Altova LicenseServer

User & Reference Manual

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1 Welcome to LicenseServer

Altova LicenseServer (hereafter also called **LicenseServer** for short) provides a central location for the management of licenses for Altova products. Altova applications running in a network can have licenses assigned to them from the LicenseServer, thus giving administrators the flexibility to centrally manage and monitor licenses.

Current version: 3.12 *

*** LicenseServer 3.12 can be used to license (i) Altova software products of version 2024 or older, and (ii) Altova MobileTogether Server version 9.1 or older. It cannot be used to license Altova product versions that are newer than those listed in this note. For more information about compatibility, see Updating LicenseServer [21].*

Licensing procedure

LicenseServer can be downloaded and installed free of cost from the Altova website. After you have correctly installed LicenseServer and started it as a service, the procedure for assigning licenses to an Altova product is as follows:

1. Register your Altova products [53] with LicenseServer. The registration is carried out from the Altova product.
2. Upload your Altova product licenses [72] to the license pool of LicenseServer.
3. Assign the uploaded product licenses [76] to your registered products.

See the General Information section [7] and Configuration Page Reference [83] for available functionality.

About this documentation

This documentation is organized into the following parts:

- General Information [7]
- Installation on Windows [32], Linux [40], and macOS [47]
- Register and unregister products with LicenseServer [53]
- Upload and activate product licenses [71]
- Assign product licenses [76]
- Configuration Page Reference [83]

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2 General Information

This section contains general information about LicenseServer:

- Types of Altova Licenses 8
- Processor Cores and Licenses 11
- Network Information 13
- Altova Products on Central Servers 16
- Altova ServiceController 17
- Failover LicenseServer 18
- License Check-outs 20
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- SSL Encryption 25

2.1 Types of Altova Licenses

Altova desktop products

There are three types of desktop user licenses:

- *Installed*: Each license is for a specified number of *computers*. For example, if you purchase a *10-Installed* license, you may install and use the software on up to 10 computers.
- *Concurrent-User:* A license for ***n*** concurrent users allows: (i) installation on ***10n*** computers; (ii) up to ***n*** users to use the software concurrently at any given time. For example, if you purchase a *20-Concurrent-User* license, then the software may be installed on up to 200 computers and used on up to 20 computers at any given time.
- *Named-User:* A Named-User license authorizes that number of *specific users* to use the software that is equal to the number of users for which the license has been bought. For example, if the license authorizes 5 named users, then 5 named users *(see notes below about named users)* can use the software at any given time.

Note: In the case of Installed licenses and Concurrent-User licenses, LicenseServer uses the hostname or IP address of a machine to assign licenses and keep count of assigned licenses. See Network Information 13 for details of the client identification process.

Note: When the software is registered with LicenseServer, the User Principal Name (UPN) of the user who registered the software is also registered (together with other registration data). Named-User licenses are assigned to UPNs. If a UPN receives a license, then the user having this UPN can log in with this UPN to any machine on the network and use the software. With this license, therefore, a user can work on different computers in the network (including in virtual environments), by logging in with his or her UPN. See Network Information 13 for details of the client identification process.

Note: Named-User licenses that were issued for desktop products that are v2019sp1 or older cannot be licensed via Altova LicenseServer. For information on how to license these versions, see the documentation that is packaged with your installed product.

List of Altova desktop products

Authentic Desktop, DatabaseSpy, DiffDog, EBA XBRL Add-in for Excel, ESEF XBRL Add-in for Excel, MapForce, SchemaAgent, Solvency II XBRL Add-in for Excel,StyleVision, UModel, WIP XBRL Add-in for Excel,XMLSpy.

Altova MissionKit licenses

Altova MissionKit is a suite of Altova desktop products. An Altova MissionKit license comprises individual licenses for each of the desktop products in the MissionKit suite. Each of these individual product licenses has a different and unique key code, but the same MissionKit Bundle ID. If you upload an Altova MissionKit license to the license pool, then the individual product licenses are listed in the License Pool 84 (with the Altova MissionKit logo 85 next to each license). If you assign any one of these product licenses to a particular client (machine or named user), then all the other products of that MissionKit bundle are also assigned to that client. As a result, no other product in that particular MissionKit bundle can be assigned to another client. Of course, if the MissionKit license allows multiple clients, then each client is licensed to use one set of MissionKit products.

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List of Altova MissionKit products

DatabaseSpy, DiffDog, MapForce, SchemaAgent, StyleVision, UModel, XMLSpy.

Altova server products

All server product licenses are licensed on the basis of the **physical cores** of the computer on which the server software is installed.

- Each license specifies the number of cores that are licensed
- If the server product is installed on a computer with ***n*** number of cores, then the license must authorize ***n*** or more cores. For example, if RaptorXML Server is installed on a computer with 8 cores, then the RaptorXML Server license must authorize 8 or more cores.
- Licenses can be combined to reach the required core count. For example, if RaptorXML Server is installed on a computer with 8 cores, then two RaptorXML Server licenses, each with a core count of 4, can be used.

Note: In order to run an Altova server product on a virtual machine: (i) the virtual machine must have a stable IP address or hostname so that it is uniquely identifiable, and (ii) the Altova server product must be licensed for—at a minimum—the number of virtual processors assigned to the virtual machine by the hosting machine.

List of Altova server products

DiffDog Server, FlowForce Server, MapForce Server, MobileTogether Server, RaptorXML(+XBRL) Server, StyleVision Server.

When to use different LicenseServers

The license pool 84 of a LicenseServer can contain **either**:

- *Group 1 licenses:* Installed licenses, and/or Concurrent-User licenses, and/or server product licenses, **or**
- *Group 2 licenses:* Named-User licenses

If you wish to use licenses from both groups, then you must use a separate LicenseServer for each group. If LicenseServer detects a situation in which licenses from both groups would be present in the license pool, it will prompt you about this and recommend appropriate steps (typically, to move one group of licenses to a separate LicenseServer that will be dedicated to this group).

Highly recommended: separate LicenseServers for separate license types

It is best to use a separate LicenseServer for each of the three license types. This would ensure that an end user, when connected to the appropriate LicenseServer: (i) sees only licenses of the type relevant to that client, and (ii) therefore acquires a license of the correct type.

When to re-register products

When upgrading from a LicenseServer version earlier than 3.0 to LicenseServer 3.0 or later, an older product registration in the license pool might be found to be incompatible with the new registration format (introduced with version 3.0). If this happens, then the older product registration will need to be removed and the product will need to be re-registered. LicenseServer will inform you about this in a message and will prompt you to take the required steps.

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2.2 Processor Cores and Licenses

The licensing of Altova server products is based on the number of **physical processor cores** available on the product machine (as opposed to the number of logical cores). For example, a dual-core processor has two cores, a quad-core processor four cores, a hexa-core processor six cores, and so on. The number of cores licensed for a product must be greater than or equal to the number of cores available on that server machine, whether the server is a physical or virtual machine. For example, if a server has eight cores, you must purchase an 8-core license. You can also combine licenses to achieve the core count. So, two 4-core licenses can be used for an eight-core server instead of one 8-core license.

If you are using a computer server with a large number of CPU cores but only have a low volume to process, you may also create a virtual machine that is allocated a smaller number of cores, and purchase a license for that number. Such a deployment, of course, will have less processing speed than if all available cores of the computer were utilized.

Note: Each Altova server product license can be used for only one client machine at a time—the machine on which the Altova server product is installed—even if the license has unused licensing capacity. For example, if a 10-core license is used for a client machine that has 6 CPU cores, then the remaining 4 cores of licensing capacity cannot be used simultaneously for another client machine.

Note for MobileTogether Server Advanced Edition
Because of its services functionality, MobileTogether Server Advanced Edition will run only on machines with **two or more cores**.

Note for FlowForce Server and MapForce Server
FlowForce Server Advanced Edition and MapForce Server Advanced Edition will run only on machines with two or more cores.

When assessing the number of cores you should license, this decision should take into account the data volumes you need to process and the processing time your business environment is expected to allow for. In most scenarios, a larger number of cores means larger amounts of data processed in less time. Below are just a few application-specific tips:

- FlowForce Server runs as a multi-threaded application. If the number of concurrent requests to the server is large, an insufficient number of cores will lead to latency (waiting times). For example, if you are exposing jobs as Web services, there may be hundreds of concurrent requests from clients. In this case, FlowForce Server will significantly benefit from a larger number of cores.
- MapForce Server will utilize a single core at a time, per mapping. Therefore, if you need to run multiple mappings simultaneously, a larger number of cores is highly recommended. For example, when MapForce Server runs under FlowForce Server management, several mapping jobs may overlap and run concurrently, depending also on the setup. Note, however, that if the volume of data processed by your mappings is extremely large, then latency could still occur.

Single-thread execution

If an Altova server product allows single-thread execution, an option for *Single-thread execution* will be available. In these cases, if an Altova server-product license for only one core is available in the license pool, a machine with multiple cores can be assigned this one-core license. In such a case, the machine will run that product on a single core. Processing will therefore be slower, because multi-threading (which is possible on multiple cores) will not be available. The product will be executed in single thread mode on that machine.

To assign a single-core license to a multiple-core machine, in LicenseServer, select the *Limit to single thread execution* check box for that product.

Estimate of core requirements

There are various external factors that influence the data volumes and processing times your server can handle (for example: the hardware, the current load on the CPU, and memory allocation of other applications running on the server). In order to measure performance as accurately as possible, test the applications in your environment with data volumes and in conditions that approximate as closely as possible to real business situations.

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2.3 Network Information

Altova LicenseServer must be installed on a server machine that is accessible by all clients running Altova products that require a license. Any firewall on both the client and server must allow the flow of network traffic to and from the LicenseServer that is necessary for the LicenseServer to operate correctly.

On the LicenseServer machine, **port 35355** is used to distribute licenses, and therefore it must be open for network traffic with client machines. Failover LicenseServers also connect to the Primary LicenseServer—just as clients do—via TCP or UDP at port 35355.

The following are the default networking parameters and requirements of LicenseServer:

- *For LicenseServer license distribution:*
  Either one or both of
  IPv4 TCP or UDP connection on port `35355`
  IPv6 TCP or UDP connection on port `35355`

Note: If LicenseServer is on a Linux system, then the port 35355 must be accessible from outside the firewall via TCP and UDP in order for Altova applications to register with LicenseServer. The port in this case could be added as a permanent exception to the firewall.

For administrative tasks, the LicenseServer is accessed by a web interface that uses port 8088. The port used can be configured to suit your requirements 95.

Communication with Altova.com

Altova LicenseServer needs to be able to communicate with the Master Licensing Server at `altova.com` to validate and authenticate license-related data and to ensure continuous compliance with the Altova license agreements. This communication occurs over HTTPS using port 443. You should make sure that communication is allowed with `altova.com` and its sub-domains. You can test whether connectivity to `altova.com` is enabled in the Connectivity Test 98 pane of the Settings 95 tab.

Any loss of connection with the `altova.com` master servers will be logged in the Messages tab 106 of the Configuration page of Altova LicenseServer 83. In addition, the administrator can configure Altova LicenseServer to automatically send an alert email when the connection to `altova.com` is lost. Alert Mail settings are available in the Settings tab 102 of the Configuration page 83.

Information about the LicenseServer with which a product is registered

For each product installation, information about the LicenseServer with which the product is registered is saved in a **`LICSVR`** file. This file is stored at the following locations:

For Installed and Concurrent-User licenses

- **`%ProgramData%\Altova\<ProductName><Version>\<ProductName>.licsvr`**
- Example: **`C:\ProgramData\Altova\XMLSpy2019\xmlspy.licsvr`**

Named-User licenses

- **%UserProfile%\Documents\Altova\<ProductName><Version>\<ProductName>.licsvr**
- Example: **C:\Users\nicky\Documents\Altova\XMLSpy2019\xmlspy.licsvr**

How LicenseServer identifies clients

When an Altova product on a machine is registered with LicenseServer, the machine's identification (hostname and IP address) is registered, as well as the User Principal Name (UPN) of the user who registered the product.

Installed and Concurrent-User licenses
When an Installed license or a Concurrent-User license is assigned via LicenseServer, the license is recorded by LicenseServer as having been issued to a specific client machine. LicenseServer identifies the client machine by its hostname, which LicenseServer obtains by a DNS-server-lookup of the client's IP address. If no hostname can be obtained from the lookup, then the client's IP address is used as its identifier. Subsequently, every time the Altova product is started on the client machine, LicenseServer checks whether the client machine's identification it receives matches the hostname or IP-address of any client to which a license was assigned. If there is a match, then the license details are verified.

Note: In the case of Installed licenses and Concurrent-User licenses, LicenseServer uses the hostname or IP address of a machine to assign licenses and keep count of assigned licenses. Identification is tried with the hostname first; if this does not work, then the IP address is tried. If, in your network environment, IP addresses are dynamically generated (or are not fixed for other reasons), then new IP addresses would be created for the same machine at new logins. This could result in the maximum number of Installed or Concurrent-User licenses being reached very quickly. For this kind of environment, therefore, you should use Named-User licenses [8], since these are assigned on the basis of UPNs (not machine IDs). Please keep this in mind also if you plan to install Altova desktop products on virtual machines, virtual desktops, or remote desktops.

Note: An Installed license or Concurrent-User license will only work for the first user who logs on to the product machine and runs the product. This is because the product is licensed for that machine only, and only one user may run the product on that machine at a given time. If you want to enable access and use of the product installation by multiple users, then license the product with a Named User license for multiple named users.

Named-User licenses
When a Named-User license is assigned via LicenseServer, the license is recorded by LicenseServer as having been issued to a specific UPN. Subsequently, every time the Altova product is started on the client machine, LicenseServer identifies the client user on the basis of the UPN under which the user has logged in. If this UPN matches the UPN of a licensed client user, then the license details are verified.

VPN connections with dynamic IP addresses

If a client machine connects to LicenseServer via a Virtual Private Network (VPN) service, then the connection is often made with a dynamically assigned IP address. In this case, each new connection by the client will be recorded by LicenseServer as coming from a new IP address—and, therefore, from a previously unknown client (*see "How LiceneServer identifies client machines" above*).

This results in the following:

- If an additional license **is available** on LicenseServer at the time when the client connects, then a new license will be assigned to the client (which might already have had one or more licenses assigned to it previously). Licenses that were assigned previously to the client are not released. As a consequence, a single client would be consuming multiple licenses, leading to a shortage of licenses on the server.

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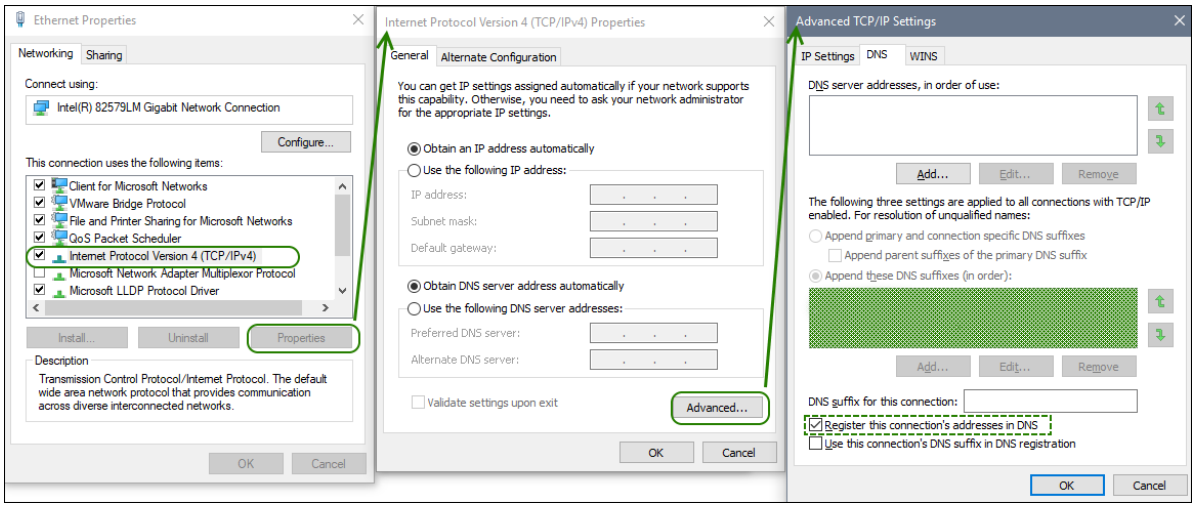
- If an additional license **is not available** on LicenseServer, then the product on that client cannot be licensed—even though licenses might have been assigned to it previously (for IP addresses that the client is no longer using).

There are three ways to resolve this issue:

- *Use Named-User licenses:* In the case of Named-User licenses, licensing does not rely on the hostname or IP address of the client machine, but on the User Principal Name (UPN) of licensed users (*see* *Types of Altova Licenses* 8). This is the licensing model we recommend if you work in a network setup that uses dynamic IP addresses.
- *Register VPN clients with a DNS.* How to do this varies according to OS. On Windows 10 clients, for example, you can set this up via the properties of the client's network connection (*see screenshot below*).



- *Assign a static IP address to the VPN user.* How to do this differs from one VPN software to the other. You can get the relevant information from your VPN provider or administrator. For example, how to do this with OpenVPN is described here.

2.4 Altova Products on Central Servers

This topic describes the steps to take when an Altova desktop product is: (i) hosted on a central server, and (ii) licensed to remote clients. Follow these guidelines if you plan to install Altova desktop products on virtual machines, virtual desktops, or remote desktops, and if you want to ensure that the product is registered with the correct LicenseServer.

1. Install LicenseServer before installing the desktop product.
2. Upload the relevant product licenses to the license pool of the LicenseServer. (Alternatively, you can upload the licenses subsequent to registration *(next point)*.)
3. At the end of the installation procedure for the desktop product, you will be asked whether you want to register the product with LicenseServer. Choose **Yes**, and, from the list of available LicenseServers, select the LicenseServer on which the product licenses are available (or will be available in the future).
4. After successful registration, write-protect the product's **LICSVR** file, located at: **%ProgramData%\Altova\<ProductName><Version>\<ProductName>.licsvr**. This is to ensure that the details of the correct LicenseServer, which are stored in the **LICSVR** file, are not accidentally overwritten
5. From now onwards, every time a remote client starts the server-based product software, that client can acquire or be assigned a license from the correct LicenseServer.

Note: If you leave the registration of the installed product to a later time, it is possible that a network client will start the server-based product software and register the product to an inappropriate LicenseServer. To avoid that this happens, you should register the desktop product as soon as possible after it has been installed.

Note: If the first registration of a product was with a wrong LicenseServer, then licenses for every subsequent client that starts the server-based product will be restricted to the licenses available on that (wrong) LicenseServer. Even if licenses for the product are available on this LicenseServer, this licensing will likely not be as intended. In the meantime, the licenses on the correct LicenseServer will lie there unused by their intended assignees.

Note: An Installed license or Concurrent-User license will only work for the first user who logs on to this machine and runs the product. This is because the product is licensed for the machine, and only one user may run the product on that machine at a given time. If you want to enable access and use of the product installation by multiple users, then license the product with a Named User license.

Also see: Types of Altova Licenses 8 and Network Information 13.

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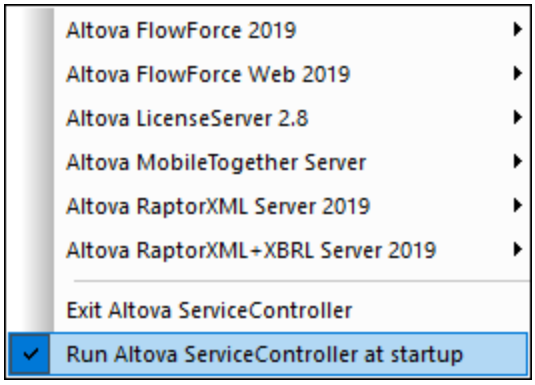
2.5 Altova ServiceController (Windows Only)

Altova ServiceController (ServiceController for short) is an application for conveniently starting, stopping and configuring Altova services **on Windows systems**. ServiceController is installed with Altova LicenseServer and with Altova server products that are installed as services (DiffDog Server, FlowForce Server, Mobile Together Server, and RaptorXML(+XBRL) Server). ServiceController can be accessed via the system tray (*screenshot below*).

To specify that ServiceController starts automatically on logging in to the system, click the **ServiceController** icon in the system tray to display the **ServiceController** menu (*screenshot below*), and then toggle on the command **Run Altova ServiceController at Startup**. (This command is toggled on by default.) To exit ServiceController, click the **ServiceController** icon in the system tray and, in the menu that appears (*see screenshot below*), click **Exit Altova ServiceController**.



Starting and stopping Altova services

Each installed Altova service component (for example, the Altova RaptorXML Server service) will have an entry in the ServiceController menu (*see screenshot above*). An Altova service can be started or stopped via a command in its ServiceController sub-menu. Additionally, important administration tasks of individual services can be accessed via the ServiceController menu. For example, Altova LicenseServer service has a sub-menu in which you can choose to access LicenseServer's Configuration page via the **Configure** command.

2.6 Failover LicenseServer

A second LicenseServer can be configured to take over from the Primary LicenseServer in the event that the Primary LicenseServer becomes unavailable. This second LicenseServer is called the **Failover LicenseServer**. The Failover LicenseServer mechanism works as follows:

- The LicenseServer application is installed as usual on the machine planned to be the Failover LicenseServer.
- This LicenseServer is configured to be the Failover LicenseServer of a Primary LicenseServer that is running on the network, and to which it connects. The configuration is done in the Settings 96 tab of the Failover LicenseServer.

Once a Failover LicenseServer has been configured, both the Primary LicenseServer and Failover LicenseServer will carry information about the existence of the Failover in their respective header bars: the Primary identifies its Failover, and the Failover names its Primary *(see screenshots below)*.

Note: After a LicenseServer has been set as a Failover LicenseServer, its License Pool 84, Client Management 87, Client Monitoring 94 tabs will not be shown. These tabs will be shown again, when the Failover LicenseServer takes over from the Primary LicenseServer.

How the Failover LicenseServer works

The Failover LicenseServer works as follows:

- After a Failover LicenseServer has been configured, it periodically synchronizes all licenses, registered clients, and license agreements from the Primary.
- If the Primary becomes unavailable, then the Failover takes over the role of LicenseServer.
- Once the Primary becomes available again, the Primary retakes control from the Failover. Any license-related modifications made on the Failover in this period will be lost when the Primary regains control.
- The Failover LicenseServer will provide licenses only to Altova products that are version 2015 rel 3 or later, and Altova MobileTogether Server version 1.5 or later. (You can identify older clients from information in the Client Monitoring tab 94 of the Primary LicenseServer.) If you wish to use the Failover LicenseServer feature, then you must upgrade your Altova applications to the required minimum version.

Note: Failover LicenseServers connect to the Primary LicenseServer—just as clients do 13—via TCP at port 35355.

Updating a LicenseServer that is backed up by a Failover LicenseServer

When updating a LicenseServer that is backed up by a Failover LicenseServer 18 to a newer version, you must update in the following sequence:

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1. Update the Primary LicenseServer. During the update, the Failover LicenseServer will take over.
2. Wait for the Primary update to finish. When the Primary update is completed, the Primary will take over from the Failover, and the Failover service stops
3. Update the Failover LicenseServer.
4. When the Failover update is completed, the Failover service resumes.

Note: If you try to update the Failover first, **then the installation fails** and an installation rollback is attempted. If the rollback fails, then the Failover will have been uninstalled.

2.7 License Check-outs

Clients can check out a **desktop product license** from the license pool for a period of up to 30 days so that the license is stored on the product machine. (The maximum amount of allowed check-out time—not exceeding 30 days—is specified in the License Checkout setting of the Settings 98 tab.) This enables a client to work offline, which is useful, for example, if the client will be working in an environment where there is no access to Altova LicenseServer (such as when the Altova product is installed on a laptop and product use is required during travel). The actual license check-out is carried out on the client side, from the Software Activation dialog of the product's user interface. The client's ability to check out a license, however, is subject to check-out having been enabled on the server side (in the Settings 98 tab).

License check-outs are available for desktop products 8 only. If the license being checked out is a Installed User license 8 or Concurrent User license 8, then the license is checked out to the machine and is available to the user who checked out the license. If the license being checked out is a Named User license 8, then the license is checked out to the Windows account of the named user. License check-out will work for virtual machines, but not for virtual desktop (in a VDI).

Note: When a Named User license 8 is checked out, the data to identify that license check-out is stored in the user's profile. For license check-out to work, the user's profile must be stored on the local machine that will be used for offline work. If the user's profile is stored at a non-local location (such as a file-share), then the checkout will be reported as invalid when the user tries to start the Altova application.

While the license is checked out, LicenseServer displays the license as being in use, and the license cannot be used by any other client. The license automatically reverts to the checked-in state when the check-out period ends. Alternatively, a checked-out license can be checked in at any time via the **Check in** button of the product's Software Activation dialog.

License check-ins must be carried out to the same major version of the Altova product from which the license was checked out. So make sure to check in a license before you upgrade your Altova product to the next major version.

To check out a license from the license pool to your product machine, go to the **Help** menu of your Altova desktop product and select **Software Activation**. Refer to the user manual of your Altova product for more information.

Note: License check-out is not available for server products.

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2.8 Updating LicenseServer

Each new release of Altova products is accompanied by the release of a newer version of LicenseServer (the corresponding version). **If you update your Altova product, you must also update your LicenseServer** to the corresponding LicenseServer version*. This is because the updated Altova product cannot be licensed with a LicenseServer that is older than the corresponding version. Note, however, that LicenseServer versions are backwards-compatible. (This means that LicenseServer can be used to license corresponding and older versions of Altova products.)

Update LicenseServer as follows:

- *On Windows systems*: Double-click the new version's installer (executable file) or call the installer from the command line. The installer will uninstall the older version of LicenseServer and install the new version.
- *On Linux and macOS*: Uninstall the older version manually and then start the installer file of the new version.

The installation procedure is the same as when you originally installed LicenseServer (see for Windows 33, Linux 41, macOS 48).

