and Surround SCM mainline branches to import data from to populate ALM Data Warehouse. You can also set the import frequency.

Note: You cannot schedule imports for the Helix ALM License Server. License server data is imported before other imports start or you can manually import data. See [Manually importing data, page 18](#).

- Click **Configure** and choose **Imports**.
The Import Schedule page opens.
- Click **Schedule imports** for the product server to schedule imports for.
The product Import Schedule page opens.

Tip: To sort data by a specific value, click a column heading. Click the heading again to switch the sort order.

Helix ALM Import Schedule

test.wysicorp.com

(2 items)

<input type="checkbox"/>	Project	Enabled	Frequency	Settings
<input checked="" type="checkbox"/>	Development	<input checked="" type="checkbox"/>	Manually	
<input checked="" type="checkbox"/>	Marketing	<input checked="" type="checkbox"/>	Manually	
<input type="checkbox"/>	Sample Project	<input type="checkbox"/>	Daily	Every hour
<input type="checkbox"/>	Sample Scrum Project	<input type="checkbox"/>	Manually	

- To change an import schedule, select the item to change and click **Edit**. To change multiple items to use the same import schedule, select each item to edit. To change all items to use the same schedule, select the check box in the column heading row.

The Edit Schedule dialog box opens.

Edit Schedule (2 items)

	Enabled	Frequency	Settings
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Daily	<input checked="" type="radio"/> Start time 1 : 00 AM <input type="radio"/> Every 12 hours

- Select the **Frequency** and **Settings** for importing data.
 - To import data on demand, select **Manually**. See [Manually importing data, page 18](#).
 - To schedule imports, select **Daily**, **Weekly**, or **Monthly** and select when to perform the import.

Tip: Import data during periods of low activity, such as overnight, to avoid impacting application performance.

- Click **Save** to save the schedule changes.
- To stop imports for a project, mainline branch, or server, clear the corresponding check box in the **Enabled** column. Select the check box to resume imports.
- Click **Save and Close**.

The settings are saved.

Managing databases

You can view information about each product database you import data from, including the connection status, database type, and type of data stored in the database. You can also enable importing from SQLite databases.

1. Click **Configure** and choose **Imports**.

The Import Schedule page opens.

2. Click **Manage databases** for the product server to work with.

The product database page opens. The following information is displayed depending on the product and database type:

- **Status**—Icon that indicates the connection status to the database from ALM Data Warehouse. Mouse over the icon for details.
- **Type**—Database type.
- **Host Name**—Computer that hosts the database. (SQL Server and Oracle databases only)
- **Port**—Port number the database listens on. (SQL Server and Oracle databases only)
- **Local File**—Location of the file that contains the data last imported from the product server. (SQLite databases only)
- **Database Name**—Name of the database on the product server.
- **User**—User to connect to the database on the product server.
- **Storing**—Type of data stored in the database. For example, Helix ALM has project and server databases.

Helix ALM Databases

test.wysicorp.com

Use SQLite Importer

SQLite Importer port

SQLite Importer password [Change password](#)

Status	Type	Local File	Storing
✔	SQLite	C:\Program Files\Perforce\Helix ALM Data Warehouse\dfs\{2e0f440c-79ce-4a1c-bf95-2631738ad8cc}\imprt.db	Server Database
Projects:			
Database connection successful			

Status	Type	Local File	Storing
✔	SQLite	C:\Program Files\Perforce\Helix ALM Data Warehouse\dfs\{fcfcb95-bc8b-46de-b5fe-294dc080848c}\imprt.db	Project Database
Projects: Development - Scrum			
Database connection successful			

3. Select **Use SQLite Importer** to import data from SQLite databases on the product server. See [Importing data from SQLite databases, page 17](#).

Clear this option if you no longer want to import from SQLite databases.

4. Click **Save and Close**.

Importing data from SQLite databases

Before you can import product data from SQLite databases, you need to enable imports for the product server and configure a connection to the SQLite Importer. If multiple product servers are running on the computer, data from all the databases will be available for import in ALM Data Warehouse. For example, if the Helix ALM License Server and Helix ALM Server databases are on the same computer, you can configure the SQLite Importer for the license server in the data warehouse and data will be available to import from the license server, the Helix ALM Server, and any Helix ALM projects hosted on the computer.

