

# HP AutoPass License Server

Software Version: 9.0

Windows®, Linux and CentOS operating systems

## Users Guide

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# Chapter 1: Welcome to HP AutoPass License Server

Welcome to HP AutoPass License Server, the HP Web-based solution for managing your HP software product licenses. AutoPass License Server helps you organize and manage your product licenses, server users, and client users.

This guide describes how to install, set up, and use the HP AutoPass License Server.

This guide is intended for users who will install and administer the AutoPass License Server. Users should have some knowledge of system administration.

## Chapter 2: Before You Install

The HP AutoPass License Server Users Guide provides the information you need to install and use the HP AutoPass License Server.

To successfully install and run the HP AutoPass License Server, your computer must meet the minimum system requirements shown below. However, performance may be improved by using systems with stronger/later setups than the minimum requirements.

For a list of all supported operating systems, see the *HP AutoPass License Server Product Availability Matrix*, available from the root folder of the DVD. The most up-to-date product availability matrix is available from the HP Software Product manuals site, at <http://h20230.www2.hp.com/selfsolve/manuals> (requires an HP passport).

<b>Computer Processor</b>	1.6 Ghz or higher
<b>Operating System</b>	Windows 2008 SP1 64 bits Red Hat Enterprise Linux 7 x64-bits CentOS 7.0
<b>Memory</b>	A minimum of 1 GB of RAM
<b>Color Settings</b>	High Color (16-bit)
<b>Graphics Card</b>	Graphics card with 64 MB video memory
<b>Protocols</b>	HTTPS must be enabled for products and users who use the License Server.
<b>Port</b>	<b>Port 5814</b> must be accessible for products and client users to connect to the License Server.  <b>Note:</b> This is the port number registered with the Internet Assigned Number Authority (IANA) for HP products.
<b>Web Browser</b>	<ul style="list-style-type: none"><li>• Mozilla Firefox 39</li><li>• Internet Explorer 11</li><li>• Google Chrome 40</li></ul>

## Chapter 3: Installation and Setup

Before you begin using the License Server, you must install and set up the License Server.

Before installing, make sure your License Server host computer meets the minimum system requirements. For details, see ["Before You Install" on page 12](#).

If you are migrating from 8.3.X to 9.0, refer to the [HP AutoPass License Server\\_Migration](#) document.

This chapter includes the following sections:

- ["License Server Installation on Windows" below](#)
- ["License Server Uninstallation on Windows" on page 17](#)
- ["License Server Setup and Start" on page 19](#)
- ["Installation and Setup - Troubleshooting and Limitations" on page 20](#)

### License Server Installation on Windows

When you install the License Server on Windows, you can select UI, silent or console installation.

**Note:** You must have administrator permissions for the computer on which you install the License Server.

It is recommended to have a dedicated Linux machine for License Server.

### UI Installation

To use the UI installation, double-click the `setup.exe` installer file and follow the instructions provided by the wizard.

If you need help while installing, click the **Help** button in the relevant window to view a description of the step in the process.

## Silent Installation

You can perform a silent installation using either default values or using a response value to provide initialization properties.

### Silent Installation with Default Values

To perform a silent installation with the default values for the install and data folders, do the following:

1. In the Command Prompt window, enter the directory where the installer file is saved.
2. Enter the command "`setup.exe -i silent`" and press **Enter**.

The installation is performed silently using the default installer values.

### Silent Installation Using a Response File with initialization properties

To change the default values used for a silent installation, you use the `installer.properties` file. This file is the default response file name used by the installation. This file must contain the directory of the `install` and `data` folders.

To perform a silent installation using a response file, do the following:

1. Create a file named `installer.properties` in the same directory where the installer file is saved.
2. In the `installer.properties` file, enter the following:

```
# -----  
INSTALLER_UI=SILENT  
# Choose Installer Folder  
# -----  
USER_INSTALL_DIR=C:\\apls\\install  
# Choose Data Folder  
# -----  
USER_DATA_DIR=C:\\apls\\data
```

3. In the Command Prompt window, enter the directory path where the installer is saved.

4. Enter the command "`setup.exe -i silent`" and press **Enter**.

**Note:** To use a different response file for the silent installation, replace the command given in step 4 above with the following command:

```
"setup.exe -i silent -f <file name of response file>"
```

This file must also contain the directory for the `install` and `data` folders.

## Console Installation

1. In the Command Prompt window, enter the directory where the installer file is saved.
2. Enter the command "`setup.exe -i console`" and press **Enter**
3. The Installer is launched and the installation directory is saved in the default location i.e **/opt/HP/HP AutoPass License Server**

## License Server Installation on Linux and CentOS

When you install the License Server on Linux, you can select UI, silent or console installation.

**Note:** You must have administrator permissions for the computer on which you install the License Server.

## UI Installation

### If the Linux box has the UI enabled:

Double-click the `setup.bin` installer file and follow the instructions provided by the wizard same as Windows installation. Refer to [LicSvr\\_Install on Windows.htm](#)

### If the Linux box has the UI disabled:

1. Run the command `export DISPLAY=<IP_Address>:0.0` to set the display to a system where a reflection tool is running.
2. Enter the command "`./setup.bin`" and press **Enter**
3. Follow the steps same as Windows installation. Refer to [LicSvr\\_Install on Windows.htm](#)

If you need help while installing, click the **Help** button in the relevant window to view a description of the step in the process.

## Silent Installation

You can perform a silent installation using either default values or using a response value to provide initialization properties.

### Silent Installation with Default Values

To perform a silent installation with the default values for the install and data folders, do the following:

1. In the Command Prompt window, enter the directory where the installer file is saved.
2. Enter the command `./setup.bin -i silent` and press **Enter**.

The installation is performed silently using the default installer values.

### Silent Installation Using a Response File with initialization properties

To change the default values used for a silent installation, you use the `installer.properties` file. This file is the default response file name used by the installation. This file must contain the directory of the `install` and `data` folders.

To perform a silent installation using a response file, do the following:

1. Create a file named `installer.properties` in the same directory where the installer file is saved.
2. In the `installer.properties` file, enter the following:

```
# -----  
INSTALLER_UI=SILENT  
# Choose Installer Folder  
# -----  
USER_INSTALL_DIR=opt\apls\install  
# Choose Data Folder  
# -----  
USER_DATA_DIR=opt\apls\data
```

3. In the Command Prompt window, enter the directory path where the installer is saved.



4. Enter the command "`setup.bin -i silent`" and press **Enter**.

**Note:** To use a different response file for the silent installation, replace the command given in step 4 above with the following command:

```
"setup.bin -i silent -f <file name of response file>"
```

This file must also contain the directory for the `install` and `data` folders.

## Console Installation

1. In the Command Prompt window, enter the directory where the installer file is saved.
2. Enter the command "`./setup.bin -i console`" and press **Enter**
3. The Installer is launched and the installation directory is saved in the default location i.e `/opt/HP/HP AutoPass License Server`.

## License Server Uninstallation on Windows

To uninstall the License Server, you can select a UI, silent or a console uninstallation:

### UI Uninstallation

In the Control Panel , select the **Uninstall a Program** option and follow the instructions provided in the uninstall wizard.

### Silent Uninstallation

To perform a silent uninstallation, do the following:

1. In the Command Prompt window, enter the directory path to the HP AutoPass License Server folder found in the installation directory, as seen in the example below:

```
"<installation directory>\HP Autopass License Server"
```

2. Enter the command "`Change HP Autopass License Server.exe`" and press **Enter**.

The License Server is uninstalled.

## Console Uninstallation

To perform console uninstallation, do the following:

1. In the Command Prompt window, enter the directory path to the HP AutoPass License Server folder found in the installation directory, as seen in the example below:

```
"<installation directory>\HP Autopass License Server"
```

2. Enter the command "Change HP Autopass License Server.exe -i console" and press **Enter**.

The License Server is uninstalled.

## License Server Uninstallation on Linux and CentOS

To uninstall the License Server, you can select a UI, silent or a console uninstallation:

### UI Uninstallation

In the Control Panel , select the **Uninstall a Program** option and follow the instructions provided in the uninstall wizard.

### Silent Uninstallation

To perform a silent uninstallation, do the following:

1. In the Command Prompt window, enter the directory path to the HP AutoPass License Server folder found in the installation directory, as seen in the example below:

```
"<installation directory>\HP Autopass License Server"
```

2. Enter the command "Change HP Autopass License Server.bin" and press **Enter**.

The License Server is uninstalled.

## Console Uninstallation

To perform console uninstallation, do the following:

1. In the Command Prompt window, enter the directory path to the HP AutoPass License Server folder found in the installation directory, as seen in the example below:

```
"<installation directory>\HP Autopass License Server"
```

2. Enter the command "Change HP Autopass License Server -i console" and press **Enter**.

The License Server is uninstalled.

## License Server Setup and Start

After installation, the License Server is automatically started as a Windows service. The license for the License Server is provided with the installation. No additional special setup is required.

To launch the License Server, enter the server's Web address into your browser: `https://<ip address or Host Name>:5814/autopass`.

Use the following credentials for the initial login to the License Server:

- **User name:** *admin*
- **Password:** *password*

After the initial login, you are required to change the password. You can also create other License Server users with login credentials and access permissions after the initial login. For details, see "[License Server User and User Group Management](#)" on page 54.

You are also required to configure the mail server after the initial login. In addition, you can configure other general License Server settings, including:

- Server configuration settings
- License checkout history purge settings
- Audit reporting settings
- Expiration notice settings
- License borrowing settings
- Server redundancy settings.

For details, see "[License Server Configuration](#)" on page 25 and "[License Server Redundancy Configuration](#)" on page 45.

## Installation and Setup - Troubleshooting and Limitations

What do I do if the License Server failed to install?

If the automatic installation failed, you must manually install the License Server.



To manually install the License Server, do the following:

1. In the Command Prompt window, enter the directory path to the `<License Server installation>/bin` folder, as seen in the example below:

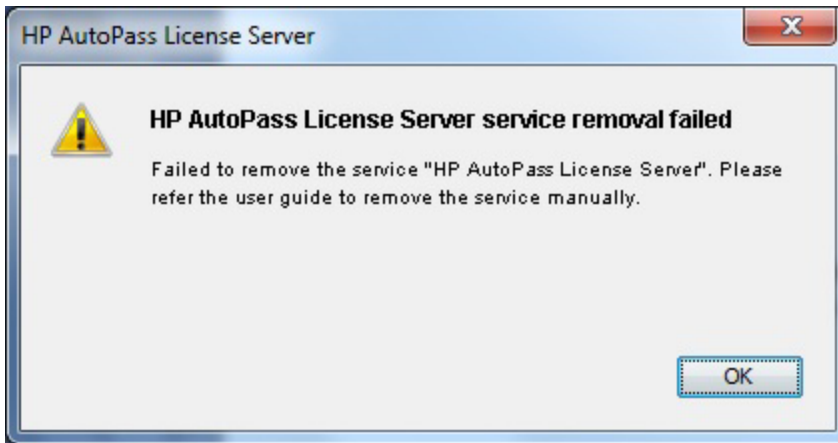
```
<installation directory>/HP Autopass License Server/HP Autopass License Server/bin>
```

2. After the bin directory path, enter the command `hpLicServer.bat install` and press **Enter**.

The License Server is installed on the computer.

What do I do if the License Server failed to uninstall?

If the automatic uninstallation failed, you must manually uninstall the License Server.



To manually uninstall the License Server, do the following:

1. In the Command Prompt window, enter the directory path to the `<License Server installation>/bin` folder, as seen in the example below:

```
<installation directory>\HP Autopass License Server\HP Autopass License Server\bin>
```

2. After the bin directory path, enter the command `hpLicService.bat remove` and press **Enter**.

The License Server is then uninstalled from the computer.

What do I do if the License Server failed to start?

If the automatic start of the License Server following installation failed, you must manually start the License Server.



To manually start the License Server, do the following:

1. In the Command Prompt window, enter `services.msc`. The Windows Services dialog box opens.
2. In the Services (Local) list, right-click **HP Autopass License Server**, and select **Start**.

The License Server service is started and you can access the License Server via the Web browser.



## Chapter 4: License Server Introduction

The License Server enables you to manage the concurrent licenses for your HP software products.

Software product licenses are broadly classified into two types: **concurrent** (floating) and **seat** (standalone) licenses. A concurrent license is shared dynamically between multiple client users, whereas a seat license is locked to a specific client machine. The concurrent licenses are then shared or "pooled" between a group of users. Using concurrent licenses enables you to purchase the number of licenses equal to the largest number of users liable to be active at any time, instead of the total number of users of a product.

The License Server manages the licenses acquired from the HP license portal. These licenses are then installed on the License Server.

When a client computer needs a license, the client sends a request to the License Server and a license is checked out to this user. After the client user's work session (or when the license expires), the license is returned to the License Server for renewal or for use by other users. If a client user does not have a regular connection to the License Server, the client user can check out a commuter license from the License Server.

Using the License Server, you can:

- Control and managing how the licenses are used
- Create and manage users who are responsible for administering the License Server and the licenses installed on the server
- Manage client user access to the License Server.



# Chapter 5: License Server Configuration

This chapter includes:

## Concepts

- ["License Server Configuration - Overview" on the next page](#)

## Reference

- ["Main Configuration Tab \(Configuration Pane\)" on page 27](#)

["License Server Configuration - Frequently Asked Questions" on page 37](#)

# Concepts

## License Server Configuration - Overview

After installing the License Server, you should set configuration options for the License Server.

**Note:** Configuration of mail settings is required upon the administrator's first login to the License Server.

You set the configurations for a number of different options:

- Server Mail Configuration
- Check In History Purging
- Server Audit Reports
- License Server Borrowing
- Expiration Notifications
- Server IP Configuration
- Server Discovery

For details about the individual options, see ["Main Configuration Tab \(Configuration Pane\)" on the next page](#)

**Note:** When logging into the License Server for the first time, you must configure the mail settings for the server.

# Reference

## Main Configuration Tab (Configuration Pane)

The Main configuration tab enables you to configure general License Server settings.

The screenshot displays the 'Main Configuration' tab with the following sections and settings:

- Mail Configuration:** Mail Server (smtp3.hp.com), Port (25), Admin Email (adarsh.babu@hpe.com), User Name, Password, Test Mail, and a 'Send Email' button.
- Concurrent License Purge Settings:** Auto Purge (checked), Select Purge Type (Maximum Records to Retain), Purge Records Older Than (0 Days), and Maximum Records to Retain (200000).
- Usage Hub Server Settings:** Enable Usage HUB connector (unchecked).
- Audit Configuration:** Radio buttons for No Audit (selected), Response, Request, and Request and Response.
- Borrow Setting:** Allow (checked).
- License Pre-Expiry Notification:** Advance Settings (unchecked).
- Concurrent License Setting:** Use client settings for checkin/checkout (checked).
- Server Configurations:** Protocol Type (HTTP/HTTPS), IP/Host (select), and Port (5814).
- Discovery:** Enable Discovery (unchecked).

Buttons for 'Save' and 'Cancel' are located at the bottom left of the configuration pane.

<b>To access</b>	<b>Configuration pane &gt; Main tab</b>
<b>Important information</b>	You must configure the mail configuration settings after logging into the License Server for the first time.

User interface elements are described below:

UI Element	Description
<p><b>Mail Configuration</b></p>	<p>Enables you to configure the settings for mail sent by the License Server.</p> <p>You can enter the following details:</p> <ul style="list-style-type: none"> <li>• <b>Mail Server:</b> The name of the server from which mail messages are sent from the License Server. <i>(required field)</i></li> <li>• <b>Port:</b> The port number from which mail messages are sent from the License Server.</li> <li>• <b>Admin Email:</b> The sever administrator's email address to send server-related communications. <i>(required field)</i></li> <li>• <b>User Name:</b> The server administrator user name. This user name is in addition to the user names created in the "<a href="#">Users Tab (User Management Pane)</a>" on page 63. <b>Default:</b> <i>admin</i></li> <li>• <b>Password:</b> The server administrator's user password.</li> <li>• <b>Test Mail:</b> A mail address to use for a test of the mail configuration settings. Click <b>Send Mail</b> after entering a mail address to test.</li> </ul>
<p><b>Concurrent License Purge Settings</b></p>	<p>Enables you to set preferences for how often to delete the server operations history.</p> <ul style="list-style-type: none"> <li>• <b>Auto Purge:</b> Automatically clears the server operations history according to the settings indicated.</li> </ul> <p style="background-color: #f0f0f0; padding: 5px;"><b>Note:</b> To stop automatic purging of the records, clear the check box.</p> <ul style="list-style-type: none"> <li>• <b>Purge Records Older Than &lt;&gt; Days:</b> Purges all records older than the number of days entered.</li> <li>• <b>Maximum Records to Retain:</b> The number of server operations to keep in the License Server database, beginning with the most recent operations.</li> </ul> <p style="background-color: #f0f0f0; padding: 5px;"><b>Note:</b> You can also purge the history of server operations in the Search Results window. For details, see "<a href="#">Search Results Page (License Usage Pane)</a>" on page 97.</p>
<p><b>Usage Hub Server Settings</b></p>	<p>Enables you view to the configuration settings of Usage Hub Server. Once settings are saved, the <b>Usage Hub Server</b> configuration tab is enabled. For more details refer "<a href="#">Usage Hub Server Tab (Configuration Pane)</a>" on page 42</p> <p style="background-color: #f0f0f0; padding: 5px;"><b>Note:</b> It is required to restart service for the changes to take effect.</p>

UI Element	Description
<p><b>Audit Configuration</b></p>	<p>Enables you set the preference for what is reported in the License Server log for checkout and checkin requests and responses.</p> <p>You can choose to report one of the following levels:</p> <ul style="list-style-type: none"> <li>• <b>No Audit:</b> No record of checkout or checkin requests (<i>default</i>)</li> <li>• <b>Request:</b> A record of all checkout and checkin requests.</li> <li>• <b>Response:</b> A record of all License Server responses to license checkout and checkin requests.</li> <li>• <b>Request and Response:</b> A record of all license checkout and checkin requests and License Server responses.</li> </ul> <div style="background-color: #f0f0f0; padding: 5px; margin-top: 10px;"> <p><b>Note:</b> It is recommended to select the Request and Response option.</p> </div>
<p><b>Borrow Setting</b></p>	<p>Enables you to instruct the License Server to allow license borrowing by other License Servers.</p> <p>To prevent a license from borrowing licenses, clear the option.</p> <p>For details on license borrowing, see "<a href="#">Borrowing Licenses</a>" on page 80.</p>
<p><b>License Pre-Expiry Notification</b></p>	<p>Enables you to send an advance notification to the License Server administrator of approaching product license expirations.</p> <p>If you select this option, you must enter the number of days before expiration on which to send the notification.</p>
<p><b>Concurrent License Setting</b></p>	<p>Enables you to retrieve the server details directly from a client request, instead of using the values set in <b>Server Configurations</b>.</p> <p>When this setting is enabled, the protocol type, IP address or host name, and the entry port are identified from the client's request URL. When disabled, the Server Configurations values are used.</p> <p><b>Default value:</b> Enabled</p>

UI Element	Description
<p><b>Server Configurations</b></p>	<p>Enables you to set the server details for the License Server.</p> <p>Enter the following details:</p> <ul style="list-style-type: none"> <li> <p><b>Protocol Type:</b> The connection protocol for accessing the License Server. You can select HTTP or HTTPS.</p> <p><b>Default:</b> HTTPS</p> <div data-bbox="493 527 1369 905" style="background-color: #f0f0f0; padding: 10px;"> <p><b>Note:</b></p> <ul style="list-style-type: none"> <li>APLS is packaged with the RSA 2048 HP Standard certificate for SSL communication. You can modify the certificate in the server configuration, but we recommend that you use a certificate such as RSA 2048 with SHA 256 to avoid any known security issues.</li> <li>It is recommended to use certification authority (CA) issued certificate and not self-signed. For more information on installing a certificate refer to "<a href="#">Installing a Certificate from a Certificate Authority</a>" on page 35</li> </ul> </div> </li> <li> <p><b>IP/Host:</b> The IP address or Host Name of the License Server. You can click <b>Search</b> to browse the subnet for available IP addresses or host names.</p> <div data-bbox="493 999 1369 1079" style="background-color: #f0f0f0; padding: 10px;"> <p><b>Note:</b> IPv6 addresses must be enclosed with square brackets [ ].</p> </div> </li> <li> <p><b>Port:</b> The entry port for the server.</p> <div data-bbox="451 1173 1369 1509" style="background-color: #f0f0f0; padding: 10px;"> <p><b>Note:</b> If <b>Concurrent License Setting &gt; Use client settings for checkin/checkout</b> is enabled, the Server Configurations settings are applicable only for Remote Commuter check in and check out. For details, see "<a href="#">Commuter License Check In and Check Out</a>" on page 135.</p> <p>The changes for Server Configurations doesn't reflect in the Web Server Configurations. You should change the settings in the server.xml in the installed relative path \HP\HP AutoPass License Server\HP AutoPass License Server\HP AutoPass License Server\conf</p> </div> </li> </ul>
<p><b>Enable Discovery</b></p>	<p>Enables you to allow other License Servers and clients to discover the License Server when searching the subnet to borrow or to check out a license.</p> <p>You can configure the following options:</p> <ul style="list-style-type: none"> <li> <p><b>Enable Discover:</b> Allows other License Servers and client to find the License Server when browsing the subnet.</p> </li> <li> <p><b>Excluded Clients:</b> A list of all License Servers and client computers that are prevented from finding the License Server. Enter a client or License Server IP address and click <b>Add</b> to block License Server discovery.</p> </li> </ul>



## SSL Configuration

To install and configure SSL support on Tomcat, you need to follow the below steps.