***** *LicenseServer 3.12 can be used to license (i) Altova software products of version 2024 or older, and (ii) Altova MobileTogether Server version 9.1 or older. It cannot be used to license Altova product versions that are newer than those listed in this note.*

Points to note

- If you are installing a new version of an Altova product and if your current LicenseServer version is not the latest, de-install the older version of LicenseServer and install the latest version. (On Windows systems, alternatively, you can leave this to the LicenseServer installer, which will detect the older version and automatically de-install it before proceeding with the LicenseServer installation.)
- All registration and licensing information held in your older version of LicenseServer will be saved, at the time of de-installation, to a database on the LicenseServer machine, and will be imported automatically into the newer version. This will be done in both cases: (i) manual de-installation, or (ii) automatic de-installation by the LicenseServer installer.
- The version number of the LicenseServer that is appropriate for any particular version of a server product is displayed during the installation of that server product. You can choose to install this version of LicenseServer as part of the installation of the server product.
- If LicenseServer is backed up by a Failover LicenseServer 18, see the update sequence given below.
- The version of the currently installed LicenseServer is given at the bottom of the LicenseServer configuration page 83.

Updating a LicenseServer that is backed up by a Failover LicenseServer

When updating a LicenseServer that is backed up by a Failover LicenseServer 18 to a newer version, you must update in the following sequence:

1. Update the Primary LicenseServer. During the update, the Failover LicenseServer will take over.
2. Wait for the Primary update to finish. When the Primary update is completed, the Primary will take over from the Failover, and the Failover service stops
3. Update the Failover LicenseServer.

4. When the Failover update is completed, the Failover service resumes.

Note: If you try to update the Failover first, **then the installation fails** and an installation rollback is attempted. If the rollback fails, then the Failover will have been uninstalled.

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2.9 Moving Licenses to a New LicenseServer

To move licenses to a new LicenseServer, do the following:

1. Make sure you have the original license files that you uploaded to the old LicenseServer
2. If you have a Failover LicenseServer 18, disconnect it (by clicking **Disconnect Failover LicenseServer** in the Settings tab 96 of the Primary). Otherwise, the Failover will take over the licensing operations when the Primary is uninstalled
3. Deactivate all licenses 73 on the old (Primary) LicenseServer
4. Delete all licenses 84 from the old (Primary) LicenseServer
5. Uninstall the old (Primary) LicenseServer
6. Install a new (Primary) LicenseServer
7. If you want, reconfigure the old Failover 18 to be the Failover of the new Primary
8. Register your Altova products 53 with the new (Primary) LicenseServer
9. Upload the license files 71 to the new (Primary) LicenseServer
10. Assign the uploaded licenses 76 in the new (Primary) LicenseServer

2.10 Password Reset

If you forget your LicenseServer password, you can use the **`passwordreset`** command from the CLI to reset the password to `default`.

1. Open a command line window.
2. Change to the directory where the LicenseServer application package or executable is installed.
3. Enter the command: **`licenseserver passwordreset`**. This resets the LicenseServer administrator password to the original (initial) password: `default`.
4. Restart the LicenseServer service (see for Windows 36, Linux 44, macOS 50).
5. You can now log in to the Administrator Web UI with the password `default`.

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2.11 SSL Encryption

From version 3.3 onwards, LicenseServer enables you to set up a secure connection between it and its web interface (Configuration Page) 83. The connection is secured with HTTPS and encrypted by using SSL certificates. You can purchase an SSL certificate from a Certificate Authority (CA) or use a self-signed certificate.

The broad steps to set up SSL encryption are given below and described in the sub-sections of this section:

1. Obtain the required SSL certificate/s and private key. In the section Obtain Certificate from CA 25, we describe the steps to purchase a certificate from a Certificate Authority (CA). Alternatively, you can generate and use a self-signed certificate 28.
2. Enable the encrypted connection 29 by registering your SSL certificate and key in the Web UI settings of LicenseServer's Settings tab 99.

2.11.1 Obtain Certificate from CA

This section describes the steps for obtaining a certificate from a Certificate Authority (CA). In order to enable SSL encryption for LicenseServer 29, you will need the following files:

- *Private Key file:* generated by you, by using: (i) an application that may already exist on your operating system (such as Keychain Access on macOS or OpenSSL on Linux), or (ii) third party applications (such as OpenSSL).
- *Certificate file:* This is the public key that is based on your private key, and which you purchase from a recognized Certificate Authority (CA) such as VeriSign or Thawte. For the purchase, you will need: (i) the Private Key file you generated, and (ii) a Certificate Signing Request (CSR), which can also be generated by your SSL application.
- *Certificate Chain files (or Intermediate Certificate files):* provided by the CA along with the public key certificate file.

The steps to obtain these three files are listed below.

Since OpenSSL typically comes pre-installed on most Linux distributions and on macOS machines, and can also be installed on Windows computers, the steps listed below are explained withe OpenSSL commands. For download links to Open SSL installer binaries, see the OpenSSL Wiki.

Steps for generating private key and obtaining certificates from CA

1. Generate a private key

   SSL requires that a **private key** is installed on the server. To create the private key, use the following OpenSSL command:

   ```
   openssl genrsa -out private.key 2048
   ```

   This creates a file called **`private.key`**, which contains your private key. The private key must be in PEM (Privacy Enhanced Mail) format. The file extension is usually **`.pem`**, but can also be **`.key`**, **`.cert`**, **`.cer`**, or **`.crt`**. The private key **must not be password-protected**. Save the file in a

secure location and make a note of the location. (See the topic Private Key Requirements 28 for details.) You will need the private key to generate the Certificate Signing Request (CSR) in the next step.

2. Generate a Certificate Signing Request (CSR)

   A Certificate Signing Request (CSR) is sent to a certificate authority (CA) to request a public key certificate. The CSR is based on your private key and contains information about your organization. Create a CSR with the following OpenSSL command (which provides the private-key file, `private.key`, that was created in Step 1, as one of its parameters):

   ```
   openssl req -new -nodes -key private.key -out my.csr
   ```

   During generation of the CSR you will need to give information about your organization, such as that listed below. This information will be used by the certificate authority to verify your company's identity.

   - *Country*
   - *Locality* (the city where your business is located)
   - *Organization* (your company name). Do not use special characters; these will invalidate your certificate
   - *Common Name* (the DNS name of your server). This must exactly match the fully qualified domain name (FQDN) of the host machine on which the server runs
   - *A challenge password.* Keep this entry blank!

3. Buy an SSL certificate

   Purchase an SSL certificate from a recognized certificate authority (CA) such as VeriSign or Thawte. For the rest of these instructions, we follow the VeriSign procedure. The procedure with other CAs is similar.

   - Go to the VeriSign website.
   - Click **Buy SSL Certificates**.
   - Different types of SSL certificates are available. For LicenseServer, Secure Site or Secure Site Pro certificates are sufficient. EV (extended verification) is not necessary, since there is no "green address bar" for users to see.
   - Proceed through the sign-up process, and fill in the information required to place your order.
   - When prompted for the CSR (*created in Step 2*), copy and paste the content of the **`my.csr`** file into the order form.
   - Pay for the certificate with your credit card.

   > *Allow time for obtaining a certificate*
   > Obtaining public key certificates from an SSL certificate authority (CA) typically takes **two to three business days**. Please take this into account when setting up your Altova LicenseServer.

4. Receive public key and intermediate files from CA

   Your certificate authority will complete the enrollment process over the next two to three business days. During this time you might get emails or phone calls to check whether you are authorized to

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request an SSL certificate for your DNS domain. Please work with the authority to complete the process.

After the authorization and enrollment process has been completed, you will get an email containing the **public key** of your SSL certificate. The public key will be in plain text form or attached as a **`.cer`** file.

You will also receive two intermediate certificate files (primary and secondary), either as text or in files. In some cases, your certificate authority (CA) will list content of intermediate certificates on its website.

- Verisign's intermediate certificates: https://knowledge.verisign.com/support/ssl-certificates-support/index?page=content&id=AR657&actp=LIST&viewlocale=en_US
- Verisign's intermediate certificates for its Secure Site product: https://knowledge.verisign.com/support/ssl-certificates-support/index?page=content&id=AR1735

Copy-paste both intermediate certificates (primary and secondary) into separate text files and save them on your computer.

5. Save public key to file

For use with LicenseServer, the public key must be saved in PEM (Privacy Enhanced Mail) format. The file extension is usually **`.pem`**, but can also be **`.key`**, **`.cert`**, **`.cer`**, or **`.crt`**. If the public key was supplied as text, copy-paste all the lines from

```
--BEGIN CERTIFICATE--
  ...
--END CERTIFICATE--
```

into a text file that we will call **`certificate.cer`**.

6. Save CA's intermediate certificates to a single file

To enable SSL encryption for LicenseServer, you must combine the primary and secondary intermediate certificates into **a single file**. The intermediate files were received from the CA *(see Step 4 above)*.

Copy-paste both intermediate certificates into one file so that they are in sequence. The order of the sequence is important: (i) secondary intermediate certificate, (ii) primary intermediate certificate. Ensure that there are no lines between certificates.

```
--BEGIN CERTIFICATE--
  secondary intermediate certificate
--END CERTIFICATE--
--BEGIN CERTIFICATE--
  primary intermediate certificate
--END CERTIFICATE--
```

Save the resulting combined certificate text to a file named **`intermediates.cer`**. (The file extension can be any of: **`.pem`**, **`.key`**, **`.cert`**, **`.cer`**, or **`.crt`**.) This file contains the complete chain of trust in the form of the intermediate certificates that were used by the CA to sign your certificate.

Result files

After you have carried out the steps listed above, you should have the following files:

- *Private Key file:* named **`private.key`** in the steps above *(see Step 1)*
- *Certificate file:* named **`certificate.cer`** in the steps above *(see Steps 2 to 5)*
- *Certificate Chain files (or Intermediate Certificate files):* named **`intermediates.cer`** in the steps above *(see Steps 4 and 6)*

Save these files to a suitable location. You will need to enter their filepaths when enabling SSL encryption in the Web UI settings of the Settings tab 99.

2.11.2 Self-Signed Certificates

Alternatively to purchasing an SSL certificate from a certificate authority (CA), you can create and use a self-signed certificate. Your organization will likely have specific security policies concerning SSL certificates and might have a system in place for creating and using a self-signed certificate. The broad steps for using self-signed certificates are given below and will depend on the SSL application you use to create the certificate (such as OpenSSL), and the OS on which LicenseServer is installed.

Since your certificate is self-signed, no browser will by default trust it. A browser would typically display a warning like, *This site is not trusted*. In order for an HTTP client (such as a browser) to trust your self-signed certificate, the certificate must be imported into a certificate store in one of the following ways:

- Into the trusted certificates store of the browser.
- Into the trusted certificates store of the operating system (OS). This would apply if the browser uses the OS store. On Windows, for example, Google Chrome and Microsoft Edge use the operating system's certificates store, while Mozilla Firefox uses its own store. On Linux, both Google Chrome and Mozilla Firefox use their own certificates store. On Mac, Safari uses the operating system's certificate store (Keychain Access).

Note the following points:

- This step must be performed for each client machine (or browser, if applicable) that will access License Server.
- If you enable encryption 29, make sure that the self-signed root CA certificate must be trusted by the operating system.

2.11.3 Private Key Requirements

Because LicenseServer runs unattended, enabling SSL requires that the certificate's private key be *unencrypted*. In other words, it must not be protected with a password; otherwise, it cannot be used by

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LicenseServer. For this reason, the file that stores the private key must have restricted access and be accessible only to entitled personnel in your organization.

To identify whether the private key is password-protected or unencrypted, open the private key file using a text editor or the command line. An *encrypted* private key begins with the following lines:

```
-----BEGIN RSA PRIVATE KEY-----
Proc-Type: 4,ENCRYPTED
DEK-Info: AES-256-CBC,DFC3FAD546517ED6336CFF72AA23F6C7
```

One of the ways to decrypt the private key is by using the OpenSSL toolkit (https://www.openssl.org/). Specifically, you can run the following command to decrypt a private key:

```
openssl rsa -in enc.key -out dec.key
```

Where **enc.key** is the encrypted key and **dec.key** is the unencrypted key to be output by the command. For example, assuming that **alsenc.key** is your encrypted key, you can obtain the unencrypted key by running the following command in the directory where the private key is stored:

```
openssl rsa -in alsenc.key -out alsdec.key
```

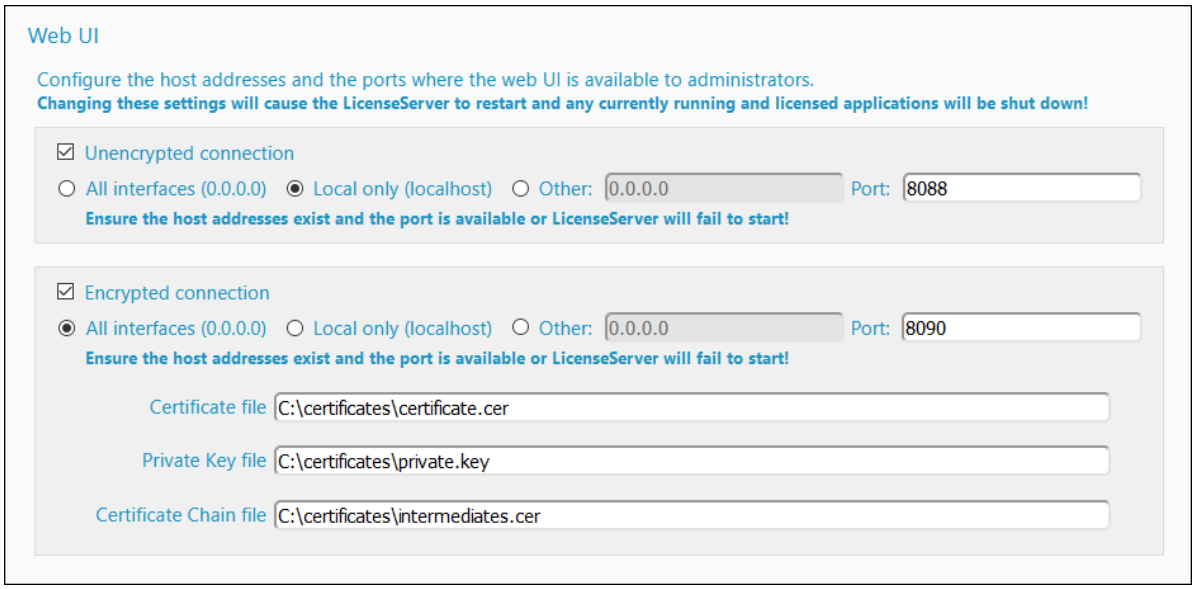
After running the command, the **alsdec.key** file no longer states `ENCRYPTED`. For example:

```
-----BEGIN RSA PRIVATE KEY-----
MIIEpQIBAAKCAQEAzCCedru/oKzaSiwh6avtf9eMPix99RKpd07fWtwstkuglAdi
--
--
--
-----END RSA PRIVATE KEY-----
```

2.11.4 Enable SSL for LicenseServer

After you have obtained your private key and your certificate file/s, you can enable encrypted connection between LicenseServer and its Web UI as follows:

1. Open the Configuration page as described in the sections, Open LicenseServer Config Page (Windows) 37, Open LicenseServer Config Page (Linux) 45 and Open LicenseServer's Config Page (macOS) 51.
2. Go to the Settings tab 95 and then to the Web UI pane 99 *(screenshot below)*.



3. Check *Encrypted Connection*.
4. Select the interface/s where the web interface should listen for SSL encrypted connections. If you select *Other*, the host address that you enter must correspond to the SSL certificate's Common Name entry.
5. Enter the port number for SSL encrypted connections.
6. Enter the path of, respectively, the certificate file and the private key file.
7. If intermediary certificate files were used to create the final certificate (public key) file, then, in the *Certificate Chain File* field, enter the path to the intermediate certificates file [25]. Intermediate files are usually used when certificates are created by Certificate Authorities [25].
8. You can now set whether you want unencrypted connections additionally. If you deselect *Unencrypted Connection,* then LicenseServer will be unavailable through plain HTTP. So you should take this step only after making sure that SSL-encrypted connection works. Instead of disabling the HTTP connection completely, you may want to restrict it to local connections only, as shown in the screenshot above.
9. Click **Save** to finish. The server will be restarted, and the browser will be redirected to the **`https`** (not **`http`**) URL.

Caution

If the SSL settings are not configured correctly or if there is a certificate problem, you may no longer be able to access the Web UI [83]. In this case, either use the URL of the unencrypted connection (if this is enabled), or change the SSL settings manually in the **`server.cfg`** file *(see below)*.

Alternatively, you can rename the server configuration file (**`server.cfg`**) and restart Altova LicenseServer as a service. On restarting the service, a new server configuration file with the default connection settings will be created and you will be able to access the Web UI [83]. (Note that the service will also restart—automatically—if you change a server setting and save [95].)

Manually editing the server.cfg file

The **`server.cfg`** file is stored at the following locations:

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Windows	`C:\ProgramData\Altova\LicenseServer\data\`
Linux	`/var/opt/Altova/LicenseServer/data`
macOS	`/var/Altova/LicenseServer/data`

The relevant lines of the file are listed below with documentation comments in green. The settings in the listing below correspond to the settings in the screenshot above.

```
server.cfg
=========

[Listen] //Settings for Unencrypted connections
active = 1 // Set active = 1 to enable Unencrypted connections
hostkind = local
hostcustom = 0.0.0.0
host = localhost
port = 8088

[ListenSSL] //Settings for Encrypted connections
active = 1 // Set active = 0 to disable Encrypted connections
hostkind = all
hostcustom = 0.0.0.0
host = 0.0.0.0
port = 8090
ssl = 1

[SSL]
certificate = C:\certificates\certificate.cer
private_key = C:\certificates\private.key
certificate_chain = C:\certificates\intermediates.cer
```

3 Install and Start LicenseServer (Windows)

This section describes the following procedures for LicenseServer on Windows systems:

- Installation (Windows) 33
- Start LicenseServer as a Service (Windows) 36
- Open LicenseServer's Config Page (Windows) 37

After completing the installation and setup as described in this section, you can: (i) register product installations with LicenseServer 53, (ii) upload product licenses to LicenseServer 71, and (iii) assign product licenses 76 to the registered product installations.

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3.1 Install LicenseServer (Windows)

Altova LicenseServer can be installed on Windows systems in one of two ways:

- As an independent installation. Go to the Download page of the Altova website, download the installer package, and run the installation.
- As part of an Altova server product* installation. If you opt to include LicenseServer in the product installation, then the installer will automatically de-install any previous version of LicenseServer it might detect and install the new version.

** Altova server products are: Altova DiffDog Server, Altova FlowForce Server, Altova MapForce Server, Altova MobileTogether Server, Altova RaptorXML(+XBRL), and Altova StyleVision Server.*

System requirements (Windows)

Windows

Windows 10, Windows 11

Windows Server

Windows Server 2012 or newer

Installation on Windows Server Core

Windows Server Core is a minimal Windows installation that does not use a number of GUI features. You can install LicenseServer on a Windows Server Core machine as follows:

1. Download the LicenseServer installer executable from the Altova website. This file is named **`licenseserver-3.12.exe`**. Make sure to choose the executable matching your server platform (32-bit or 64-bit).
2. On a standard Windows machine (not the Windows Server Core machine), run the command **`licenseserver-3.12.exe /u`**. This unpacks the **`.msi`** file to the same folder as the installer executable.
3. Copy the unpacked **`.msi`** file to the Windows Server Core machine.
4. If you are updating an earlier version of LicenseServer, shut down LicenseServer before carrying out the next step.
5. Use the **`.msi`** file for the installation by running the command **`msiexec /i LicenseServer.msi`**. This starts the installation on Windows Server Core.

Keep the **`.msi`** file/s in a safe place. You will need them later to uninstall, repair or modify your installation/s.

To test the return value of the installation, run a script similar to the following. The return code will be in the `%errorlevel%` environment variable. A return code of **`0`** indicates success.

```
start /wait msiexec /i LicenseServer.msi /q
echo %errorlevel%
```

For a silent installation with a return code and a log of the installation process, run:

```
start /wait msiexec /i LicenseServer.msi /q /L*v! <pathToInstallLogFile>
```

To modify the installation, run:

```
msiexec /m LicenseServer.msi
```

To repair the installation, run:

```
msiexec /r LicenseServer.msi
```

To uninstall Application, run:

```
msiexec /x LicenseServer.msi
```

To uninstall Application silently and report the detailed outcome in a log file:

```
start /wait msiexec /x LicenseServer.msi /q /L*v! <pathToUninstallLogFile>
```

When upgrading to a major version, you can retain your LicenseServer settings by using the properties listed below. To set a property, run the installation command with the property setting appended, like this:

```
msiexec /i LicenseServer.msi LS_WebServer_Host=127.0.0.1
```

List of properties

Given below is a list of the relevant properties.

LS_WebServer_Host=<IP4 Address>
Use **127.0.0.1** if you want to access the SSL web server (for encrypted transmission) from this machine only. Use **0.0.0.0** to make the SSL web server accessible globally.

LS_WebServer_Port=<Port Number>
Specifies the port that is used to access the SSL web server (for encrypted transmission).

LS_Service_DisplayName=<Serveice Display Name>
Name that will be displayed for the service. Enclose the name in double quotes.

LS_Service_StartType=<Startup Type>
Specifies how the service is started during a system start-up. Values can be one of: **auto | auto-delayed | demand | disabled**.

LS_Service_Username=<UserName>
Specifies the log-on user for the service. Use one of: **LocalSystem | NT Authority\LocalService | NT Authority\NetworkService | <any user with relevant rights>**.

LS_Service_Password=<Password>
The password of the service's start user in plain text.(Hint: Use the installer's user interface to avoid entering plain text passwords.) No password is required if the user name is any of: **LocalSystem | NT Authority\LocalService | NT Authority\NetworkService**.

Admin rights required for installation

In order to install LicenseServer, admin rights are required for the machine on which LicenseServer is to be installed.

Version compatibility between LicenseServer and Altova products

New versions of Altova products can only be licensed with the version of LicenseServer that is the latest at the time of the Altova product's release. However, older versions of Altova products will work with newer versions of

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LicenseServer.

Consequently, if you are installing a new version of an Altova product and if your current LicenseServer version is not the latest, then de-install the older LicenseServer version and install the latest version from the Altova website. All registration and licensing information held in your older version of LicenseServer will be saved at the time of de-installation to a database on your machine, and will be imported automatically into the newer version of LicenseServer.

If you choose to install a newer version of LicenseServer without first de-installing your older version, then the older version will be de-installed automatically by the LicenseServer installer before the newer version is installed.

The version number of your LicenseServer is given at the bottom of all tabs of the LicenseServer configuration page 83.

Also see: Updating LicenseServer 21

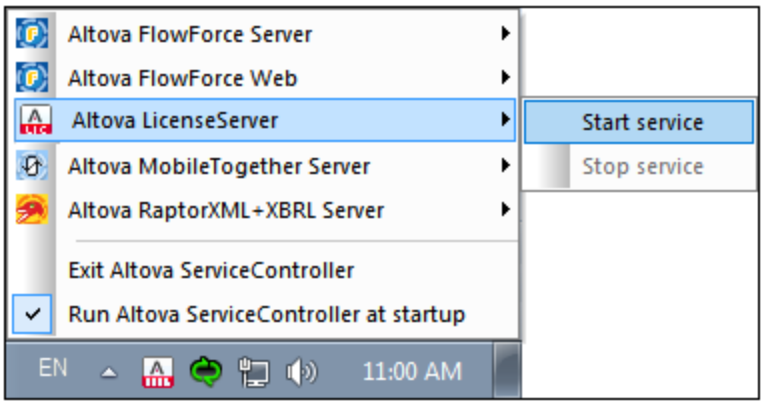
Restart of server machine is not required

After LicenseServer has been installed, the machine on which it has been installed does not need to be restarted. Make sure, however, that LicenseServer has been started as a service on the server machine (*see next section*).

3.2 Start LicenseServer as a Service (Windows)

You can start LicenseServer as a service via Altova ServiceController, which is available in the system tray. Do the following:

1. Click **Start | All Programs | Altova LicenseServer | Altova ServiceController**. Altova ServiceController is started and its icon is displayed in the system tray (*see screenshot below*). If you select the *Run Altova ServiceController at Startup* menu command, Altova ServiceController will start up on system start and its icon will be available in the system tray from then onwards.



2. To start LicenseServer as a service, click the Altova ServiceController icon in the system tray, hover over **Altova LicenseServer** in the menu that appears (*see screenshot above*), and then select **Start Service** from the LicenseServer submenu. If LicenseServer is already running, the *Start Service* option will be disabled.

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3.3 Open LicenseServer's Config Page (Windows)

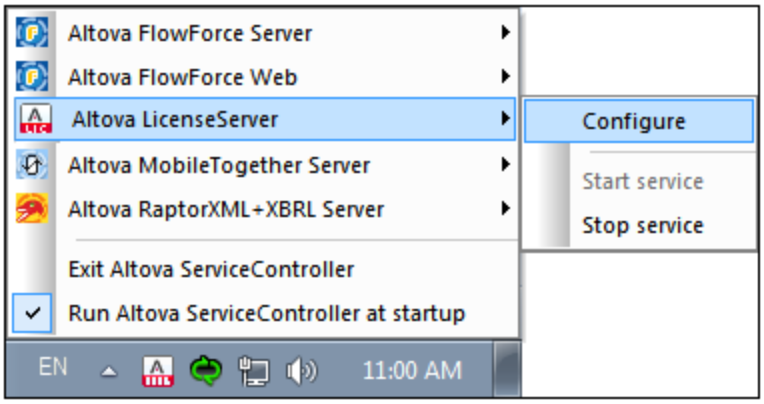
This section:

- Opening the Configuration page if LicenseServer is on the same machine 37
- Opening the Configuration page if LicenseServer is on another machine 37
- Logging in with the initial password 38
- Setting a fixed port for the Configuration page 38

Opening the Configuration page if LicenseServer is on the same machine

On Windows systems, if LicenseServer is on the same machine, you can open the Configuration page 83 of LicenseServer in one of two ways:

- Click **Start | All Programs | Altova LicenseServer | LicenseServer Configuration Page**. The Configuration page opens in a new tab of your Internet browser.
- Click the Altova ServiceController icon in the system tray, mouse over **Altova LicenseServer** in the menu that pops up (*see screenshot below*), and select **Configure** from the LicenseServer submenu.