The SQLite Importer automatically looks for new or changed SQLite databases every five minutes.

Note: The SQLite Importer must be installed and running on the Helix ALM product server computer to import data from. See [Running the installer, page 5](#) and [Starting the Helix ALM SQLite Importer, page 7](#).

1. Click **Configure** and choose **Imports**.

The Import Schedule page opens.

2. Click **Manage databases** for the product server to import data from.

The product databases page opens.

3. Select **Use SQLite Importer**.

4. Clear this option if you no longer want to import from SQLite databases on the product server.

Save and Close Cancel

Helix ALM Databases

test.wysicorp.com

Use SQLite Importer

SQLite Importer port

SQLite Importer password [Change password](#)

Test

Status	Type	Local File	Storing
✔	SQLite	C:\Program Files\Perforce\Helix ALM Data Warehouse\dbs\{2e0f440c-79ce-4a1c-bf95-2631738ad8cc}\imprt.db	Server Database
Projects:			
Database connection successful			

Status	Type	Local File	Storing
✔	SQLite	C:\Program Files\Perforce\Helix ALM Data Warehouse\dbs\{fcfeb95-bc8b-46de-b5fe-294dc080848c}\imprt.db	Project Database
Projects: Development - Scrum			
Database connection successful			

5. Enter the **SQLite Importer port**. The default port is 8191.

6. Enter the **SQLite Importer password**.

The password is initially set when you install the SQLite Importer. To change the password, click **Change password**. See [Changing the SQLite Importer password, page 18](#).

7. Click **Test** to test the connection.

A results message is displayed. If the connection fails, make sure the SQLite Importer is running on the computer that hosts the product database, the importer port number is correct, and the importer password is correct.

Note: Only one data warehouse installation can be associated with the SQLite Importer. If another installation is associated with the SQLite Importer, you are prompted to change the binding between the data warehouse and the SQLite importer. See [Troubleshooting, page 25](#) for help.

8. Click **Save and Close**.

Changing the SQLite Importer password

If you have permission to administer all functions on the Helix ALM License Server, you can change the password for the SQLite Importer.

1. Click **Change password** on the license server configuration or product database page.

The SQLite Importer Password dialog box opens.

2. Enter the **Old password** and **New password**.

3. Click **OK**.

The password is changed and a confirmation message is displayed.

4. Click **OK** to close the dialog box.

Manually importing data

You can manually import data if you do not want to automatically import it or want to import before the next scheduled time.

1. Click **Configure** and choose **Imports**.

The Import Schedule page opens.

2. Click **Import now** for the project, mainline branch, or database to import or click **Import all now** to import data from all databases for a product server.

The status in the Last Import column changes to **In progress** when the import starts. Click the link to view the import log file, which is helpful for monitoring progress or troubleshooting issues.

Note: The Import now link is not available if an import is in progress.

Deleting unused data from ALM Data Warehouse

If ALM Data Warehouse can no longer find Helix ALM projects or Surround SCM mainline branches, data is not imported. For example, a project or mainline is not found by the data warehouse if it is inactivated, removed from the product server, or if the product server is offline. If you no longer want to report on the existing imported data, you can remove it from the data warehouse.

Note: Product server and RDBMS connections in the data warehouse are automatically deleted if they are not found and no data was ever imported from them or all imported data was deleted. You cannot manually delete server or RDBMS connections.

1. On the Imports Schedule page, click **Delete** for the Helix ALM project or Surround SCM mainline branch to delete from the data warehouse.
You are prompted to confirm the deletion. There is no undo available.
2. Click **Delete**.
The data is removed from the data warehouse.

Viewing Reports

To view product data, you can use the sample SQL Server Reporting Services (SSRS) reports installed with ALM Data Warehouse or reports you create in a different third-party reporting tool.

The sample SSRS reports are available in the Sample_Reports directory in the Helix ALM Data Warehouse application directory. When you deploy the reports, make sure that you change the source and initial catalog information.

To create the same reports using a different third-party reporting tool, use the SQL queries in the Direct SQL Query directory in the Sample_Reports directory.

The following SSRS sample reports are available.