1. Create a keystore file to store the server's private key and self-signed certificate by executing the following command:

### Windows:

```
"%JAVA_HOME%\bin\keytool" -genkey -alias tomcat -keyalg RSA
```

### Unix:

```
$JAVA_HOME/bin/keytool -genkey -alias tomcat -keyalg RSA and specify a password value of "changeit".
```

2. Uncomment the "SSL HTTP/1.1 Connector" entry in \$CATALINA\_BASE/conf/server.xml and modify as described in the section below.

## Prepare the Certificate Keystore

Tomcat currently operates only on JKS, PKCS11 or PKCS12 format keystores. The JKS format is Java's standard "Java KeyStore" format, and is the format created by the keytool command-line utility. This tool is included in the JDK. The PKCS12 format is an internet standard, and can be manipulated via (among other things) OpenSSL and Microsoft's Key-Manager.

Each entry in a keystore is identified by an alias string. Whilst many keystore implementations treat aliases in a case insensitive manner, case sensitive implementations are available. The PKCS11 specification, for example, requires that aliases are case sensitive. To avoid issues related to the case sensitivity of aliases, it is not recommended to use aliases that differ only in case.

To import an existing certificate into a JKS keystore, please read the documentation (in your JDK documentation package) about keytool. Note that OpenSSL often adds readable comments before the key, but keytool does not support that. So if your certificate has comments before the key data, remove them before importing the certificate with keytool.

To import an existing certificate signed by your own CA into a PKCS12 keystore using OpenSSL you would execute a command like:

```
openssl pkcs12 -export -in mycert.crt -inkey mykey.key  
-out mycert.p12 -name tomcat -CAfile myCA.crt  
-caname root -chain
```

For more advanced cases, consult the OpenSSL documentation.

To create a new JKS keystore from scratch, containing a single self-signed Certificate, execute the following from a terminal command line:

Windows:

```
"%JAVA_HOME%\bin\keytool" -genkey -alias tomcat -keyalg RSA
```

Unix:



**\$JAVA\_HOME/bin/keytool -genkey -alias tomcat -keyalg RSA**

(The RSA algorithm should be preferred as a secure algorithm, and this also ensures general compatibility with other servers and components.)

This command will create a new file, in the home directory of the user under which you run it, named ".keystore". To specify a different location or filename, add the `-keystore` parameter, followed by the complete pathname to your keystore file, to the keytool command shown above. You will also need to reflect this new location in the `server.xml` configuration file, as described later. For example:

Windows:

```
"%JAVA_HOME%\bin\keytool" -genkey -alias tomcat -keyalg RSA
```

```
-keystore \path\to\my\keystore
```

Unix:

```
$JAVA_HOME/bin/keytool -genkey -alias tomcat -keyalg RSA
```

```
-keystore /path/to/my/keystore
```

After executing this command, you will first be prompted for the keystore password. The default password used by Tomcat is "changeit" (all lower case), although you can specify a custom password if you like. You will also need to specify the custom password in the `server.xml` configuration file, as described later.

Next, you will be prompted for general information about this Certificate, such as company, contact name, and so on. This information will be displayed to users who attempt to access a secure page in your application, so make sure that the information provided here matches what they will expect.

Finally, you will be prompted for the key password, which is the password specifically for this Certificate (as opposed to any other Certificates stored in the same keystore file). You **MUST** use the same password here as was used for the keystore password itself. This is a restriction of the Tomcat implementation. (Currently, the keytool prompt will tell you that pressing the ENTER key does this for you automatically.)

If everything was successful, you now have a keystore file with a Certificate that can be used by your server.

**Note:** Your private key password and keystore password should be the same. If they differ, you will get an error along the lines of `java.io`.

## Edit the Tomcat Configuration File

Tomcat can use two different implementations of SSL:

- The JSSE implementation provided as part of the Java runtime (since 1.4)
- The APR implementation, which uses the OpenSSL engine by default.

The exact configuration details depend on which implementation is being used. If you configured Connector by specifying `generic protocol="HTTP/1.1"` then the implementation used by Tomcat is chosen automatically. If the installation uses APR - i.e. you have installed the Tomcat native library - then it will use the APR SSL implementation, otherwise it will use the Java JSSE implementation.

As configuration attributes for SSL support significantly differ between APR vs. JSSE implementations, it is recommended to avoid auto-selection of implementation. It is done by specifying a classname in the protocol attribute of the Connector.

To define a Java (JSSE) connector, regardless of whether the APR library is loaded or not, use one of the following:

```
<!-- Define a HTTP/1.1 Connector on port 8443, JSSE BIO implementation -->  
<Connector protocol="org.apache.coyote.http11.Http11Protocol"  
port="8443" .../>  
  
<!-- Define a HTTP/1.1 Connector on port 8443, JSSE NIO implementation -->  
<Connector protocol="org.apache.coyote.http11.Http11NioProtocol"  
port="8443" .../>
```

Alternatively, to specify an APR connector (the APR library must be available) use:

```
<!-- Define a HTTP/1.1 Connector on port 8443, APR implementation -->  
<Connector protocol="org.apache.coyote.http11.Http11AprProtocol"  
port="8443" .../>
```

If you are using APR, you have the option of configuring an alternative engine to OpenSSL.

```
<Listener className="org.apache.catalina.core.AprLifecycleListener"  
SSLEngine="someengine" SSLRandomSeed="somedevice" />
```

The default value is

```
<Listener className="org.apache.catalina.core.AprLifecycleListener"  
SSLEngine="on" SSLRandomSeed="builtin" />
```

So to use SSL under APR, make sure the SSLEngine attribute is set to something other than off. The default value is on and if you specify another value, it has to be a valid engine name.

SSLRandomSeed allows to specify a source of entropy. Productive system needs a reliable source of entropy but entropy may need a lot of time to be collected therefore test systems could use no blocking entropy sources like "/dev/urandom" that will allow quicker starts of Tomcat.

The final step is to configure the Connector in the \$CATALINA\_BASE/conf/server.xml file, where \$CATALINA\_BASE represents the base directory for the Tomcat 6 instance. An example <Connector> element for an SSL connector is included in the default server.xml file installed with Tomcat. For JSSE, it should look something like this:

```
<!-- Define a SSL Coyote HTTP/1.1 Connector on port 8443 -->  
<Connector  
protocol="org.apache.coyote.http11.Http11Protocol"  
port="8443" maxThreads="200"  
scheme="https" secure="true" SSLEnabled="true"
```

```
keystoreFile="${user.home}/.keystore" keystorePass="changeit"  
clientAuth="false" sslProtocol="TLS"/>
```

The APR connector uses different attributes for many SSL settings, particularly keys and certificates. An example of an APR configuration is:

```
<!-- Define a SSL Coyote HTTP/1.1 Connector on port 8443 -->  
<Connector  
protocol="org.apache.coyote.http11.Http11AprProtocol"  
port="8443" maxThreads="200"  
scheme="https" secure="true" SSLEnabled="true"  
SSLCertificateFile="/usr/local/ssl/server.crt"  
SSLCertificateKeyFile="/usr/local/ssl/server.pem"  
SSLVerifyClient="optional" SSLProtocol="TLSv1+TLSv1.1+TLSv1.2"/>
```

The configuration options and information on which attributes are mandatory for the JSSE based connectors (BIO and NIO) are documented in the SSL Support section of the HTTP connector configuration reference. The configuration options and information on which attributes are mandatory for the APR connector are documented in the HTTPS section of the APR How-To.

The port attribute is the TCP/IP port number on which Tomcat will listen for secure connections. You can change this to any port number you wish (such as to the default port for https communications, which is 443). However, special setup (outside the scope of this document) is necessary to run Tomcat on port numbers lower than 1024 on many operating systems.

If you change the port number here, you should also change the value specified for the redirectPort attribute on the non-SSL connector. This allows Tomcat to automatically redirect users who attempt to access a page with a security constraint specifying that SSL is required, as required by the Servlet Specification.

After completing these configuration changes, you must restart Tomcat as you normally do, and you should be in business. You should be able to access any web application supported by Tomcat via SSL. For example, try:

```
https://localhost:8443/
```

and you should see the usual Tomcat splash page (unless you have modified the ROOT web application).

## Installing a Certificate from a Certificate Authority

To obtain and install a Certificate from a Certificate Authority (like verisign.com, thawte.com or trustcenter.de), read the previous section and then follow these instructions:

### Create a local Certificate Signing Request (CSR)

In order to obtain a Certificate from the Certificate Authority of your choice you have to create a so called Certificate Signing Request (CSR). That CSR will be used by the Certificate Authority to create

a Certificate that will identify your website as "secure". To create a CSR follow these steps:

Create a local self-signed Certificate (as described in the previous section):

```
keytool -genkey -alias tomcat -keyalg RSA
```

```
-keystore <your_keystore_filename>
```

**Note:** In some cases you will have to enter the domain of your website (i.e. www.myside.org) in the field "first- and lastname" in order to create a working Certificate.

The CSR is then created with:

```
keytool -certreq -keyalg RSA -alias tomcat -file certreq.csr
```

```
-keystore <your_keystore_filename>
```

Now you have a file called certreq.csr that you can submit to the Certificate Authority (look at the documentation of the Certificate Authority website on how to do this). In return you get a Certificate.

## Importing the Certificate

Now that you have your Certificate you can import it into you local keystore. First of all you have to import a so called Chain Certificate or Root Certificate into your keystore. After that you can proceed with importing your Certificate.

- Download a Chain Certificate from the Certificate Authority you obtained the Certificate from.

For Verisign.com commercial certificates go to:

<http://www.verisign.com/support/install/intermediate.html>

For Verisign.com trial certificates go to: [http://www.verisign.com/support/verisign-intermediate-ca/Trial\\_Secure\\_Server\\_Root/index.html](http://www.verisign.com/support/verisign-intermediate-ca/Trial_Secure_Server_Root/index.html)

For Trustcenter.de go to: <http://www.trustcenter.de/certservices/cacerts/en/en.htm#server>

For Thawte.com go to: <http://www.thawte.com/certs/trustmap.html>

- Import the Chain Certificate into your keystore

```
keytool -import -alias root -keystore <your_keystore_filename>
```

```
-trustcacerts -file <filename_of_the_chain_certificate>
```

- And finally import your new Certificate

```
keytool -import -alias tomcat -keystore <your_keystore_filename>
```

```
-file <your_certificate_filename>
```

## License Server Configuration - Frequently Asked Questions

Why did the Mail Configuration page open as the start up page when I logged into the License Server?

The Mail Configuration settings are required during the first login to the License Server.

Where does the License Server store the audit log file?

The log file is found at <Your data directory>\Autopass\LicenseServer\data\log>.

How do I change the HP AutoPass License Server .log file location?

To change the .log file location, modify the log4j.properties file located at <Your data directory>\Autopass\LicenseServer\data\conf>.

To change the .log file location, make sure that the following information is entered into the .log4j.properties file:

```
log4j.logger.com.hp.autopassj=INFO,APJ
log4j.appender.APJ=org.apache.log4j.RollingFileAppender
log4j.appender.APJ.File=<log file path>\\autopassls.log
log4j.appender.APJ.MaxFileSize=10MB
log4j.appender.APJ.MaxBackupIndex=10
log4j.appender.APJ.Append=True
log4j.appender.APJ.layout=org.apache.log4j.PatternLayout
log4j.appender.APJ.layout.ConversionPattern=%-5p- %d{MMM dd HH:mm:ss} - %m%n
```

**Note:** You need to restart the License Server in order for the changes to take effect.

How do I change the License Server .log file size?

To change the .log file size, modify the log4j.properties file located at <Your data directory>\Autopass\LicenseServer\data\conf>.

To change the .log file location, make sure that the following information is entered into the .log4j.properties file:

```
log4j.logger.com.hp.autopassj=INFO,APJ
log4j.appender.APJ=org.apache.log4j.RollingFileAppender
log4j.appender.APJ.File=<Provide the log file path here>\\autopass1s.log
log4j.appender.APJ.MaxFileSize=<log file size>
log4j.appender.APJ.MaxBackupIndex=10
log4j.appender.APJ.Append=true
log4j.appender.APJ.layout=org.apache.log4j.PatternLayout
log4j.appender.APJ.layout.ConversionPattern=%-5p - %d{MMM dd HH:mm:ss} - %m%n
```

**Note:** You need to restart the License Server in order for the changes to take effect.

If I disable the Borrow option after another License Server has borrowed licenses, can the borrowing License Server return the licenses?

Yes.

How do I prevent another License Server or a client machine from detecting this License Server?

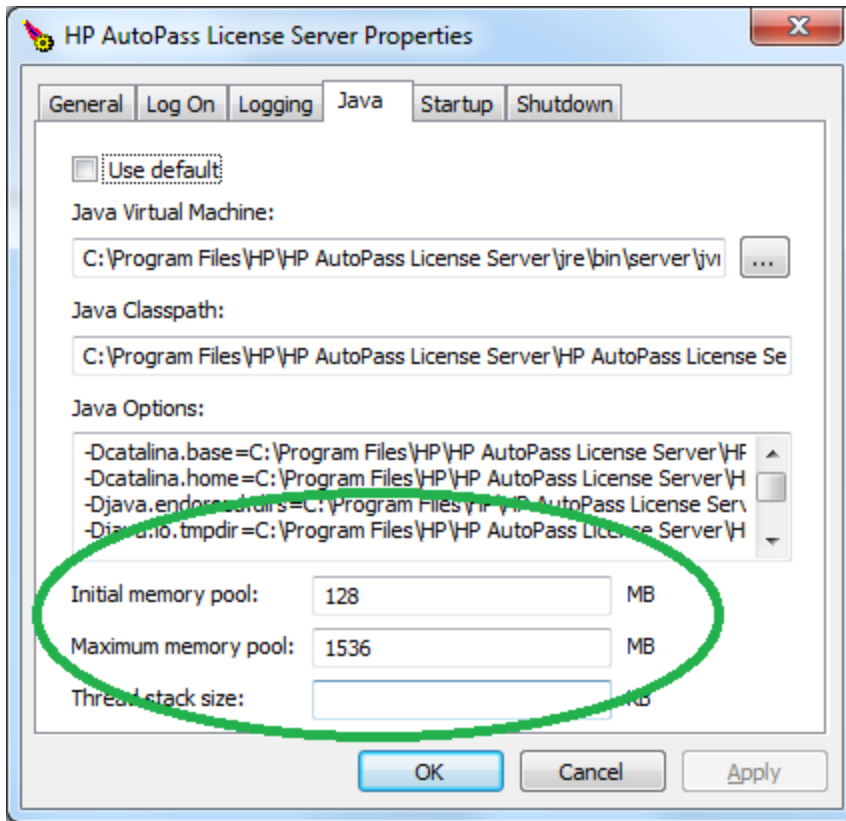
In the Main tab (Configuration pane), enter the License Server's or client's IP address and click **Add**. The client user or License Server is added to the list of Excluded Clients and cannot discover the License Server.

How do I increase Java heap memory size?

To change the Java heap memory, modify the hpLicSvrw.exe file located in <Your installation directory>\HP \bin>.

To modify the memory, do the following:

1. Double-click on the hpLicSvrw.exe file.
2. Select the **Java** tab.
3. In the **Maximum memory pool** field, enter the amount of memory you want.



**Note:** The maximum amount of memory allowed is 1408 MB.

4. Restart the License Server.

# Chapter 6: Integration with HP Usage Hub

This chapter includes:

## Concepts

- ["Usage Hub Configuration Overview" on the next page](#)

## Reference

- ["Usage Hub Server Tab \(Configuration Pane\)" on page 42](#)

["Usage Hub Configuration - Frequently Asked Questions" on page 44](#)



# Concepts

## Usage Hub Configuration Overview

If you have HP Usage Hub running in your environment, AutoPass License Server can report usage data to the Hub server.

Follow the steps below to set configuration options for Usage Hub Server.

- Usage Hub IP/Host Name
- Changing Usage Hub default credentials
- Enabling/Disabling Usage Data Reporting
- Data Synchronization Interval with Hub

For details about the individual options, see [Usage Hub Server Tab \(Configuration Pane\)](#)

# Reference

## Usage Hub Server Tab (Configuration Pane)

The Usage Hub Server tab enables you to configure Usage HubLicense Server settings.

Main | User Management | Redundancy | LDAP | **Usage Hub Server**

### Usage Collection and Communication Configurations

Usage Hub IP/HostName:  : 443 Test Connection

Change Default User Credentials For Hub  
*[The credentials should match usage hub web service user]*

User Name:

Password:

Disable Usage Data reporting

Data Synchronization Interval With Hub:  Minutes

Save Cancel

<b>To access</b>	<b>Configuration pane &gt; Usage Hub Server tab</b>
<b>Important information</b>	This tab is enabled only if <b>Usage Hub Connector</b> is checked in the Main Configuration tab.

UI Element	Description
<p><b>Usage Collection and Communication Configurations</b></p>	<p>Enables you to configure the settings for usage hub data collection and communication with License Server</p> <p>You can enter the following details:</p> <ul style="list-style-type: none"> <li>• <b>Usage Hub IP/Host Name</b> The IP/Host name of the server to which the license usage data is pushed to. <i>(required field)</i></li> <li>• <b>Test Connection:</b> The IP/Hostname connection can be tested. Click <b>Test Connection</b> after entering a IP/Hostname.</li> <li>• <b>Change Default User Credentials for Hub:</b> Enter the valid username and password, if default credentials of Usage Hub needs to be changed.</li> </ul> <div style="background-color: #f0f0f0; padding: 5px; margin: 10px 0;"> <p><b>Note:</b> The credentials should match usage hub web service user.</p> </div> <ul style="list-style-type: none"> <li>• <b>Disable Usage Data Reporting:</b> Allows you to disable usage data reporting.</li> <li>• <b>Data Synchronization Interval With Hub:</b> The usage data of licenses with License Server and Usage Hub can be synchronized in regular intervals which is configurable. Enter the values in minutes.</li> </ul>

## Usage Hub Configuration - Frequently Asked Questions

Why are the rejected requests not captured by Usage Hub?

It is because the maximum rejected requested capacity will not be tracked if reservation is set and capacity requested is more than the reserved capacity.

How is usage captured in redundancy mode?

Usage is sent by primary and secondary servers individually. Secondary will capture usage data only when primary is down.

# Chapter 7: License Server Redundancy Configuration

This chapter includes:

## Concepts

- ["License Server Redundancy - Overview" on the next page](#)
- ["License Server Redundancy - Considerations and Limitations" on the next page](#)

## Tasks

- ["How to Configure License Server Redundancy" on page 48](#)

## Reference

- ["Redundancy Tab \(Configuration Pane\)" on page 50](#)

["License Server Redundancy - Frequently Asked Questions" on page 52](#)

["License Server Redundancy - Troubleshooting and Limitations" on page 53](#)

## Concepts

### License Server Redundancy - Overview

After you install and configure your License Server, you can configure server redundancy for a License Server. **Server redundancy**<sup>1</sup> is the practice of having a secondary server prepared as a backup to a primary server. This secondary server is operational only when the primary server is unavailable.

By default, each License Server is considered a standalone server immediately after installation. However, each License Server can support an additional License Server to serve as a redundant server.

When both the primary and secondary License Servers are operational, the data in both License Servers is automatically synchronized.

When you configure redundancy in a pair of License Servers, the primary License Server controls the operation of all License Server functions, and defines all configuration settings and information. For example, the configuration settings from the primary server are in effect, regardless of any configuration changes made on the secondary server. Any attempts to access the secondary License Server via a Web browser are redirected to the primary License Server.

If the license of the primary License Server expires, server redundancy is not active and the secondary License Server does not function in place of the primary License Server. In this case, client users cannot check out licenses and checked out licenses cannot be renewed. Likewise, licenses cannot be checked out or renewed if the primary License Server is not operational and the secondary License Server license expires.

**Note:** Client users can still check in licenses into an expired License Server, regardless of redundancy status or availability.

### License Server Redundancy - Considerations and Limitations

When configuring redundancy, note the following:

- Both the primary and secondary License Servers must be the same server version.
- You must configure the secondary License Server before configuring the primary License Server. For task details, see ["How to Configure License Server Redundancy" on page 48](#)
- A primary License Server can have only one secondary License Server.

<sup>1</sup>The configuration in which a backup server is prepared in the event of a failure or unavailability of the primary server.

- A secondary License Server cannot be shared with more than one primary License Server.
- A License Server acting as the primary License Server should have a license for the secondary License Server.
- If you configure a standalone License Server as a primary License Server, only the licenses installed on the standalone server are maintained when the server becomes a primary License Server. You must update all other configuration settings.

## Tasks

### How to Configure License Server Redundancy

This task describes how to configure server redundancy for the License Server.

1. In the secondary License Server, in the Redundancy Tab (Configuration Pane), select the **Enable Redundancy** option check box and the **Act as Secondary** option check box.
2. Enter the **Local IP** address in the edit box for the current License Server. If you want to search the subnet for available IP addresses, click **Select** to list all available IP addresses and select an address from the search box.
3. In the primary License Server, install the licenses for the primary and the secondary License Servers.

**Note:** The licenses for the primary and secondary servers should be locked to the primary IP address of the primary License Server.

4. In the primary License Server, in the Redundancy Tab (Configuration Pane), select the **Enable Redundancy** option check box.
5. Select the **Protocol Type**.
6. Enter the **Local IP**, the **Redundant IP**, the **Redundant Port**, and the **Protocol Port** for the secondary License Server. For details on these options, see "[Redundancy Tab \(Configuration Pane\)](#)" on page 50.
7. Click **Save**.