The Configuration page 83 opens in a new browser window, and its login mask is displayed (*screenshot below*).

Opening the Configuration page if LicenseServer is on another machine

To open the LicenseServer Configuration page 83 from some other Windows machine on the local network (than that on which LicenseServer is installed), enter the URL of the LicenseServer Configuration page 83 in the address bar of a browser and press **Enter**.

By default, the URL of the Configuration page will be:

```
http://<serverIPAddressOrName>:8088/
```

The URL is present in the HTML code of the Configuration page itself, which is named **`WebUI.html`** and is located at:

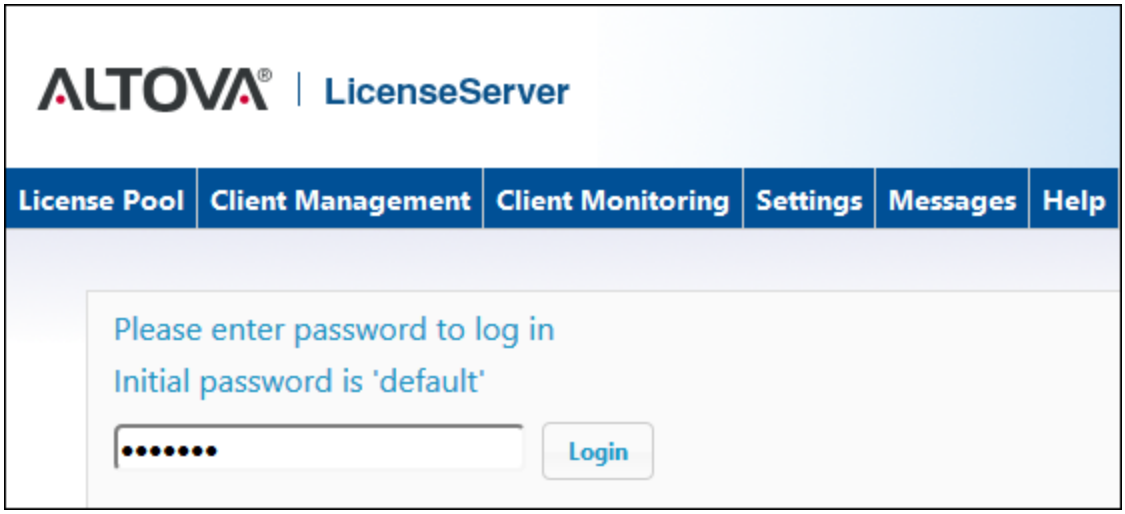
Windows	**`C:/ProgramData/Altova/LicenseServer/WebUI.html`**
Linux	**`/var/opt/Altova/LicenseServer/webUI.html`**

macOS	**`/var/Altova/LicenseServer/webUI.html`**

The URL (of LicenseServer) in **`WebUI.html`** is located in the function `checkIfServiceRunning()`in a script near the end of the `<head>` element.

Log in with the initial password

After going through the steps above, the Configuration page 83 is opened with the login screen displayed (*screenshot below*). You can log in with the initial password of `default`. After you have logged in, you can change your password in the Settings 98 tab.



Set a port for the Configuration page

The port of the Configuration page (Web UI)—and consequently its address—can be specified in the Web UI pane of the Settings page 99. By default the port is `8088`. You can set any other port you want for the LicenseServer Configuration page 99 (*see screenshot below*).

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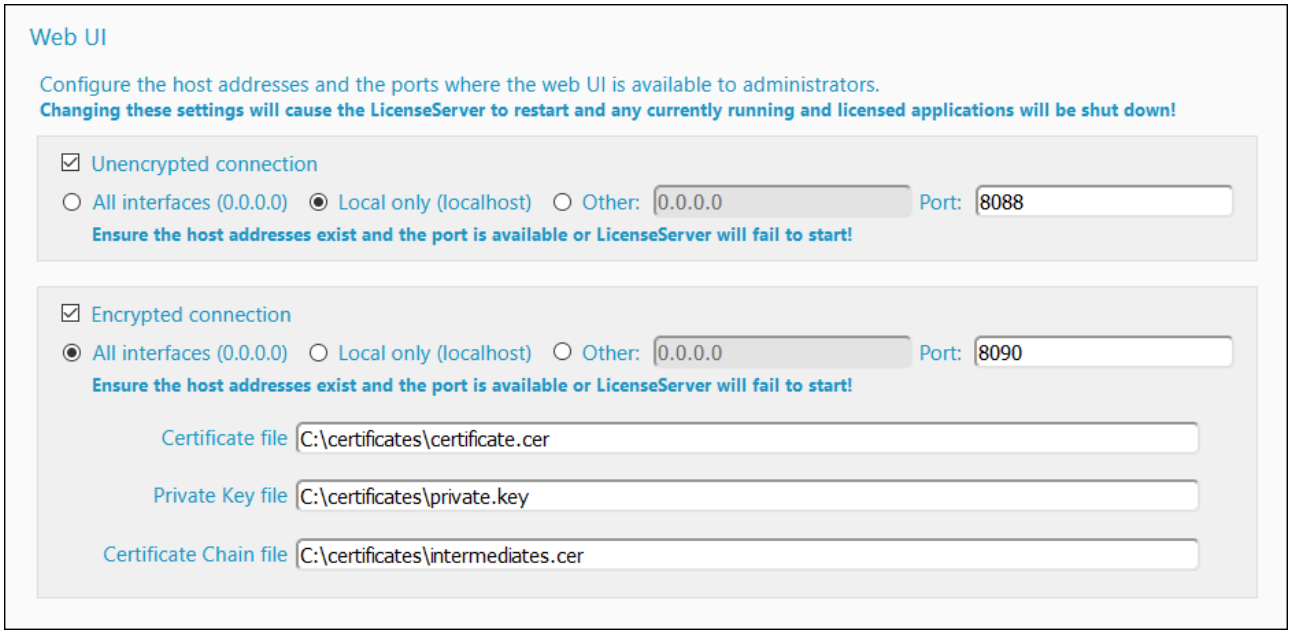
Web UI
Configure the host addresses and the ports where the web UI is available to administrators.
Changing these settings will cause the LicenseServer to restart and any currently running and licensed applications will be shut down!
Unencrypted connection
All interfaces (0.0.0.0)
Local only (localhost)
Other:
0.0.0.0
Port:
8088
Ensure the host addresses exist and the port is available or LicenseServer will fail to start!
Encrypted connection
All interfaces (0.0.0.0)
Local only (localhost)
Other:
0.0.0.0
Port:
8090
Ensure the host addresses exist and the port is available or LicenseServer will fail to start!
Certificate file
C:\certificates\certificate.cer
Private Key file
C:\certificates\private.key
Certificate Chain file
C:\certificates\intermediates.cer

4 Install and Start LicenseServer (Linux)

This section describes the following procedures for LicenseServer on Windows systems:

- Installation (Linux) 41
- Start LicenseServer as a Service (Linux) 44
- Open LicenseServer's Config Page (Linux) 45

After completing the installation and setup as described in this section, you can: (i) register product installations with LicenseServer 53, (ii) upload product licenses to LicenseServer 71, and (iii) assign product licenses 76 to the registered product installations.

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4.1 Install LicenseServer (Linux)

Altova LicenseServer can be installed on Linux systems (Debian, Ubuntu, CentOS, RedHat).

System Requirements (Linux)

- Red Hat Enterprise Linux 7 or newer
- CentOS 7, CentOS Stream 8
- Debian 9 or newer
- Ubuntu 18.04, 20.04, 22.04
- AlmaLinux 9.0
- Rocky Linux 9.0

Prerequisites

- Perform installation either as **root** user or as a user with **sudo** privileges.
- The previous version of Application must be uninstalled before a new one is installed.
- The following libraries are required as a prerequisite to install and run the application. If the packages below are not already available on your Linux machine, run the command `yum` (or `apt-get` if applicable) to install them.

Required by	CentOS, RedHat	Debian	Ubuntu
LicenseServer	libidn or libidn2, krb5-libs, fontconfig	libidn2-0, libgssapi-krb5-2, fontconfig	libidn2-0, libgssapi-krb5-2, libfontconfig

Admin rights required for installation

In order to install LicenseServer, admin rights are required for the machine on which LicenseServer is to be installed.

Uninstalling old versions of LicenseServer

On the Linux command line interface (CLI), you can check whether LicenseServer is installed with the following command:

```
[Debian, Ubuntu]:   dpkg --list | grep Altova
[CentOS, RedHat]:   rpm -qa | grep server
```

If LicenseServer is not installed, go ahead with the installation as documented in the next steps. If LicenseServer is installed and you wish to install a newer version of it, uninstall the old version with the command:

```
[Debian, Ubuntu]:   sudo dpkg --remove licenseserver
[CentOS, RedHat]:   sudo rpm -e licenseserver
```

Installing Altova LicenseServer

On Linux systems, LicenseServer must be installed independently of other Altova server products. It is not included as part of the installation packages of Altova server products. Download Altova LicenseServer from the Altova website and copy the package to any directory on the Linux system.

Distribution	Installer extension
Debian	`.deb`
Ubuntu	`.deb`
CentOS	`.rpm`
RedHat	`.rpm`

In a terminal window, switch to the directory where you have copied the Linux package. For example, if you copied it to a user directory called `MyAltova` (that is located, say, in the `/home/User` directory), then switch to this directory as follows:

```
cd /home/User/MyAltova
```

Install LicenseServer as a root user. If you do not wish to be logged in as root, you can use the **sudo** command to temporarily exercise root-user privileges. Install LicenseServer with the following command:

```
[Debian]:   sudo dpkg --install licenseserver-3.12-debian.deb
[Ubuntu]:   sudo dpkg --install licenseserver-3.12-ubuntu.deb
[CentOS]:   sudo rpm -ivh licenseserver-3.12-1.x86_64.rpm
[RedHat]:   sudo rpm -ivh licenseserver-3.12-1.x86_64.rpm
```

- The LicenseServer package will be installed in: **/opt/Altova/LicenseServer/bin**
- A user named **altovalicenseserver** will be created, which will have the necessary rights to run LicenseServer. When LicenseServer is started as a daemon (or service), it will be started automatically as this user. (You can also, of course, (i) create a new user with privileges that will enable this user to access LicenseServer, or (ii) start LicenseServer as root user (which has maximum privileges), but neither of these steps is either required or recommended, because (i) they each have their disadvantages, and (ii) the **altovalicenseserver** user has all the rights that are needed to run LicenseServer and is a separate and dedicated user.)

Background information about running LicenseServer as a service
Note the following points:

- It is best to run LicenseServer as a daemon (or service).
- When running LicenseServer as a daemon, it is best to manage LicenseServer via the **initctl** or **systemctl** command. Both of these commands can be run only with root-user privileges. So, if you are running as a non-root user, then use the **sudo** command to temporarily gain root-user privileges (**sudo initctl...** and **sudo systemctl...**).
- Once LicenseServer has been started as a daemon, it will automatically run as the **altovalicenseserver** user, which (i) was created by the LicenseServer installer at installation

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time, and (ii) has all the necessary rights for running LicenseServer. For more information, see the section about starting LicenseServer 44.

For information about how to proceed with assigning licenses, see the section How to Assign Licenses 76.

Version compatibility between LicenseServer and Altova products

New versions of Altova products can only be licensed with the version of LicenseServer that is the latest at the time of the Altova product's release. However, older versions of Altova products will work with newer versions of LicenseServer.

Consequently, if you are installing a new version of an Altova product and if your current LicenseServer version is not the latest, then de-install the older LicenseServer version and install the latest version from the Altova website. All registration and licensing information held in your older version of LicenseServer will be saved at the time of de-installation to a database on your machine, and will be imported automatically into the newer version of LicenseServer.

If you choose to install a newer version of LicenseServer without first de-installing your older version, then the older version will be de-installed automatically by the LicenseServer installer before the newer version is installed.

The version number of your LicenseServer is given at the bottom of all tabs of the LicenseServer configuration page 83.

Also see: Updating LicenseServer 21

Restart of server machine is not required

After LicenseServer has been installed, the machine on which it has been installed does not need to be restarted. Make sure, however, that LicenseServer has been started as a service on the server machine (*see next section*).

4.2 Start LicenseServer as a Service (Linux)

To start LicenseServer as a service on Linux systems, run the following command in a terminal window.

```
sudo systemctl start licenseserver
```

(If you need to stop LicenseServer, replace **`start`** with **`stop`** in the above command.)

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4.3 Open LicenseServer's Config Page (Linux)

This section:

- Opening the Configuration page for the first time with the returned URL 45
- URL of the LicenseServer Configuration page 45
- Logging in with the initial password 45
- Setting a fixed port for the Configuration page 46

Opening the Configuration page for the first time with the returned URL

On Linux systems, when you register your Altova server product with LicenseServer via the CLI, the URL of the LicenseServer Configuration page is returned. On opening this URL in a browser, you are prompted to read and accept the license agreement. After accepting the license agreement, the Configuration page's login screen is displayed (*screenshot below*).

Note: Altova desktop products are available for Windows only. Altova server products are available for Windows, Linux, macOS.

URL of the LicenseServer Configuration page

To open the LicenseServer Configuration page 83 at any time, enter its URL in the address bar of a browser and press **Enter**.

By default, the URL of the Configuration page will be:

```
http://<serverIPAddressOrName>:8088/
```

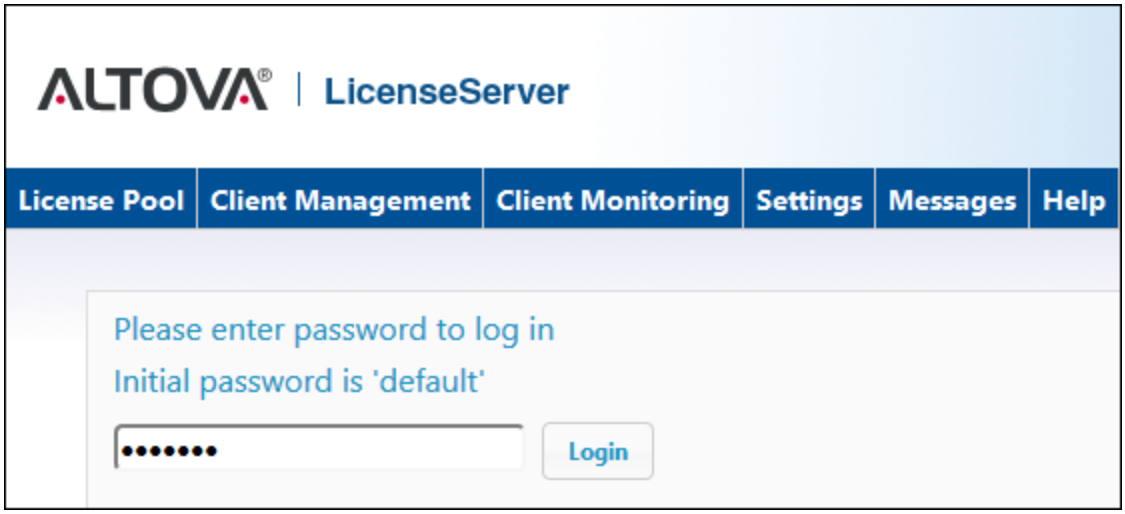
The URL is present in the HTML code of the Configuration page itself, which is named **`WebUI.html`** and is located at:

Windows	**`C:/ProgramData/Altova/LicenseServer/WebUI.html`**
Linux	**`/var/opt/Altova/LicenseServer/webUI.html`**
macOS	**`/var/Altova/LicenseServer/webUI.html`**

The URL (of LicenseServer) in **`WebUI.html`** is located in the function `checkIfServiceRunning()`in a script near the end of the `<head>` element.

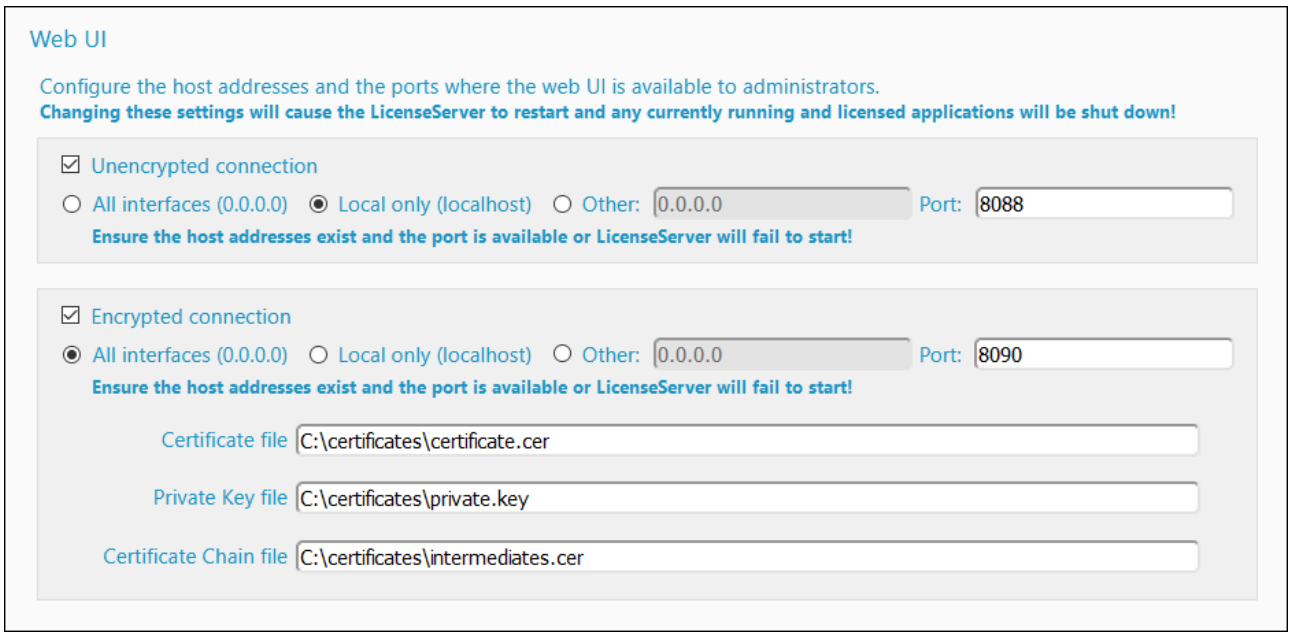
Log in with the initial password

After going through the steps above, the Configuration page 83 is opened with the login screen displayed (*screenshot below*). You can log in with the initial password of `default`. After you have logged in, you can change your password in the Settings 98 tab.



Set a port for the Configuration page

The port of the Configuration page (Web UI)—and consequently its address—can be specified in the Web UI pane of the Settings page 99. By default the port is `8088`. You can set any other port you want for the LicenseServer Configuration page 99 (*see screenshot below*).



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5 Install and Start LicenseServer (macOS)

This section describes the following procedures for LicenseServer on macOS systems:

- Installation (macOS) 48
- Start LicenseServer as a Service (macOS) 50
- Open LicenseServer's Config Page (macOS) 51

After completing the installation and setup as described in this section, you can: (i) register product installations with LicenseServer 53, (ii) upload product licenses to LicenseServer 71, and (iii) assign product licenses 76 to the registered product installations.

5.1 Install LicenseServer (macOS)

Altova LicenseServer can be installed on macOS systems (*see system requirements below*). Since you might need to uninstall a previous version, uninstalling is described first.

System requirements (macOS)

- *macOS*

  macOS 11 or newer

Admin rights required for installation

In order to install LicenseServer, admin rights are required for the machine on which LicenseServer is to be installed.

Uninstalling old versions of LicenseServer

Before uninstalling LicenseServer, stop the service with the following command:

```
sudo launchctl unload /Library/LaunchDaemons/com.altova.LicenseServer.plist
```

To check whether the service has been stopped, open the Activity Monitor terminal and make sure that LicenseServer is not in the list.

In **Applications**, right-click the LicenseServer icon and select **Move to Trash**. The application will be moved to Trash. You will, however, still need to remove the application from the `usr` folder. Do this with the command:

```
sudo rm -rf /usr/local/Altova/LicenseServer
```

Installing Altova LicenseServer

Open Altova's download page http://www.altova.com/download.html and locate the Altova LicenseServer installer under "Server Software Products" for Mac. After downloading the disk image (`.dmg`) file, click to open it. This mounts a new virtual drive on your computer. On the virtual drive, double-click the package (`.pkg`) file, and follow the on-screen instructions. You will need to accept the license agreement for installation to proceed.

Note the following points:

- The LicenseServer package will be installed in: **`/usr/local/Altova/LicenseServer`**
- A user named **`altovalicenseserver`** will be created, which will have the necessary rights to run LicenseServer. When LicenseServer is started as a daemon (or service), it will be started automatically as this user.

Background information about running LicenseServer as a service
Note the following points:

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- It is best to run LicenseServer as a daemon (or service).
- When running LicenseServer as a daemon, it is best to manage LicenseServer via the **`launchctl`** command. This command can be run only with root-user privileges. So, if you are running as a non-root user, then use the **`sudo`** command to temporarily gain root-user privileges (**`sudo launchctl...`**).
- Once LicenseServer has been started as a daemon, it will automatically run as the **`altovalicenseserver`** user, which (i) was created by the LicenseServer installer at installation time, and (ii) has all the necessary rights for running LicenseServer. For more information, see the section about starting LicenseServer 50.

To eject the virtual drive after installation, right-click it, and select **Eject**.

Version compatibility between LicenseServer and Altova products

New versions of Altova products can only be licensed with the version of LicenseServer that is the latest at the time of the Altova product's release. However, older versions of Altova products will work with newer versions of LicenseServer.

Consequently, if you are installing a new version of an Altova product and if your current LicenseServer version is not the latest, then de-install the older LicenseServer version and install the latest version from the Altova website. All registration and licensing information held in your older version of LicenseServer will be saved at the time of de-installation to a database on your machine, and will be imported automatically into the newer version of LicenseServer.

If you choose to install a newer version of LicenseServer without first de-installing your older version, then the older version will be de-installed automatically by the LicenseServer installer before the newer version is installed.

The version number of your LicenseServer is given at the bottom of all tabs of the LicenseServer configuration page 83.

Also see: Updating LicenseServer 21

Restart of server machine is not required

After LicenseServer has been installed, the machine on which it has been installed does not need to be restarted. Make sure, however, that LicenseServer has been started as a service on the server machine (*see next section*).

5.2 Start LicenseServer as a Service (macOS)

To start LicenseServer as a service on macOS systems, run the following command in a terminal window:

```
sudo launchctl load /Library/LaunchDaemons/com.altova.LicenseServer.plist
```

If at any time you need to stop LicenseServer, use:

```
sudo launchctl unload /Library/LaunchDaemons/com.altova.LicenseServer.plist
```


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5.3 Open LicenseServer's Config Page (macOS)

This section:

- Opening the Configuration page for the first time with the returned URL 51
- URL of the LicenseServer Configuration page 51
- Logging in with the initial password 51
- Setting a fixed port for the Configuration page 52

Opening the Configuration page for the first time with the returned URL

On macOS systems, when you register your Altova server product with LicenseServer via the CLI, the URL of the LicenseServer Configuration page is returned. On opening this URL in a browser, you are prompted to read and accept the license agreement. After accepting the license agreement, the Configuration page's login screen is displayed (*screenshot below*).

Note: Altova desktop products are available for Windows only. Altova server products are available for Windows, Linux, macOS.

URL of the LicenseServer Configuration page

To open the LicenseServer Configuration page 83 at any time, enter its URL in the address bar of a browser and press **Enter**.

By default, the URL of the Configuration page will be:

```
http://<serverIPAddressOrName>:8088/
```

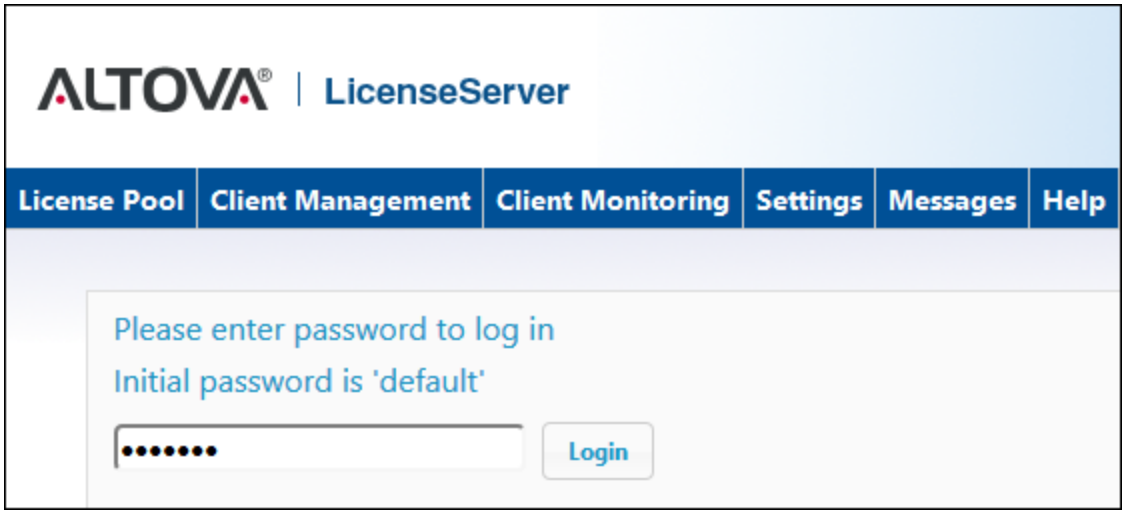
The URL is present in the HTML code of the Configuration page itself, which is named **`WebUI.html`** and is located at:

Windows	**`C:/ProgramData/Altova/LicenseServer/WebUI.html`**
Linux	**`/var/opt/Altova/LicenseServer/webUI.html`**
macOS	**`/var/Altova/LicenseServer/webUI.html`**

The URL (of LicenseServer) in **`WebUI.html`** is located in the function `checkIfServiceRunning()`in a script near the end of the `<head>` element.