Report name	Contains
All Items Assigned to User	A list of all items assigned to the selected users based on the selected item types, workflow states, and Helix ALM projects. Includes the item number, item type, workflow state, project name, and summary.
All Projects for Users	A list of all the Helix ALM projects the selected users can access.
Automated Test Run by Test Case	A list of test cases, test runs, and QA Wizard Pro batch file results for test cases linked to run results.
Changes by Fixed Date	A list of issues with source control file attachments marked as fixed in the specified date range. Includes the filename, issue number, summary, fixed date, file version, related test case number, and related test run number.
Count of Defects by State by Time Period	The number of issues in each state at the end of a day, week, or month. Includes the time period start date and the workflow states in the selected Helix ALM project.
Defect Detailed Event and Status List with Days Spent	The status of the selected Helix ALM issue and the number of days it remained in each workflow state during the specified date range.
Defect Distribution for Previous 6 Months	A line chart that displays the distribution of new, open, and closed issues for the past six months from a selected month and year based on the selected Helix ALM projects.

Report name	Contains
Defect Summary Days Held in a Date Range for a User in a Source and Project	The number of issues in the selected Helix ALM project assigned to the selected user during the specified date range. Includes the number of days each issue has been assigned.
Defects by User in a Date Range	The number of issues created by the selected users in the selected Helix ALM projects during the specified date range grouped by severity.
Defects Reported by Product and Version	A list of issues based on the selected Helix ALM projects, products, and versions found. Includes the issue number, product, current workflow state, summary, date found, version found, found by user, and description.
Executed Test Run Count by Date (All Projects)	A list of test runs completed by assigned users during the specified date range. Includes a bar chart. This report assumes that the Pass and Fail events in the default test runs workflow are used. If you use different Pass/Fail events, you need to modify the SQL query to include the additional events.
Forward Traceability Report	A list of requirements included in the selected requirement documents in the selected Helix ALM projects with link and source control file name information. Includes the project, requirement number, test case summary, test case links, test run links, issue links, status, item status, and issue summary, and source control file name, version, and fixed date.
Helix ALM Activity Report by Project	A list of the number of opened, fixed, failed verification, and reopened issues, the number of executed and failed test runs, and the percentage of failed issues and test runs across all projects during the specified date range.
Issues Found by Customer for All Projects	A list of all issues found by all customers in all Helix ALM projects during the specified date range. Includes the customer name, company, Helix ALM project name, issue number, workflow state, and description.
Latest Test Run Status for Test Case by Project	A list of the latest test run results for all test cases in the selected Helix ALM projects. Includes the project name, test case number, test run number, test case summary, and status of each test run.
License Server Usage	Line charts that display the number of floating and named licenses for each product available on the Helix ALM License Server for the specified date range. Includes a chart that displays the average licenses available by hour based on a 24-hour period.
QA Wizard Pro Batch Execution Summary	A list of QA Wizard Pro batch files and scripts run during the specified date range. Includes the batch files and script name, start time, end time, and script result.

Report name	Contains
QA Wizard Pro Load Test Execution Summary	A list of QA Wizard Pro load tests run during the specified date range. Includes the user who ran the test, start time, end time, total virtual users, peak concurrent virtual users, page hits, bytes sent and received, minimum and maximum response times, average response time, and number of errors and warnings.
QA Wizard Pro Run Execution Summary	A list of QA Wizard Pro scripts run during the specified date range. Includes the start time, end time, script result, and number of warnings, handled errors, and unhandled errors.
QA Wizard Pro User Execution Summary	A list of QA Wizard Pro playback sessions for the selected users during the specified date range. Includes the user, playback session type, start time, end time, and result.
Summary Defect Activity for User in a Date Range	The number of issues the selected user marked as fixed, failed verification, and passed verification during the specified date range grouped by Helix ALM project.
Summary SCM Activity for User in a Date Range	The number of Surround SCM changelists committed, and files added, checked in, and deleted by the selected users during the specified date range grouped by mainline branch.
Test Cases By User in Date Range	The number of test cases created by the selected users across all Helix ALM projects in a specified date range.
Test Defect Links	A list of issues in the Released to Testing workflow state that are linked to test cases and test runs. Includes the link type, created date, and issue summary.
Test Run Set Distribution	The total number of test runs and the total number and percentage complete of passed, failed, and completed test runs in the selected test run sets for the selected Helix ALM projects. Includes the total number of reported issues and open issues for each test run set. Includes a pie chart for each test run set that displays the distribution of passed, failed, and incomplete test runs.
Test Runs Completed by Platform	A bar chart of completed test runs for the selected test variants. Separate charts are displayed for each selected project and test run set.
Total Activity for Single User	A list of the events performed by the selected user across all Helix ALM projects and Surround SCM mainline branches during the specified date range. Includes the event date, project or mainline, area of action (e.g., file, issue), filename or Helix ALM item number, event description, and comments entered when the event was entered.