After redundancy is configured, the server status is displayed in the License Usage pane, as seen in the example below.

The screenshot shows the HP AutoPass License Server interface. The top navigation bar includes: LICENSE USAGE, LICENSE MANAGEMENT, RESERVATION MANAGEMENT, REMOTE COMMUTER, USER MANAGEMENT, CONFIGURATION, and ABOUT. The main content area is titled "License Usage" and features a "Select Product" dropdown menu set to "All Products". Below this is a table with columns: Feature ID: Version, Feature Description, Available, Live, Commuter, and Total. The table lists 10 product entries, all with an "Available" count of 1000. The "Live" and "Commuter" columns show 0 for all entries, except for the first row which shows 0 Live and 20 Commuter. The "Total" column shows 1000 for all entries. A red box highlights the top right corner of the pane, containing the server status indicators "Primary" (with a green upward arrow) and "Secondary" (with a green downward arrow), along with search and help icons. A red arrow points to the "Primary" and "Secondary" indicators in the bottom right corner of the pane, which also shows "18 items found, displaying 1 to 10." and a "Manage Commuter" button. Below the main table, a smaller table shows the "Live", "Commuter", and "Total" counts for the first two rows.

Feature ID: Version	Feature Description	Available	Live	Commuter	Total
10594:1	HP Unified Functional Testing Concurrent User	1000	0	20	1000
10600:1	Service Test Concurrent User	1000	0	0	1000
10606:1	QuickTest Professional Core Concurrent User	1000	0	0	1000
10608:1	QuickTest Professional Add-ins Concurrent User	1000	0	0	1000
10610:1	QuickTest Pro Terminal Emulator Add-in Concurrent User	1000	0	0	1000
10612:1	QuickTest Pro Siebel Add-in Concurrent User	1000	0	0	1000
10614:1	QuickTest Pro .NET Add-in Concurrent User	1000	0	0	1000
10616:1	QuickTest Pro Java Add-in Concurrent User	1000	0	0	1000
10618:1	QuickTest Professional Add-in for SAP Solutions Concurrent User	1000	0	0	1000
10620:1	QuickTest Pro Oracle Add-in Concurrent User	1000	0	0	1000

If a server is operational, it is represented by a green arrow pointing upward. If a server is not operational, it is represented with a red arrow pointing downward. If the primary and secondary License Servers are represented by green arrows pointing upward, the primary License Server is handling the server operations.

**Note:** If you need to change the secondary License Server defined for a primary License Server, you must first configure the primary License Server as a standalone License Server by clearing the Enable Redundancy option. After saving this configuration change, you may then configure the now standalone License Server as a primary License Server with a different secondary License Server.

## Reference

### Redundancy Tab (Configuration Pane)

This tab enables you to configure License Server redundancy.

The screenshot shows the 'Redundancy' tab selected in a configuration pane. The pane has a title 'Redundancy Configuration' and a horizontal navigation bar with tabs: 'Main', 'User Management', 'Redundancy' (active), 'LDAP', and 'Usage Hub Server'. Below the title, there are several configuration options:

- Enable Redundancy:** A checkbox that is currently unchecked.
- Act as Secondary:** A checkbox that is currently unchecked.
- Local IP:** A text input field with a 'select' link to its right.
- Redundant IP:** A text input field.
- Redundant Port:** A text input field containing the value '9001'.
- Protocol Type:** A dropdown menu showing 'UDP'.
- Protocol Port:** A text input field containing the value '7900'.

At the bottom left of the configuration area, there are two buttons: a blue 'Save' button and a grey 'Cancel' button.

<b>To access</b>	<b>Configuration pane &gt; Redundancy tab</b>
<b>Important information</b>	Each primary License Server can have only one secondary License Server.
<b>Relevant tasks</b>	<a href="#">"How to Configure License Server Redundancy" on page 48</a>
<b>See also</b>	<ul style="list-style-type: none"><li>• <a href="#">"License Server Redundancy - Overview" on page 46</a></li><li>• <a href="#">"License Server Redundancy - Considerations and Limitations" on page 46</a></li></ul>

User interface elements are described below:

UI Element	Description
<b>Enable Redundancy</b>	Enables the License Server to serve as a primary or secondary License Server.
<b>Act as Secondary</b>	Enables the License Server to serve as the secondary License Server for the primary License Server defined in the IP settings.
<b>Local IP</b>	The IP address of the same License Server (the primary License Server if configuring a primary server or the secondary License Server if configuring a secondary server).
<b>Select</b>	Displays the Local IP address of the License Server.
<b>Redundant IP</b>	<p>The IP address for the secondary License Server.</p> <p><b>Note:</b> This option is available only when configuring the primary License Server.</p>
<b>Redundant Port</b>	<p>The port on which the internal database of the secondary License Server listens to synchronize the data between the primary and secondary License Servers.</p> <p><b>Note:</b> This option is available only when configuring the primary License Server.</p>
<b>Protocol Type</b>	<p>The connection protocol for connecting to the partner License Server: <b>UDP</b> (default) or <b>TCP</b></p> <p><b>Note:</b> If the primary and secondary servers are located in the same subnet, it is recommend to use the <i>UDP</i> protocol. If the servers are on different subnets, you should use the <i>TCP</i> protocol.</p>
<b>Protocol Port</b>	The port on which the primary and secondary License Servers communicate to exchange their status.

## License Server Redundancy - Frequently Asked Questions

How can I disable redundancy for a specific primary or secondary License Server?

In the Redundancy tab (Configuration pane), clear the **Enable Redundancy** check box.

How do I define a License Server as a primary License Server?

In the Redundancy tab (Configuration pane), select the **Enable Redundancy** option check box and provide the details for the secondary server, as described in "[How to Configure License Server Redundancy](#)" on page 48. For details on the Redundancy tab, see "[Redundancy Tab \(Configuration Pane\)](#)" on page 50.

How do I define a License Server as a secondary License Server?

In the Redundancy tab (Configuration pane), select the **Enable Redundancy** option check box and the **Act as Secondary** option checkbox. Provide the details for the primary server, as described in "[How to Configure License Server Redundancy](#)" on page 48. For details on the Redundancy tab, see "[Redundancy Tab \(Configuration Pane\)](#)" on page 50.

## License Server Redundancy - Troubleshooting and Limitations

Why can I not connect to the secondary License Server when the primary License Server is down, even after I have configured both License Servers?

You must ensure that both the **Redundant Port** and **Protocol Port** on both License Servers are open. If one or both of the ports are closed on either of the servers, the automatic communication and data synchronization does not work.

# Chapter 8: License Server User and User Group Management

This chapter includes:

## Concepts

- ["License Server Users - Overview" on the next page](#)
- ["License Server User Groups - Overview" on the next page](#)
- ["User Group Privilege Levels" on the next page](#)
- ["License Server User Group Privilege Matrix" on page 56](#)
- ["User and User Group Sources" on page 57](#)

## Tasks

- ["How to Manage License Server Users and User Groups" on page 59](#)

## Reference

- ["Users Tab \(User Management Pane\)" on page 63](#)
- ["User Groups Tab \(User Management Pane\)" on page 64](#)
- ["User Management Tab \(Configuration Pane\)" on page 68](#)
- ["LDAP Tab \(Configuration Pane\)" on page 71](#)

**["License Server User and User Group Management - Frequently Asked Questions" on page 74](#)**

**["License Server User and User Group Management - Troubleshooting and Limitations" on page 76](#)**

# Concepts

## License Server Users - Overview

After initially configuring the License Server, you create **administrative users**<sup>1</sup> responsible for the creation and maintenance of licenses and client users. License Server users, unlike client users, have access to the License Server functionality to ensure the running and operation of the License Server.

By default, the License Server has one user, named *admin* (which is used to log in to the License Server the first time). On the initial login to the License Server, you log in using the *admin* user. However, after logging in once, you can create additional users and assign them specific roles and privileges for using the License Server.

For details on how to create users, see ["How to Manage License Server Users and User Groups" on page 59](#).

## License Server User Groups - Overview

After you create administrative users, you also create user groups. These user groups enable you to group administrative users in a way suited to your organization and license usage.

### Example

You create 16 new users for your License Server. These 16 users are responsible for administering the licenses of four different products. Each product has 4 users, who rotate administrative responsibility throughout the day. Using the user groups, you can group each group of four users together to ensure easier and more visible organization of the users.

However, in addition to helping you organize License Server users, you can use user groups to administer License Server access privileges. Depending on a user's group and the corresponding privilege levels, the user has varying access privileges which enable or prevent the user from performing certain administrative tasks. For details, see ["User Group Privilege Levels" below](#).

For details on creating and managing user groups, see ["How to Manage License Server Users and User Groups" on page 59](#).

## User Group Privilege Levels

For each user group (and by extension, each user), you assign a specific privilege level. The access privilege level determines the access level to various License Server tasks.

**Note:** You cannot assign a privilege level directly to a user.

<sup>1</sup>A user created in the License Server responsible for administering the License Server.

You can assign any of the following access privilege levels to a group:

- **Administrator:** Users with this access privilege level are given full permissions to perform all License Server tasks.
- **Product Admin:** Users with this access privilege level are given full permissions to install and maintain licenses for products to which they are assigned. They cannot perform general License Server administrative tasks, including License Server configuration and user and user group management tasks.
- **View-Only:** Users with this access privilege are allowed to view license information. They cannot perform general License Server administrative tasks.

By default, any new user group is created with the *View-Only* access permission. You can modify this access privilege level later if needed. For details, see ["User Groups Tab \(User Management Pane\)" on page 64](#).

All users not added to a user group are given *View-Only* permissions.

For additional details about the specific tasks permitted for each access privilege level, see ["License Server User Group Privilege Matrix" below](#).

For details on creating and modifying user group privilege levels, see ["Set user group access privileges" on page 62](#).

## License Server User Group Privilege Matrix

This table specifies the ability to perform various License Server operations based on user group access privileges. For details on setting access privileges, see ["Set user group access privileges"](#).

Functionality	Administrator	Product Admin	View Only
Manage Commuter	Yes	Yes*	No
Feature Report	Yes	Yes	Yes
Export Feature Report	Yes	Yes	Yes
Download Commuter/Remote Commuter License Details	Yes	Yes*	No
Search Result Report	Yes	Yes	Yes
Revoke	Yes	Yes*	No
Purge	Yes	No	No
Install License	Yes	Yes	Yes
License Management	Yes	Yes	Yes



Functionality	Administrator	Product Admin	View Only
Export License Details to Excel	Yes	Yes	Yes
Archive Licenses	Yes	Yes*	No
Manage Archived License	Yes	Yes*	No
Borrow License	Yes	Yes*	No
View Checked-In History	Yes	Yes	Yes
Delete/Return the archived licenses	Yes	Yes*	No
License Clean-up	Yes	Yes*	No
Creating a Pool	Yes	Yes	Yes
Mapping feature to a pool	Yes	Yes*	No
Mapping product to a pool	Yes	Yes*	No
Remote commuter check-out	Yes	Yes*	No
Remote commuter check-in	Yes	Yes	Yes
User Management	Yes	No	No
Configuration	Yes	No	No

\* Privilege is limited to the product assigned to the product administrator user.

## User and User Group Sources

When you create users and user groups, you can choose to store user and user group information in the following locations:

- **License Server internal database:** All user and user group information is stored locally with the License Server and you can create, modify, and delete data from the database.
- **LDAP database:** All user and user group information is stored on an external LDAP server. You import the users and/or user groups from the LDAP server into the License Server. You cannot create, modify, or delete data from the LDAP server from within the License Server.

After importing user and user groups from an LDAP server, you cannot modify user information, or add or delete users, as these are stored on the LDAP server. However, you can add users that are imported from an LDAP server to user groups stored on the License Server's internal database and grant those users privilege levels.

**Note:** If you import user groups from the LDAP server, you cannot add users created and stored in the License Server internal database.

For information on configuring LDAP connection, see ["LDAP Tab \(Configuration Pane\)" on page 71](#).

# Tasks


## How to Manage License Server Users and User Groups

This task describes the procedures necessary to create and maintain License Server administrative users and user groups.

This task includes the following steps:

- ["Create a user" below](#)
- ["Modify a user's status" on the next page](#)
- ["Update user details" on the next page](#)
- ["Reset a user's password" on the next page](#)
- ["Add a user to existing user groups" on page 61](#)
- ["Add a new user group" on page 61](#)
- ["Update group details" on page 61](#)
- ["Set user group access privileges" on page 62](#)
- ["Import groups from an LDAP server" on page 62](#)
- ["Associate products with a Product Admin group" on page 62](#)

### Create a user

1. In the Users tab (User Management pane), click  button.
2. In the Create New User dialog box, enter the first and last name of the user and the user's email address.

**Note:** You must enter a valid e-mail address because the License Server sends a message containing the user's password details to the address listed.

3. Click **Create**.

A new user is added to the users table in the upper pane of the Users Tab. The user's details are displayed in the lower pane.

#### Modify a user's status

1. In the upper pane of the Users tab (User Management pane), select the radio button for the user whose status you want to update.
2. In the lower pane, click the **Change Status** link.

The user's status changes in the lower pane (to *active* or *inactive*).

**Note:** If a user is listed as *inactive*, the user is unable to log in to the License Server.

#### Update user details

1. In the upper pane of the Users tab (User Management pane), select the radio button for the user whose status you want to update.
2. In the lower pane, enter the modified details in the relevant edit boxes.

**Note:** You can update the email address only for the default administrator.

3. Click **Save**.

The new details are displayed in the user table in the upper pane of the Users tab.

**Note:** You can also modify a user's details by clicking the **<user name>** link at the top of the License Server window after logging in as the user.


#### Reset a user's password

1. In the upper pane of the Users tab (User Management pane), select the radio button for the user whose password you want to reset.
2. In the lower pane, click the **Reset Password** link.


The user's password is reset and an e-mail message is sent with the new password to the address defined in the lower pane.

**Note:** You can also reset a user password by entering a user's login name and clicking the **Forgot Password** link on the License Server login page.


#### Add a user to existing user groups

1. In the upper pane of the Users tab (User Management pane), select the radio button for the user you want to add to a user group.
2. In the lower pane, click the **Search** button . The Assign Groups dialog box opens.
3. In the Assign Groups dialog box, select the check box for any group to which you want to add the user.
4. Click **Add**.

The selected groups are added to the Associated User Groups list in the lower pane of the Users tab.

**Note:** To remove a user from a group, click the **Delete** button  next to the group name.

#### Add a new user group

1. In the User Groups tab (User Management pane), click  button.
2. In the Create New Group dialog box, enter the **Group Name**, **Description**, and **Group Email**.
3. If you want this group to have administrator access privileges, select the **Mark as administrator** option.
4. Click **Create**.

A new user group is added to the table in the upper pane of the User Groups tab and the group details are displayed in the lower pane.

#### Update group details

1. In the upper pane of the User Groups tab (User Management pane), select the radio button for the user group whose status you want to update.
2. In the lower pane, enter the modified details in the relevant edit boxes.
3. Click **Save**.

The new details are displayed in the User Groups table in the User Groups tab.

#### Set user group access privileges

1. In the upper pane of the User Groups tab (User Management tab), select the radio button of the user for which you want to set access privileges.
2. In the lower pane, in the Manage User Groups tab, select the access privilege level.
3. Click **Save**.

The Manage User Groups tab displays the correct access privilege level and the privilege level details.


**Note:** By default, all user groups are initially assigned as **View Only**.

#### Import groups from an LDAP server

1. In the User Management tab (Configuration pane), select **LDAP** as the source for users and user groups. For details, see "[User Management Tab \(Configuration Pane\)](#)" on page 68
2. Click **Save**.
3. In the LDAP tab (Configuration pane), enter the details for your LDAP server. For details, see "[LDAP Tab \(Configuration Pane\)](#)" on page 71.
4. Click **Save**.

The users and/or user groups are added to the Users tab and User Groups tab in the User Management pane.

#### Associate products with a Product Admin group

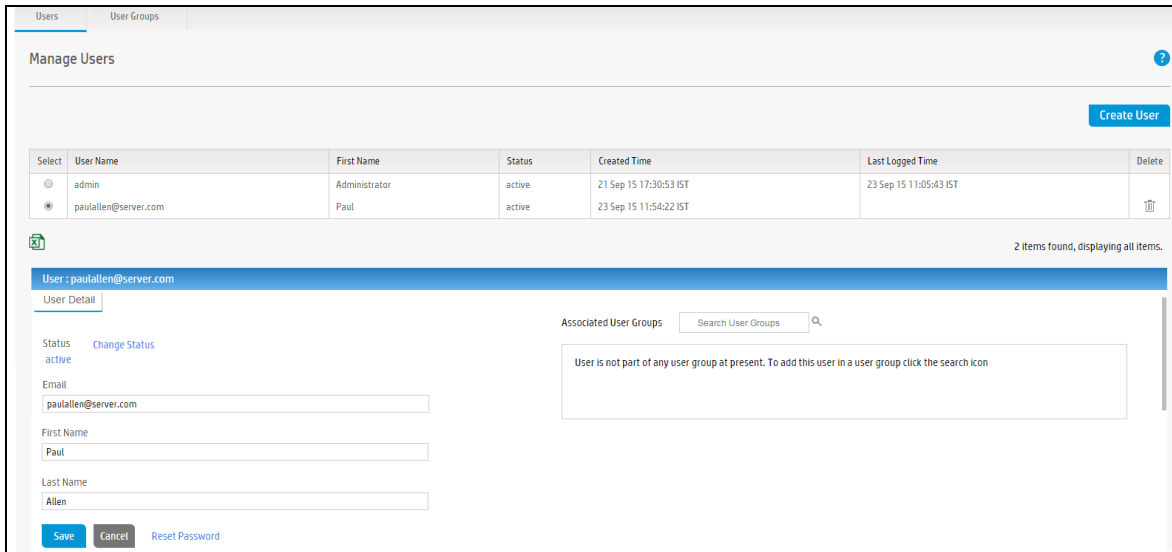
1. In the User Groups tab (User Management pane), select the Product Admin group to which you want to associate products.
2. In the Manage User Groups tab (lower pane of the Users tab), click the **Search** button . The Assign Products dialog box opens.
3. In the Assign Products dialog box, select the products for this group and click **Add**.

The products for this group are displayed in the Associated Products list in the Manage User Groups tab.

# Reference






## Users Tab (User Management Pane)

This tab enables you to add administrative users to the License Server, add and maintain user details, and add users to user groups.



<b>To access</b>	<b>User Management pane &gt; Users tab</b>
<b>Important information</b>	<ul style="list-style-type: none"> <li>• You can also update user credentials when logged into the License Server by clicking the <b>&lt;user name&gt;</b> link at the top of the License Server window.</li> <li>• Before you create a new user, ensure that the mail server is configured. For details, see <a href="#">"Mail Configuration" on page 28</a>.</li> </ul>
<b>Relevant tasks</b>	<ul style="list-style-type: none"> <li>• <a href="#">"Create a user" on page 59</a></li> <li>• <a href="#">"Modify a user's status" on page 60</a></li> <li>• <a href="#">"Update user details" on page 60</a></li> <li>• <a href="#">"Reset a user's password" on page 60</a></li> <li>• <a href="#">"Add a user to existing user groups" on page 61</a></li> </ul>
<b>See also</b>	<a href="#">"License Server Users - Overview" on page 55</a>

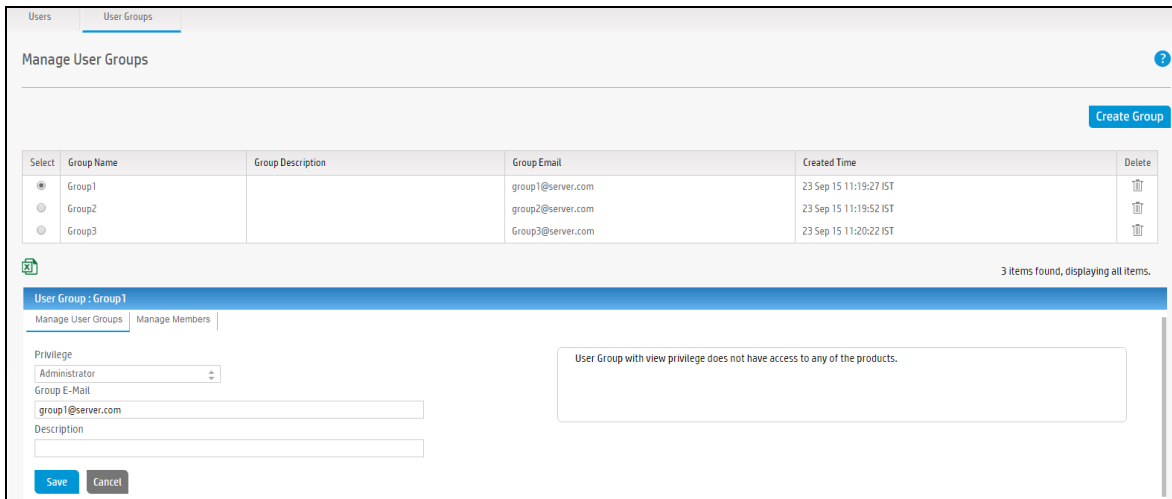
User interface elements are described below:

UI Element	Description
	<b>Create User.</b> Opens the Create New User dialog box, enabling you to enter details for a user.
<b>User name</b>	The user name used to log into the License Server.  <b>Note:</b> The user name displayed in the user table in the Users tab is the email address entered in the Create New User dialog box.
<b>First Name</b>	The user's first name, as entered in the Create New User dialog box.
<b>Status</b>	The user status: <i>active</i> or <i>inactive</i> .  Users with an <i>inactive</i> status cannot log in to the License Server.
<b>Created Time</b>	The date and time the user was created.
<b>Last Logged Time</b>	The date and time that the user's last logged in to the License Server.
	<b>Delete.</b> Removes the user from the License Server database.  <b>Note:</b> If you import users from an LDAP server, clicking <b>Delete</b> only removes them from the License Server's internal database. It does not delete them from the LDAP server.
	<b>Export to Excel.</b> Exports the currently displayed report to Excel.
<b>Email</b>	The user's email address, as entered in the Create New User dialog box.
<b>Reset Password</b>	Resets the users password. An e-mail message is sent to the user with the new user details.
<b>Associated User Groups</b>	The groups to which the selected user belongs.
	<b>Search.</b> Opens the Assign User Groups dialog box, enabling you to assign the user to user groups.
	Removes the user from a user group.  <b>Note:</b> Clicking this button in the Associated User Groups list does not remove the user from the License Server.