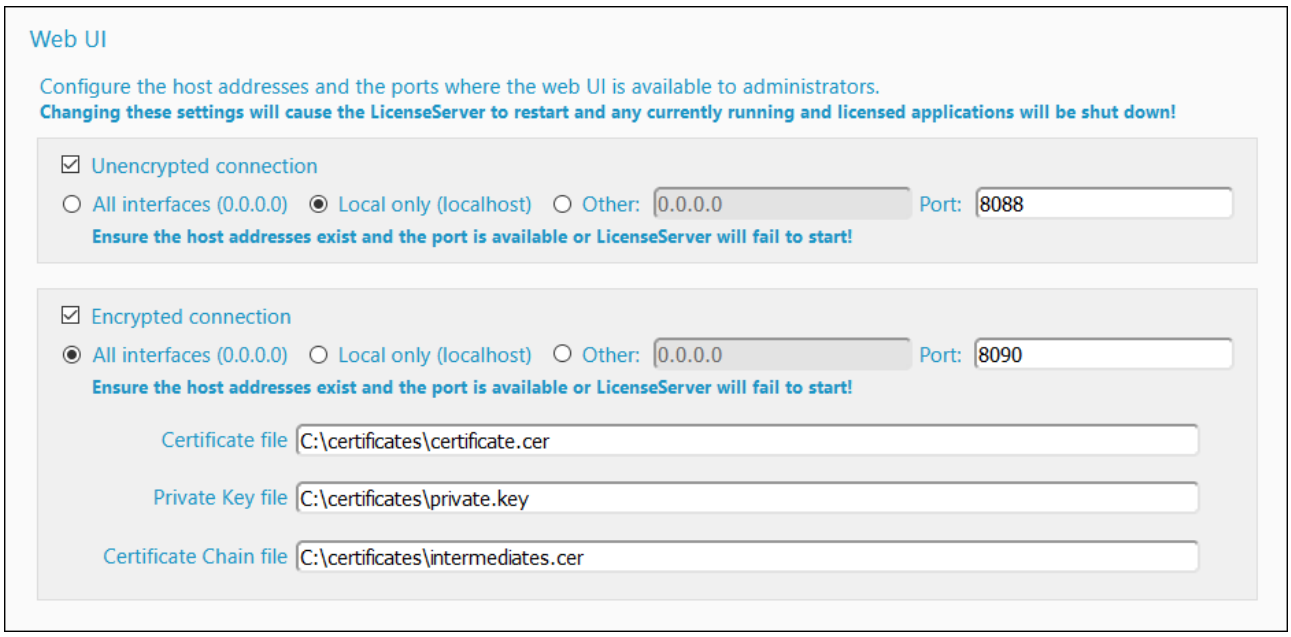
Log in with the initial password

After going through the steps above, the Configuration page 83 is opened with the login screen displayed (*screenshot below*). You can log in with the initial password of `default`. After you have logged in, you can change your password in the Settings 98 tab.



Set a port for the Configuration page

The port of the Configuration page (Web UI)—and consequently its address—can be specified in the Web UI pane of the Settings page 99. By default the port is `8088`. You can set any other port you want for the LicenseServer Configuration page 99 (*see screenshot below*).



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6 Register and Unregister Products

Before you can assign a license 77 to an Altova product, you must **register the product** with LicenseServer. The registration is done **from the Altova product**, and the process differs according to the type of product.

- *Desktop products:* Registration is via the the product's Software Activation dialog.
- *Server products that have Web UIs:* Registration of FlowForce Server and MobileTogether Server is via the Web UI's *Setup* tab or the product's CLI.
- *Server products that have **no** Web UI:* Registration of DiffDog Server, MapForceServer, RaptorXML(+XBRL) Server, and StyleVisionServer is via the CLI of these products. You will need the server name or IP Address of the machine on which LicenseServer is installed to carry out the registration.

Note: When you register a product with LicenseServer, not only is the product registered, but also the machine on which the product is installed and the User Principal Name (UPN) of the user who registered the software. *See Types of Altova Licenses 8 for related information.*

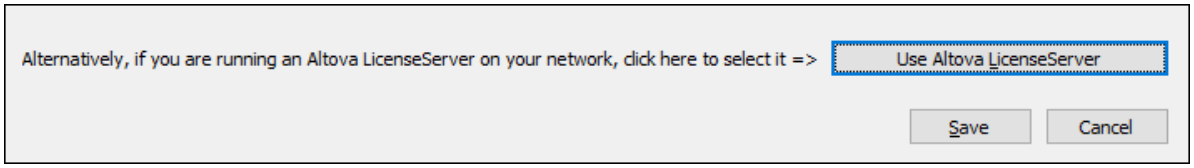
This section describes how to register different Altova products:

- Register Altova Desktop Products 54
- Register DiffDog Server 55
- Register FlowForce Server 57
- Register MapForce Server 62
- Register MobileTogether Server 64
- Register RaptorXML(+XBRL) Server 66
- Register StyleVision Server 68

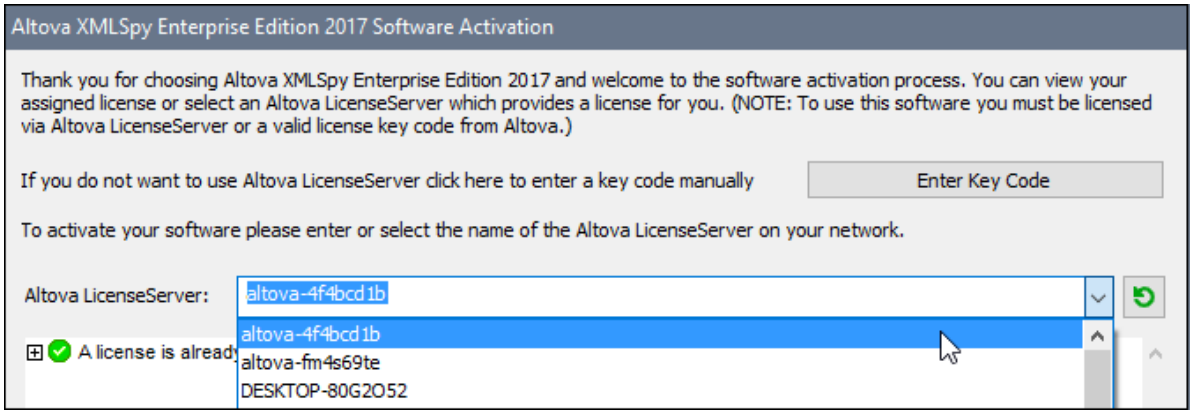
6.1 Register Altova Desktop Products

To register an Altova Desktop Product [8] with an Altova LicenseServer, do the following:

1. Select the menu command **Help | Software Activation** to go to the product's Software Activation dialog. You can activate your software either (i) via Altova LicenseServer, or (ii) by uploading your product's key code details. In this documentation we describe only licensing via Altova LicenseServer.
2. To license your Altova product via LicenseServer, click **Use Altova LicenseServer** (located at the bottom of the dialog; *see screenshot below*)



3. This switches the dialog to LicenseServer activation mode (*screenshot below*). In the *Altova LicenseServer* combo box, select a LicenseServer from the dropdown list. Note that the auto-discovery of License Servers works by means of a broadcast sent out on the LAN. As these broadcasts are limited to a subnet, License Server must be on the same subnet as the client machine for auto-discovery to work. If auto-discovery does not work, then type in the name of the server.



When the connection to the selected LicenseServer is made, the product is immediately registered with the selected LicenseServer, and, in the Client Management tab [87] of LicenseServer, the product is displayed in that client machine's product list.

Unregistering a desktop product

To unregister a desktop product, go to the Client Management tab [87] of LicenseServer and, in the right-hand *Product licensing* pane, click the product's **Unregister Product** button.

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6.2 Register DiffDog Server

DiffDog Server must be registered with Altova LicenseServer before a license can be assigned 76 to it. How to register is described below.

Register DiffDog Server (Windows)

Register DiffDog Server via its command line interface (CLI) by using the `licenseserver` command:

```
DiffDogServer licenseserver Server-Or-IP-Address
```

For example, if LicenseServer is running on `http://localhost:8088`, then register DiffDog Server with:

```
DiffDogServer licenseserver localhost
```

After successfully registering DiffDog Server, you can go to LicenseServer and assign a license to DiffDog Server 76.

Register DiffDog Server (Linux)

On Linux machines, DiffDog Server can be registered with LicenseServer by using the `licenseserver` command of the DiffDog Server CLI. Note that DiffDog Server must be started with root rights.

```
sudo /opt/Altova/DiffDogServer2024/bin/diffdogserver licenseserver localhost
```

In the command above, `localhost` is the name of the server on which LicenseServer is installed. You can use the server's IP address instead. Notice also that the location of the DiffDog Server executable is:

```
/opt/Altova/DiffDogServer2024/bin
```

After successfully registering DiffDog Server, you can go to LicenseServer and assign a license to DiffDog Server 76.

Register DiffDog Server (macOS)

On macOS machines, DiffDog Server can be registered with LicenseServer by using the `licenseserver` command of the DiffDog Server CLI. Note that DiffDog Server must be started with root rights.

```
sudo /usr/local/Altova/DiffDogServer2024/diffdogserver licenseserver localhost
```

In the command above, `localhost` is the name of the server on which LicenseServer is installed. You can use the server's IP address instead.

After successfully registering DiffDog Server, you can go to LicenseServer and assign a license to DiffDog Server 76.

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6.3 Register FlowForce Server

This section:

- Methods of registering FlowForce Server with LicenseServer 57
- Accessing the FlowForce Server Setup page (Windows) 57
- Accessing the FlowForce Server Setup page (Linux) 57
- Registering FlowForce Server via the Setup page 57
- Registering FlowForce Server via the FlowForce CLI (Windows) 60
- Registering FlowForce Server via the FlowForce CLI (Linux) 61

Methods of registering FlowForce Server

FlowForce Server can be registered with LicenseServer using any of the following methods:

- Via the FlowForce Server Setup page 57
- Via the FlowForce CLI (Windows) 60
- Via the FlowForce CLI (Linux) 61

Accessing the FlowForce Server Setup page (Windows)

The FlowForce Server Setup page can be accessed in one of the following ways:

- Via the **Start** menu:
  Start | Altova FlowForce Server 2024 | FlowForce Server Setup Page

- Via Altova ServiceController 17: Click the ServiceController icon in the system tray. In the menu that pops up, select *Altova FlowForce Web | Setup*.

This pops up the FlowForce Server Setup page (*see screenshot below*).

Accessing the FlowForce Server Setup page (Linux)

After you have installed FlowForce Server on Linux (see the FlowForce Server user documentation for information about how to do this), start FlowForce Web Server as a service with the following command:

```
sudo /etc/init.d/flowforcewebserver start
```

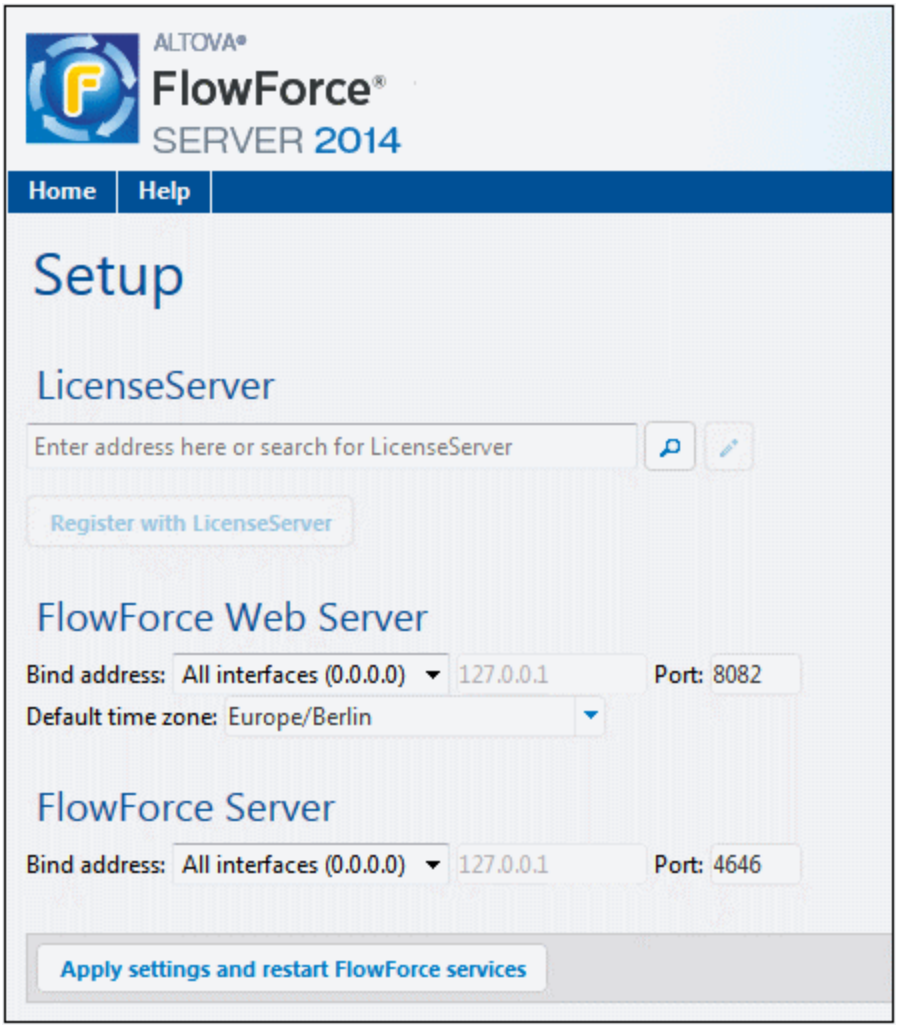
A message containing the URL of the FlowForce Server Setup appears in the terminal window:

```
FlowForceWeb running on http://127.0.1.1:3459/setup?key=52239315203
```

Enter the URL in the address field of a browser and hit **Enter** to access the FlowForce Server Setup page (*screenshot below*).

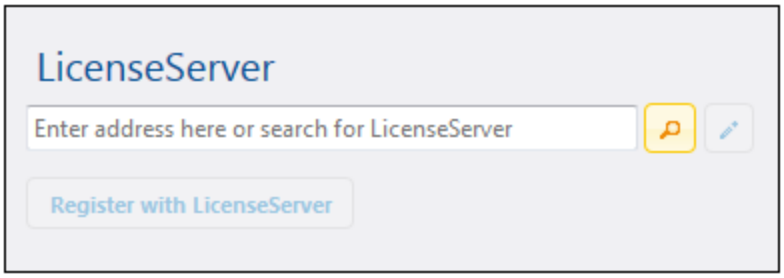
Registering FlowForce Server via the Setup page

In the Setup page (*screenshot below*)—how to access it is described above—the LicenseServer field specifies the Altova LicenseServer to be used for registration.



The LicenseServer can be specified in one of two ways.

- You can search for Altova LicenseServers that are currently available on the network—that is, those that are currently running. Do this by clicking the **Search for Altova LicenseServers** button (*highlighted yellow in the screenshot below*).



The search returns a list of available Altova LicenseServers on the network. One LicenseServer will be selected (*screenshot below*) and the others will be available in the dropdown list of the combo box. Select the LicenseServer on which your FlowForce license is stored.

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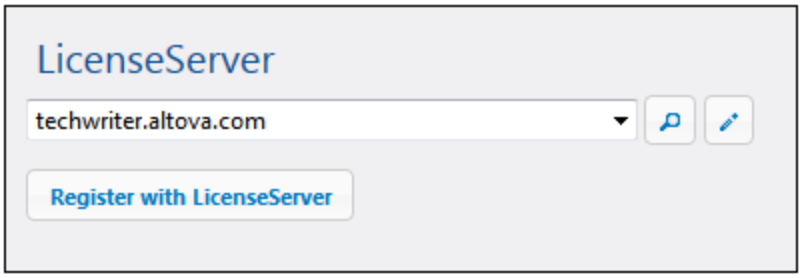
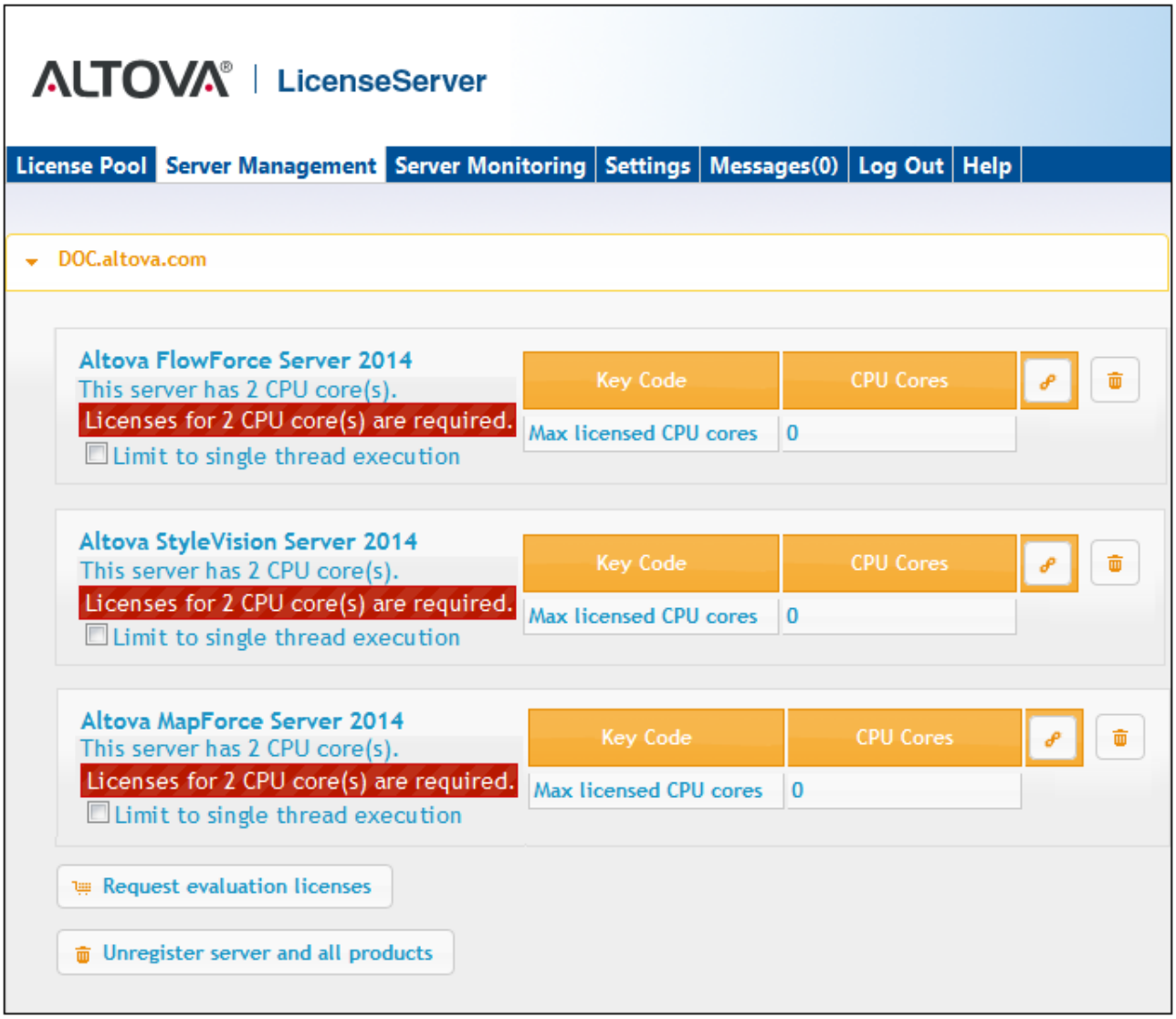


- Alternatively, you can enter the address of the LicenseServer in the LicenseServer field. If the currently running LicenseServers are available as a dropdown list, you must click the **Manually Enter Address** button to be able to enter an address in the LicenseServer field.

After you have specified the LicenseServer, click **Register with LicenseServer**. The Altova server application will be registered with the specified LicenseServer, and that LicenseServer's Configuration page 83 will open in a browser with its Client Management tab 87 active (*screenshot below*).

Note: You may need to allow pop-ups in order for the LicenseServer Configuration page to be displayed.



In the screenshot below, three Altova products have been registered with the Altova LicenseServer at `DOC.altova.com`. How to assign licenses is described in the next section, Assign Licenses to Registered Products 76.

Registering FlowForce Server via the FlowForce CLI (Windows)

On Windows machines, FlowForce Server can also be registered with an Altova LicenseServer on your network via the command line (CLI) by using the `licenseserver` command:

```
FlowForceServer licenseserver Server-Or-IP-Address
```

For example, if LicenseServer is running on `http://localhost:8088`, then register FlowForce Server with:

```
FlowForceServer licenseserver localhost
```

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If FlowForce Server was installed with other Altova server products as sub-packages, registering FlowForce Server will automatically also register the Altova server products. After successfully registering FlowForce Server, you can go to LicenseServer and assign a license to FlowForce Server. How to do this is described in the section Assign Licenses to Registered Products 76.

Registering FlowForce Server via the FlowForce CLI (Linux)

On Linux machines, FlowForce Server can be registered with LicenseServer by using the `licenseserver` command of the FlowForce Server CLI. Note that FlowForce Server must be started with root rights.

```
sudo /opt/Altova/FlowForceServer2024/bin/flowforceserver licenseserver localhost
```

In the command above, `localhost` is the name of the server on which LicenseServer is installed. You can use the server's IP address instead. Notice also that the location of the FlowForce Server executable is:

```
/opt/Altova/FlowForceServer2024/bin
```

After successfully registering FlowForce Server, you can go to LicenseServer and assign a license to FlowForce Server. How to do this is described in the section Assign Licenses to Registered Products 76.

6.4 Register MapForce Server

This section:

- Registering MapForce Server from FlowForce Server (Windows) 62
- Registering a standalone MapForce Server (Windows) 62
- Registering MapForce Server (Linux) 62

MapForce Server can be installed as part of the FlowForce Server package, or as a standalone server product. In either case, it must be registered with Altova LicenseServer. After it has been registered with LicenseServer, you can assign a license 76 to it from LicenseServer. On Windows systems, you can install MapForce Server as part of the FlowForce installation. If MapForce Server is installed as part of the FlowForce Server package, it will automatically be registered with LicenseServer when FlowForce is registered with LicenseServer. On Linux systems, the two products must be installed separately. If MapForce Server is installed after FlowForce Server, then it will be registered automatically when FlowForce Server is registered. But if MapForce Server is installed before FlowForce Server, you will have to register both products separately.

Registering MapForce Server from FlowForce Server (Windows)

MapForce Server is packaged with FlowForce Server, so when FlowForce Server is registered with an Altova LicenseServer on your network, MapForce Server will automatically also be registered with LicenseServer. How to register FlowForce Server is described in the FlowForce Server documentation and in the section, Register FlowForce Server with LicenseServer 57.

After the registration, you can go to LicenseServer and assign a MapForce Server license to MapForce Server. How to do this is described in the section, Assign Licenses to Registered Products 76.

Registering a standalone MapForce Server (Windows)

If you have installed MapForce Server as a standalone package, you must register it with an Altova LicenseServer on your network and then license it from the Altova LicenseServer. You can register MapForce Server via its command line interface (CLI) by using the `licenseserver` command:

```
MapForceServer licenseserver Server-Or-IP-Address
```

For example, if LicenseServer is running on `http://localhost:8088`, then register MapForce Server with:

```
MapForceServer licenseserver localhost
```

After successfully registering MapForce Server, you can go to LicenseServer and assign a license to MapForce Server. How to do this is described in the section, Assign Licenses to Registered Products 76.

Registering MapForce Server (Linux)

On Linux machines, MapForce Server can be registered with LicenseServer by using the `licenseserver` command of the MapForce Server CLI. Note that MapForce Server must be started with root rights.

```
sudo /opt/Altova/MapForceServer2024/bin/mapforceserver licenseserver localhost
```

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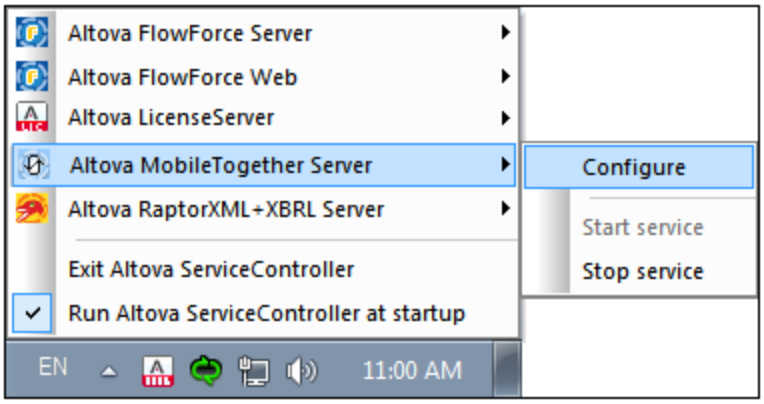
In the command above, `localhost` is the name of the server on which LicenseServer is installed. You can use the server's IP address instead. Notice also that the location of the MapForce Server executable is:

```
/opt/Altova/MapForceServer2024/bin
```

After successfully registering MapForce Server, you can go to LicenseServer and assign a license to MapForce Server. How to do this is described in the section Assign Licenses to Registered Products 76.

6.5 Register MobileTogether Server

To start MobileTogether Server, click the **ServiceController** icon in the system tray, hover over **Altova MobileTogether Server** in the menu that pops up (*see screenshot below*), and then select **Start Service** from the MobileTogether Server submenu. If MobileTogether Server is already running, the *Start Service* option will be disabled.



