# NetIQ® iManager
## Installation Guide

**December 2014**

# Contents

# About this Book and the Library

The *Installation Guide* describes how to install the NetIQ iManager (iManager) product.

For the most current version of the *NetIQ iManager 2.7.7 Installation Guide*, see the English version of the documentation at the NetIQ iManager online documentation site (https://www.netiq.com/documentation/imanager/).

## Intended Audience

This guide is intended for network administrators, and describes how to install, upgrade, or uninstall iManager.

## Other Information in the Library

The library provides the following information resources:

- *NetIQ iManager 2.7.7 Administration Guide* (https://www.netiq.com/documentation/imanager/)
- Apache Tomcat Web site (http://tomcat.apache.org/)
- Java Web site (http://www.oracle.com/technetwork/java/index.html)
- NetIQ eDirectory home (https://www.netiq.com/products/edirectory/)
- NetIQ eDirectory documentation (https://www.netiq.com/documentation/edir88/)
- NetIQ Cool Solutions community (https://www.netiq.com/communities/coolsolutions/)
- Novell Technical Services (http://support.novell.com)

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# 1 Installing iManager

NetIQ iManager provides a global view of your network from one browser-based tool, allowing you to proactively assess and respond to changing network demands.

Using iManager, you can administer NetIQ eDirectory and many other NetIQ and third-party products, including Novell Open Enterprise Server, NetIQ Identity Manager, Novell Audit, and BorderManager. This centralized management system eliminates administrative redundancy and unnecessary overhead, saving your time and money.

This section includes the following information:

- "Server-Based and Client-Based Versions of iManager" on page 9
- "Prerequisites" on page 13
- "Self-Signed Certificates" on page 16
- "Downloading and Installing Plug-Ins During Installation" on page 19
- "Installing a New Version of iManager" on page 19
- "Silent Installation of iManager Server" on page 26
- "Installing iManager on Unsupported Platforms" on page 28

## Server-Based and Client-Based Versions of iManager

The traditional server-based version of iManager 2.7.7, called simply iManager, is installed on a server that can access an eDirectory tree. The client-based version of iManager, called iManager Workstation, is installed on a client workstation rather than a server. Use the following guidelines to decide which version fits best in your environment, or whether your eDirectory management policies would benefit from installing both versions:

- If you have a single administrator who always manages eDirectory from the same client workstation, you can take advantage of iManager Workstation. iManager Workstation is fully self-contained and requires little setup. It automatically starts and stops the resources it needs when it loads or unloads. iManager Workstation installs and runs on various Linux or Windows client workstations, has no dependencies on server-based iManager, and it can coexist with any other versions of iManager installed on your network.

  iManager plug-ins do not automatically synchronize between iManager instances. If you have multiple administrators and use customized plug-ins, iManager Workstation and these plug-ins must be installed on each administrator's client workstation.

- If you manage eDirectory from multiple client workstations, or have multiple administrators, install iManager Server so that it is available from any connected workstation. Additionally, customized plug-ins only need to be installed once per iManager Server.

**NOTE:** iManager 2.7.7 Patch 11 is a full build installer. You don't need to install the iManager base and patch separately. The full installer will install the iManager 277 base with the patch.

# Supported Products for iManager Server

iManager supports the following products:

## Operating Systems

The following table contains a list of the certified and supported operating systems that iManager can run on.