Troubleshooting

Tip: View the ALM Data Warehouse log for additional information when troubleshooting issues. See [Viewing the log, page 26](#).

Database connection errors

Icons next to the product server names indicate if database connections are valid. If connection errors occur, click **View Log** on the Import Schedule page to view the server application log and diagnose connection problems. See [Viewing the log, page 26](#).

Data warehouse and license server versions are not compatible

When using ALM Data Warehouse 2014.1 and earlier, the Helix ALM License Server version must match the data warehouse version.

If the data warehouse version is newer than the license server version, the following error is returned: **ALM DW is not compatible with Helix ALM License Server database version (#)**. To fix this issue, run the Helix ALM or Surround SCM installer to upgrade the license server to the same version as ALM Data Warehouse.

If the license server version is newer than the data warehouse version, the following error is returned: **The Helix ALM License Server database version (#) is newer than versions compatible with ALM DW**. To fix this issue, upgrade the data warehouse to the same version as the license server.

More than one Helix ALM project or Surround SCM mainline has the same UUID

If the data warehouse detects duplicate universally unique identifiers (UUIDs) in Helix ALM or Surround SCM databases, the following error is displayed: **More than one Helix ALM project or Surround SCM mainline has the same UUID. Imports may not work correctly until the conflict is resolved**.

The duplicate UUIDs must be fixed to correctly import data. To fix the issue in Helix ALM, see [Surround SCM or ALM Data Warehouse Cannot Retrieve Helix ALM Data or Display Incorrect Helix ALM Data](#). To fix the issue in Surround SCM, contact [Perforce Support](#).

Could not get JDBC Connection error when importing from PostgreSQL databases

A **Could not get JDBC Connection** error is returned when importing from product servers and databases hosted in PostgreSQL because remote connections are not enabled for the PostgreSQL server. See [Enabling Remote Connections on PostgreSQL Servers](#) for information.

ALMDW.log file contains java.lang.OutOfMemory errors

The data warehouse and the SQLite Importer use a Java Virtual Machine (JVM). By default, the 32-bit data warehouse is configured to allow the JVM to use a minimum memory heap of 512 MB and a maximum of 1024 MB. The 64-bit data warehouse is configured to allow the JVM to use a minimum memory heap of 1024 MB and a maximum of 2048 MB. The OutOfMemory error indicates that the data warehouse requires more heap memory to perform some operations, such as large data imports. To resolve this, adjust the heap settings.

1. Using regedit, browse to the following registry key: HKEY_LOCAL_MACHINE\SOFTWARE\Apache Software Foundation\Procrun 2.0\ALMDW\Parameters\Java.

2. To change the minimum Java heap size, edit the JvmMs entry. To change the maximum size, edit the JvmMx entry.
3. Save the file and restart the ALM Data Warehouse Server and SQLite Importer. See [Starting the ALM Data Warehouse Server, page 7](#) and [Starting the Helix ALM SQLite Importer, page 7](#).

Viewing the log

The ALM Data Warehouse log records events, such as product server connection or import problems. The log can help provide additional information for troubleshooting issues. See [Troubleshooting, page 25](#).

Note: If you are troubleshooting an import issue related to a specific database, project, or mainline, view the import log for the specific item. Click the link in the Last Import column on the Import Schedule page. See [Managing imports, page 13](#).

1. Click **Configure** and choose **Imports**.
The Import Schedule page opens.
2. Click **View Log**.
The log page opens.
3. Select a **Log level**.
 - **Normal** displays informational, warning, and error messages.
 - **Debug** displays all messages generated by ALM Data Warehouse. You likely only need to view this level of activity when working with Perforce to troubleshoot issues.
4. Click **Save and Close**.

Appendix A: Third-Party Software Licenses

D3.js license

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