Register MobileTogether Server via:

- The Settings tab of the MobileTogether Server Web UI: (i) Start MobileTogether Server via ServiceController (*see previous point*); (ii) Enter your password to access the Configuration page; (iii) Select the Settings tab; (iv) Go to the LicenseServer tab at the bottom of the page, select the LicenseServer name or address, and click **Register with LicenseServer**.

- its CLI, using the `licenseserver` command:
  `MobileTogetherServer licenseserver [options] ServerName-Or-IP-Address`
  For example, if `localhost` is the name of the server on which LicenseServer is installed:
  `MobileTogetherServer licenseserver localhost`

Registering MobileTogether Server (Linux)

On Linux machines, MobileTogether Server can be registered with LicenseServer by using the `licenseserver` command of the MobileTogether Server CLI. Note that MobileTogether Server must be started with root rights.

```
sudo /opt/Altova/MobileTogetherServer/bin/mobiletogetherserver licenseserver localhost
```

In the command above, `localhost` is the name of the server on which LicenseServer is installed. You can use the server's IP address instead.

After successfully registering MobileTogether Server, you can go to LicenseServer and assign a license to MobileTogether Server 76.

Registering MobileTogether Server (macOS)

On macOS machines, MobileTogether Server can be registered with LicenseServer by using the `licenseserver` command of the MobileTogether Server CLI. Note that MobileTogether Server must be started with root rights.

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```
sudo /usr/local/Altova/MobileTogetherServer/mobiletogetherserver licenseserver localhost
```

In the command above, `localhost` is the name of the server on which LicenseServer is installed. You can use the server's IP address instead.

After successfully registering MobileTogether Server, you can go to LicenseServer and assign a license to MobileTogether Server 76.

6.6 Register RaptorXML(+XBRL) Server

RaptorXML(+XBRL) Server must be registered with Altova LicenseServer before a license can be assigned 76 to it. How to register is described below.

Registering RaptorXML(+XBRL) Server (Windows)

You can register RaptorXML(+XBRL) Server via its command line interface (CLI) by using the `licenseserver` command:

RaptorXML Server: **`RaptorXML licenseserver Server-Or-IP-Address`**

RaptorXML+XBRL Server: **`RaptorXMLXBRL licenseserver Server-Or-IP-Address`**

For example, if LicenseServer is running on `http://localhost:8088`, then register RaptorXML(+XBRL) Server with:

RaptorXML Server: **`RaptorXML licenseserver localhost`**

RaptorXML+XBRL Server: **`RaptorXMLXBRL licenseserver localhost`**

After successfully registering RaptorXML(+XBRL) Server, you can go to LicenseServer and assign a license to RaptorXML(+XBRL) Server 76.

Registering RaptorXML(+XBRL) Server (Linux)

On Linux machines, RaptorXML(+XBRL) Server can be registered with LicenseServer by using the `licenseserver` command of the RaptorXML(+XBRL) Server CLI. Note that RaptorXML(+XBRL) Server must be started with root rights.

```
sudo /opt/Altova/RaptorXMLServer2024/bin/raptorxmlserver licenseserver localhost
sudo /opt/Altova/RaptorXMLXBRLServer2024/bin/raptorxmlxbrlserver licenseserver localhost
```

In the command above, `localhost` is the name of the server on which LicenseServer is installed. You can use the server's IP address instead. Notice also that the location of the RaptorXML(+XBRL) Server executable is:

```
/opt/Altova/RaptorXMLServer2024/bin
/opt/Altova/RaptorXMLXBRLServer2024/bin
```

After successfully registering RaptorXML(+XBRL) Server, you can go to LicenseServer and assign a license to RaptorXML(+XBRL) Server 76.

Registering RaptorXML(+XBRL) Server (macOS)

On macOS machines, RaptorXML(+XBRL) Server can be registered with LicenseServer by using the `licenseserver` command of the RaptorXML(+XBRL) Server CLI. Note that RaptorXML(+XBRL) Server must be started with root rights.

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```
sudo /usr/local/Altova/RaptorXMLServer2024/raptorxmlserver licenseserver localhost
sudo /usr/local/Altova/RaptorXMLXBRLServer2024/raptorxmlxbrlserver licenseserver
localhost
```

In the command above, `localhost` is the name of the server on which LicenseServer is installed. You can use the server's IP address instead.

After successfully registering RaptorXML(+XBRL) Server, you can go to LicenseServer and assign a license to RaptorXML(+XBRL) Server 76.

6.7 Register StyleVision Server

StyleVision Server can be installed as part of the FlowForce Server package or as a standalone server product. In either case, it must be registered with Altova LicenseServer. Only after it has been registered with LicenseServer can a license be assigned 76 to it from LicenseServer. On Windows systems, if StyleVision Server was installed as part of the FlowForce Server package, it will automatically be registered when FlowForce is registered. On Linux systems, only if StyleVision Server is installed after FlowForce Server will it be registered automatically when FlowForce Server is registered.

Registering StyleVision Server from FlowForce (Windows)

StyleVision Server is packaged with FlowForce Server, so when FlowForce Server is registered with an Altova LicenseServer on your network, StyleVision Server will automatically also be registered with LicenseServer. How to register FlowForce Server is described in the FlowForce Server documentation and in the section, Register FlowForce Server with LicenseServer 57.

After successfully registering StyleVision Server, you can go to LicenseServer and assign a license to StyleVision Server 76.

Registering a standalone StyleVision Server (Windows)

If you have installed StyleVision Server as a standalone package on Windows, you must register it with an Altova LicenseServer on your network and then license it from the Altova LicenseServer. You can register StyleVision Server via its command line interface (CLI) by using the `licenseserver` command:

```
StyleVisionServer licenseserver Server-Or-IP-Address
```

For example, if LicenseServer is running on `http://localhost:8088`, then register StyleVision Server with:

```
StyleVisionServer licenseserver localhost
```

After successfully registering StyleVision Server, you can go to LicenseServer and assign a license to StyleVision Server 76.

Registering StyleVision Server (Linux)

On Linux machines, StyleVision Server can be registered with LicenseServer by using the `licenseserver` command of the StyleVision Server CLI. Note that StyleVision Server must be started with root rights.

```
sudo /opt/Altova/StyleVisionServer2024/bin/stylevisionserver licenseserver localhost
```

In the command above, `localhost` is the name of the server on which LicenseServer is installed. You can use the server's IP address instead. Notice also that the location of the StyleVision Server executable is:

```
/opt/Altova/StyleVisionServer2024/bin
```


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After successfully registering StyleVision Server, you can go to LicenseServer and assign a license to StyleVision Server 76.

Registering StyleVision Server (macOS)

On macOS machines, StyleVision Server can be registered with LicenseServer by using the `licenseserver` command of the StyleVision Server CLI. Note that StyleVision Server must be started with root rights.

```
sudo /usr/local/Altova/StyleVisionServer2024/stylevisionserver licenseserver localhost
```

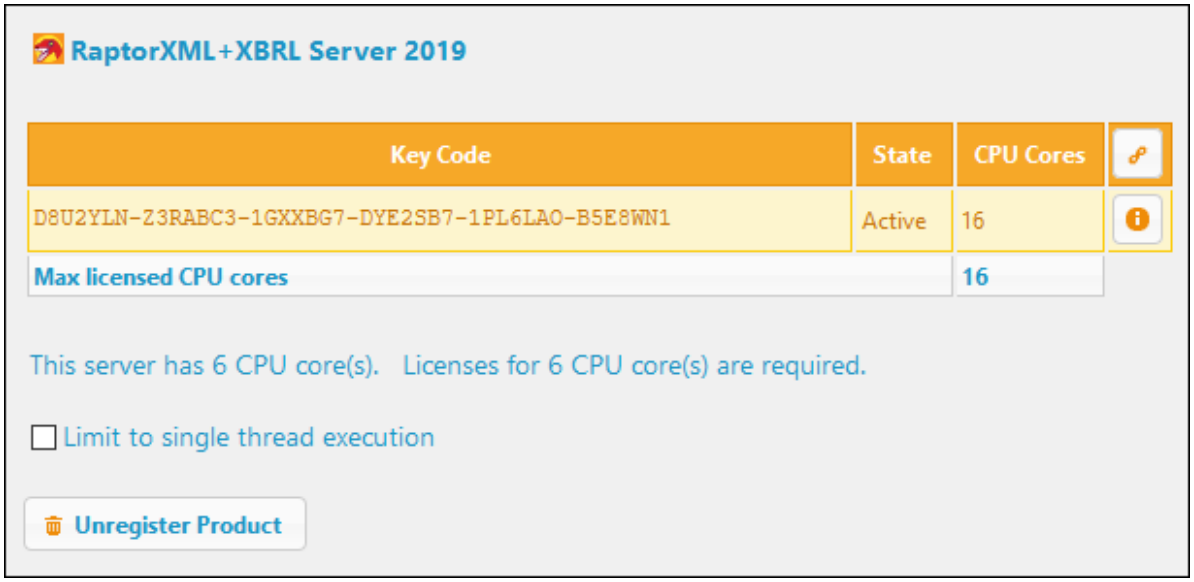
In the command above, `localhost` is the name of the server on which LicenseServer is installed. You can use the server's IP address instead.

After successfully registering StyleVision Server, you can go to LicenseServer and assign a license to StyleVision Server 76.

6.8 Unregister Products

To unregister a product, do the following:

1. Go to the Client Management tab 87.
2. In the left-hand pane, which lists registered client machines and their registered products, select the client machine on which the product to unregister is installed.
3. In the right-hand pane, click the **Unregister Product** button of the product you want to unregister *(see screenshot below)*.



4. In the confirmation dialog that appears, click **Yes**. If a license was assigned to the product, the assignment will be terminated when the product is unregistered.

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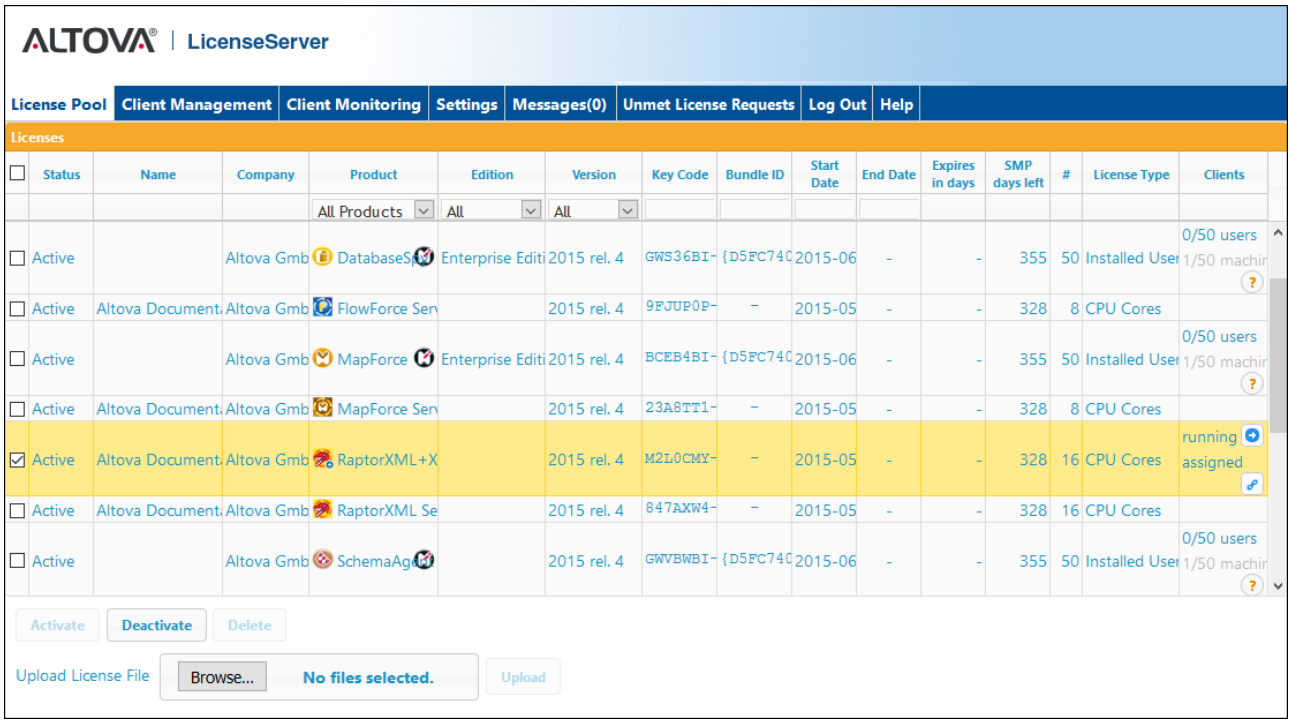
7 Upload and Activate Product Licenses

This section describes:

- How to upload licenses 72 to LicenseServer's license pool
- How to activate and deactivate a license 73 in the license pool
- The meaning of the different license status values 74

7.1 Upload Product Licenses to LicenseServer

After you have obtained a license file (file extension **`.altova_licenses`**) from Altova, save this file to a suitable location and upload this file to Altova LicenseServer. Each license file can contain one or more licenses and depends on your purchase. When you upload a license file, all the licenses in it will be uploaded to the license pool of LicenseServer and can be assigned to an Altova product that has been registered with that LicenseServer. All the uploaded licenses, from one or more license files and for all Altova products, are collected in a license pool on the LicenseServer. The license pool is displayed in the License Pool tab of the LicenseServer Configuration page (*screenshot below*).



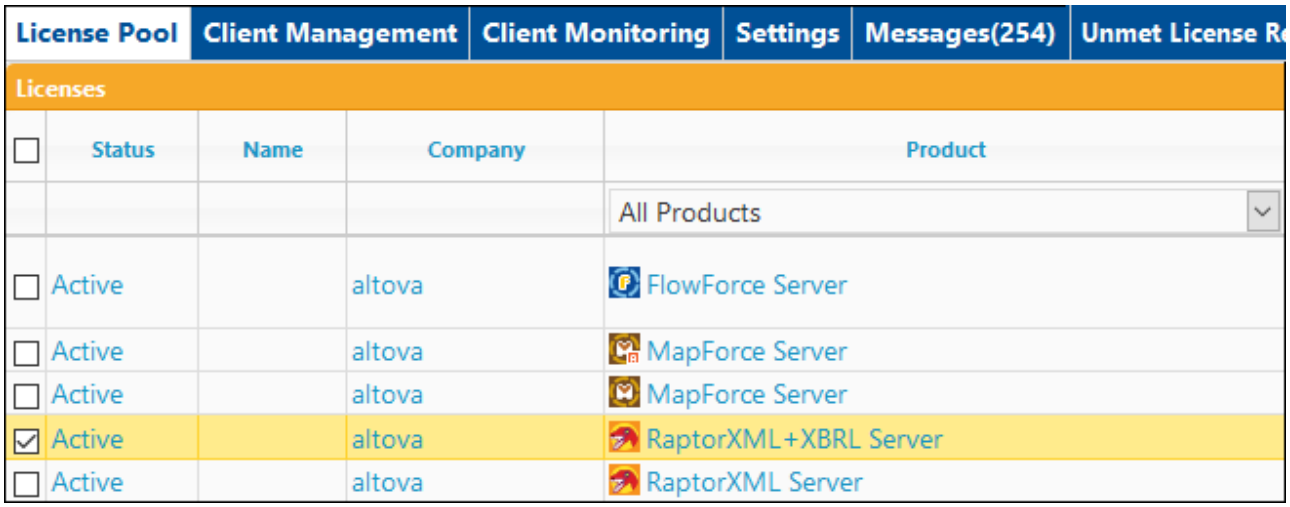
License files are uploaded to the LicenseServer using the *Upload License File* function of the License Pool tab (*see screenshot above*). Click the **Browse** button and select the license file you want. (The license file to upload is the file you received as an attachment in your License Email from Altova; it has a **`.altova_licenses`** file extension.) The license file will appear in the *Upload License File* text field and the **Upload** button will be enabled. Click the **Upload** button to upload the license file. All the licenses in the file are uploaded and displayed in the License Pool tab. The screenshot above shows multiple licenses, uploaded from multiple license files.

For more information about status, see the section License Status 74.

7.2 Activate/Deactivate Licenses

In order for you to be able to assign a license, the license must be in either the *Active* or *Pending* state. (A *Pending* license has a start date in the future, and it turns *Active* on the start date.) If, after the start date, a license is inactive (for example, if it has been manually deactivated by an administrator; *see License Status* 74 *for more information*), then it needs to be activated before it can be assigned.

An inactive license is activated in the License Pool tab *(screenshot below)*. Select the inactive license and click **Activate** (located at the bottom of the tab).



Related information

- For information about the status of licenses, see the section License Status 74.
- To deactivate an active license, select the license and click **Deactivate** (located at the bottom of the tab).
- To delete an inactive license, select the license and click **Delete** (located at the bottom of the tab).
- For more information about activating, deactivating, and deleting licenses, see the section License Pool 84.

7.3 License Status

License status values are as follows:

- *Activating:* When a license is uploaded to the license pool of LicenseServer, the server will transmit license-related data to the `altova.com` master licensing server to validate, authenticate, and activate the license that was supplied. This is necessary to ensure compliance with the Altova license agreements. During this initial activation and authentication transaction—which typically lasts between 30 seconds and a couple of minutes, depending on your Internet connection, speed, and overall network traffic—the status of the license will be indicated as *Activating...*.

- *Failed Verification:* If a connection with the `altova.com` master licensing server cannot be made, then the status of the license in the pool will be shown as *Failed Verification*. If this happens, check your Internet connection and firewall rules to ensure that LicenseServer is able to communicate with the `altova.com` master licensing server.

- *Active:* Once the license has been authenticated and activated, the status will change to *Active*.

- *Inactive:* If a license has been verified, but is present on another LicenseServer on the network, the status will be shown as *Inactive*. An *Inactive* status also results when a license is manually deactivated in the license pool by the administrator.

- *Pending:* If the start date of a license is a date in the future, then the license is shown as *Pending*. The status will change to *Active* at 00:00 hrs on the start date. A *Pending* license can be assigned to a product and ensures that the changeover to the new license is a smooth transition, with no running client processes being interrupted.

- *Blocked:* A license is shown in the license pool as *Blocked* (i) if the license has expired, or (ii) if there was a problem authenticating the license and the `altova.com` master licensing server has not granted permission to the LicenseServer to use this license. A problem could be the result of a license agreement violation, over-usage of a license, or other compliance issues. After fixing the issue, delete, re-upload, and re-activate the license. Please see the table below for additional information.

These statuses are summarized in the table below:

Status	Meaning
Activating...	On upload, license information is sent to `altova.com` for verification. Refresh the browser to view the updated status. Verification and activation can take a few minutes.
Failed Verification	A connection to `altova.com` could not be made. After establishing a connection, either restart the service or activate the license (with the **Activate** button).
Active	Verification was successful, the license is active.
Inactive	Verification was successful, but the license is also on another LicenseServer on the network. Licenses can be made inactive with the **Deactivate** button.
Pending	A *Pending* license has a start date in the future, and it turns *Active* on that start date. It can be assigned to a product and ensures the automatic renewal of a product's licensing before an existing license expires.

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Blocked	Verification was not successful. License is invalid and is blocked. After the issue that was causing the license to be blocked has been resolved, delete the license, re-upload it, and re-activate it. Every time a license is uploaded, it contacts the Altova master server, which will start a new verification. If you do not re-upload, then the license verification will have to wait till the next scheduled communication with the Altova master server—and that might not happen for up to a day. Contact Altova Support if the problem persists.

Note: After a license has been sent to `altova.com` for verification, the browser must be refreshed to see the updated status. Verification and activation can take a few minutes.

Note: If a connection to `altova.com` could not be made, the status will be *Failed Verification*. After establishing a connection, either restart the service or try activating the license with the **Activate** button.

Note: When a license is given a status of *Inactive* or *Blocked*, a message explaining the status is also added to the Messages log.

Only an active or pending license can be assigned to a product installation. An inactive license can be activated or deleted from the license pool. If a license is deleted from the license pool, it can be uploaded again to the pool by uploading the license file containing it. When a license file is updated, only those licenses in it that are not already in the pool will be uploaded to the pool. To activate, deactivate, or delete a license, select it and then click the **Activate**, **Deactivate**, or **Delete** button, respectively.

If a license has to be renewed because of an expiration of your Service & Maintenance Package, then the old, replaced license is automatically disabled.

8 Assign Product Licenses

This section describes how to assign product licenses to registered products and provides information related to the assigning of licenses. It is organized as follows:

- Assign Licenses to Registered Products 77
- Unassign Licenses 80
- Edit an Assigned License 81

Other useful information:

- Types of Altova Licenses 8
- Processor Cores and Licenses 11
- Unmet License Requests 105

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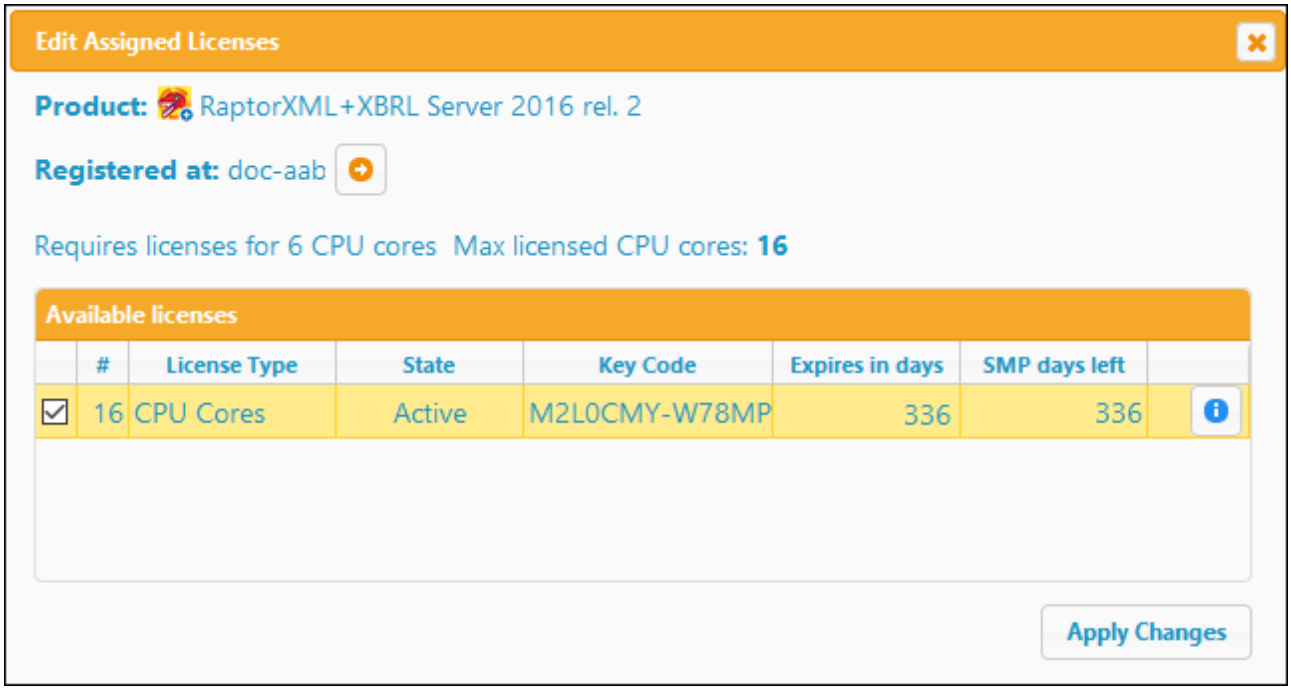
8.1 Assign Licenses to Registered Products

After you have (i) registered the product (with LicenseServer) that you want to license, and (ii) uploaded the license (to LicenseServer's license pool) that you want to assign, you can assign the license to the registered product as follows:

1. Go to the Client Management tab 87 and, in the left-hand pane, select the client machine on which the product that you want to license is installed.
2. In the right-hand pane, you will now see that machine's registered products 53.
3. Click that product's **Edit Assigned Licenses** button.
4. Select the license you want to assign from the list of available licenses. (For details, see the section about *The Edit Assigned Licenses dialog* 77 below.)
5. Click **Apply Changes**.

The Edit Assigned Licenses dialog

To assign a license to a registered product, click the **Edit Assigned Licenses** button of that product (*Step 3 above*). This displays the Edit Assigned Licenses dialog (*screenshot below*).



Note the following points about the Edit Assigned Licenses dialog:

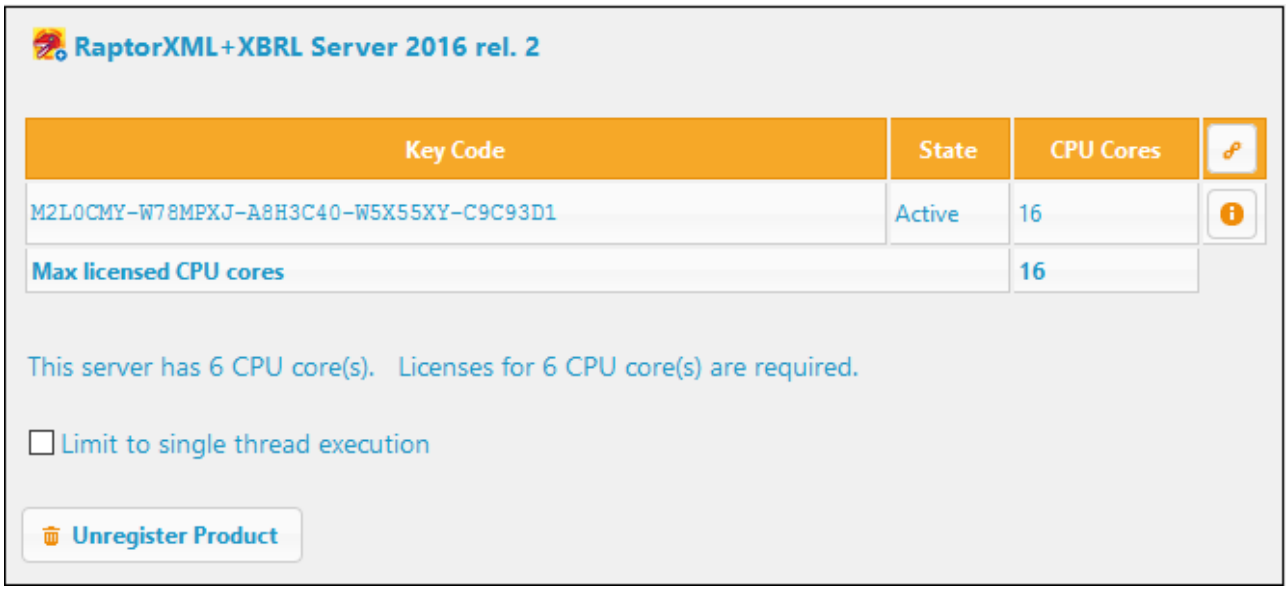
- The product to be licensed is listed at the top left of the dialog. In the screenshot above the product is Altova RaptorXML+XBRL Server.
- The machine on which the server is installed (`doc-aab` in the screenshot above) is listed next.
- The dialog displays all the currently active licenses for that product that are in the license pool. In our screenshot, there is one currently active RaptorXML+XBRL Server license in the license pool. (LicenseServer automatically detects the product for which a license applies.)
- The license type can be either *Cores* (Altova server products, including MobileTogether Server) or *Users* (Altova desktop products and MobileTogether Server versions prior to 3.0). The license type 8

is shown in the *License Type* column. The license in the screenshot above has been licensed for 16 CPU cores.