## User Groups Tab (User Management Pane)

This tab enables you to create user groups, set access privilege levels, and add users to user groups.










<b>To access</b>	<b>User Management pane &gt; User Groups tab</b>
<b>Important information</b>	Before you create a new user group, ensure that the mail server is configured. For details, see <a href="#">"Mail Configuration" on page 28</a> .
<b>Relevant tasks</b>	<ul style="list-style-type: none"> <li>• <a href="#">"Add a new user group" on page 61</a></li> <li>• <a href="#">"Update group details" on page 61</a></li> <li>• <a href="#">"Set user group access privileges" on page 62</a></li> </ul>
<b>See also</b>	<ul style="list-style-type: none"> <li>• <a href="#">"License Server User Groups - Overview"</a></li> <li>• <a href="#">"User Group Privilege Levels"</a></li> <li>• <a href="#">"License Server User Group Privilege Matrix"</a></li> </ul>

User interface elements are described below:



User Groups Table

UI Element	Description
	<p><b>Create Group.</b> Opens the Create New User Group dialog box, enabling you to enter details for and create a new user group.</p>
<p><b>Group Name</b></p>	<p>The name for the group, as entered in the Create New User Group dialog box.</p>
<p><b>Group Description</b></p>	<p>The description of the group, as entered in the Create New User Group dialog box.</p>
<p><b>Group Email</b></p>	<p>The group email address, as entered in the Create New User Group dialog box.</p> <p><b>Note:</b> When a new user group is created or deleted, an e-mail message is sent to this address.</p>
<p><b>Created Time</b></p>	<p>The date and time of the group's creation.</p>
	<p><b>Delete.</b> Removes the selected user group from the License Server internal database.</p> <p><b>Note:</b> If you imported a user group from an LDAP server, clicking <b>Delete</b> does not remove the user group from the LDAP server.</p>
	<p><b>Export to Excel.</b> Exports the currently selected report to Excel.</p>

Manage User Groups tab

UI Element	Description
<b>Privilege</b>	<p>The access privilege level of the selected group.</p> <p>Each group can have one of three privilege levels:</p> <ul style="list-style-type: none"> <li>• <b>Administrator</b></li> <li>• <b>Product Admin</b></li> <li>• <b>View-Only</b></li> </ul> <p>The default level for a user group is <i>View-Only</i>.</p> <p>For details on the privileges for each type of user, see "<a href="#">User Group Privilege Levels</a>" on page 55.</p>
<b>Associated Products (for Product Admin groups only)</b>	<p>The products associated with the selected user group.</p> <p>A user group with Product Admin privilege levels has access privileges only for products listed in this window.</p>
	<p><b>Search.</b> Opens the Assign Products dialog box, enabling you to associate a <i>Product Admin</i> group with currently configured products.</p>
	<p><b>Delete.</b> Removes a product from association with a <i>Product Admin</i> user group.</p>
<b>Group Description</b>	<p>The description of the group, as entered in the Create New User Group dialog box.</p>
<b>Group Email</b>	<p>The group email address, as entered in the Create New User Group dialog box.</p>

### Manage Members Tab

UI Element	Description
<user name>	Enables you to search the users by name in order to add them to a particular user group.
	Opens the Assign Users dialog box, enabling you to select which users to add to a user group.  <b>Note:</b> The Assign Users dialog box contains all License Server users.
<associated users list>	The list of all users added to the user group.
	<b>Remove.</b> Removes a member from a user group.  <b>Note:</b> Clicking <b>Remove</b> in this tab does not delete the user.

## User Management Tab (Configuration Pane)

This tab enables you to set configuration settings for users and user groups.

Main
User Management
Redundancy
LDAP
Usage Hub Server

## User Management Configuration

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### Configure password settings

User password will never expires

User password will expire as per below settings

Reset password on the first login for all users  Change password after  days

### Configure email notification

Enable email notification while adding or removing users from group

### Configure sources for users and groups

**Groups**

LDAP  DB

**Users**

LDAP  DB

Save
Cancel

<b>To access</b>	<b>Configuration</b> pane > <b>User Management</b> tab
<b>Relevant tasks</b>	<ul style="list-style-type: none"> <li>"Reset a user's password" on page 60</li> <li>"Import groups from an LDAP server" on page 62</li> </ul>
<b>See also</b>	"User and User Group Sources" on page 57

User interface elements are described below:

UI Element	Description
<p><b>Configure password settings</b></p>	<p>Enables you to set the options for user password expiration. There are two possible settings:</p> <ul style="list-style-type: none"> <li>• <b>User password will never expire.</b></li> <li>• <b>User password will expire as per below settings</b></li> </ul>
<p><b>Reset password on the first login for all users</b></p>	<p>Requires each License Server user to reset the user's password when they first log in to the License Server (<i>default</i>).</p> <p><b>Note:</b> This option is enabled only if you select the <b>User password will expire as per below settings</b> option.</p>
<p><b>Change password after &lt;&gt; days</b></p>	<p>Requires each License Server user to change the password after the defined number of days.</p> <p><b>Note:</b> This option is enabled only if you select the <b>User password will expire as per below settings</b> option.</p>
<p><b>Enable Email notification while adding or removing users from group</b></p>	<p>Sends a notification e-mail message to a user when the user is added or removed from a user group. The e-mail message is sent to the address specified for the user in the Users tab (User Management pane). For details, see "<a href="#">Users Tab (User Management Pane)</a>" on page 63.</p>
<p><b>Configure sources for users and groups</b></p>	<p>Enables you to select the source for creating License Server users and groups.</p> <p>You must select either the License Server internal database (DB) or an LDAP server as a source for both users and user groups.</p> <p><b>Note:</b> The source for users does not have to be the same as the source for the user groups.</p>

## LDAP Tab (Configuration Pane)

This tab enables you to define connection options for your LDAP server connection.

<b>To access</b>	<b>Configuration pane &gt; LDAP tab</b>
<b>Important information</b>	<ul style="list-style-type: none"> <li>• After configuring LDAP in the redundancy mode, it is mandatory to restart server where LDAP is configured.</li> <li>• You cant reset the password of default user(admin), in License Server if User Management is set to LDAP Configuration.</li> </ul>
<b>Relevant tasks</b>	<a href="#">"Import groups from an LDAP server" on page 62</a>
<b>See also</b>	<a href="#">"User and User Group Sources" on page 57</a>

User interface elements are described below:

UI Element	Description
<p><b>Choose LDAP server</b></p>	<p>Enables you to select the type of LDAP server you are using:</p> <ul style="list-style-type: none"> <li>• Enterprise LDAP Server</li> <li>• Microsoft Active Directory Server</li> </ul> <p>When you select either type of server, the default properties are displayed in the pane. However, you can configure any of the properties as needed.</p>
<p><b>LDAP Connection</b></p>	<p>Enables you to set the specific connection settings for your server, including:</p> <ul style="list-style-type: none"> <li>• <b>Protocol:</b> <code>ldap</code> or <code>ldaps</code></li> <li>• <b>Host name:</b> The host address for the server</li> <li>• <b>Port:</b> The entry port for the server</li> </ul> <div style="background-color: #f0f0f0; padding: 5px; margin-top: 10px;"> <p><b>Note:</b> All fields are required</p> </div>
<p><b>Authentication Method</b></p>	<p>Enables you to set the connection authentication properties, including:</p> <ul style="list-style-type: none"> <li>• <b>Authentication method</b> (<i>required field</i>) <ul style="list-style-type: none"> <li>▪ <b>anonymous</b> (without authentication parameters)</li> <li>▪ <b>simple</b> (user name and password authentication)</li> </ul> </li> <li>• <b>User name/password:</b> The user name and password required for a simple authentication.</li> </ul> <div style="background-color: #f0f0f0; padding: 5px; margin-top: 10px;"> <p><b>Note:</b> The user name and password edit fields are enabled only if you select <b>simple</b> as the method of authentication.</p> <p><b>Example:</b></p> <p>User Name = uid=admin,ou=system</p> </div>



UI Element	Description
<p><b>User Element Mapping</b></p>	<p>Enables you to configure how users stored on the LDAP server are mapped to their roles in the License Server.</p> <p>You can configure the following settings:</p> <ul style="list-style-type: none"> <li>• <b>User Base:</b> The location in the LDAP directory containing user entries (<i>required field</i>)</li> <li>• <b>User SubTree:</b> The sub-directory location in the LDAP server for users (if they are not contained the main directory) <ul style="list-style-type: none"> <li>■ OBJECT_SCOPE - Searches in the current object only</li> <li>■ ONELEVEL_SCOPE - Searches in the current and one object below</li> <li>■ SUBTREE_SCOPE - Searches in the sub tree</li> </ul> </li> <li>• <b>Unique ID Attribute:</b> The attribute of the object class that provides the name of the user specified in the object class (<i>required field</i>)</li> <li>• <b>First Name Attribute:</b> The attribute of the object class the provides the first name of the user specified in the object class (<i>required field</i>)</li> <li>• <b>Last Name Attribute:</b> The attribute of the object class the provides the last name of the user specified in the object class (<i>required field</i>)</li> <li>• <b>Email Attribute:</b> The attribute of the object class that provides the email address of the user specified in the object class (<i>required field</i>)</li> <li>• <b>User Filter:</b> The filter that identifies the user entries (<i>required field</i>)</li> </ul> <div style="background-color: #f0f0f0; padding: 5px; margin-top: 10px;"> <p><b>Example:</b></p> <pre>((objectClass=person)(objectClass=applicationProcess))</pre> </div>

UI Element	Description
<b>User Group Mapping</b>	<p>Enables you to configure how user groups stored on the LDAP server are mapped to their roles in the License Server.</p> <p>You can configure the following settings:</p> <ul style="list-style-type: none"><li>• <b>Group Base:</b> The location in the LDAP server directory containing the user groups (<i>required field</i>)</li><li>• <b>Group SubTree:</b> The sub-directory location in the LDAP server for user groups (if they are not contained the main directory)</li><li>• <b>Group Member Attribute:</b> The attribute of the object class the provides the name of the user group specified in the object class (<i>required field</i>)</li><li>• <b>Group Filter:</b> The filter that identifies the user group entries</li></ul> <p><b>Example:</b></p> <p>(objectClass=groupOfNames)</p>

## License Server User and User Group Management - Frequently Asked Questions

Does a License Server user have to belong to a user group?

No. However, License Server users that are not assigned to user groups are limited to *View-Only* access privileges.

How do I stop a user from logging in to the License Server?

In the Users tab (User Management Pane), change the user's status to *inactive*. This blocks the user from logging in to the License Server.

How can a user recover a forgotten password?

A user can reset a password in one of the following ways:

- Request that the License Server administrator reset the user's password by clicking the **Reset Password** link in the ["Users Tab \(User Management Pane\)"](#)
- In the Users tab (User Management Pane), use the **Reset Password** link to reset the user's password. For details, see ["Reset a user's password" on page 60](#).

Why do I need to create user groups?

User groups are created to manage products and assign access privileges to users. After creating user groups, License Server users are assigned to the groups and access privileges are assigned to the user group by a License Server administrator.

Can an administrator assign a privilege level directory to a user?

No. Privileges are assigned by the user group. You must assign or change the access privilege level of the group to which the user belongs.

**Note:** Any users not assigned to a user group have *View-Only* access privileges.

Can a License Server administrator delete LDAP users or user groups from an LDAP server?

No. You can only remove the imported users and user groups from the License Server. Removing them from the License Server does not delete them from the host LDAP server.

How do I assign the products to which a Product Admin user has administrative access?

In the Manage User Groups tab (User Groups tab), add associated products for each Product Admin group. For details, see "[Associate products with a Product Admin group](#)" on page 62.

## License Server User and User Group Management - Troubleshooting and Limitations

Why are there no options to configure the password settings or email notifications in the User Management tab (Configuration Pane)?

If you selected LDAP as the source for users or user groups, password settings and email notifications are not available for configuration.

# Chapter 9: License Management

This chapter includes:

## Concepts

- ["Installing Licenses" on the next page](#)
- ["License Usage Reports" on the next page](#)
- ["Searching License Check In and History" on page 79](#)
- ["Archiving and Restoring Licenses" on page 80](#)
- ["Borrowing Licenses" on page 80](#)
- ["License Clean Up" on page 81](#)

## Tasks

- ["How to Manage Licenses" on page 81](#)

## Reference

- ["License Usage Pane" on page 87](#)
- ["Feature Report Page \(License Usage Pane\)" on page 88](#)
- ["Search Criteria Page \(License Usage Pane\)" on page 96](#)
- ["Search Results Page \(License Usage Pane\)" on page 97](#)
- ["Install License Tab \(License Management Pane\)" on page 99](#)
- ["License Management Tab \(License Management Pane\)" on page 100](#)
- ["Archive License Tab \(License Management Pane\)" on page 101](#)
- ["Borrow License Tab \(License Management Pane\)" on page 102](#)
- ["Borrow License Request Window \(Borrow License Tab\)" on page 104](#)
- ["License Clean Up Tab \(License Management Pane\)" on page 105](#)

**["License Management - Frequently Asked Questions" on page 107](#)**

**["License Management - Troubleshooting and Limitations" on page 110](#)**

# Concepts

## Installing Licenses

After installing and configuring the License Server, you must install licenses in the License Server. This step makes the licenses available for check out operations, and enables you to perform other license management tasks such as reserving licenses for user pools checking out commuter licenses.

You can install licenses by entering a single license key or multiple license key. You can also install licenses by loading a license key file.

**Note:** The size of the license key file cannot be larger than 4 MB.

You obtain license keys on a per-product and per-feature basis. For details on obtaining license keys, see the individual product documentation.

For details on how to install license keys, see ["Install a license" on page 82](#).

## License Usage Reports

After installing licenses, the License Server provides multiple pages in which you can track and view the licenses currently installed and used on your License Server.

The **License Management** tab (License Management pane) displays the basic details about installed feature licenses, including:

- All feature licenses available per product, including their identification number and details
- The installed capacity
- The license start date
- The license expiration date
- The license installation date
- The name of the License Server user that installed the licenses and the IP address.

You can export the license report details to Excel. For details on the License Management tab, see ["License Management Tab \(License Management Pane\)" on page 100](#).

In addition, usage details about installed licenses are displayed in the **License Usage** pane. This pane displays additional information about the list of all installed license details, including:

- The feature license identification information, including number and description
- The available license capacity

- The capacity currently checked out as live and commuter licenses

Like the License Management tab, you can export the license report details to Excel. For details, see ["License Usage Pane" on page 87](#).

To view the details of a specific feature license, click the feature name in the License Usage pane to display the **Feature Report** page.

The Feature Report page displays specific check out information about a feature license including:

- Graphs of overall usage, check out type distribution and pool wise usage of a feature and its history.
- The check out start and expiration date
- The type of check out distribution: **Live** or **Commuter**
- The capacity checked out
- Check out and check in details for the license
- The pools to which users who have licenses checked out belong. You can select the required pool.

If a license has the ability to control commuter license properties, you also set the commuter license properties in the Feature Report page.

For details on the Feature Report page, see ["Feature Report Page \(License Usage Pane\)" on page 88](#).

## Searching License Check In and History

From the License Usage pane, you can search through the check in and check out histories of all installed licenses.

You can search based on a number of criteria:

- The feature ID and feature ID version
- The feature description
- The client user attributes for a license with check out and check in history
- The license start and expiration dates

You can then use the search results to purge the server operations history or revoke a license check out.

**Purging**<sup>1</sup> a license deletes the check in history from the License Server. After you purge the history, it is removed from the License Server.

<sup>1</sup>The process of removing the checkin history from the License Server.

**Revoking**<sup>1</sup> a license (by an administrator) forcibly checks in a live concurrent license to the License Server. If you need a license for a higher priority client user or need to return a borrowed license to another License Server, an administrator can revoke a license.

If a connection exists between the License Server and the client computer, when a license is revoked, a message is sent to the client user with the checked out license within two minutes and the license is automatically checked into the License Server within two minutes. If there is no connection, the License Server continues to send the message until the client computer connects with the License Server. You cannot revoke the license until the client user connects with the License Server (provided the license is still within the expiration period).

**Note:** Commuter licenses cannot be revoked.

### Examples

#### Use Case 1

You have an installed capacity of 100 for *FeatureA*. *User1* has a live concurrent license capacity of 40 checked out. If *User2* needs a capacity of 80 for check out, you can search for *User1* using the search results and revoke *User1*'s license.

#### Use Case 2

You are planning how users will use the available capacity for a product in the next iteration. Using the search criteria described on "[Search Criteria Page \(License Usage Pane\)](#)", you can search for licenses with an upcoming expiration date so you can see how many licenses will be available on certain dates.

## Archiving and Restoring Licenses

If you do not want a specific license to be available for checkout, but you do want to keep it on the License Server, you can archive a license.

You can **archive**<sup>2</sup> any unused license that is displayed in the License Management tab. This removes them from the list of currently active licenses (displayed in the License Management tab).

Once a license is archived, you can also delete it from the License Server. If you need to restore a license to active use, you can restore the license and it again becomes available for check out operations.

## Borrowing Licenses

If a License Server needs additional licenses to fulfill client user requests for a product or feature, the License Server can **borrow**<sup>3</sup> them from other License Servers.

<sup>1</sup>The process of forcibly checking in a live concurrent license to be used for other License Server functions.

<sup>2</sup>The process of removing a license from active use for check out.

<sup>3</sup>The process of taking license capacity from another License Server.



Borrowed licenses are borrowed temporarily, as you set an expiration date for the license borrowing request. After the expiration period, the license is returned to the License Server from which it was borrowed.

You can configure your License Server to borrow only from a specific License Server or to search the subnet for other available License Servers.

#### Example

*FeatureA* has an installed capacity of 40. Two users already have licenses for *FeatureA* with the capacity of 15 checked out. If additional users will need license capacity for check out, you can use the borrow option to take the necessary license capacity from another License Server.

## License Clean Up

In certain circumstances, the license capacity of selected licenses will be deleted, such as in the following scenarios:

- When commuter licenses are lost due to a client user's system crash
- When a product is configured to detect clock tampering and the system is back dated or clock-tampered

In this case, you can perform **license cleanup**<sup>1</sup> to restore the lost capacity.

To perform License Clean Up, you must contact the support team for a License Clean Up key. When you apply the license cleanup key, the license capacity is restored to its previous levels.

**Note:** Each type of feature or product license has a specific limit for license restoration via license cleanup. For details on viewing and setting the license clean up limits, see the individual product documentation.

## Tasks

### How to Manage Licenses

This task describes the procedures necessary to manage the licenses installed on your License Server.

This task includes the following steps:

<sup>1</sup>The process of restoring license capacity for a feature or product due to system crash or clock tampering.

- ["Install a license" below](#)
- ["Archive a license" below](#)
- ["Restore an archived license" on the next page](#)
- ["Borrow a license " on the next page](#)
- ["Restore license capacity with License Clean Up" on page 84](#)
- ["Search license check in and check out history" on page 84](#)
- ["Purge the license check in history" on page 85](#)
- ["Revoke a checked out license" on page 85](#)
- ["Manage commuter settings for a feature license" on page 85](#)
- ["Delete a license from the License Server" on page 86](#)

#### Install a license

1. In the Install License tab (License Management pane), enter the license keys for your products. For details on obtaining license keys, see the individual product documentation.

**Note:** If you received a license key in the form of a file (such as a .dat file), you can browse to the license file by selecting **Browse Licenses File** and browsing to the directory containing the file. The license file size cannot exceed 4 MB.

2. Click **Next**.
3. In the Install Licenses page, select the licenses to install, and click **Install Licenses**.

The licenses are installed on the License Server and are displayed in the License Management tab (License Management pane).

#### Archive a license

1. In the License Management tab (License Management pane), select the unused licenses you want to archive.
2. Click **Archive**.

The licenses are removed from the list of installed licenses in the License Management tab and are unavailable for check out operations. A list of all archived licenses is displayed in the Archived License tab (License Management pane).

#### Restore an archived license

1. In the Archived License tab (License Management pane), select the product whose archived licenses you want to restore.
2. Select the features to restore.
3. Click **Restore**.

The licenses are again displayed in the License Management pane and client users can check them out.

#### Borrow a license

1. In the Borrow License tab (License Management pane), select the Product for which you want to borrow a license.
2. Click **Borrow License**.
3. On the Borrow License page, enter the following details:
  - Select the Product for which you want to borrow a license.
  - The feature ID and version for which you want to borrow a license
  - The license capacity to borrow
  - The expiration date for the borrowed license
  - The server information. You can enter the server information in the following ways:
    - Select **Configure License Server** and provide the **Host Name** or **IP**, the **Port**, and **Protocol** of another License Server
    - Select **Discover License Server** and browse through the subnet for an available License Server
3. Click **Borrow**.