- You need to know the number of processor cores on the server on which an Altova server product has been installed. If the machine has a dual-core processor, you need a two-core (the CPU Cores count) license. How many cores the registered server product requires is listed below the machine name. The license must cover the required number of cores. Note that you can combine licenses to reach the required number of cores. So, for example, if the machine's processor is octa-core (eight-core), you can combine two 4-core licenses. The combined core count of all the assigned licenses must not be less then the required number of cores.
- The Edit Assigned Licenses dialog will list only currently active licenses for **that** product. Licenses for other Altova products will not be listed.
- Licenses that have been assigned already—for example, to another installation of the product on the network—will have their check boxes checked. So only unchecked licenses may be selected.
- The # column indicates for how many CPU cores or users (or, in the case of older MobileTogether Servers, how many MobileTogether Clients) a license is valid.

Select the license you wish to assign. The license's check box will be checked. The total number of CPU cores licensed for that product will be listed near the top left of the dialog as *Max licensed CPU cores (see screenshot above)*. You can select more licenses if you wish to increase the number of licensed CPU cores. The *Max licensed CPU cores* in this case will then be the sum of the CPU cores of all the selected licenses.

After selecting the license/s, click **Apply Changes**. The license/s will be assigned to that product and displayed in the Client Management tab (*see screenshot below*). This screenshot shows that a 16-CPU-core license for Altova RaptorXML+XBRL has been assigned to the client machine.



Single-thread execution

If an Altova server product allows single-thread execution, an option for *Single-thread execution* will be available. In these cases, if an Altova server-product license for only one core is available in the license pool, a machine with multiple cores can be assigned this one-core license. In such a case, the machine will run that product on a single core. Processing will therefore be slower, because multi-threading (which is possible on multiple cores)

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will not be available. The product will be executed in single thread mode on that machine.

To assign a single-core license to a multiple-core machine, in LicenseServer, select the *Limit to single thread execution* check box for that product.

Related information

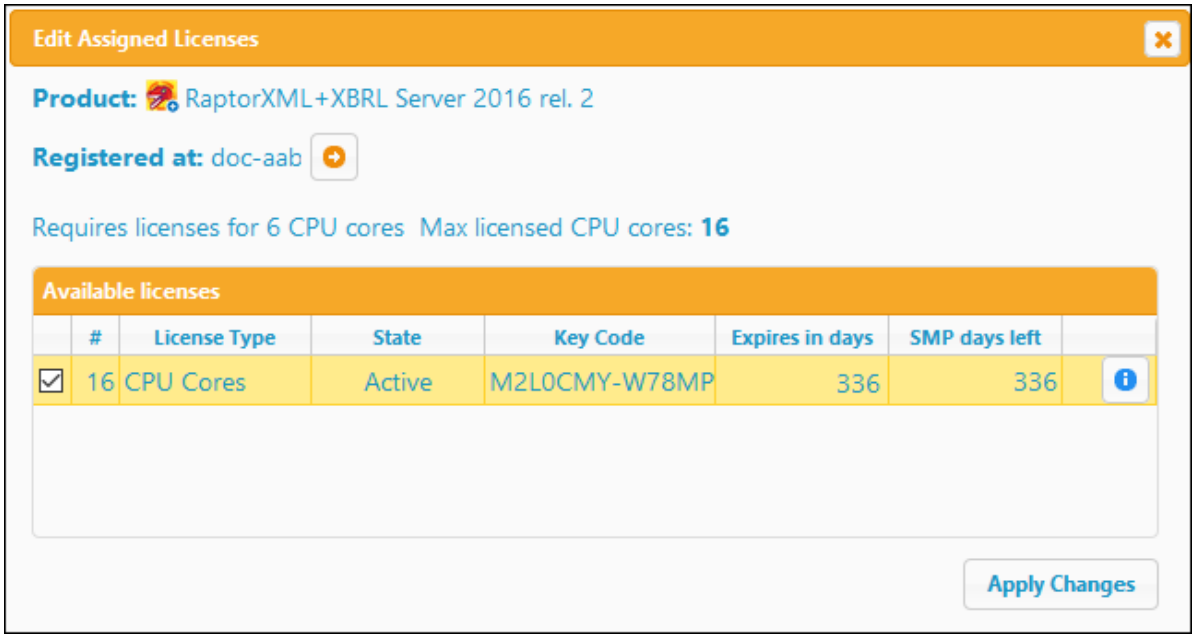
Also see the topics listed below for other relevant information:

- Types of Altova Licenses 8
- Processor Cores and Licenses 11

8.2 Unassign Licenses

To unassign a license from a software installation on a machine, do the following:

1. Go to the Client Management 87 tab.
2. In the left-hand pane, select the machine, and, then, in the right-hand pane, select the software to be unassigned.
3. Click the software's **Edit Assigned Licenses** button. The Edit Assigned Licenses dialog 77 (*screenshot below*) will be displayed.



4. Deselect the license.
5. Click **Apply Changes**.

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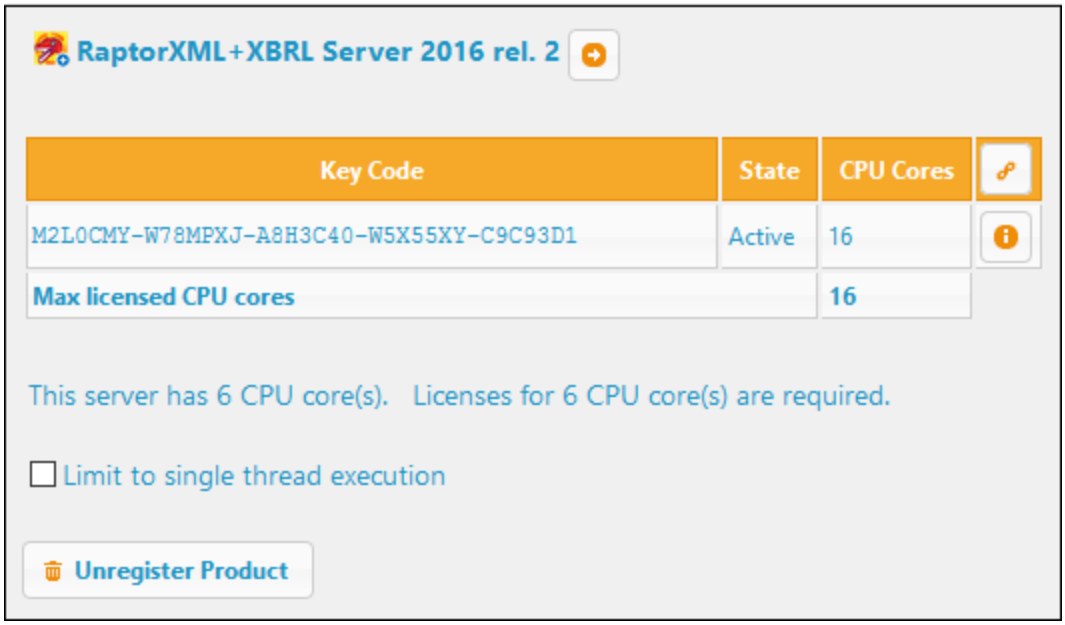
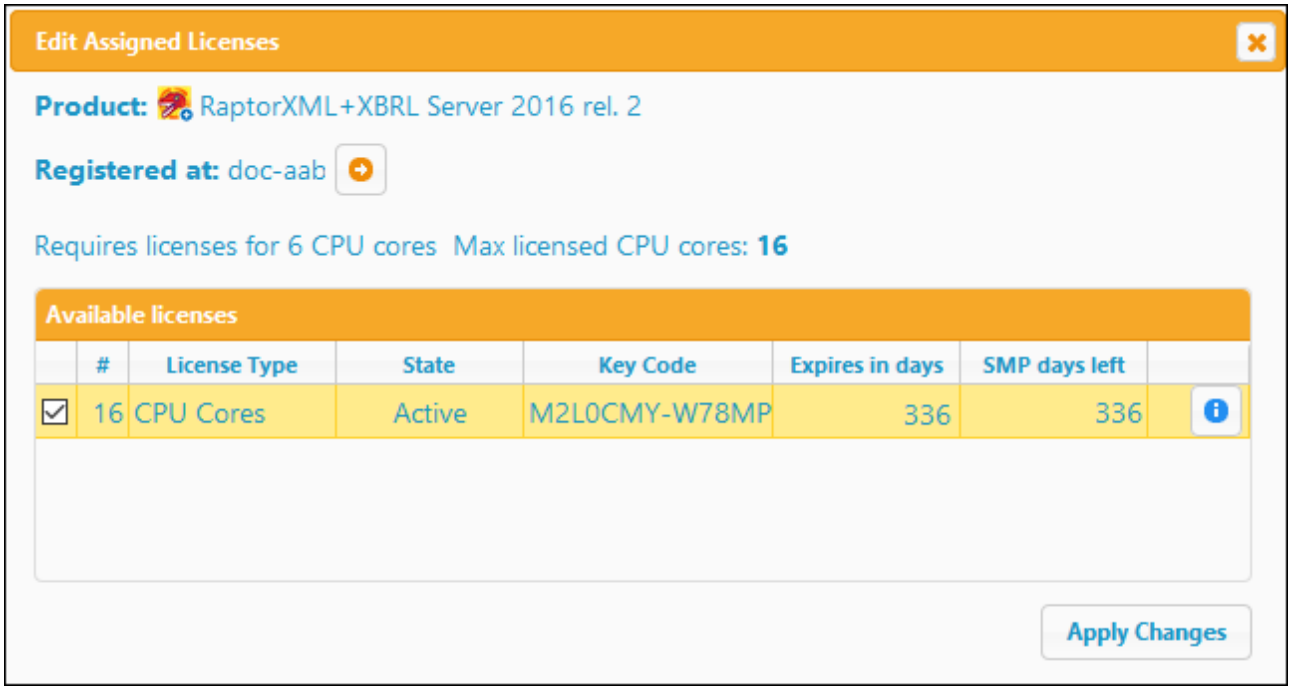
8.3 Edit an Assigned License

After a license has been assigned to a product, you can unassign the license via the Client Management 87 tab as follows.

In the (right-hand) *Product Licensing* pane *(see screenshot below)*, click the **Edit Assigned Licenses** button of that product *(located at top right of the table containing the license information)*.



The Edit Assigned Licenses dialog (*screenshot below*) appears. This dialog lists all licenses for that product that are in the license pool; the assigned license's check box at extreme left will be selected *(see screenshot below)*.



Select the license/s you wish to unassign, and then click **Apply Changes**. The license/s will no longer be assigned to that product and can be used for other products.

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9 Configuration Page Reference

The LicenseServer Configuration page (or Web UI) is the administrator's interface with LicenseServer. It is viewed in a web browser, and allows the management of LicenseServer and the licensing of Altova products that have been registered with LicenseServer. How to open the Configuration page is described in the sections, Open LicenseServer Config Page (Windows) 37, Open LicenseServer Config Page (Linux) 45 and Open LicenseServer's Config Page (macOS) 51.

This section is a user reference for the Configuration page and is organized by the tabs of the Configuration page:

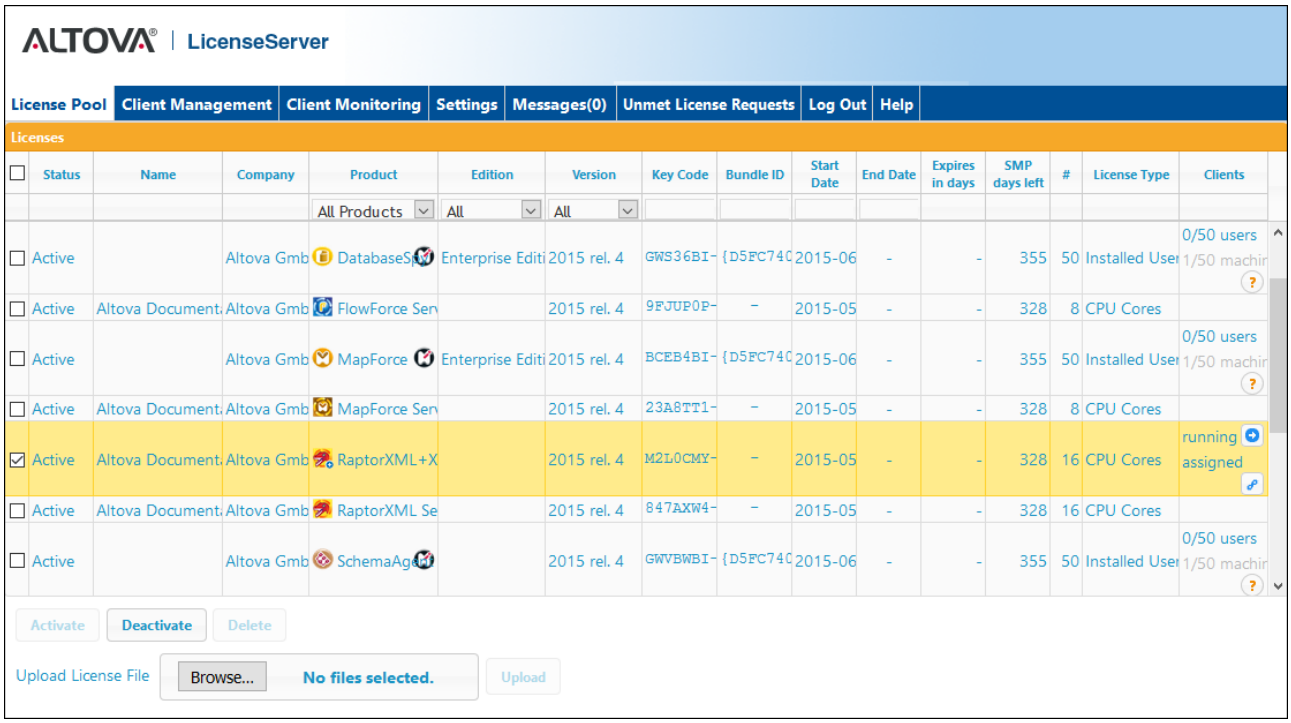
- License Pool 84
- Client Management 87
- Client Monitoring 94
- Settings 95
- Unmet License Requests 105
- Messages, Log Out 106

For a step-by-step guide about how to assign licenses with LicenseServer, see the section Assign Product Licenses 76.

9.1 License Pool

The **License Pool** tab *(screenshot below)* provides the following functionality:

- Upload the licenses in a license file to LicenseServer's license pool (which is a database in which licenses are stored); *see* [Upload and Activate Product Licenses](71) *for details*
- Display information about the licenses that are currently in the license pool (*see screenshot below*)
- Activate, deactivate, and delete licenses that are in the license pool (*see below for details*[86])



When a license file is uploaded to LicenseServer with the **Upload** button on this page, all the licenses contained in that license file are uploaded to the license pool on LicenseServer. The License Pool tab provides an overview of all licenses that are currently available on LicenseServer, together with the details of each. When a license has been activated, it can be assigned[76] to a product that has been registered[53] with LicenseServer.

This topic (i) explains the meaning of the license information[84] that is displayed in the License Pool tab, and (ii) describes how to activate, deactivate, and delete licenses[86].

License information

The following license information is displayed:

- *Status:* Can be one of the following values: *Activating* | *Failed Verification* | *Active* | *Inactive* | *Blocked*. See License Status[74] for details.
- *Name, Company:* The name and company of the licensee. This information was submitted by you at the time of purchase.
- *Product, Edition, Version:* The version and edition of the licensed products. At the top of each column is a combo box to filter licenses by category.

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- *Key Code, Bundle ID:* The license key to unlock the product. All products in a single Altova MissionKit bundle 8 have the same Bundle ID. Non-MissionKit products have no Bundle ID.
- *Start Date, End Date:* Together they give the validity period of the license. Permanent licenses have no end date.
- *Expires in days, SMP (days left):* The number of days left before the license expires. Each licensed purchase comes with a Support & Maintenance Package, which is valid for a certain number of days. The *SMP* column notes how many SMP days are still left.
- *#, License Type:* The allowed number of users or CPU cores is listed in the # column. Whether it is users or cores that the license regulates is given in the *License Type* column (*see Types of Altova Licenses* 8 *for more information)*. In the case of Altova desktop products 8, licenses are assigned on the basis of **users** (*machine-users* in the case of Installed User and Concurrent User licenses, *named-users* in the case of Named User licenses). In the case of Altova server products, licenses are assigned on the basis of **CPU cores** (*see Processor Cores and Licenses* 11).
- *Clients:* Information in this column is different according to whether the product is a desktop product or a server product, and is explained below. In the case of desktop products, a user count and machine count are given. In the case of server products, the following is indicated: (i) an assigned license is indicated by the word *assigned*, (ii) if the license is currently being used by a running server product, then the word *running* is displayed. The actions that are carried out when you click the icons in this column are described below 85. If there have been client requests for a license that exceed the capacity of that license, then an **Unmet Requests** button appears for that license in the *Clients* column. Clicking the button takes you to the Unmet License Requests 105 tab, where you can see statistics about the unmet requests.

Client information for desktop products

- A user count and a machine count is given for desktop products.
- The *machine count* indicates the number of assigned licenses. For example, `7/10 machines` means that the license allows the software to be installed on 10 clients (machine-user or named-user 8), and that the license has been assigned to 7 clients.
- The *user count* indicates the number of clients (machine-user or named-user 8) that are currently running. For example, `3/10 users` means that the license is currently being used by 3 users out of a total of 10 allowed users.
- The *user count* and *machine count* together tell you the current licensing capacity and usage of a given license. For example, if the machine count is `7/10` and if the user count is `3/10`, then we know the following: (i) The software is allowed to be licensed on 10 machines (in the case of installed user licenses) or for 10 users (named user licenses); (ii) The software has been licensed on 7 machines (or for 7 users); (iii) 3 of the 7 licensed software installations are currently running. *See Types of Altova Licenses* 8 *for information about the various license types.*
- For information about the icons that appear in this column, see below 85.

Client information for server products

- Indicates whether the license has been assigned. If assigned, then **`assigned`** is displayed; otherwise the field is empty.
- If a license has been assigned to a product installation, and that installation is currently running, then **`running`** is displayed (in addition to **`assigned`**); otherwise the field will contain only **`assigned`**.
- For information about the icons that appear in this column, see below 85.

Icons in the License Pool tab

Altova MissionKit logo. Appears next to individual Altova desktop product names when the desktop product license is part of a MissionKit license 8. Note that if a product license that is part of a

MissionKit License is assigned to a given user, then all the other product licenses in that MissionKit bundle are assigned to the same user.

Show Assigned Client. Appears in the *Clients* column of a license that has been assigned. Clicking it takes you to the Client Management 87 tab, in which the licenses of a client's registered products can be managed. If licenses have been assigned to more than one client, then you will be prompted in a pop-up to select the client you want.

Show Running Client. Appears in the *Clients* column of a license that has been assigned to software that is currently running. Clicking it takes you to the Client Monitoring 87 tab and highlights the clients running that software. In this tab, information about the selected client and its registered software is displayed. If licenses have been assigned to more than one client, then you will be prompted in a pop-up to select the client you want.

Show Info. Appears in the *Clients* column of a license that has not been assigned. Clicking it displays information about the license, such as the user count and whether the license is part of a license bundle.

Activate, deactivate, or delete a license

To activate, deactivate, or delete a license, select the license so that its check box at extreme left is checked. Then click **Activate**, **Deactivate**, or **Delete** as required.

Note the following points:

- You can activate an inactive license, and deactivate an active license.
- Only inactive licenses can be deleted. This means that an active license must be deactivated before it can be deleted.
- When a license is deleted it is removed from the license pool.
- A deleted license can be added again to the license pool by uploading the license file containing it. If a license file is re-uploaded, only licenses that are not already in the license pool will be added to the license pool; licenses that are already in the pool will not be re-added.

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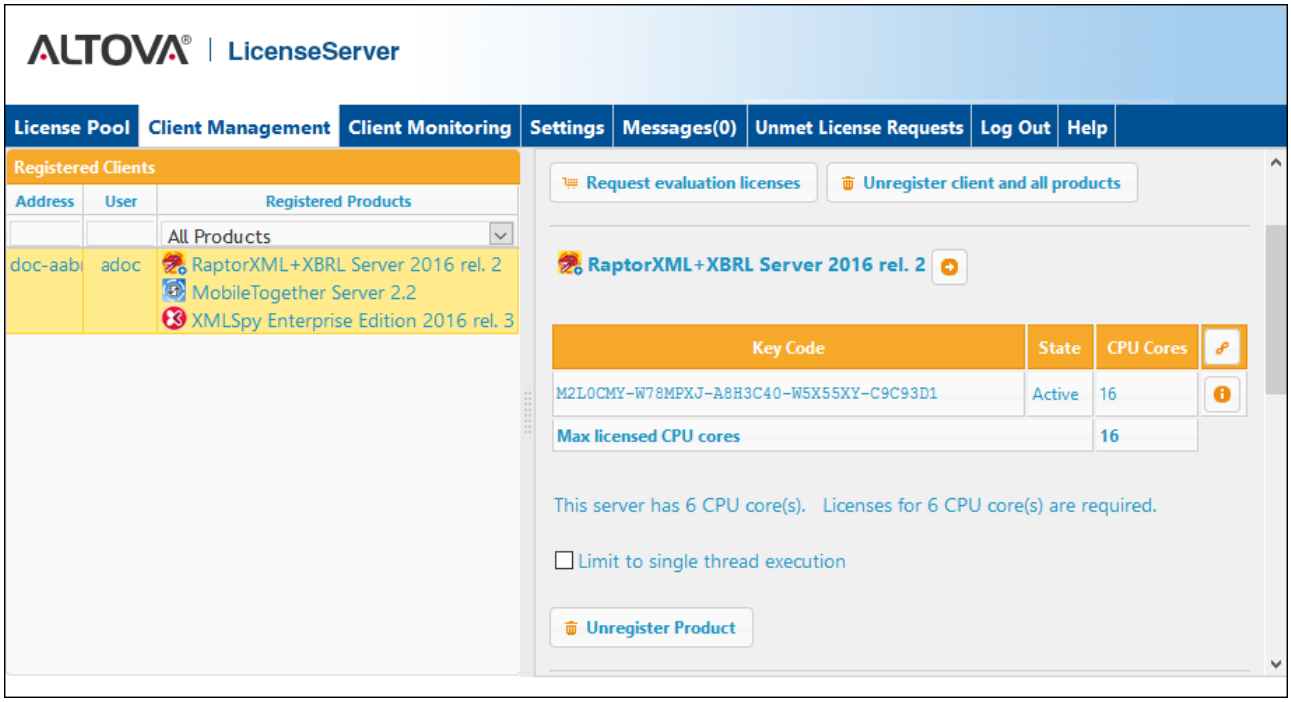
9.2 Client Management

The **Client Management** tab (*screenshot below*) provides you with an overview of all clients (machine-users and named-users) that are registered with LicenseServer. For each client, it shows the registered products and enables you to manage the licenses of registered products. You can also unregister products and clients.



The Client Management tab is divided into two panes:

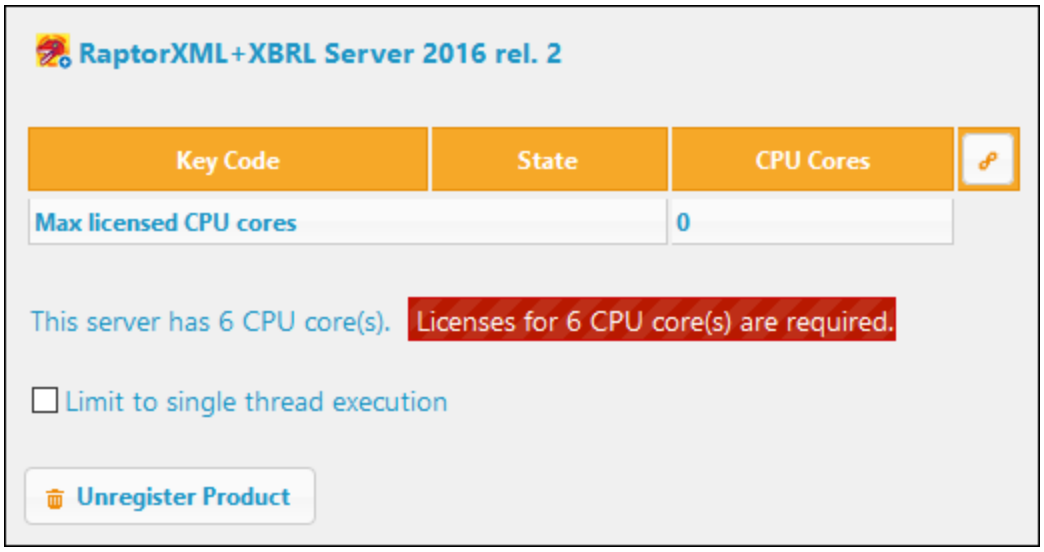
- *Registered clients:* The left-side pane displays a tabular listing of clients (machine-users and named-users) on the network that have at least one Altova product which is registered with LicenseServer 53. Such clients are called *registered clients*. Each registered client is listed in the left pane with all its registered products. The display in this pane can be filtered by selecting or entering a filter at the top of one of the pane's columns.
- *Product licensing:* This is the right-side pane. When a registered client is selected in the left (*Registered Clients*) pane, then the licensing details of that client's registered products are displayed in the right pane. Here you can manage the licensing of each registered product and also unregister products and clients 92. Additionally, it is in this pane that server-product licenses can be set up to use only one core of a client machine. See *Single thread execution* 90.