The borrowed license capacity is displayed in the Manage Borrowed Licenses window (Borrow License tab) and is added to the license capacity listed in the License Management tab.

#### Return a borrowed license

1. In the Borrow License tab (License Management tab), select the product for which you need to return licenses.
2. Select the license to return.
3. Click **Return**.

The license is returned to the License Server from which the license was borrowed and the borrowed capacity is removed from the list of borrowed licenses in the Borrow License tab and is removed from the License Management tab.

#### Clear the borrowing history

1. In the Borrow License tab (License Management pane), select the product for which you want to view the borrowing history. The Borrowed License list and the Checked-In History list for that product are displayed.
2. In the Checked-In History list, select the check box for the history to delete.
3. Click **Delete**.


A message confirming the history deletion is displayed at the top of the window and the selected history items are no longer displayed in the borrowing history.

#### Restore license capacity with License Clean Up

1. In the License Clean Up tab (License Management pane), enter the license cleanup key you received from the support team and click **Submit**.
2. In the Clean Up Window, select one or more license checkouts to clean up and click **Clean Up**.

**Note:** Each license has a limit to the capacity possible for license cleanup. For details on setting limits to license cleanup, see the individual product documentation.

#### Search license check in and check out history

1. In the License Usage pane, click Search .
2. In the Search window, enter the search criteria.
3. Click **Search**.

All installed licenses that match your search criteria are displayed in the Search Results window.

Purge the license check in history

After the search results are displayed in the Search Results page, click **Purge**.

The history is removed from the License Server.

Revoke a checked out license

1. After performing a search, in the Search Results window (License Usage pane), select the license that you need to revoke.
2. Click **Revoke** and confirm the revocation.

The license is returned to the License Server.

Manage commuter settings for a feature license

1. In the License Usage pane, click the checkbox for the feature for which you want to manage commuter license settings, and click **Manage Commuter**. A message informing you of the successful enablement of commuter license settings is displayed. Click **OK**.
2. The Feature Report page for that feature opens.

**Note:** Not all features are enabled for modifying commuter check out settings. Only those features with a cleared and enabled check box can be modified.

2. In the Commuter Checkout Settings area, click **Edit**.
3. Enter the maximum number of days allowed and the maximum capacity allowed for a commuter license check out.
4. Click **Save Changes**.

The changes are displayed under the Commuter Checkout Settings for the feature.

**Note:** You must have administrator access privilege permissions to modify the commuter check out settings.

#### Delete a license from the License Server

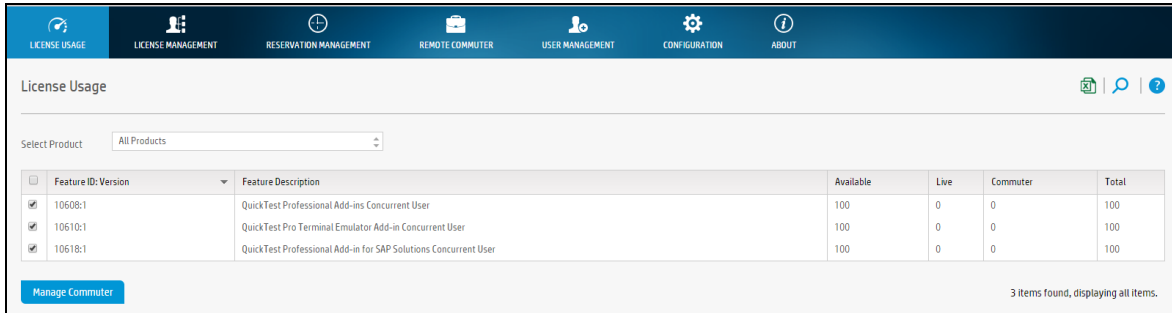
1. In the Archived License tab (License Management pane), select the product for which you want to delete licenses.
2. Select the feature you want to delete.
3. Click **Delete** and confirm the deletion.

The license is removed from the License Server.

# Reference

## License Usage Pane



This pane enables you to view the installed licenses and license capacities.



<b>To access</b>	Select the <b>License Usage</b> node in the License Server menu bar.
<b>Important information</b>	<ul style="list-style-type: none"> <li>The licenses displayed in this pane are the same as the licenses displayed in the License Management tab (License Management pane). For details, see <a href="#">"License Management Tab (License Management Pane)" on page 100</a>.</li> <li>If a feature is automatically enabled for commuter check out, the feature check box is displayed as a selected, disabled check box.</li> <li>If a feature is automatically disabled for commuter check out, the feature check box is displayed as a cleared, disabled check box.</li> <li>If a feature is available to have its commuter license check out settings modified, it is displayed in this pane as a cleared, enabled check box.</li> </ul>
<b>Relevant tasks</b>	<a href="#">"How to Manage Licenses" on page 81</a>
<b>See also</b>	<a href="#">"License Usage Reports" on page 78</a>

User interface elements are described below:

UI Element	Description
<b>Feature ID: Version</b>	The specific feature number and version for each feature of the selected product in the drop-down.
<b>Feature Description</b>	A textual description of a feature.

UI Element	Description
<b>Available</b>	The license capacity currently available for client user check out.
<b>Live</b>	The license capacity currently checked out as live, concurrent licenses.
<b>Commuter</b>	The license capacity currently checked out as commuter licenses.
<b>Total</b>	The total installed license capacity.
	<b>Export to Excel.</b> Exports the currently displayed License Usage report to an Excel file.
<b>Manage Commuter</b>	Enables you to modify the commuter check out settings for a feature, if enabled.
	Opens the Search window, enabling you to search the check out and check in history. For details, see " <a href="#">Searching License Check In and History</a> " on page 79 and " <a href="#">Search Criteria Page (License Usage Pane)</a> " on page 96.

## Feature Report Page (License Usage Pane)

This page enables you to view the license check out report and details for a specific feature.

### In Use



QuickTest Pro Stingray Add-in Concurrent User

Feature ID 10624:1

In Use History

Overall Usage

Usage 15%

0% 100% (200)

Check Out Type Distribution

Commuter (33.3%) Consumed 10

Capacity 30

Commuter Live

Pool wise Usage

Capacity 30

Common Po.. Pool1 Pool3


<input type="checkbox"/>	Start Date	Expiry Date	Check Out Type Distribution	Capacity	Client Info	Executed By	Pool
<input type="checkbox"/>	15 Oct 15 14:55:40 IST	16 Oct 15 14:55:40 IST	Commuter	10	<a href="#">Click here</a>	<a href="#">Click here</a>	
<input type="checkbox"/>	15 Oct 15 14:56:57 IST	15 Oct 15 15:06:57 IST	Live	10	<a href="#">Click here</a>	<a href="#">Click here</a>	pool1
<input type="checkbox"/>	15 Oct 15 14:56:06 IST	15 Oct 15 15:06:06 IST	Live	10	<a href="#">Click here</a>	<a href="#">Click here</a>	Pool3


The number of records to be exported is configurable. The current value set is :5000 4 items found, displaying all items.

[Revoke](#) [Back](#)

<b>To access</b>	In the License Usage pane, click the <b>Feature ID: Version</b> link for a specific feature.
<b>Important information</b>	The Commuter Checkout Settings area is editable only if the feature allows modifying commuter check out settings and you enabled editing of the settings by clicking <b>Manage Commuter</b> for the selected feature in the License Usage pane.
<b>Relevant tasks</b>	<a href="#">"How to Manage Licenses" on page 81</a>
<b>See also</b>	<a href="#">"License Usage Reports" on page 78</a>

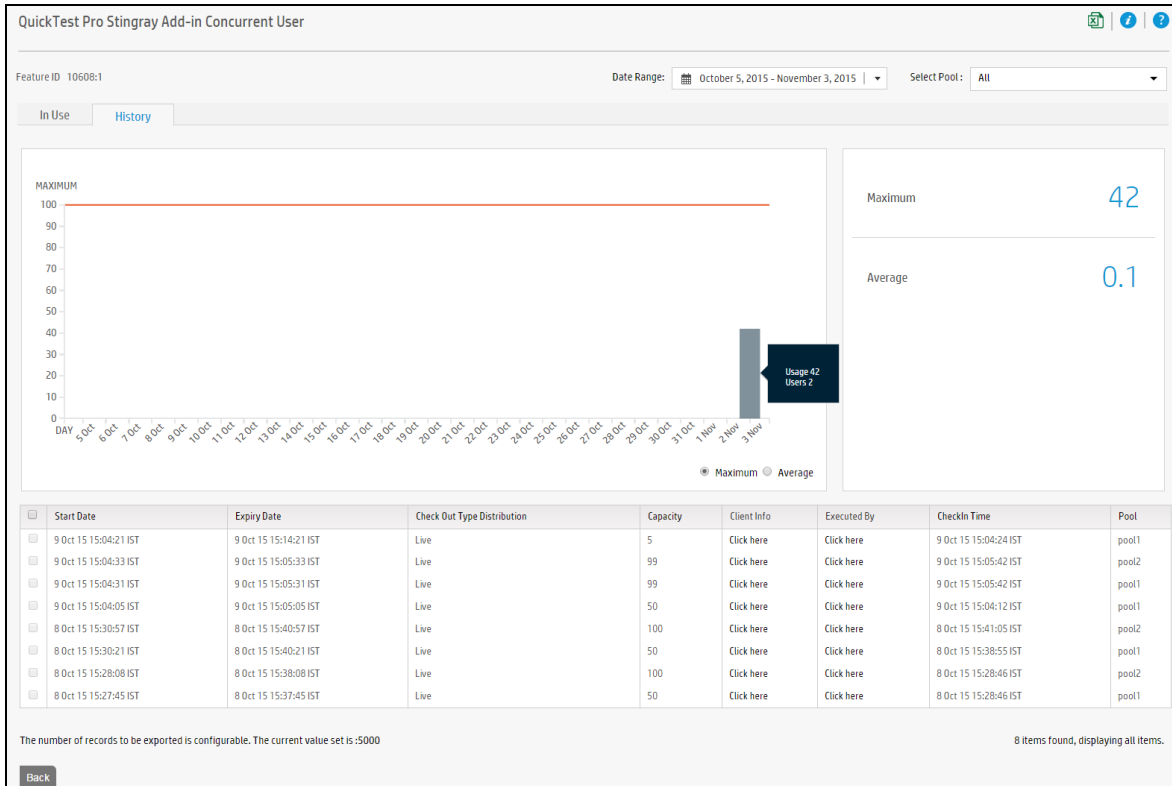
UI Element	Description
<b>Feature ID: Version</b>	The feature number and version.

UI Element	Description
<p><b>In Use</b> tab</p>	<p>The graphs of overall usage, check out type distribution and pool wise usage of a feature.</p> <ul style="list-style-type: none"> <li>• <b>Overall Usage</b> - The graph shows the percentage of usage and is differentiated as below                             <ul style="list-style-type: none"> <li>■ From 0% to 10% - Minimal usage</li> <li>■ From 10% to 70% - Optimal usage</li> <li>■ From 70% to 90% - Heavy usage</li> <li>■ From 90% to 100% - Maximum usage</li> </ul> </li> <li>• <b>Check Out Type Distribution</b> - The check out type i.e Live and Commuter is denoted and tool tip provides check out type percentage and consumed capacity.</li> <li>• <b>Pool Wise Usage</b> - The pool wise usage graph denotes total capacity and pool distribution. Also provides the tool tip which denotes the consumed and reserved capacity.</li> </ul> <div style="background-color: #f0f0f0; padding: 10px; margin-top: 10px;"> <p><b>Note:</b></p> <ul style="list-style-type: none"> <li>• The pool wise usage graph is displayed when individual pool is not selected. When a single pool is selected the <b>Total Capacity</b> and <b>Reserved Capacity for Pool</b> is displayed.</li> <li>• If the reservation capacity was changed after check out when a particular pool is selected if the checked out capacity is more than the reserved capacity, the usage graph shows more than 100%.</li> </ul> </div>
	<p><b>Export to Excel.</b> Exports the currently displayed report to Excel. The maximum number of records which can be exported is 5000.</p>

UI Element	Description
	<p>The information of minimum capacity, commuter checkout settings, maximum number of days allowed and maximum capacity allowed.</p> <ul style="list-style-type: none"> <li>• <b>Minimum Capacity</b> - The minimum capacity a client user can check out in a checkout request.</li> <li>• <b>Commuter Checkout Settings</b> - Enables you to select settings for commuter check out of the feature license, including:                             <ul style="list-style-type: none"> <li>■ <b>Maximum number of days allowed</b> - This number is limited by the type of license mentioned in the Product Description for a feature.</li> <li>■ <b>Maximum capacity allowed</b> - The default setting is Available Capacity, which checks out all available capacity as part of a commuter check out. Change this number if you want to limit the capacity for each check out.</li> </ul> </li> </ul>
<b>Select Pool</b>	Enables you to select the required pool from the drop down.
<b>Start Date</b>	The start date of a license check out.
<b>Expiry Date</b>	The expiration date of a license check out.
<b>Check Out Type Distribution</b>	The type of check out: <b>Live</b> (concurrent license) or <b>Commuter</b> .
<b>Capacity</b>	The capacity checked out by a client user.
<b>Client Info</b>	The user attributes of the user who has checked out the license. Click the <b>Click here</b> link to view the details.
<b>Executed By</b>	The user that checked out the license. Click the <b>Click here</b> link to view the details.

UI Element	Description												
<p><b>Pool</b></p>	<p>The user pool to which the client user who has checked out a license belongs.</p> <p><b>Note:</b> Even if a single license is checked out from a particular pool this field displays the same pool details rather than showing the shared pool details.</p> <p><b>Example:</b></p> <p>In this scenario there are two pools and the available capacity is 100, as detailed below:</p> <table border="1" data-bbox="493 684 1300 913"> <thead> <tr> <th>Pool Name</th> <th>Capacity</th> <th>Total Capacity</th> </tr> </thead> <tbody> <tr> <td>Pool 1</td> <td>10</td> <td>100</td> </tr> <tr> <td>Pool 2</td> <td>10</td> <td></td> </tr> <tr> <td>Shared</td> <td>80</td> <td></td> </tr> </tbody> </table> <p>Use Case 1 : A client user makes a check out request for capacity of 9. This request is fulfilled using Pool 1.</p> <p>Use Case 2: A client user makes a check out request for capacity of 9. This request is fulfilled using Pool 2.</p> <p>Use Case 3: A client user tries to check out request for capacity of 10. This request is fulfilled using 1 capacity from Pool 1 and 8 capacity from shared pool.</p> <p>The pool details in the table in the <b>In Use</b> and <b>History</b> tab displays Pool 1 details itself as 1 capacity is checked out from Pool 1.</p>	Pool Name	Capacity	Total Capacity	Pool 1	10	100	Pool 2	10		Shared	80	
Pool Name	Capacity	Total Capacity											
Pool 1	10	100											
Pool 2	10												
Shared	80												

**History**



<b>To access</b>	In the License Usage pane, click the <b>Feature ID: Version</b> link for a specific feature and navigate to <b>History</b> tab.
<b>Important information</b>	<p>The Commuter Checkout Settings area is editable only if the feature allows modifying commuter check out settings and you enabled editing of the settings by clicking <b>Manage Commuter</b> for the selected feature in the License Usage pane.</p> <p>When a license is checked out and checked in for a particular feature the usage data is reflected in the <b>In Use</b> and <b>History</b> page respectively post each action and in case of inactivity, any usage data is refreshed every eight hours.</p> <p>The data in the History tab will be shown only from the day the License Server is upgraded.</p>
<b>Relevant tasks</b>	<a href="#">"How to Manage Licenses" on page 81</a>
<b>See also</b>	<a href="#">"License Usage Reports" on page 78</a>

User interface elements are described below:

UI Element	Description
<b>Feature ID: Version</b>	The feature number and version.

UI Element	Description
<p><b>History tab</b></p>	<p>The graphical representation of check out and check in history is displayed.</p> <p>The pool wise differentiation is denoted and also the tool tip with</p> <ul style="list-style-type: none"> <li>• The name of the pool</li> <li>• Pool wise usage maximum consumed and</li> <li>• The number of users.</li> </ul> <p>You can select required options with the help of the radio buttons available below the graph.</p> <ul style="list-style-type: none"> <li>• Maximum - The graph displays only the maximum check outs at any point of time in the selected date range.</li> <li>• Average - The graph displays sum of all the checkouts divided by number of checkouts in the selected date range.</li> </ul> <p>The feature wise checked in and checked out history details in numbers at any given point of time i.e</p> <ul style="list-style-type: none"> <li>• Maximum</li> <li>• Average</li> </ul> <p>The horizontal red line indicates the current total license installed at the feature level. If a pool is selected, it represents the capacity reserved for a particular pool.</p>
<p><b>Date Range</b></p>	<p>Enables you to select the range with the options today, yesterday, last 7 days, last 30 days, this month, last month and custom date.</p>
<p><b>Select Pool</b></p>	<p>Enables you to select the required pool from the drop down.</p>
<p><b>Start Date</b></p>	<p>The start date of a license check out.</p>
<p><b>Expiry Date</b></p>	<p>The expiration date of a license check out.</p>
<p><b>Check Out Type Distribution</b></p>	<p>The type of check out: Live (concurrent license) or Commuter.</p>
<p><b>Capacity</b></p>	<p>The capacity checked out by a client user.</p>
<p><b>Client Info</b></p>	<p>The user attributes of the user who has checked out the license. Click the <a href="#">Click here</a> link to view the details.</p>
<p><b>Executed By</b></p>	<p>The user that checked out the license. Click the <b>Click here</b> link to view the details.</p>
<p><b>CheckIn Time</b></p>	<p>The check in time of a license</p>

UI Element	Description
<b>Pool</b>	<p>The user pool to which the client user who has checked out a license belongs.</p> <p>Refer to <a href="#">"Even if a single license is checked out from a particular pool this field displays the same pool details rather than showing the shared pool details."</a> on <a href="#">page 92</a> for more details.</p>

## Search Criteria Page (License Usage Pane)

This page enables you to determine the criteria for searching installed licenses.

### Search ?

---

Select Product

Feature ID

Feature ID: Version

Feature Description

IP Address


Host Name

User Name

Client ID

Start Date

Expiry Date

<b>To access</b>	In the License Usage pane, click the Search button  .
<b>Important information</b>	The searchable options for the <b>IP Address</b> , <b>Host Name</b> , <b>User Name</b> , and <b>Client ID</b> should be the same as the user pool attributes listed in the Pool Management tab (Reservation Management tab).
<b>Relevant tasks</b>	<a href="#">"Search license check in and check out history" on page 84</a>



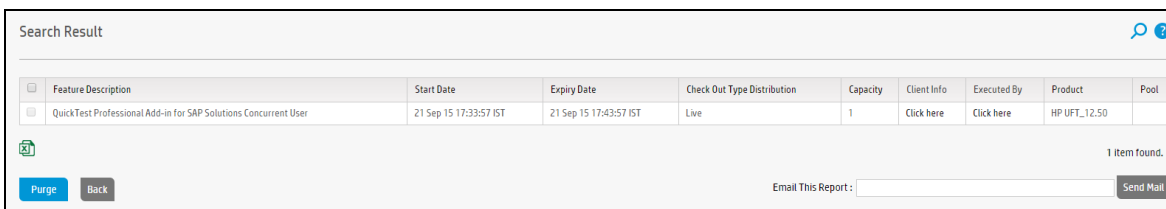
<b>See also</b>	<ul style="list-style-type: none"> <li>• <a href="#">"License Usage Pane" on page 87</a></li> <li>• <a href="#">"Search Results Page (License Usage Pane)" below</a></li> <li>• <a href="#">"Searching License Check In and History" on page 79</a></li> <li>• <a href="#">"Pool User List Section (Pool Management Tab)" on page 125</a></li> <li>• <a href="#">"Client User Attributes" on page 114</a></li> </ul>
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User interface elements are described below:

UI Element	Description
<b>Feature ID</b>	The number of the feature.
<b>Feature ID: Version</b>	The version number of the feature (without the feature ID).
<b>Feature Description</b>	The textual description of the feature. You can use this field if you are unable to remember the specific feature number.
<b>IP Address</b>	The IP address of a client user that has checked out a license.
<b>Host Name</b>	The host address of the client user that has checked out a license.
<b>User Name</b>	The user name for the client user that has checked out a license.
<b>Client ID</b>	The computer ID for the client user that has checked out a license.
<b>Start Date</b>	The start date of a license check out.
<b>Expiry Date</b>	The expiration date of a license check out.

## Search Results Page (License Usage Pane)


This page displays the applicable licenses according to your search criteria.



<b>To access</b>	Click <b>Search</b> in the Search window after defining search parameters.
------------------	--

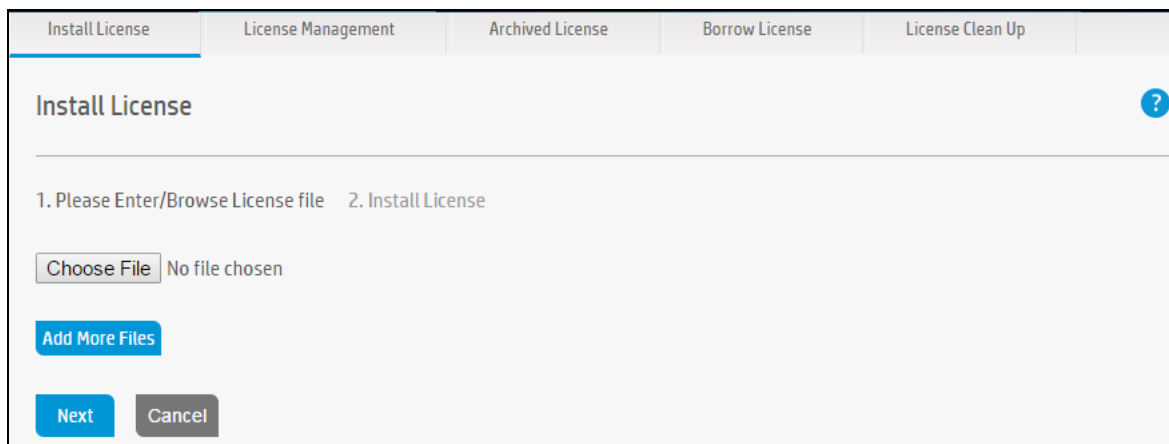
<b>Relevant tasks</b>	<ul style="list-style-type: none"> <li>• <a href="#">"Search license check in and check out history" on page 84</a></li> <li>• <a href="#">"Purge the license check in history" on page 85</a></li> <li>• <a href="#">"Revoke a checked out license" on page 85</a></li> </ul>
<b>See also</b>	<ul style="list-style-type: none"> <li>• <a href="#">"Search Criteria Page (License Usage Pane)" on page 96</a></li> <li>• <a href="#">"Searching License Check In and History" on page 79</a></li> </ul>

User interface elements are described below:

UI Element	Description
<b>Feature Description</b>	The textual description of the licenses returned from the search results.
<b>Start Date</b>	The start date of the license check out.
<b>Expiry Date</b>	The expiration date of the license check out.
<b>Check Out Type Distribution</b>	The type of license check out: <b>Live</b> or <b>Commuter</b> .
<b>Capacity</b>	The capacity checked out for the license.
<b>Client Info</b>	The client user that checked out the license. Click <b>Click here</b> to display the client user attributes for the check out.
<b>Executed By</b>	The user that performed the check in and check out operation. Click <b>Click here</b> to display the details for the check out.
<b>Product</b>	The product to which the product belongs.
<b>Pool</b>	The user pool to which the client user that performed the check out belongs.
	<b>Export to Excel.</b> Exports the currently displayed report to Excel.
<b>Purge</b>	Deletes the histories from the License Server.
<b>Revoke</b>	Automatically checks the selected license into the License Server.

## Install License Tab (License Management Pane)

This tab enables you to install licenses for your products.



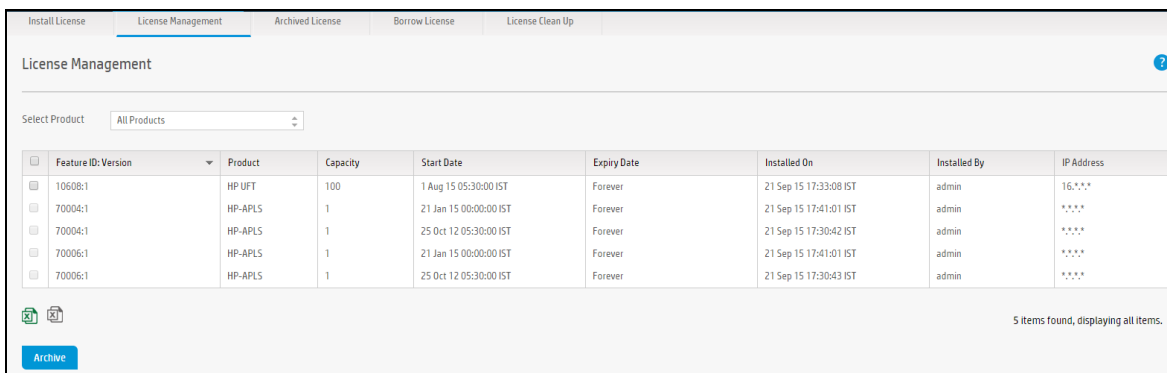
<b>To access</b>	<b>License Management</b> pane > <b>Install License</b> tab
<b>Important information</b>	License key files cannot exceed 4 MB.
<b>Relevant tasks</b>	<a href="#">"Install a license" on page 82</a>
<b>See also</b>	<a href="#">"Installing Licenses" on page 78</a>

User interface elements are described below:

UI Element	Description
<b>Enter license keys</b>	Enables you to enter a single license key or group of license keys for installation.
<b>Browse Licenses File</b>	Enables you browse and upload a license key file containing license keys to be installed.



## License Management Tab (License Management Pane)

This tab displays the information about all installed licenses and enables you to archive licenses.



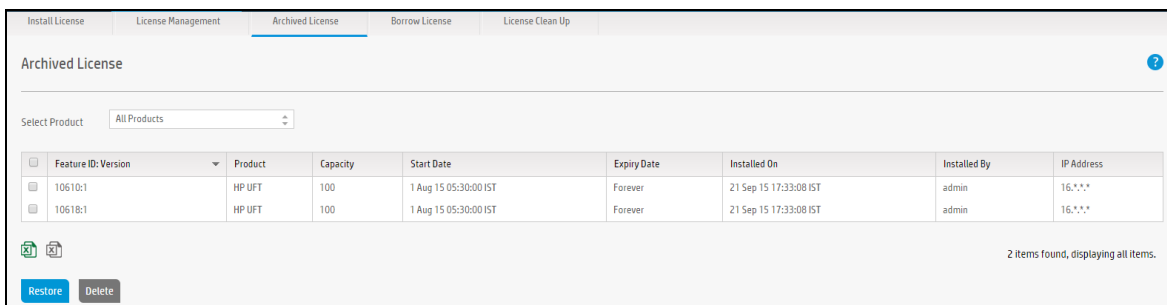
<b>To access</b>	<b>License Management Pane &gt; License Management tab</b>
<b>Relevant tasks</b>	<a href="#">"How to Manage Licenses" on page 81</a>
<b>See also</b>	<a href="#">"Archiving and Restoring Licenses" on page 80</a>

User interface elements are described below:

UI Element	Description
<b>Feature ID: Version</b>	The number for the feature and its version number.
<b>Product</b>	The product to which a feature belongs.
<b>Capacity</b>	The total installed capacity for each installed license.
<b>Start Date</b>	The starting date of the installed license.
<b>Expiry Date</b>	The expiration date of the installed license.
<b>Installed On</b>	The installation date of the installed license.
<b>Installed By</b>	The name of the License Server user that installed the licenses.
<b>IP Address</b>	The IP address of the user installing the licenses.
	<b>Export to Excel.</b> Exports the currently displayed report to Excel.
	<b>Export Raw License to Excel.</b> Exports the license keys for the currently displayed licenses to Excel.
<b>Archive</b>	Archives the selected license.

## Archive License Tab (License Management Pane)

This tab displays the list of all archived licenses enables you to restore archived licenses to active use or delete them permanently.

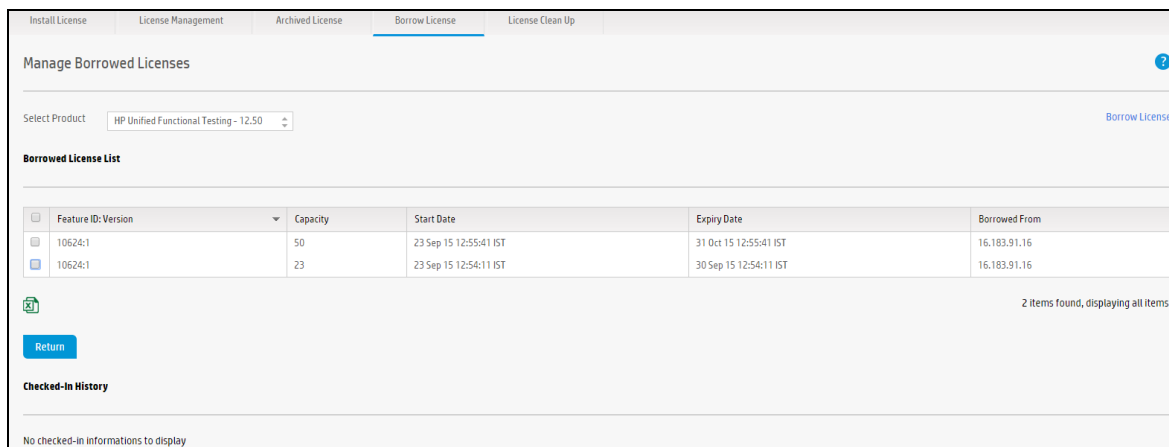


<b>To access</b>	<b>License Management pane &gt; Archived Licenses tab</b>
<b>Important information</b>	Licenses cannot be restored if they are expired.
<b>Relevant tasks</b>	<a href="#">"Restore an archived license" on page 83</a>
<b>See also</b>	<a href="#">"Archiving and Restoring Licenses" on page 80</a>

The user interface elements are the same as those displayed in the License Management tab. For details, see ["License Management Tab \(License Management Pane\)" on the previous page](#).

## Borrow License Tab (License Management Pane)


This tab displays all borrowed licenses and borrowing history, and enables you to borrow licenses from other License Servers.



<b>To access</b>	License Management pane > <b>Borrow License</b> tab
<b>Relevant tasks</b>	<ul style="list-style-type: none"> <li>• <a href="#">"Borrow a license " on page 83</a></li> <li>• <a href="#">"Return a borrowed license" on page 84</a></li> <li>• <a href="#">"Clear the borrowing history" on page 84</a></li> </ul>
<b>See also</b>	<ul style="list-style-type: none"> <li>• <a href="#">"Borrowing Licenses" on page 80</a></li> <li>• <a href="#">"Borrow License Request Window (Borrow License Tab)" on page 104</a></li> </ul>

User interface elements are described below:

UI Element	Description
<b>Feature ID: Version</b>	The feature number and version.
<b>Capacity</b>	The capacity borrowed for the selected feature from another License Server.
<b>Start Date</b>	The date on which the license borrowed begins.
<b>Expiry Date</b>	The date on which the license borrowed expires.
<b>Borrowed From</b>	The License Server from which you borrowed a license.

UI Element	Description
	<b>Export to Excel.</b> Exports the currently displayed report (from the Borrowed License List or the Checked-In History List) to Excel.
<b>Borrow License</b>	Opens the Borrow License window, enabling you to find a License Server from which to borrow a license. For details, see <a href="#">"Borrow License Request Window (Borrow License Tab)"</a> on the next page.

## Borrow License Request Window (Borrow License Tab)

This window enables you to borrow licenses from other License Servers.

The screenshot shows the 'Borrow License' window. It has a title bar with a question mark icon. Below the title bar is a link for 'Manage Borrowed Licenses'. The main area contains several form fields: 'Select Product' (dropdown menu showing 'HP Unified Functional Testing - 12.50'), 'Feature ID: Version' (dropdown menu showing '10624:1'), 'Capacity' (text input field), 'Expiry Date' (text input field), two radio buttons for 'Configure License Server' (selected) and 'Discover License Server', 'Host Name/IP' (text input field), 'Port' (text input field showing '5814'), and 'Protocol' (dropdown menu showing 'HTTPS'). At the bottom left are two buttons: 'Borrow' (highlighted in blue) and 'Back' (grey).

<b>To access</b>	In the Borrow License tab, click the <b>Borrow License</b> link.
<b>Relevant tasks</b>	<a href="#">"Borrow a license "</a> on page 83
<b>See also</b>	<ul style="list-style-type: none"><li>• <a href="#">"Borrowing Licenses"</a> on page 80</li><li>• <a href="#">"Borrow License Tab (License Management Pane)"</a> on page 102</li></ul>

User interface elements are described below:

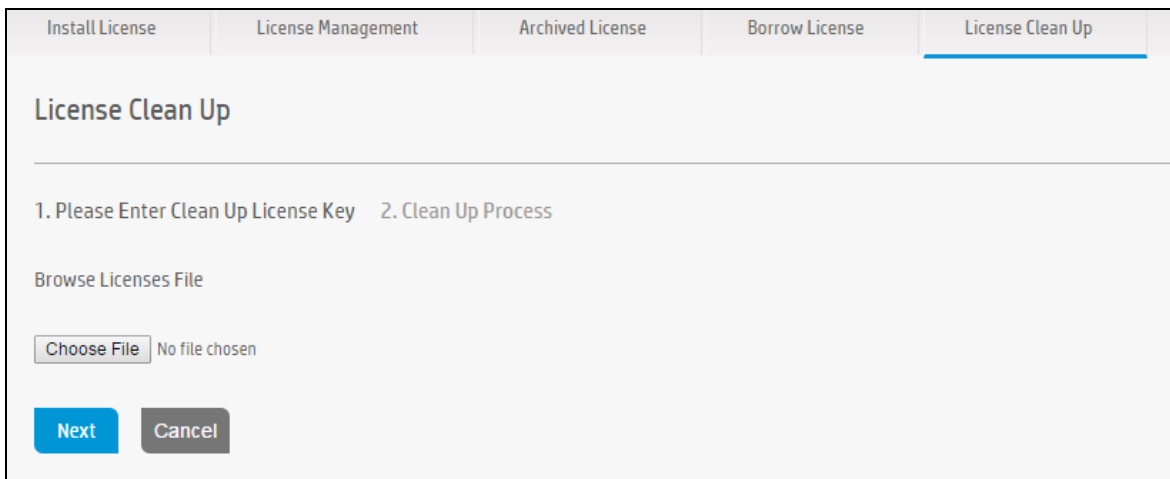
UI Element	Description
<b>Select Product</b>	The product for which you want to borrow licenses.
<b>Feature ID: Version</b>	The feature for which you want to borrow licenses.
<b>Capacity</b>	The capacity that you want to borrow.
<b>Expiry Date</b>	The date on which the borrowing request ends.



UI Element	Description
<b>Configure License Server</b>	<p>Enables you to enter the details for a specific License Server from which to borrow the licenses.</p> <p>To configure the connection, enter the following:</p> <ul style="list-style-type: none"> <li>• The <b>Host Name</b> or <b>IP</b> for the lending server</li> <li>• The <b>Port</b> for the lending server</li> <li>• <b>The connection protocol: HTTP or HTTPS</b></li> </ul>
<b>Discover License Server</b>	<p>Enables you to select other License Servers on the same subnet. Select a License Server from the list.</p> <p>Click <b>Discover Again</b> to refresh the list.</p>
<b>Borrow</b>	Completes the borrowing request.
<b>Manage Borrowed Licenses</b>	Returns to the Managed Borrowed Licenses window, which displays the list of borrowed licenses and check in history.

## License Clean Up Tab (License Management Pane)

This tab enables you to restore lost license capacity by performing license cleanup.



<b>To access</b>	License Management pane > License Clean Up tab
<b>Important information</b>	You must have a license Clean Up key to perform license cleanup. Contact customer support to receive a key.
<b>Relevant tasks</b>	<a href="#">"Restore license capacity with License Clean Up" on page 84</a>

<b>See also</b>	<a href="#">"License Clean Up" on page 81</a>
-----------------	---

User interface elements are described below:

<b>UI Element</b>	<b>Description</b>
<b>Please Enter Clean Up License Key</b>	Enter the License Clean Up Key that you received from support.

## License Management - Frequently Asked Questions

The following are frequently asked questions about managing licenses in the License Server.

Where can I see a report of all users that have a license checked out?

In the License Usage pane, click the **Feature ID: Version** link to open the Feature Report for that feature license. The Feature Report displays the usage information for a selected feature license. For details, see "[Feature Report Page \(License Usage Pane\)](#)" on page 88.

Where can I find a summary of the currently used license capacities for a license?

In the License Usage pane, you can see a report of the **Available** license capacity, the currently checked out **Live** capacity, and the currently checked out **Commuter** license capacity.

Why is there an increase in the total capacity of a feature in the License Usage pane?

The capacity of a feature can increase due to one of the following reasons:

- New licenses are installed.
- The capacity for the feature is borrowed from other License Servers.

Why is there a decrease in the total capacity for a feature in the License Usage pane?

The capacity of a feature can decrease due to one of the following reasons:

- Licenses for a feature are archived.
- Licenses for a feature expired.
- Borrowed licenses are returned to the License Server from which they were borrowed.

Why is the Pool field blank for some of the licenses listed?

The blank field indicates that the client user that checked out the license does not currently belong to any user pool. For details on user pools, see "[License Server Client User Pools](#)" on page 115

How can I purge the license check in history?

License operations history can be purged (deleted permanently) in the following ways:

- Search the records in the Search Page and manually delete them.
- Configure the purge settings in the Main Configuration page. For details, see "[Main Configuration Tab \(Configuration Pane\)](#)" on page 27.

How can an administrator prevent a client user from misusing a license?

An administrator or product administrator can forcibly check in misused licenses by using the **Revoke** option for a license.

How can I reactivate an archived license that is not expired?

Under the Archive License tab (License Management pane), select the licenses to reactivate and click **Reuse**.

Can a client user check licenses into a clock-tampered License Server?

Yes.

How to make the Clock Tampered License Keys to work?

AutoPass enable "Clock Tampering" detection for set of features, hence if we install the licenses and tamper with system time, all the features which are enabled for "clock tampering" are blocked.

There are two ways to make the clock tampered license keys to work,

- If you move the system back to the original time from the backdated time, then the all license keys are enabled again.

OR

- In case, if you want to stay in back dated time, then you need to approach HP support to get a "Cleanup License" key. The generation of cleanup key is only through APSC, hence the Product/AutoPass can keep a track of the keys generated. The API to perform clock tampering cleanup is "public virtual String performCleanup(String argLicKey)".

UFT has not enabled clock tampering at client side, so it is mute to create clean up keys for client.

Clock Tampering is detected in my machine and installed licenses have been blocked. if I try installing new Licenses, they are not recognized. Is this expected behavior?

Yes. Existing license keys and newly installed keys are blocked when clock tampering is detected. Remove all the keys backdate the system and reinstall the license keys.

Clock tampering is for the whole list of features for which clock tampering is enabled, irrespective of the time in which he has installed the license key.

How do I recover the license capacity if the system is back-dated and then returned to the correct date?

Restart the License Server to recover the license capacity.

Why is the license capacity displayed as zero after the system is back-dated?

The License Server is set up in such a way that a feature's capacity is blocked when the system time is back-dated. Perform license cleanup and restart the License Server to recover the license capacity.

However, if the system is reset to a future date different than that of a date that was known to the License Server, the feature's license capacity is automatically recovered.

How do I permanently delete a license from the License Server?

You must archive it before deleting it. Once archived, you click **Delete** in the Archived Licenses tab (License Management pane) and the license is removed from the License Server.

If I received a .dat file containing licenses, can I install the licenses on the License Server?

Yes. In the Install License tab (License Management pane), select the option for Browse License File. Browse to the directory containing the license file and install the licenses from that file.

**Note:** License key files cannot be larger than 4 MB.

If I previously archived a license, can I restore it to active use again?

Yes. In the Archive License tab (License Management pane), select the licenses to restore and click **Restore**. The licenses are added to the licenses listed in the License Management tab (License Management pane), and client users can check out license capacity from this license.

In order to borrow a license, do I have to know the details of other License Servers?

No. You can click **Discover License Server** in the Borrow License Window (Borrow License tab) and search the subnet for available License Servers.

How do I return a borrowed license before the borrowing request expires?

In the Borrow License tab, select the license to return from the Borrowed Licenses list and click **Return**.

Do I have to specify a license capacity to borrow when making a borrowing request?

Yes.

Where do I find the key for license cleanup?

Contact the support team to receive a License Clean Up key.

How to find why capacity is not available in AutoPass License Server?

Below are the reasons the capacity may not be available:

- All the capacity has been checked out by clients. In case the admin wants to release the capacity, then he/she can either revoke or clean up licenses for Live and Commuter respectively.
- If the license is archived in the License Server. Admin can restore the archived license.
- If the system has been clock tampered.

What is NO locking code license?

A license keys which can work with any system is called NO locking code. A license key in UFT has device ID lock type and a wild carded value "any" can be used to generate this type of license. The option of allowing no locking code is dependent on the product.

What is TERM and PERPETUAL license?

- Term license are which licenses keys which will expire within the time limit specified during license key generation.
- Perpetual license are those that do not expire.
- Concurrent license are those licenses which are installed on License Server, this can be either Term or Perpetual.

## License Management - Troubleshooting and Limitations

The following are frequently asked questions about problems encountered while managing licenses in the License Server.

After installing licenses in the License Server, why am I unable to view the license details in the License Usage pane?

The product is not yet configured in the License Server. Perform a live check out to configure the product and display the Feature Report for a feature.

Why am I unable to check out licenses?

A client user cannot check out licenses for one of the following reasons:

- The client belongs to a user pool that is blocked. For details, see ["Restricting or Blocking User Pools" on page 118](#).
- The client user belongs to a restricted user pool and the requested capacity is not available for that pool.
- The request capacity is not available for that feature.

Why do I get a message "Lock Type not supported" when installing licenses?

This error message specifies that the installed license keys are locked to a particular IP address range. For example, if the license is locked to IP range 16.\*.\*.\*, it cannot be installed in a License Server having an IP address 15.1.1.1.

Why am I unable to archive a license?

You can archive licenses only if all the checked out licenses for that feature are returned.

Why is the **Revoke** option not displayed?

The **Revoke** option is displayed only if there are valid live licenses currently checked out.

After performing license cleanup, not all of my license capacity was restored. Why?

Each product or feature has a specific limit for license cleanup. This limit is configured in the license key file.