Understanding the Client Management tab

Note the following points about the Client Management tab:

- In the left pane, each registered client is listed together with its registered products. The screenshot above shows (in the left pane) that there is one client, which has three products that have been registered with LicenseServer. If an Altova product on a different client machine is registered with this LicenseServer, then that client machine, with its registered products, will also be listed in the left pane.

- When you select a client machine in the left pane, the licensing details of that client's registered products are displayed in the right-hand pane. Here, you can edit the license assignments of each product.
- Each registered product displayed in the (right-hand) *Product Licensing* pane has its own *Key Code* entry, which takes the key code of a license. A registered product is assigned a license by clicking its **Edit Assigned Licenses** button and selecting the required license from those available for that product in the license pool. *See* *Assign Licenses* 88 *for details of the procedure*.
- Server products also have a line stating how many CPU cores need to be licensed to run that product on that client. If the number of licensed cores is less than the number required, then the information is marked in red (*see screenshot below*). (The number of CPU cores that need to be licensed is the number of physical CPU cores on that client and is obtained from the client machine by LicenseServer.)



- If **multiple versions** of a single desktop product (for example, XMLSpy 2018 and XMLSpy 2019) have been installed on one machine and if each of these installations has been registered with a single LicenseServer, then the multiple registrations are consolidated in a single registration in the Client Management tab and displayed as a single registration. When a license is assigned to this single registration, all the installations indicated by that registration will be licensed. However, multiple instances of only one of these installations can be run simultaneously. For example, multiple instances of XMLSpy 2018 or multiple instances of XMLSpy 2019 can be run simultaneously, but not one instance of XMLSpy 2018 and one instance of XMLSpy 2019.

9.2.1 Assign Licenses

Icons in the Client Management tab

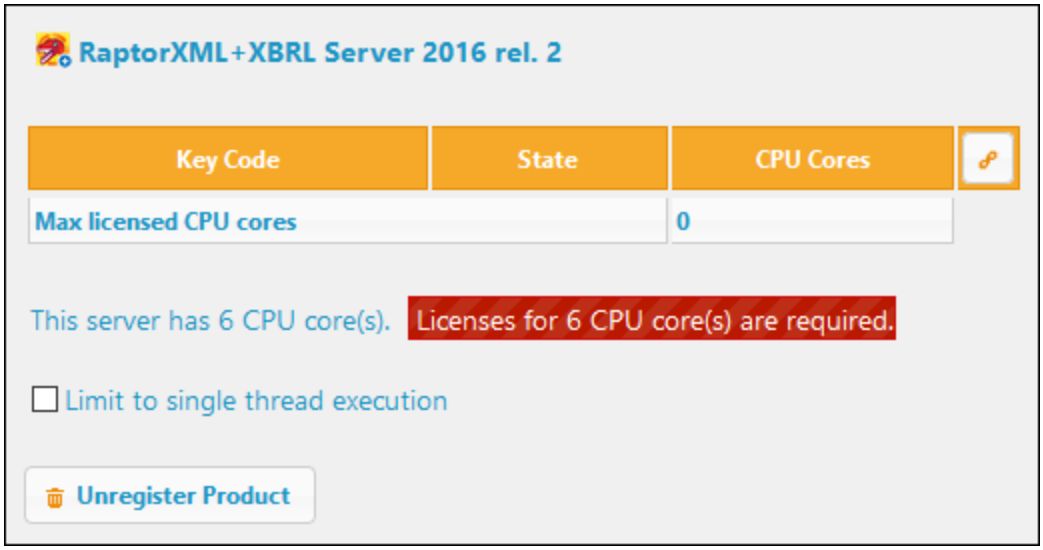
Edit Assigned Licenses. Available in product listings. Displays the Edit Assigned Licenses dialog 89, in which new licenses can be assigned and already assigned licenses can be edited.

Show Licenses. Appears in license listings. Switches to the License Pool tab 84 and highlights the selected license. Details of the license can be read there.

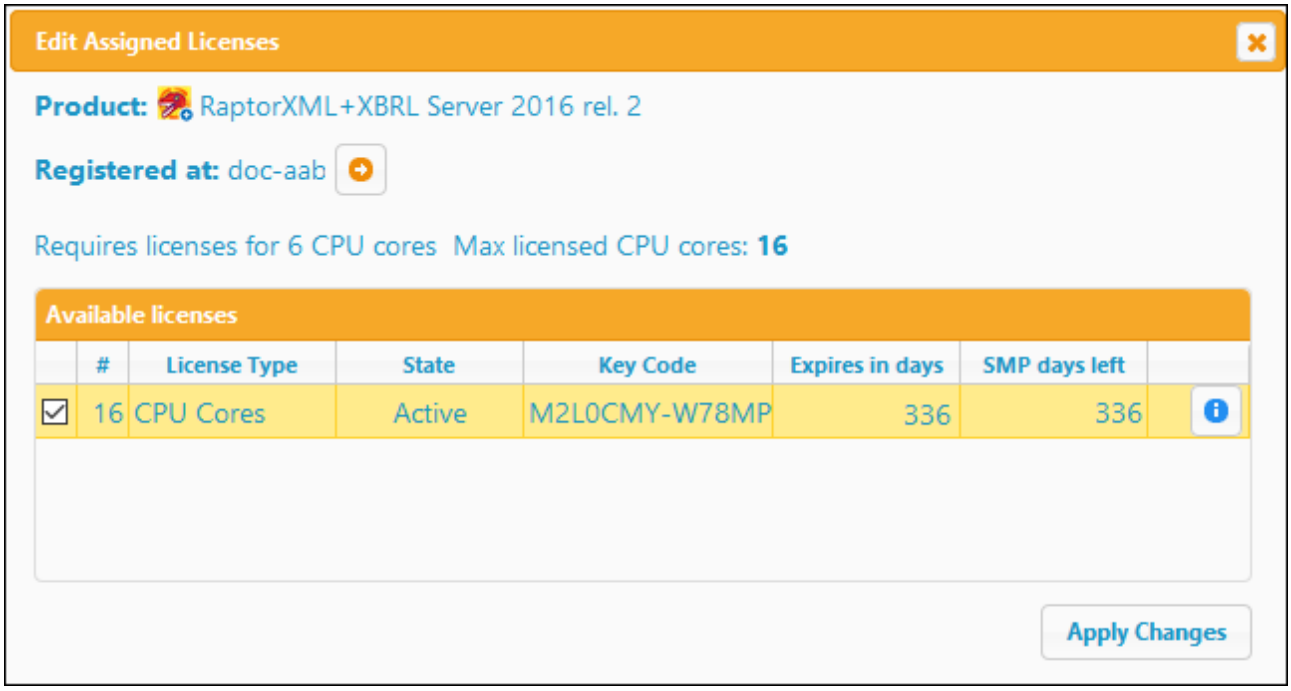
Unregister Product. The selected product (on the selected client machine) will be unregistered from LicenseServer. See *Unregister Products and Client* 92. To unregister a client and all its products, click **Unregister client and all products** at the top of the pane.

Assign a license to a registered product

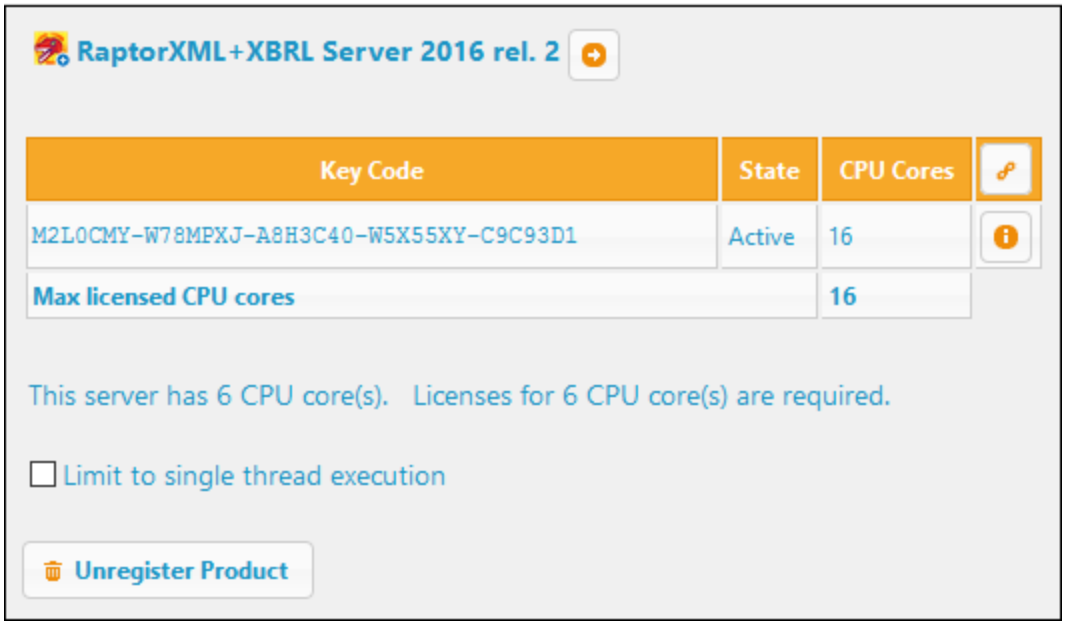
To assign a license to a registered product in the (right-hand) *Product Licensing* pane *(see screenshot below)*, click the **Edit Assigned Licenses** button of that product *(see section above for icon)*.



The Edit Assigned Licenses dialog (*screenshot below*) appears. The dialog lists all licenses for that product that are in the license pool. If a license has been assigned, then its check box at extreme left will be selected (as in the screenshot below). If the license is available, then its check box will be unselected.



Select the license/s you wish to assign, and then click **Apply Changes**. The license/s will be assigned to that product and displayed in the *Product licensing* tab of the Client Management tab (*see screenshot below*).



Single-thread execution

If an Altova server product allows single-thread execution, an option for *Single-thread execution* will be available. In these cases, if an Altova server-product license for only one core is available in the license pool, a machine

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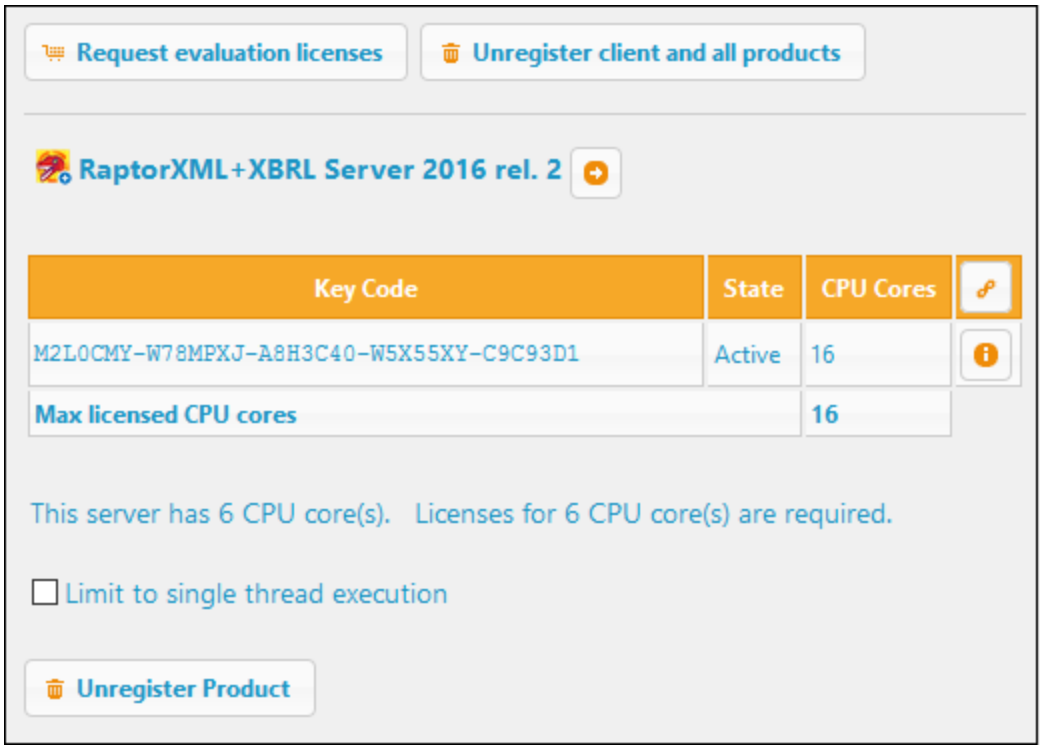
with multiple cores can be assigned this one-core license. In such a case, the machine will run that product on a single core. Processing will therefore be slower, because multi-threading (which is possible on multiple cores) will not be available. The product will be executed in single thread mode on that machine.

To assign a single-core license to a multiple-core machine, in LicenseServer, select the *Limit to single thread execution* check box for that product.

9.2.2 Request an Evaluation License

You can obtain a 30-day free evaluation license for each of a client's installed Altova server products that have been registered with LicenseServer. Click the **Request Evaluation Licenses** button at the top of the (right-hand) Product licensing pane 87 *(see screenshot below)*.

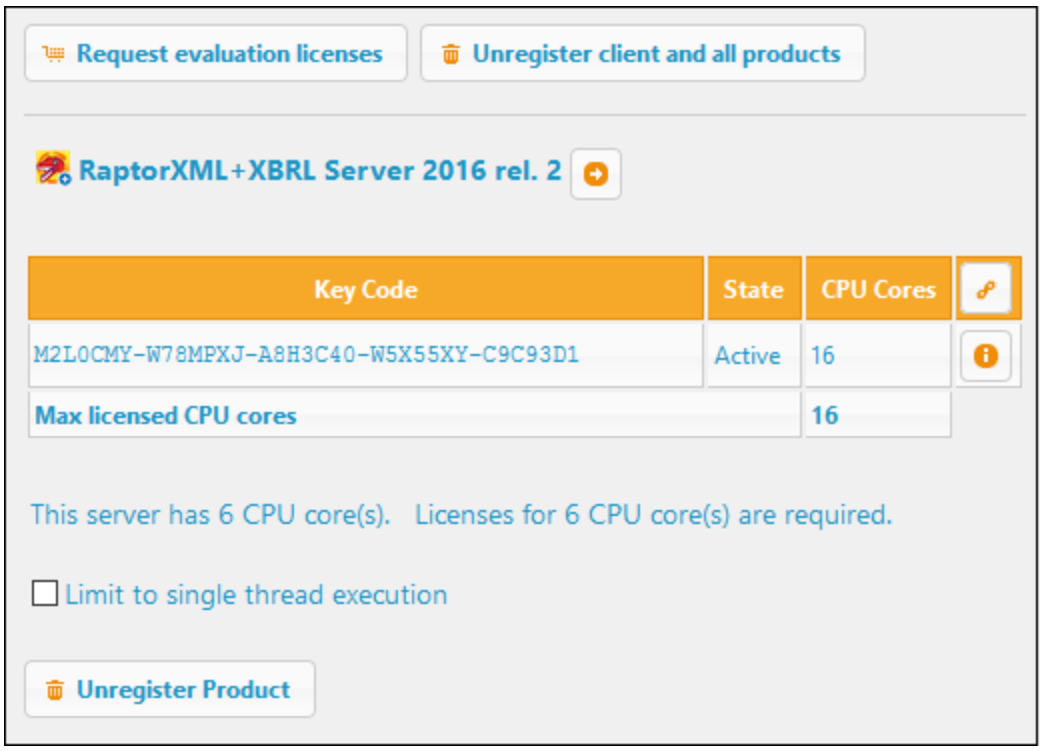
Note: Evaluation licenses can be obtained via LicenseServer **for server products only**. For desktop products, an evaluation license is requested via the Software Activation dialog of your desktop product.



A dialog appears that contains a list of the Altova products (on that client machine) which have been registered with LicenseServer. Make sure that the products for which you want an evaluation license are checked, then fill in the registration fields, and send the request. You will receive an e-mail from Altova containing the 30-day evaluation license/s. For server products, the number of cores for which the license is valid will be exactly the number required by the product at the time the request is sent. Save the license/s to disk and upload them to the license pool 71.

9.2.3 Unregister Products and Client

The registered products of a registered client are listed in the (right-hand) Product licensing pane 87 *(see screenshot below)*.



- Each product has an **Unregister Product** button at the bottom of its entry. Click this button to unregister the product from LicenseServer. If a license was assigned to the product, the assignment will be terminated when the product is unregistered.
- To unregister all products of the currently selected client, click the **Unregister client and all products** button at the top of the pane (*see screenshot*).

Re-registering a product

To re-register a product, carry out the same steps as when you first register a product 53.

9.2.4 One Machine Registered with Different Names

A client machine is automatically registered with LicenseServer when an Altova product on it is registered with LicenseServer. Now, if a client machine is registered more than once with LicenseServer, then the machine might appear in the Client Management tab under multiple names, that is, with multiple entries. This could happen, for example, if the host name of the machine is given in a different form than in previous registrations.

This could lead to two situations:

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- Multiple licenses are assigned to the same product because they are assigned to the same machine under its different names.
- One license might be assigned multiple times to a product on a single machine that appears under multiple machine names.

To ensure that neither of these situations arise, unregister redundant client machines as described in Unregister Products and Client 92.

Morphology of machine names

Given below are forms a machine name might take in the Client Management tab:

- *Host name with domain name (the fully qualified domain name, FQDN), such as: "win80-x64_1.my.domain.com" or "Doc3.my.domain.com".* This happens when the host name of the machine (with or without the domain information) is passed as the argument of the `licenseserver` CLI command that is used to register the server product with LicenseServer. For example: `<AltovaServerProduct> licenseserver Doc3`. This produces an FQDN such as: `Doc3.my.domain.com`.

  An FQDN is also produced when `localhost` is supplied on Windows 7 and 10 systems as the host name.

- *Host name without domain name. For example: "win80-x64_1" or "Doc3".* This happens on Windows 8 systems when `localhost` is given as the machine name.

- *localhost*. In some cases, `localhost` is also displayed as a machine name.

Note: If, during installation of an Altova server product on Windows machines, the machine is automatically registered with LicenseServer, `localhost` is used by the installer as the machine name.

Connecting to LicenseServer over VPN

If a client machine connects to your network over a Virtual Private Network (VPN) service, the client machine might be assigned an IP address dynamically, leading to it being identified as a different machine each time it connects. How to resolve the issue that results is described in the topic Network Information 13.

9.3 Client Monitoring

The **Client Monitoring** tab provides an overview of the selected client machine. The tab displays information about licensed products in two categories of client:

- Checked-out clients, and
- Running clients

Checked-out clients

End users of an Altova desktop product [8], such as XMLSpy or MapForce, can check out a license that is registered with LicenseServer. This would typically be done in situations where it is foreseen that the client will be offline for a certain period of time. The license can be checked out from LicenseServer (by the client) for the period during which the machine will be offline. For this period, the end user can continue using the Altova desktop product without making contact with LicenseServer. See License Check-outs [20]

The licenses and users that are currently checked out, together with the check-out period and other information about the client and the check-out, are listed in the Client Monitoring tab under this heading.

Running Clients

This section lists all the clients (machine users and named users) on which licensed products are currently running. In the case of desktop products, a running product is one that has been started. In the case of server products, the product is running if the server service has been started. If multiple instances of a product are running, then each of these instances is listed.

Running Clients

Product	Edition	Version	User	Address	State	Failover	Last seen (seconds ago)	
RaptorXML+XBRL Serv		2016 rel. 2	DOBRA	doc-aab	Running		8	
XMLSpy	Enterprise Editic	2016 rel. 3	adoc	doc-aab	Running		11	

Icons in the Client Monitoring tab

Show License(s). Available for each product instance. Goes to the License Pool [84] tab, and highlights the license of the selected product instance.

Manage Client. Available for each product instance. Goes to the Client Management [87] tab, and highlights the client of the selected product instance.

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9.4 Settings

The **Settings** tab is structured into several panes, each of which contains settings for various aspects of the working of LicenseServer. These range from a simple administrator task such as resetting the LicenseServer password, through to setting up email alerts and more specialized tasks such as configuring network settings and a failover (redundancy) server.

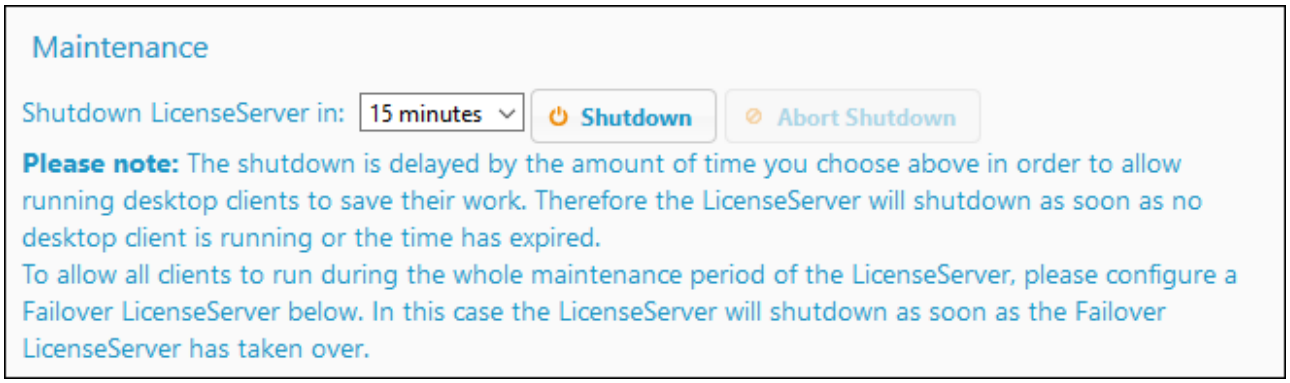
The settings of each pane are described in the sub-sections of this section:

- Maintenance 95
- Failover LicenseServer Settings 96
- LicenseServer Password 98
- Connectivity Test 98
- License Checkout 98
- Web UI 99
- Proxy Server 100
- License Service 101
- Alert Mail 102
- Miscellaneous 103

Note: After you change a setting in the last pane of the tab, click **Save** at the bottom of the last pane. (If a setting in this pane is changed, it will not take effect till the setting is saved.)

9.4.1 Maintenance

This setting enables you to specify a time period to wait till LicenseServer shuts down. A shutdown would be implemented typically for server maintenance, and the time to shutdown can be used to save work on clients running Altova desktop products.



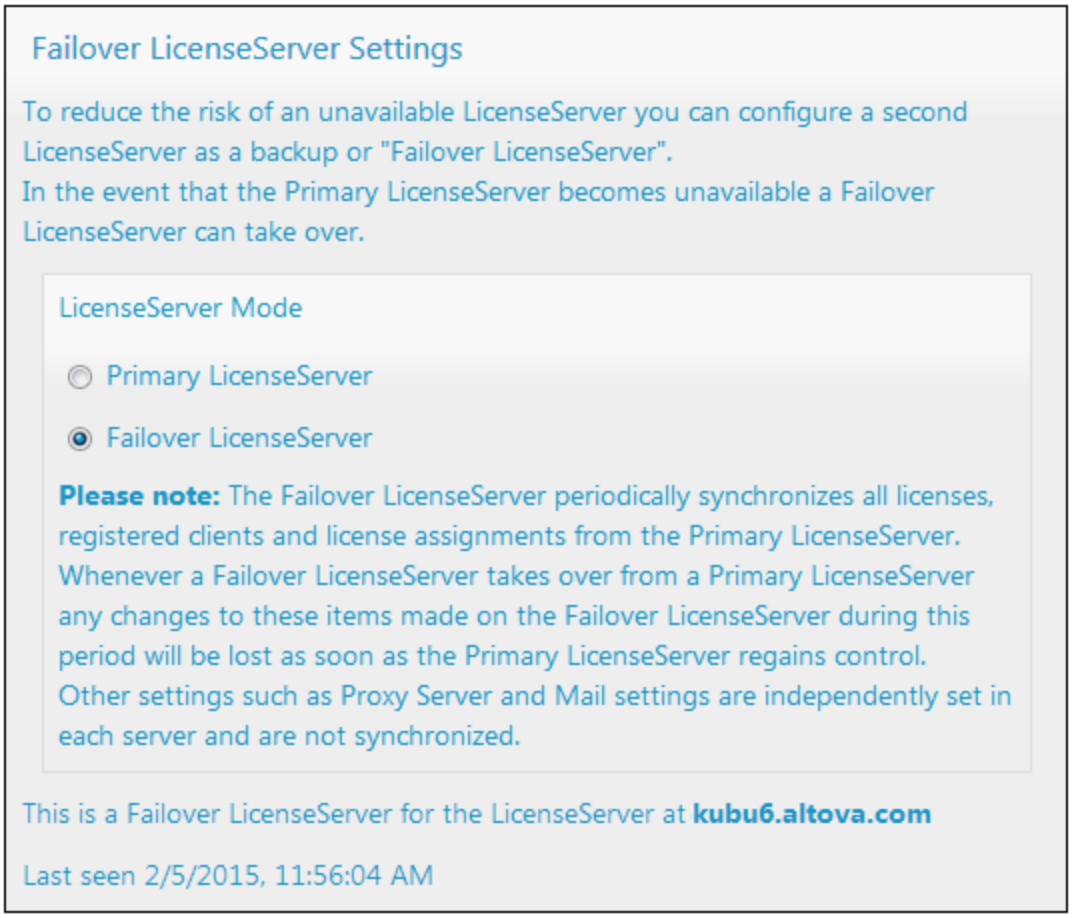
Note the following points:

- The shutdown time you select is the *maximum* time to shutdown. LicenseServer will shut down earlier as soon as LicenseServer is no longer connected to any client running a desktop product.
- The countdown to shutdown starts when you click **Shutdown**.
- To cancel shutdown, click **Abort Shutdown**.

Note: To enable clients to run during a LicenseServer shutdown, configure a **Failover LicenseServer**[18].

9.4.2 Failover LicenseServer Settings

A second LicenseServer can be configured to take over from the Primary LicenseServer if the Primary LicenseServer becomes unavailable. This second LicenseServer is called the **Failover LicenseServer**., and it is configured in the Failover LicenseServer Settings pane *(screenshot below)*.



How to configure a Failover LicenseServer via these settings is described below. For an overview of how Failover LicenseServers work, see Failover LicenseServer[18] in the General Information[7] section.

Configure a Failover LicenseServer

To set up a LicenseServer as the Failover LicenseServer of a LicenseServer that is running on your network, do the following:

1. Install LicenseServer as described in the Installation section.
2. Set the LicenseServer's mode to *Failover LicenseServer* by selecting the corresponding radio button (*see screenshot above*). (By default the LicenseServer Mode is set to *Primary LicenseServer*.)

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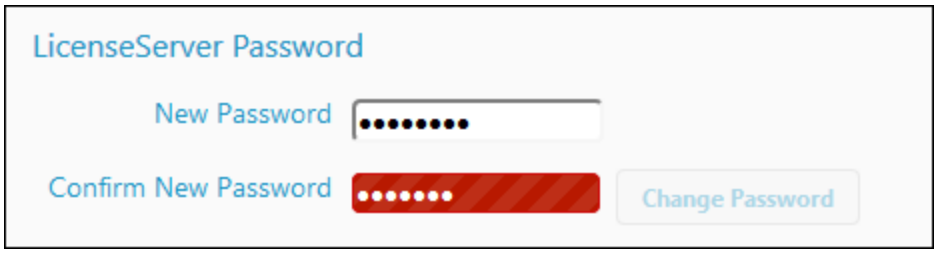
3. In the Find Primary LicenseServer dialog that appears (*screenshot below*), enter the Primary LicenseServer you want to back up with this Failover LicenseServer. You can do this in one of two ways: (i) Click **Search for LicenseServers** and then select, in the combo box, the LicenseServer you want to back up from the list of found LicenseServers; (ii) Click **Manually Enter Address**, and enter the address (hostname or IP address, **not** URL) of the LicenseServer you want to back up. After entering the Primary LicenseServer, click **Connect to Primary LicenseServer**.

4. A confirmation dialog appears, asking you to confirm that you wish to set the current LicenseServer as the Failover LicenseServer (of the Primary LicenseServer you have just selected). Click **Yes** if you wish to confirm. Note that going ahead with the confirmation will remove any installed licenses and registered clients on the current LicenseServer.

Once a Failover LicenseServer has been configured, both the Primary LicenseServer and Failover LicenseServer will have information about their status at the top of the Configuration Page. In the two screenshots below, the Failover LicenseServer is shown first, then the Primary LicenseServer.

9.4.3 LicenseServer Password

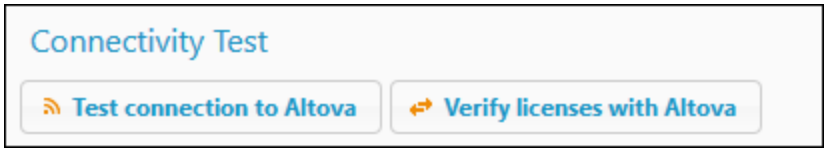
You can reset the password for logging in to LicenseServer.



Enter the new password you want to set and click **Change Password**. The *Confirm New Password* field will be red (*see screenshot*) till your entry matches the entry in the *New Password* field.

9.4.4 Connectivity Test

You can test connectivity to Altova by clicking **Test Connection to Altova** (*see screenshot below*). Note that if you have changed any setting, you must save the new settings (by clicking the **Save** button at the bottom of the tab) before testing the connection.



The **Test connection to Altova** button is disabled while the test is in progress, and becomes enabled again when the test has been completed.

You can also verify licenses that are currently in the License Pool by clicking **Verify licenses with Altova**. If any irregularities are detected, these will be displayed in a message.

9.4.5 License Checkout

You can select whether to allow desktop licenses to be checked out from the license pool to the machine on which an Altova desktop product is installed. If you allow this, then a client that has acquired a license from your LicenseServer can check out this license and remain unmonitored for any period up to the maximum period you specify in this setting. The maximum allowed period for check-outs is 30 days. (This enables a client to continue using that Altova desktop product even when access to LicenseServer is not possible (say, when traveling) or when LicenseServer monitoring is not wanted for technical reasons.) The client can do the check out via the **Help | Software Activation** command of the Altova desktop application.

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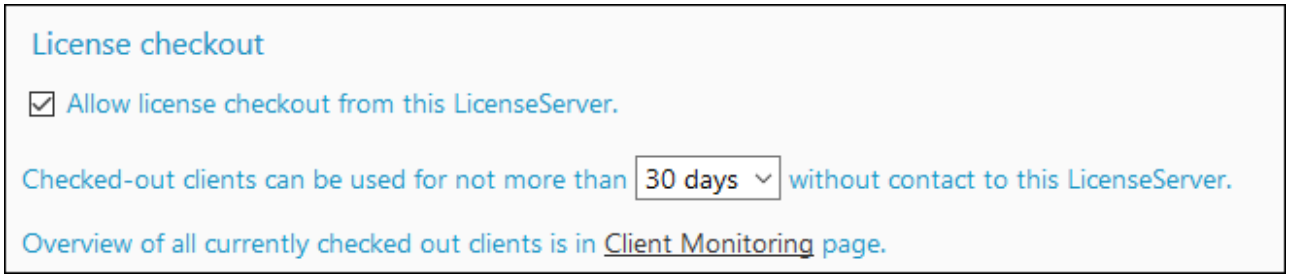


This setting in LicenseServer does the following:

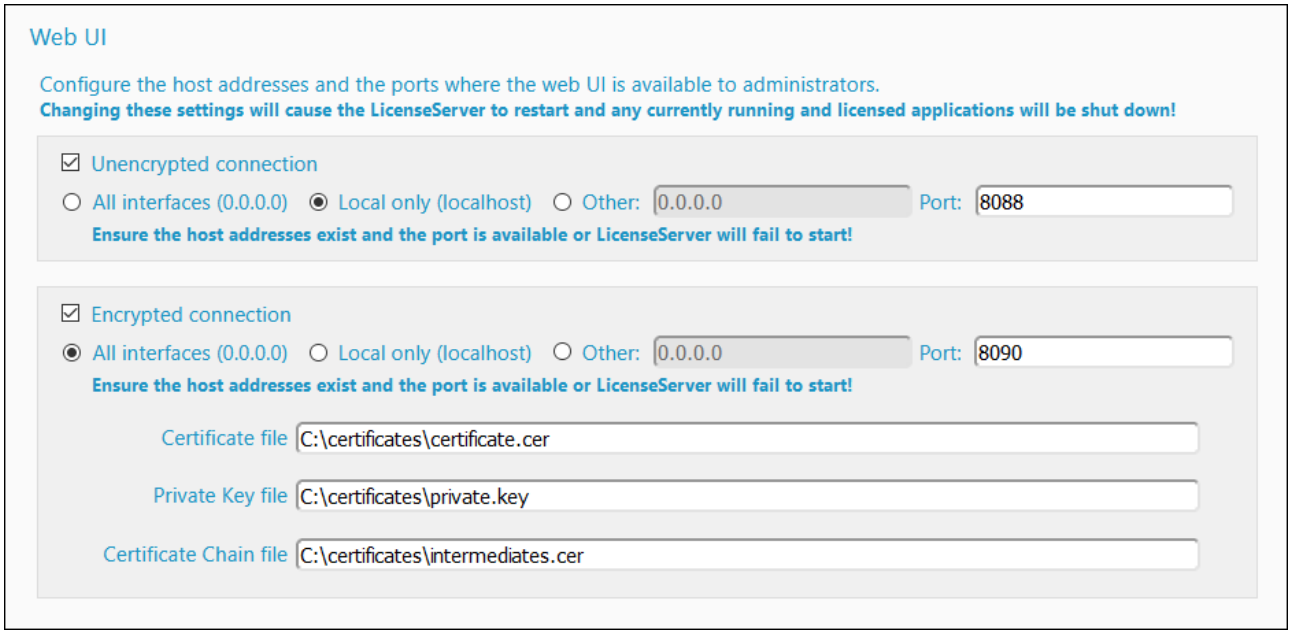
- It enables license checkout
- It specifies the maximum number of days for which checkout is allowed

After a license has been checked out, it is moved to the *Checked-out Clients* section of the Client Monitoring 94 tab. A checked-out license is considered to be in use, and it will not be available for use by any other client on the network.

9.4.6 Web UI

The Web UI settings (*screenshot below*) specify network access settings for the Web UI (or Configuration page 83). You can specify that the connection be either unencrypted or encrypted. Alternatively, you can set the connection to be unencrypted or encrypted depending upon the interface that is accessing the Web UI. Typically, you would use an unencrypted connection when access is from within your organization's network, and an encrypted connection when access is from outside your organization's network. The settings shown in the screenshot below sets up unencrypted connections when access is from the same machine, and encrypted connections for access from all other machines.

Unencrypted access is made via the **`http`** protocol, whereas encrypted access is made with **`https`**.



- Allowed IP addresses for the Web UI can be either: (i) all interfaces and IP addresses of that machine, or (ii) a fixed address.
- For more information about encrypted connections, see the section SSL Encryption [25].

The default settings allow unrestricted access to LicenseServer and its configuration page from within the networks to which LicenseServer is connected. If you wish to restrict the access that clients have to LicenseServer, enter the settings you want to allow and click **Save**.

Run a connectivity test [98] to check that the settings are correct.

9.4.7 Proxy Server

If a proxy server is being used to connect to the Internet, then the details of the proxy server must be entered in the Proxy Server pane (*screenshot below*). If Internet access is without a proxy server, then the proxy server settings can be left blank.

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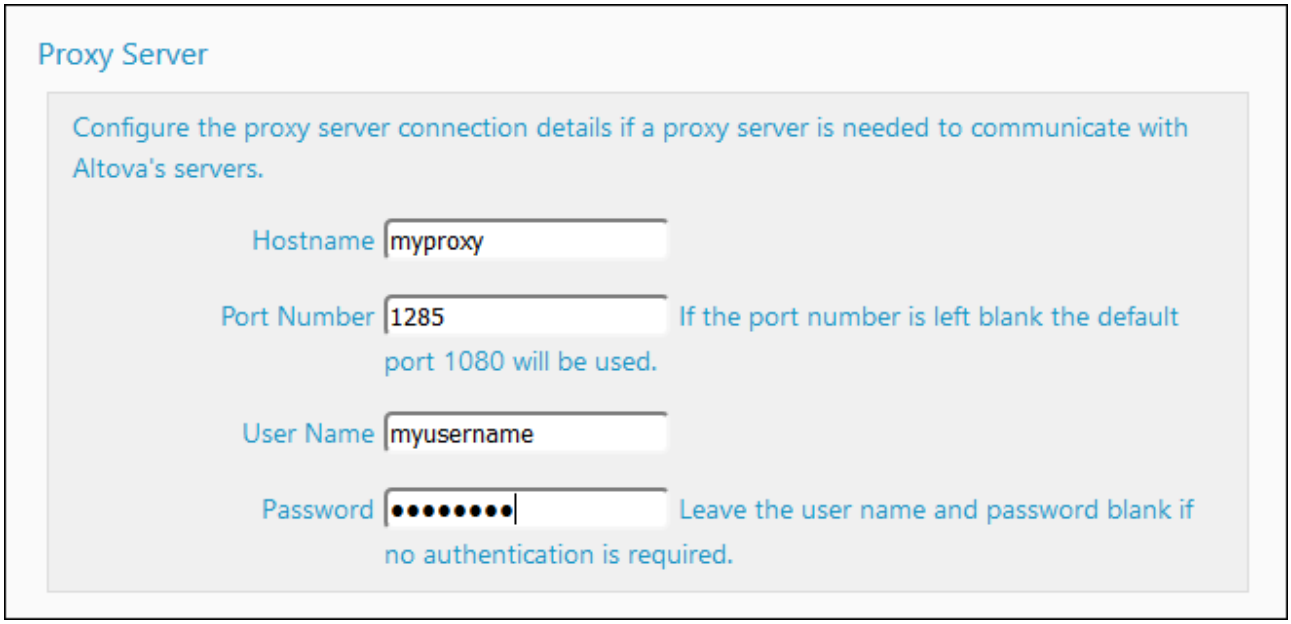
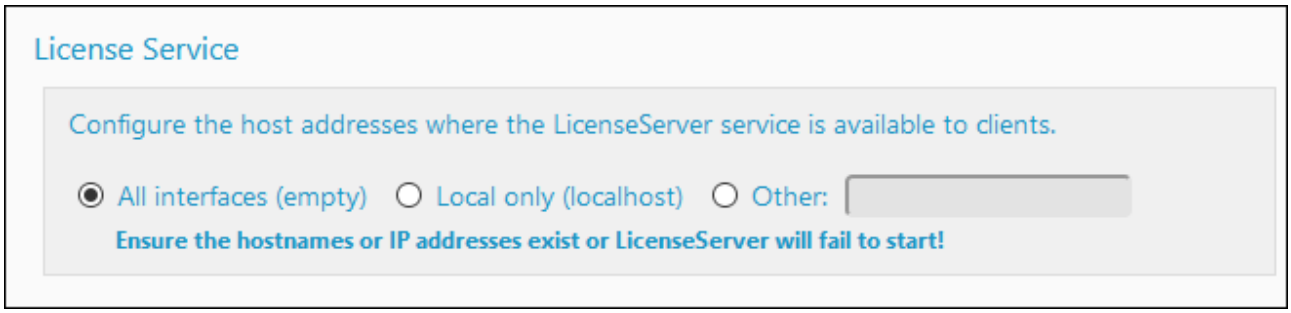


To configure LicenseServer to use a proxy server, enter the proxy server's host name, and, if required, a port number. If the proxy server does not need authentication, then the *User Name* and *Password* fields can be left blank. After you enter the settings you want, click **Save**. Run a connectivity test 98 to check that the settings are correct.

9.4.8 License Service

The machine on which License Server is installed can be connected to multiple networks via one or more network interfaces. On each network, the License Server machine is known by a host name and an IP address. The *License Service* setting (*see screenshot below*) lets you configure on which networks the license service is available.



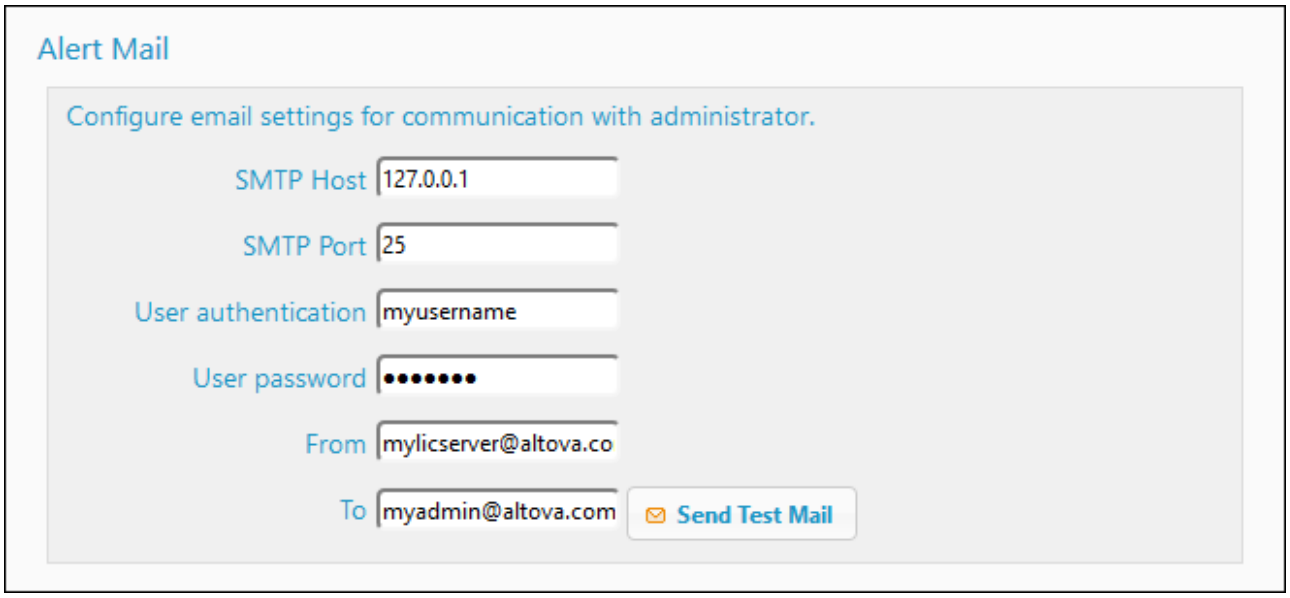
- The `localhost` option allows the service on the local machine only.
- If you list hostnames and/or IP addresses, use a comma-separated list without any spaces (for example: `hostname1,IPAddress1,hostname2`).
- The port number of the service is fixed at **35355**.

After making a change, click **Save** for the settings to take effect. Run a connectivity test (*see above*) to check that the settings are correct.

9.4.9 Alert Mail

Alert mails can be sent to designated email addresses when significant LicenseServer events occur. An example of a significant event is the following: Altova LicenseServer needs to be connected to the `altova.com` server (the Master LicenseServer). If the connection is broken for more than 24*5 hours (5 days), (your) LicenseServer will not allow licenses. As a result, work sessions with Altova products licensed by LicenseServer could be disrupted. In order to alert the administrator that a connection is broken, an alert mail can be sent to an email address. *Note:* LicenseServer contacts the Master LicenseServer at `altova.com` every 24 hours.

The Alert Mail settings (*see screenshot below*) define the configuration for sending alert mails to an administrator's email address.



- *SMTP Host* and *SMTP Port* are the access details of the email server from which the email alert will be sent.
- *User Authentication* and *User Password* are the user's credentials for accessing the email server.
- The *From* field takes the address of the email account from which the email will be sent.
- The *To* field takes the recipient's email address.
- The *Send a warning email* option in the Miscellaneous pane 103 also makes use of the email settings. (See the Miscellaneous pane 103 for a description of this option.)

Click **Save** when done. After saving the Alert Mail settings, email alerts will be sent to the address specified whenever a significant event occurs, such as when connection to `altova.com` is lost. Note that such events are also recorded in the Messages tab 106, and can be looked up there.

Events that trigger alert mails

An alert mail is sent every time any of the following events occurs:

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Licenses

- Live-update message from altova.com
- Expiration warning (60 days for all products)

Server state

- Connection to Altova lost
- Connection to Altova reestablished
- Upgrade required
- Shutdown

Client sessions (configurable via WebUI 99)

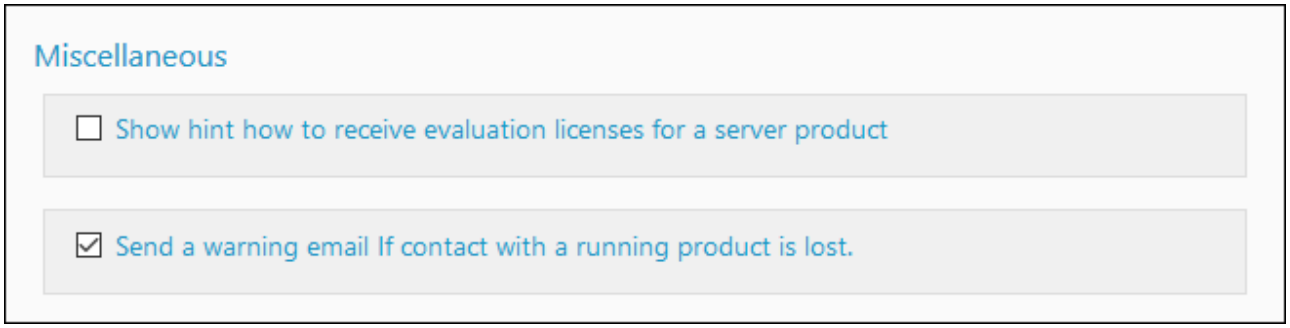
- Connection to client lost
- Connection to client reestablished

Failover LicenseServer

- Activated
- Deactivated
- Shutdown

9.4.10 Miscellaneous

The Miscellaneous pane (*screenshot below*) provides additional functionality that might be useful. Click **Save** after changing any of these settings.



Show hints for receiving and deploying evaluation licenses
Checking this box (*see screenshot above*) displays, at the top of the configuration page, brief instructions about how to evaluate and deploy evaluation licenses.

Send a warning email if contact with a running product is lost
A warning message is sent from the *From* address to the *To* address if a connection with a product that is licensed and running is lost.

The *Send a warning email* option toggles on/off the sending of emails each time that contact between LicenseServer and a licensed product (running on a client machine) is timed out. A timeout occurs when the period between two connection events from client to server exceeds a certain predefined interval that cannot be modified. (Note that contact is always initiated by the client.) For example, in the case of desktop-product clients, this predefined interval is one minute. If the client does not make contact with the server for more than one minute since its last contact, then the connection times out and an email alert is sent. If connection is re-

established and is followed by another timeout, then another email alert will be sent. As a result, if your network is experiencing disruptions, then it might happen that a large number of email alerts are sent. In this case, switch off the *Send a warning email* option. Note that this option relates only to contact between LicenseServer and a client. It does not relate to the connection between LicenseServer and the Master LicenseServer at `altova.com`. So, even if the option is switched off, email alerts about a lost connection with the Master LicenseServer will still be sent.

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9.5 Unmet License Requests

The **Unmet License Requests** tab *(screenshot below)* displays a chart that shows the number of unmet license requests from clients. Such requests were not met because the capacity of the respective license had been exceeded. The statistics represented in the chart will enable you to see which licenses receive requests in excess of their capacities, thus enabling you to estimate the unmet demand for a given product.

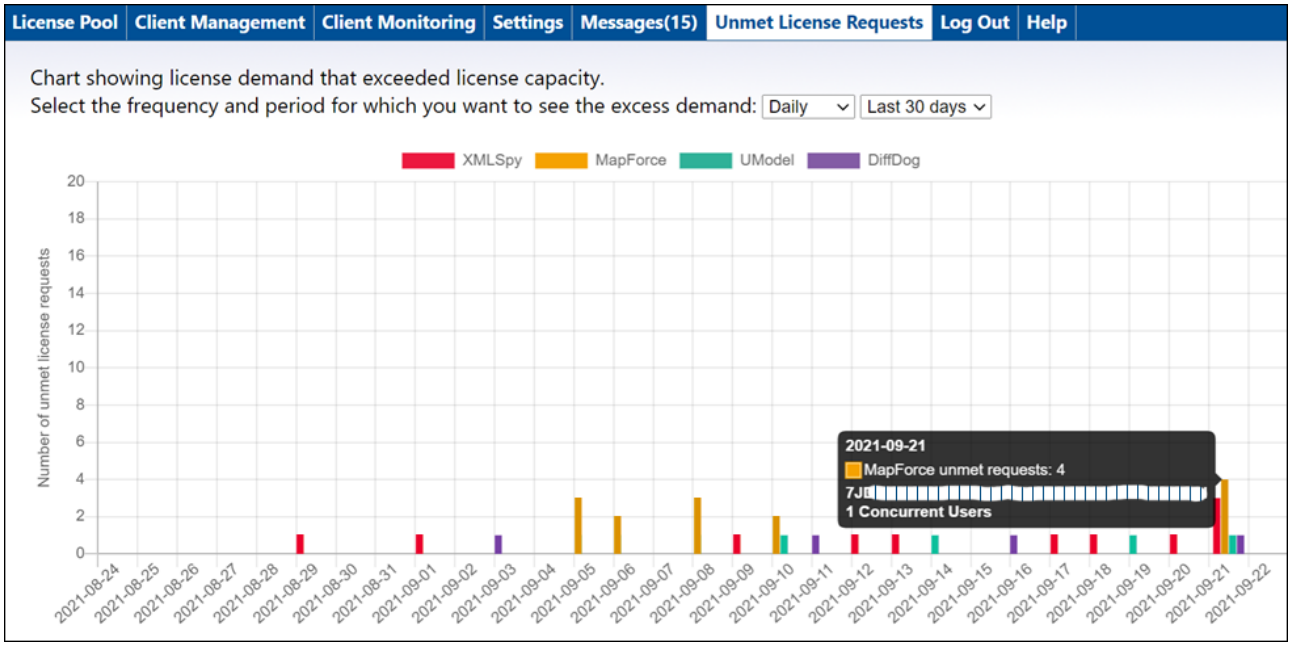

Chart description
Note the following points:

- In the tab's combo-box selectors, you can select (i) the period for which you want to display the statistics, and (ii) the interval displayed on the X-Axis.
- The Y-Axis gives the number of unmet license requests.
- Each Altova product is indicated by a differently colored bar.
- When you hover over a bar in the chart, statistics about the unmet license requests for that product are displayed in a popup (*see screenshot above*).
- If there is no unmet license request, then the chart is empty,

9.6 Messages, Log Out

The **Messages** tab displays all messages relevant to licenses in the license pool of the LicenseServer. Each message has a **Delete** button that allows you to delete that particular message.

The **Log Out** tab serves as the Log Out button. Clicking the tab logs you out immediately and then displays the Login screen.

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