# Chapter 10: Client User Management

This chapter includes:

## Concepts

- ["License Server Client Users - Overview" on the next page](#)
- ["Client User Attributes" on page 114](#)
- ["License Server Client User Pools" on page 115](#)
- ["License Reservation Priority" on page 117](#)
- ["Feature-Based vs. Product Based Reservation" on page 117](#)
- ["Restricting or Blocking User Pools" on page 118](#)

## Tasks

- ["How to Manage Client User Access" on page 120](#)

## Reference

- ["Pool Management Tab" on page 124](#)
- ["Pool User List Section \(Pool Management Tab\)" on page 125](#)
- ["Pool to Product Mapping List \(Pool Management Tab\)" on page 127](#)
- ["Featured-Based/Product-Based Reservation Tab" on page 128](#)

**["Client User Management - Frequently Asked Questions" on page 131](#)**

**["Client Users Management - Troubleshooting and Limitations" on page 133](#)**



# Concepts

## License Server Client Users - Overview

After configuring the License Server for use and installing licenses, you should create a list of client users who are able to access the License Server. A **client user**<sup>1</sup> is a local user who accesses the License Server via their local software installation.

When a client user starts the local copy of their software, the software's license mechanism sends a request for license check out to the License Server. The License Server recognizes the user by specific attributes entered and linked with the user's profile. For details, see ["Client User Attributes" on the next page](#).

Depending on the user's details and settings, the License Server finds and checks out an appropriate license for the client user. For details on user access to different types of licenses, see ["License Server Client User Pools" on page 115](#)

You can choose to give a client user full feature access to a specific software program, or you can limit which features are available for license check out. Furthermore, you can restrict or block a client user's ability to access or check out available licenses. For details, see ["Restricting or Blocking User Pools" on page 118](#)

### Example

In *ProductA*, you can choose to load selected environments, such as Web, .NET, Java, Standard Windows, and Oracle. In addition, *ProductA* is sold in conjunction with a defect tracking program (*ProductB*). Thus, you can have licenses that combine *ProductB* and *ProductA* or simply run *ProductA* as a standalone application.

You have a number of licenses for *ProductA* installed on the License Server. Some of these licenses enable full access to all features of *ProductA*, where as others are specific to those features specific to the Web, .NET, Java, Standard Windows, and Oracle environments. There are also additional licenses for *ProductA* with access to *ProductB*.

When a client user accesses the License Server, the appropriate license is checked out. Depending on your configuration of the user pools, the License Server checks out a license for all *ProductA* features, a specific *ProductA* environment, or the *ProductA/ProductB* common features.

Once the session or license expires on the client user's computer, the license is removed from the client computer and is automatically checked in to the License Server. If a license checked out to a client user is expired, the client user cannot check in the license.

<sup>1</sup>A local user that accesses the License Server to check in or check out a license for a local program installation.

## Client User Attributes

When a client user sends a request to the License Server, the user is recognized by the client **user attributes**<sup>1</sup>. These attributes confirm the identity of the client trying to access the License Server and enable the local program to check in a license.

The License Server can identify a client user by multiple attributes:

- **User name:** An identifiable name given to each specific user
- **IP Address:** The IP address of the client user's computer or the common IP address that a group of client users access to connect to the License Server
- **Host ID:** The hosting address of a client user's computer or the common host address shared by a group of client users
- **Client ID:** An identification number specific to the client machine

When a client user accesses the License Server, the License Server checks the client user's information against the client user's attributes saved in the User Management system of the License Server. If the client user computer's details match the attributes, the License Server checks out a license to the client user making the request. If even one of the client user's details does not match the attributes stored in the License Server (even if that attribute was simply not entered originally when the client user was created), the License Server can prevent the client user from checking out a license.

It is not necessary to enter all the details for each client user. However, entering all available details for each client user is recommended.

### Example

The following attributes are stored for four users:

User Name	IP Address	Host ID	Client ID
User1	192.168.12.54	pool1.host.com	5245rc9e56g648f6
User2	192.168.1.86		4532rac4df15f635
User3	172.31.255.1		
User4	172.20.84.6		

If a client user with the User Name *User 1*, the Host ID *pool2.host.com*, the IP Address *192.168.1.86*, and the Client ID *4532rac4df15f635* then tries to access the License Server, the client's request is denied. Since the Host ID *pool2.host.com* is not included in the attribute list, this client is not able to access the available licenses.

<sup>1</sup>The details entered for each user. These details can include the client user's user name, IP address, Host ID, or Client ID.

## License Server Client User Pools

In order for client users to access and check out licenses, each client user has to be assigned to a **user pool**<sup>1</sup>.

You can create user pools to organize and maintain client users in any number of ways: users of a specific feature, users of a specific product, users with common attributes, and so on. Client users can be assigned to multiple user pools.

In addition, membership in any user pool connected with a specific product automatically gives a client user access to the **Shared** pool of unassigned licenses.

License access is defined per user pool, not per client user. You assign a specific license capacity (either for specific product features or specific products) for check out by users of the pool. You can also restrict a user pool from check out operations or block all check out operations for a specific pool. For details on restricting or blocking user pools, see ["Restricting or Blocking User Pools" on page 118](#)

For details on creating user pools and assigning licenses to a user pool, see ["How to Manage Client User Access" on page 120](#).

## License Usage by User Pools

After creating user pools, you can reserve a certain amount of license capacity to each user pool. This is done in the **Feature-Based** and **Product-Based** Reservation tabs. For details, see ["Featured-Based/Product-Based Reservation Tab" on page 128](#).

Each pool is assigned an amount of license capacity as decided by the License Server administrator or Product Administrator. The reserved capacity can exceed the currently available installed capacity. However, license requests from a client user that exceed the installed capacity of the feature or product (even if they are less than the reserved capacity of the user pool) are not fulfilled.

In order to fulfill these requests, you need to install additional licenses or borrow licenses from another License Server. For details on installing additional licenses, see ["Installing Licenses" on page 78](#). For details on borrowing licenses, see ["Borrowing Licenses" on page 80](#).

When you assign license capacity to each pool, you limit the license capacity available for check out to the users in that pool. License requests from client users that exceed the reserved capacity of a pool are not fulfilled.

**Note:** If a client user is part of another user pool, the License Server also checks the other user pools (based on priority order) to see if other pools have available capacity to fulfill a check out request). For details, see ["License Reservation Priority" on page 117](#).

If a user's request exceeds a pool's reserved capacity, the License Server can also fulfill the request by combining capacity from a user pool with available capacity from the *Shared* pool. The License Server does not fulfill check out requests by combining available capacity from multiple user pools.

<sup>1</sup>A group of client users which receives access to specific licenses as defined by the License Server administrator(s).

**Note:** Restricted pools cannot combine with the *Shared* pool to fulfill a user request.

In addition, the available installed capacity is consumed on a first-come, first-serve basis, regardless of priority order. If the first request comes from a lower-priority pool, the request is fulfilled.

**Examples**

In this example, there are three user pools, and the available capacity for a feature is 150, as detailed below:

Pool Name	Reserved Capacity	Restricted/Blocked	Installed Capacity
Pool1	100	No	330
Pool2	50	No	
Pool3	30	No	
Shared	200	N/A	

Use Case 1

A client user in *Pool3* makes a check out request for a capacity of 30. This request is fulfilled, even though *Pool3* is the third pool in the list.

Use Case 2

A client user in *Pool1* makes a check out request for a capacity of 150. Since the reserved capacity for *Pool1* is not sufficient to fulfill this request, the License Server combines the capacity available in *Pool1* with available capacity in the *Shared* pool to fulfill the check out request.

Use Case 3

A client user in *Pool2* makes a check out request for a capacity of 300. Normally, the License Server would combine the available capacity of 50 in *Pool2* with the available capacity in the *Shared* pool to fulfill the request. However, since the request exceeds the combined capacity of 250 (between *Pool2* and the *Shared* pool), the request is not fulfilled until additional licenses are installed or borrowed.

## License Reservation Priority

After creating user pools, you can set the priority order for user pools to access licenses. Thus, if a client user belongs to multiple pools, license requests are fulfilled by taking available capacity from the user pools in a set priority order. The priority order also decides the order in which user pools have access to licenses for check out.

Set the priority order for each feature by dragging the user pools listed for each feature or product in the Feature-Based or Product-Based Reservation tabs.

### Examples

In the following examples, there are two client user pools, *Pool2* and *Pool3* (set in priority order), as well as the *Shared* Pool, as seen below:

Selected Feature: 10624:1 Available Capacity: 100 Total Capacity: 100			
	Allow/Block	Pool Name	Reserved Capacity
<input checked="" type="checkbox"/>	Block	Pool2	<input type="text" value="25"/>
<input checked="" type="checkbox"/>	Block	Pool3	<input type="text" value="60"/>
<input checked="" type="checkbox"/>		Shared	<input type="text" value="25"/>
		Total	<input type="text" value="100"/>

#### Use Case 1

The client user belongs to both *Pool2* and *Pool3*. If the client user sends a check out request for a capacity of 10, the License Server tries to fulfill the check out request from *Pool2* based on priority order.

#### Use Case 2

The client user belongs to both *Pool2* and *Pool3*. If the client user sends a request for a capacity of 60, the License Server tries to fulfill the request first by checking the available capacity in *Pool2*. In this scenario, since *Pool2* and *Pool3* do not have adequate capacity, the license request is fulfilled by combining the higher priority *Pool3* with the Shared pool to complete the license request.

## Feature-Based vs. Product Based Reservation

When you reserve licenses for user pools, you can assign licenses in two different ways:

- **Feature-Based Reservation:** This type of reservation makes licenses available only for specific features within a product. Other product features are not available to client users with a feature-based license.
- **Product-Based Reservation:** This type of license enables a client user to have access to all product features.

The available capacity for a feature is dependent upon the capacity reserved for the product. For example, if you reserve a capacity of 50 for *ProductA* in one user pool, all the features of *ProductA* have a capacity of 50 available for check out by members of the user pool.

You do not have to reserve the same capacity for all features of a product as are reserved for the product itself. Thus, you can reserve a capacity of 40 for a user pool for Feature 1 of *ProductA*, even if the user pool has a capacity of 50 reserved for *ProductA*.

For example, if you want a client user to have access only to specific environments or configurations in a particular product, you reserve licenses using feature-based reservation. If you want a client user to have access to all product features, use product-based reservation.

Allotting features within a product for feature-based reservation is done on a per-product basis. For details on license types and license allotments for products, see the individual product documentation.

## Restricting or Blocking User Pools

In addition to limiting the available license capacity for check out, you can also restrict or block user pools from performing check out operations.

**Restricting<sup>1</sup>** a user pool limits the user pool's ability to check out licenses by limiting the available capacity for check out to only the reserved capacity of the pool. When a pool is restricted, client users cannot combine the available capacity in a user pool with the *Shared* pool to fulfill their license requests.

### Example

In this example, the installed capacity of a feature is 100. There is one user pool with a reserved capacity of 40. The shared pool has an available capacity of 60. If a client user sends a check out request for a capacity of 60, the request response is received as seen below:

Pool Names	Reserved Capacity	Installed Capacity	Requested Capacity	Response for Unrestricted Pool	Response for Restricted Pool
Pool1	40	100	60	Request is fulfilled in combination with the <i>Shared</i> pool.	Declined due to insufficient capacity.
Shared	60				

**Blocking<sup>2</sup>** a user pool prevents a user pool from performing any check out operations. By selecting the **Block** option for a user pool, all check out operations are prevented and the reserved capacity of the pool is set to **0**.

<sup>1</sup>Limiting the ability of a user pool to combine with the Shared pool to fulfill license check out requests that exceed the reserved capacity for a user pool.

<sup>2</sup>Preventing a user pool from checking out any licenses for a feature or product.

Selected Feature : 10624:1 Available Capacity: 100 Total Capacity: 100			
	Allow/Block	Pool Name	Reserved Capacity
<input checked="" type="checkbox"/>	Block	Pool2	<input type="text" value="35"/>
<input checked="" type="checkbox"/>	Allow	Pool3	<input type="text" value="0"/>
<input type="checkbox"/>	Block	Pool4	<input type="text" value="15"/>
<input checked="" type="checkbox"/>		Shared	<input type="text" value="50"/>
		Total	<input type="text" value="100"/>

This option is useful if you want to prevent a particular user group from checking out licenses for a feature, but still allow that group to access other features or products. Since all created user groups are displayed in the Feature-Based and Product-Based Reservation tabs and are therefore available for license reservation, blocking a user group enables you to prevent a user from reserving licenses for a user pool.

**Note:** Using the **Block** option for a user will block only the selected pool. However, if the user belongs to a different pool which is not blocked, the License Server can fulfill the request based on available capacity in the other pools.

# Tasks


## How to Manage Client User Access

This task describes the procedures necessary to manage client users and user group access to the License Server.


This task includes the following steps:

- ["Add a user pool" below](#)
- ["Add a user pool" below](#)
- ["Remove a client user's attribute from a pool" on the next page](#)
- ["Reserve product license capacity to a user pool" on page 122](#)
- ["Reserve feature license capacity to a user pool" on page 122](#)
- ["Set the user pool priority order for feature license checkout" on page 122](#)
- ["Block a user pool" on page 123](#)
- ["Restrict a user pool" on page 123](#)

### Add a user pool

1. In the Pool Management tab (Reservation Management pane), click  the button.
2. In the Create New Pool dialog box, enter a name and description for the user pool.
3. Click **Create**.

The user pool is displayed in the user pool list in the Pool Management tab (Reservation Management pane).

**Note:** You can later delete user pools by clicking the **Delete** button .



Add users to a client user pool


1. In the Pool Management tab (Reservation Management pane), select the radio button for the pool to which you want to add client users. The lower pane displays the selected pool name.
2. In the lower pane, select a client user attribute to add. You can enter the client user's **User Name**, **IP Address**, **Host ID**, or **Client ID**.

**Note:** It is recommended (although not mandatory) to enter all available attributes for a client user in the user details. Although a client user does not have to have all attributes included in the user group's details, if a client user tries to access the License Server without having all attributes in the pool's attribute list, the client user cannot access the server. For details, see ["Client User Attributes" on page 114](#).

3. Click **Add**  .

The user's details are displayed in the Associated Users area of the lower pane.

Remove a client user's attribute from a pool

1. In the Pool Management tab (Reservation Management pane), select the radio button for the pool from which you want to remove client users.
2. Click **Remove**  .

The client user's attribute is removed from the user pool.

**Note:** Removing a user's attribute from the pool does prevent a user from accessing the License Server. As long as the other client attributes match with the attributes stored in the License Server, the client user can continue to access the server.

Reserve product license capacity to a user pool

1. In the Product-Based Reservation tab (Reservation Management pane), select the product to reserve from the drop-down menu.

**Note:** All features for the product are also displayed.

2. In the user pool table, reserve a capacity to the available pools.

**Note:** There is no shared pool for product-based license reservation.

3. Click **Submit**. The feature table is updated to reflect your reservations.

Reserve feature license capacity to a user pool

1. In the Feature-Based Reservation tab (Reservation Management pane), select the product from the drop-down menu.
2. In the feature table, select the radio button for the feature for which you want to reserve capacity. The lower pane displays the feature name and information and the available user pools.
3. In the Reserved Capacity column of the lower pane, reserve a capacity to the available pools.

**Note:** All unreserved available capacity is automatically assigned to the *Shared* pool.

4. Click **Submit**. The tables in both the lower and upper panes are updated to reflect your reservations.

Set the user pool priority order for feature license checkout

1. In the Feature-Based Reservation tab, select the product for which you want to set user pool priority order.
2. Select the radio button for the feature for which you want to set user pool priority order.
3. In the User Pool Feature Details area, drag the row containing the user pool up or down until the priority is set in the correct order.

#### Block a user pool

1. In the Feature-Based Reservation or Product-Based Reservation tabs (Reservation Management pane), select the product for which you want to block a user pool's check out operations.
2. If you are in the Feature-Based Reservation tab, select the feature.
3. In the lower pane, click **Block** for the user pools you want to block and click **Submit**.

The capacity of the selected user pools is changed to 0 and the user pool's name is displayed in the upper pane (of both the Feature-Based and Product-Based Reservation tabs) with a (r) next to the pool name.

**Note:** To enable a user pool, click **Allow**. The previously reserved capacities are restored.

#### Restrict a user pool

1. In the Feature-Based Reservation or Product-Based Reservation tabs (Reservation Management pane), select the product for which you want to restrict.
2. If you are in the Feature-Based Reservation tab, select the feature.
3. In the Restrict column of the lower pane, select the check box for the user pools you want to restrict.
4. Click **Submit**.

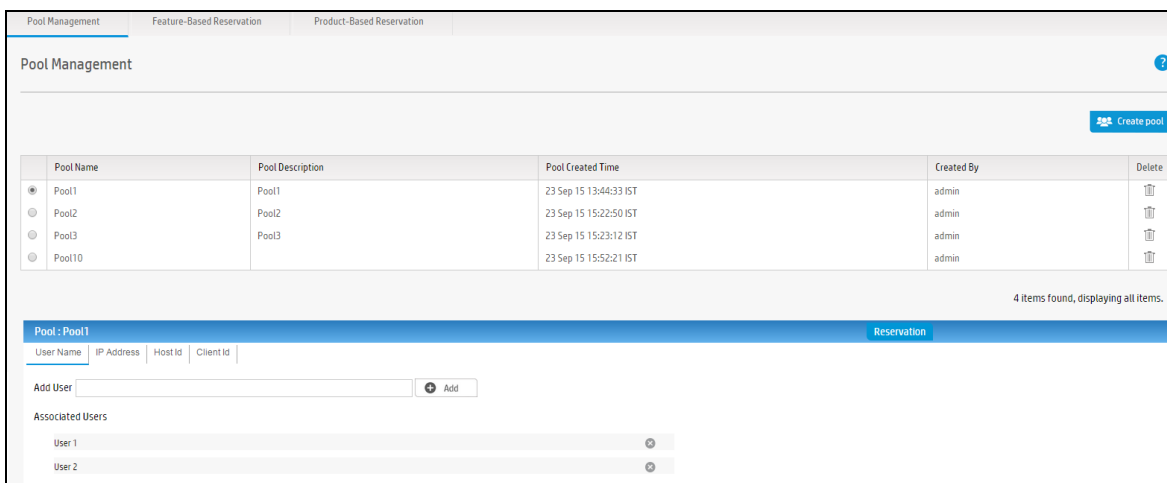
The feature or product table is updated with a (r) next to the feature or product's name. The reserved capacity remains the same.

**Note:** To clear the restriction, clear the check box for a user pool and click **Submit**.

# Reference



## Pool Management Tab

This tab enables you to create user pools and add users to user pools.



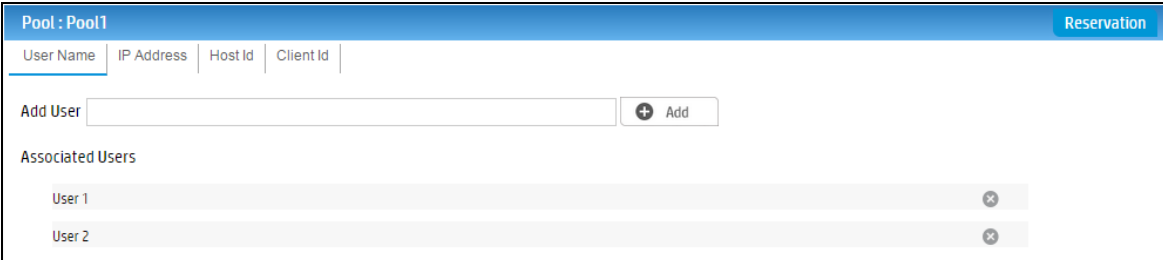
<b>To access</b>	<b>Reservation Management pane &gt; Pool Management tab</b>
<b>Important information</b>	You must create a user pool before adding client users.
<b>Relevant tasks</b>	<a href="#">"How to Manage Client User Access" on page 120</a>
<b>See also</b>	<ul style="list-style-type: none"> <li>• <a href="#">"Pool User List Section (Pool Management Tab)" on the next page</a></li> <li>• <a href="#">"Pool to Product Mapping List (Pool Management Tab)" on page 127</a></li> <li>• <a href="#">"License Server Client User Pools" on page 115</a></li> <li>• <a href="#">"License Server Client Users - Overview" on page 113</a></li> </ul>

User interface elements are described below:

UI Element	Description
	Opens the Create New Pool dialog box, in which you give a name and description for a new user pool.
<b>Pool name</b>	The user pool name given to a user pool by the License Server administrator.
<b>Pool description</b>	The description of the pool entered when creating the pool. Use a description that enables you to identify the purpose of a specific user pool.  <b>Note:</b> It is not mandatory to enter a description for a user pool.
<b>Pool Created Time</b>	The date and time of the pool's creation.
<b>Created By</b>	The License Server administrative user or product administrator user that created the user pool.
	<b>Delete.</b> Removes the user pool.  <b>Note:</b> If a pool is deleted when a floating license is checked out from the pool, then the checked out capacity will reflect under common pool and the same is displayed in <b>In Use</b> graph.

## Pool User List Section (Pool Management Tab)

This section enables you to add client user attributes to a user pool.

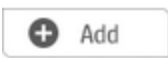



The screenshot shows a web interface for managing a user pool. At the top, there is a header 'Pool : Pool1' and a 'Reservation' button. Below the header, there are tabs for 'User Name', 'IP Address', 'Host Id', and 'Client Id'. A search bar labeled 'Add User' is present with an '+ Add' button. Underneath, a section titled 'Associated Users' lists two users: 'User 1' and 'User 2', each with a delete icon (an 'x' in a circle) to its right.

<b>To access</b>	In the Pool Management tab (Reservation Management pane), select the radio button for a user pool.
------------------	--

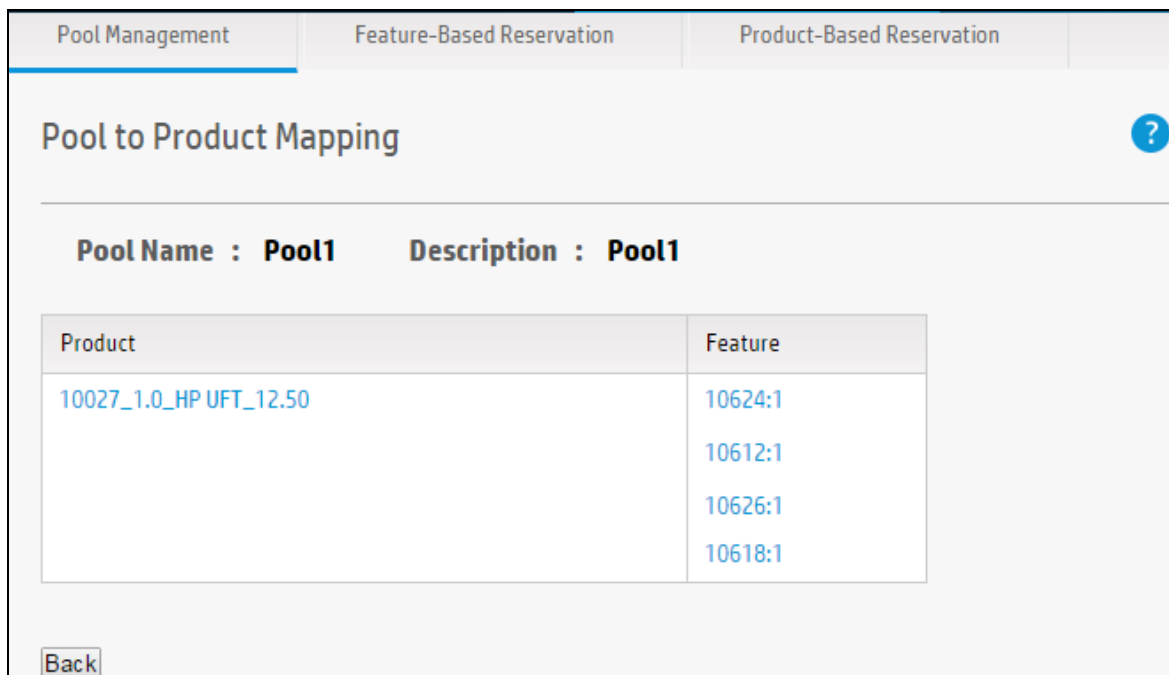
<b>Important information</b>	<ul style="list-style-type: none"> <li>Pool user details displayed in this window are dependent upon the user pool selected in the Pool Management tab.</li> <li>It is not necessary to enter all user attributes for each client user. However, entering all attributes for each client is recommended (if they are available).</li> </ul>
<b>Relevant tasks</b>	<a href="#">"How to Manage Client User Access"</a>
<b>See also</b>	<ul style="list-style-type: none"> <li><a href="#">"Pool Management Tab"</a></li> <li><a href="#">"Pool to Product Mapping List (Pool Management Tab)"</a></li> <li><a href="#">"Client User Attributes"</a></li> </ul>

User interface elements are described below:

UI Element	Description
<b>User Name</b>	<p>The Windows or Unix user name of a client user.</p> <p><b>Note:</b> The user name must use the following syntax: DOMAIN/USER NAME</p>
<b>IP Address</b>	<p>The IP address of the computer from which the client user accesses the License Server.</p>
<b>Host ID</b>	<p>The host address for the computer the client user uses to access the License Server.</p> <p>To find the host address for the client user's computer, enter <code>ipconfig/all</code> in the Command Prompt window. The Host ID is the host name with the DNS suffix displayed in the results.</p> <p><b>Note:</b> The Host ID must use the following syntax: &lt;HOST NAME&gt;.&lt;DNS SUFFIX&gt;.</p>
<b>Client ID</b>	<p>A unique value for each client user.</p>
	<p><b>Add Attribute.</b> Adds an attribute to the user pool after you enter the information in the edit field.</p>
<b>Associated Users/IPAddresses/Host ID/Client ID</b>	<p>The list of Users, IP Addresses, Host IDs, or Client IDs that have been added to the user pool.</p>
	<p><b>Remove.</b> Removes an client user's attribute from the user pool.</p>

## Pool to Product Mapping List (Pool Management Tab)

This page enables you to view information on the products and features reserved for a specific user group.



<b>To access</b>	In the Pool Management tab (Reservation Management tab), click the <b>Reservation</b> button in the Pool User List section (lower pane).
<b>Relevant tasks</b>	<a href="#">"How to Manage Client User Access"</a>
<b>See also</b>	<ul style="list-style-type: none"> <li>• <a href="#">"Pool Management Tab"</a></li> <li>• <a href="#">"Pool User List Section (Pool Management Tab)"</a></li> <li>• <a href="#">"Feature-Based vs. Product Based Reservation"</a></li> </ul>

User interface elements are described below:

UI Element	Description
<b>Pool name and description</b>	The name of the user pool whose reservations are currently displayed.
<b>Product</b>	The products for which this particular user group has license capacity reserved.

UI Element	Description
Feature	The features for which this particular user pool has license capacity reserved.

## Featured-Based/Product-Based Reservation Tab

This tab enables you to assign license capacity for product features.

The image below shows the Feature-Based Reservation tab.

The screenshot shows the 'Feature-Based Reservation' tab. At the top, there are three tabs: 'Pool Management', 'Feature-Based Reservation' (selected), and 'Product-Based Reservation'. Below the tabs, there is a 'Select Product' dropdown menu set to 'HP Unified Functional Testing - 12.50'. A table lists features with columns for Feature Id, Feature Version, Feature Description, and Pool Mapping. Below this table, a summary bar shows 'Selected Feature: 10624:1', 'Available Capacity: 73', and 'Total Capacity: 73'. A main table allows users to manage reservations for various pools (Pool1, Pool2, Pool3, Shared, Total, Pool10) with columns for 'Allow/Block', 'Reserved Capacity', 'Available Capacity', 'Used Capacity', and 'Restrict'. A 'Submit' button is located at the bottom left.

The image below shows an example of the Product-Based Reservation tab.

The screenshot shows the 'Product-Based Reservation' tab. It has the same top navigation as the previous image. The 'Select Product' dropdown is set to 'HP Unified Functional Testing - 12.50'. A table lists features with columns for Feature Id, Feature Version, Feature Description, and Pool Mapping. Below this table, a table allows users to manage reservations for various pools (Pool1, Pool2, Pool3, Pool10) with columns for 'Select', 'Allow/Block', 'Reserved Capacity', and 'Restrict'. A 'Submit' button is located at the bottom left.

<b>To access</b>	In the Reservation Management pane, select the Feature-Based Reservation or the Product-Based Reservation tab.
------------------	--



<b>Important information</b>	You must reserve capacity for a product before reserving capacity for its features.
<b>Relevant tasks</b>	<a href="#">"How to Manage Client User Access" on page 120</a>
<b>See also</b>	<ul style="list-style-type: none"> <li>• <a href="#">"Feature-Based vs. Product Based Reservation" on page 117</a></li> <li>• <a href="#">"Restricting or Blocking User Pools" on page 118</a></li> <li>• <a href="#">"License Reservation Priority" on page 117</a></li> <li>• <a href="#">"License Usage by User Pools" on page 115</a></li> </ul>

User interface elements are described below:

### Feature/Product List Table

<b>UI Element</b>	<b>Description</b>
<b>Feature ID</b>	The feature's unique identification.
<b>Feature Version</b>	The feature's version number.
<b>Feature Description</b>	A textual description of the feature.
<b>Pool Mapping</b>	<p>A listing of the user pools and corresponding capacities mapped to these user pools. For example, for a <i>FeatureA</i>, the pool mapping is displayed as <i>Pool1:20, Pool2:15</i>, and so on.</p> <p>If a pool is restricted or blocked, the pool name is displayed with an <i>(r)</i> next to the pool name.</p>

User Pool Feature/Product Reservation Details Area

UI Element	Description
<feature details>	<p>The details for a particular feature. These details include:</p> <ul style="list-style-type: none"> <li>• <b>Selected Feature:</b> The feature name</li> <li>• <b>Available Capacity:</b> The capacity currently available for checkout</li> <li>• <b>Total Capacity:</b> The total installed capacity</li> </ul> <div style="border: 1px solid gray; padding: 5px; margin-top: 10px;"> <p><b>Note:</b> The reserved capacity for a user pool can be greater than the available capacity or total capacity. However, check out requests that exceed the available capacity are declined.</p> </div>
<b>Block / Allow</b>	Disables or enables the ability of a user pool to perform check out requests for a specific feature.
<b>Reserved Capacity</b>	<p>The license capacity reserved for members of this pool. All check out requests less than the reserved capacity are fulfilled automatically.</p> <p>If a check out request exceeds the reserved capacity, the client user can combine the available capacity in this pool with the <i>Shared</i> pool to complete a check out request.</p>
<b>Available Capacity</b>	The capacity currently available for a check out request.
<b>Used Capacity</b>	The capacity currently checked out.
<b>Restrict</b>	When this check box is selected, the client users in the selected user pool can fulfill only those check out requests which do not exceed the available capacity for the feature.
<b>Hide/Show Unreserved Pools</b>	Hides or shows user pools that are unreserved for the selected feature.

## Client User Management - Frequently Asked Questions

The following are frequently asked questions about managing client users and user pools in the License Server.

Can a client user access product or feature license capacity without being assigned to a user pool?

No. Client users are added as part of a user group following the creation of a user pool. There is no way to independently add a user without first placing the user in a user pool.

When adding a client user, do I have to enter all four attributes for a client user?

No. However, it is recommended to do so. If the user tries to check out a license from the License Server later with a User name, IP address, Host ID, or Client ID that is not an associated attribute for the user's pool, the check out request is denied.

Can a user's license request be fulfilled if the user pool in which the user is a member does not have enough available capacity?

Yes. If there is not enough available capacity, the client user can fulfill the request by taking the available capacity from the user pool and combining it with available capacity in the *Shared* pool.

Can I reserve license capacity for multiple features or products at a time?

No. You can reserve capacity only for a single feature or single product at a time. However, you can reserve licenses for a single feature or product for multiple user groups simultaneously.

How does the License Server select a pool to fulfill a license request if a client user is part of multiple user pools?

The License Server selects the user pool from which to check out the license based upon the priority order of the user pools for a feature or product.

If there are multiple pools with reserved capacity for a feature, and a lower priority pool makes the first check out request, is the request fulfilled?

Yes. License check out requests are fulfilled on a first-come, first-serve basis.

If I want to limit a client user's ability to check out licenses, how to I do this?

You have two options for restricting check out:

- You can restrict the user pool, which limits check out requests to only the reserved capacity in the pool. For details, see ["Restrict a user pool" on page 123](#).
- You can block a user pool, which prevents all check out requests. For details, see ["Block a user pool" on page 123](#).

Can a license be checked in by a client user in a blocked pool?

Yes.

How do I check from which pool I check out licenses?

In the License Usage pane, select the Feature ID for which you have checked out a license. The Pool field displays the pool name to which the license belongs.

## Client Users Management - Troubleshooting and Limitations

The following are frequently asked questions about problems encountered while managing client users and user pools in the License Server.

Why is a client user unable to check out licenses?

A client user cannot check out licenses for one of the following reasons:

- The client belongs to a user pool that is blocked. For details, see "[Restricting or Blocking User Pools](#)" on page 118.
- The client user belongs to a restricted user pool and the requested capacity is not available for that pool.
- The request capacity is not available for that feature.

# Chapter 11: Remote Commuter License Management

This chapter includes:

## Concepts

- ["Commuter Licensing - Overview" on the next page](#)
- ["Commuter License Check In and Check Out" on the next page](#)
- ["Recovering Commuter Licenses" on page 136](#)

## Tasks

- ["How to Perform Remote Commuter License Operations" on page 137](#)

## Reference

- ["Check In/Check Out Tab \(Remote Commuter Pane\)" on page 140](#)

**["Remote Commuter Licensing Management - Frequently Asked Questions" on page 142](#)**

**["Remote Commuter Licensing Management - Troubleshooting and Limitations" on page 143](#)**

## Concepts

### Commuter Licensing - Overview

At times, client users need to use a licensed product without a connection to the License Server to check out a license. Normally, the lack of a connection to the License Server would prevent the user from checking out a license and thereby prevent them using the product. However, users without a connection can use a **commuter license**<sup>1</sup> to use a product without a connection to the License Server. For example, client users that travel frequently with limited or no access to the License Server benefit from commuter licenses.

A commuter license is checked out from the License Server and is later installed on the client user's computer (when there is no active connection to the License Server). The commuter license enables the product to open and run without a connection to the License Server. After the client user is finished with the license, the user checks it in to the License Server.

**Note:** The user only needs to be connected to the License Server during license check in and check out.

Once a commuter license is checked out from a product or feature's capacity, the capacity remains checked out until the license is checked in or expires.

Unlike live concurrent licenses, you cannot revoke a commuter license.

Each product or feature can enable or prevent commuter licenses. This can be done by the product itself through the license key or you can set the settings for commuter license usage in the Feature Report for a particular feature. For details on setting commuter licenses in the license key file, see individual product documentation.

### Commuter License Check In and Check Out

In order to receive a commuter license, you or the client user must check out a commuter license. Commuter license check out is done in one of two ways:

- **Direct:** The client user connects directly to the License Server and checks out the license. For details on performing this type of check out, see the individual product documentation.
- **Remote:** An License Server user checks out the license and sends it to the client user.

Only users with administrator privileges can check out commuter licenses for all products and features. Product Admin users can check out licenses for the associated products in the User Groups tab (User Management pane).

<sup>1</sup>A license that allows a user to use a product without an active connection to the License Server.

Before checking out a remote commuter license, each client user must generate a file in the client system. This file contains the license requirements for the client's program and the client computer details. For details on generating this input file, see the individual product documentation.

To check in a remote commuter license, the user also needs to generate an file in the client computer. This output file contains the license details and the client computer's information. When checking in the license, this enables the License Server to recognize the commuter license.

All License Server users can check in a remote commuter license.

## Recovering Commuter Licenses

On occasion, a commuter license is lost before it is used by a client user. This happens when:

- A mail server goes down when sending the license key via email
- The downloaded license key file is corrupt
- The License Server user navigates to a different page in the License Server after checking out a license but before downloading the license key.

Using the Feature Report page, you can download the license file again and use it in a client user's program.



## Tasks

### How to Perform Remote Commuter License Operations

This task describes the processes necessary to manage commuter licensing operations.

This task includes the following steps:

- ["Enable commuter licensing " below](#)
- ["Modify commuter licensing settings" on the next page](#)
- ["Check out a commuter license" on the next page](#)
- ["Check in a commuter license " on the next page](#)
- ["Recover a commuter license" on page 139](#)

#### Enable commuter licensing

1. In the License Usage pane, select the feature for which you want to enable commuter licensing.

**Note:** A feature that allows you to enable commuter licensing is displayed with a cleared, enabled check box next to the Feature ID.

2. Click **Manage Commuter**.

The License Server displays a message confirming the commuter license enabling and the feature is displayed with a checked, enabled check box.

#### Modify commuter licensing settings

1. In the License Usage pane, click the **Feature ID: Version** link for the feature for which you want to modify commuter licensing settings. The Feature Report page for the feature opens.
2. In the Feature Report page, in the Commuter Checkout Settings section, click **Edit**.
3. Enter the **Maximum number of days allowed** for a commuter license checkout and the **Maximum capacity allowed** for a check out operation.
4. Click **Save**.

The Feature Report page displays the modified values for the commuter license settings.

**Note:** If you do not enter a value for the Maximum capacity allowed, all the available capacity is set as the maximum capacity for check out.

#### Check out a commuter license

1. In the Check Out tab (Remote Commuter pane), click the **Browse** button and navigate to the file generated in the client computer for commuter license check out.
2. Click **Check Out**.
3. In the Check Out page, select the features to check out and click **Download Link**.

The license key file is downloaded and is available for use by a client user.

**Note:** If you want to exclude certain features from a particular commuter check out, select the features in the Check Out page and click **Discard**.

For details on installing the license in a client computer, see the individual product documentation.

#### Check in a commuter license

1. In the Check In tab (Remote Commuter pane), click the **Browse** button and navigate to the file generated in the client computer for the commuter license (as described in "[Commuter License Check In and Check Out](#)" on page 135).
2. Click **Check In**.

The license is checked into the License Server and the capacity is added to the available capacity displayed in the License Usage pane.

#### Recover a commuter license

1. In the License Usage pane, select the feature for which you want to recover a commuter license and click the **Feature ID: Version** link. The Feature Report for that page opens.
2. In the Feature Report page, click the **Remote/Commuter** link in the license details table.

**Note:** You can download a commuter license only if it is not checked in.

3. Save the file to a convenient location.

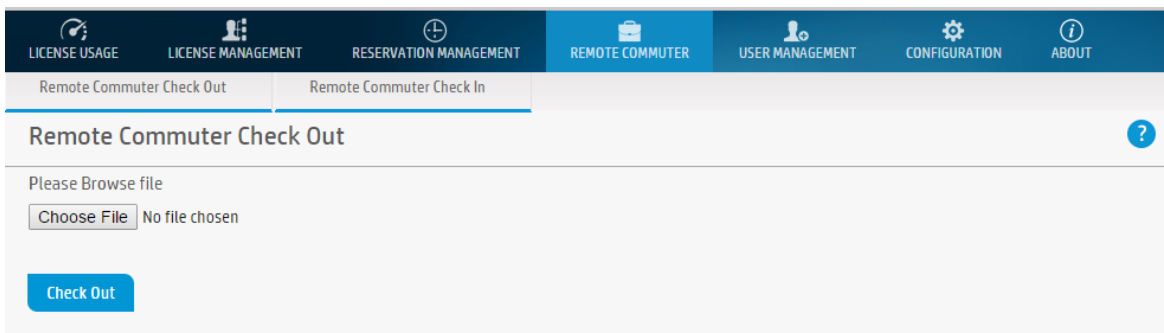
**Note:** The commuter license capacity listed as checked out does not change after downloading a commuter license again.

# Reference

## Check In/Check Out Tab (Remote Commuter Pane)

These tabs enable you to select the features for a commuter license check out or check in.

The image below shows an example of the Check Out pane.



<b>To access</b>	<b>Remote Commuter pane &gt; Remote Commuter Check Out/Remote Commuter Check In tab</b>
<b>Important information</b>	In order to check out a commuter license for the feature, a feature must have commuter licensing enabled, as displayed in the License Usage pane or the Feature Report page. For details, see <a href="#">"License Usage Pane"</a> and <a href="#">"Feature Report Page (License Usage Pane)"</a> .
<b>Relevant tasks</b>	<a href="#">"How to Perform Remote Commuter License Operations"</a> on page 137
<b>See also</b>	<ul style="list-style-type: none"> <li>• <a href="#">"Commuter Licensing - Overview"</a> on page 135</li> <li>• <a href="#">"Commuter License Check In and Check Out"</a> on page 135</li> <li>• <a href="#">"Recovering Commuter Licenses"</a> on page 136</li> </ul>

User interface elements are described below:

UI Element	Description
<file path>	The path to the output file generated in the client user's system for commuter license check out/check in.

<b>UI Element</b>	<b>Description</b>
<b>Browse</b>	Opens a dialog to enable you to find the output file for commuter license check out/check in.
<b>Check Out Check In</b>	Opens the Check Out/Check In page, in which you select the features for commuter license check in or check out.

## Remote Commuter Licensing Management - Frequently Asked Questions

How can I tell if a product or feature is enabled for a commuter license check out?

In the License Usage pane, a product or feature is shown as enabled for commuter license check out in the following ways:

- It has a selected, disabled check box next to the Feature ID.
- It has a selected, enabled check box next to the Feature ID.

If a feature allows commuter check out but the commuter check out is not yet enabled, the check box is displayed as a cleared, enabled check box. Select the feature's checkbox and click **Manage Commuter** to enable a commuter license check out.

Who can check out a commuter license?

Only users with *administrator* or *Product Admin* access privileges can check out commuter licenses. Product administrators are limited to check out of commuter licenses for the associated products in their user groups.

Who can check in a commuter license?

All License Server users can check in a commuter license.

Why is there an option to download a commuter license?

This option is used to recover a commuter license that is lost. Instead of performing license cleanup and checking out the licenses again to recover these licenses, a License Server user can download the licenses again using the Feature Report page for the feature.

Why am I not able to checkout Commuter/Remote Commuter from License Server?

There are two reasons why commuter/remote commuter checkout is not allowed,

- If the feature is restricted for commuter/remote commuter checkout, then you will not be able to do these two types of checkout. In case of UFT, by default all features are enabled for commuter checkout; however APLS admin can change this by clicking "Manage Commuter" with selected features (in License Usage) to disable the commuter checkout.
- If the client and AutoPass License Server are in the same system. Commuter is restricted for clients in the same system as AutoPass License Server as client doesn't require to get offline licenses (commuter/remote commuter) in this case.

## Remote Commuter Licensing Management - Troubleshooting and Limitations

The "Product is not configured with this License Server" error message is displayed when checking out a commuter license. Why?

This error message indicates that a product is not configured in the License Server. Check out a live or commuter license to configure a product and then check out a remote commuter license.