**IMPORTANT:** Certified means the Operating System has been fully tested and supported. However, if an Operating System is listed as Supported it means that it has not yet been tested, but it is expected to work.

| Certified Server Operating System Version | Supported Operating Systems | Notes |
|---|---|---|
| Windows Server 2012, Windows Server 2012 R2 (64-bit) | Supported on later versions of service packs | iManager Server runs only in 64-bit mode. |
| Windows Server 2008 Enterprise Edition SP2 (64-bit) | Supported on later versions of service packs | iManager Server runs only in 64-bit mode. |
| Windows Server 2008 R2 Enterprise Edition (64-bit) | Supported on later versions of service packs | iManager Server runs only in 64-bit mode. |
| Windows Server 2008 R2 Standard Edition (64-bit) | Supported on later versions of service packs | iManager Server runs only in 64-bit mode. |
| SUSE Linux Enterprise Server 10 SP1 (64-bit) | Supported on later versions of support packs | iManager Server runs only in 64-bit mode. |
| SUSE Linux Enterprise Server 11 SP3 (64-bit), SP4 (64-bit) | Supported on later versions of support packs | iManager Server runs only in 64-bit mode. |
| SUSE Linux Enterprise Server 12, SP1 (64-bit) | Supported on later versions of support packs | iManager Server runs only in 64-bit mode. |
| Red Hat Enterprise Linux Server 5.11 (64-bit), 5.10 (64-bit), 5.9 (64-bit), 5.7, and 5.8. | Supported on later versions of support packs | iManager Server runs only in 64-bit mode. |
| Red Hat Enterprise Linux (RHEL) Server 6.0, 6.1, 6.2, 6.3, 6.4, 6.5, 6.6, 6.7 (64-bit) | Supported on later versions of support packs | iManager Server runs only in 64-bit mode. |
| Red Hat Enterprise Linux (RHEL) Server 7.0, 7.1, 7.2, 7.3 and 7.4 (64-bit) | Supported on later versions of support packs | iManager Server runs only in 64-bit mode. |
| Open Enterprise Server (OES) 2 | Supported on later versions of support packs | iManager Server runs only in 64-bit mode. |
| Open Enterprise Server (OES) 11 | Supported on later versions of support packs | iManager Server runs only in 64-bit mode. |

- iManager 2.7.7 Patch 11 does not support NetWare and Solaris. However, iManager can manage and work with applications and resources, such as eDirectory, running on the Solaris platform.
- Do not install standalone iManager package on a server running any OES version. Instead, you must use the OES version's patch channel to upgrade to the latest iManager version.

## Application Servers

- Tomcat 7.0.81

**NOTE:** Do not install standalone iManager package on a tomcat server running other applications.

## Browsers

- Apple Safari 8.0 and 7.0.6
- Google Chrome 38, 37, 31, 30, 28, 27, 26, 25, 23, and 22
- Internet Explorer 11, 10 (Normal and Compatibility modes), 9, and 8
- Mozilla Firefox 33, 32, 26, 25, 23, 22, 21, 19, 16, 15, 13, 12, 11, 10, 9.0.1, and 4.0.1

iManager does not support the following:

- Access through an iChain server with a path-based multihoming accelerator, and with Remove Sub Path from URL enabled.
- Internet Explorer 10 Metro user interface view on Windows 7 and 8.

## Directory Services

- eDirectory 8.8 and later Support Packs

# Supported Products for iManager Workstation

The following table contains a list of the certified and supported operating systems that iManager can run on:

**IMPORTANT:** Certified means the Operating System has been fully tested and supported. However, if an Operating System is listed as Supported it means that it has not yet been tested, but it is expected to work.

| Certified Server Operating System Version | Supported Operating Systems | Notes |
|---|---|---|
| Windows 7 Enterprise Edition (32- or 64-bit) | Supported on later versions of service packs | iManager Server runs either in 32-bit or 64-bit mode. |
| Windows 7 Ultimate Edition (32- or 64-bit) | Supported on later versions of service packs | iManager Server runs either in 32-bit or 64-bit mode. |

| Certified Server Operating System Version | Supported Operating Systems | Notes |
|---|---|---|
| Windows 7 Professional Edition (32- or 64-bit) | Supported on later versions of service packs | iManager Server runs either in 32-bit or 64-bit mode. |
| Windows 7 Service Pack 1 (SP1) | Supported on later versions of service packs | |
| Windows 8 Enterprise Edition (32- or 64-bit) | Supported on later versions of service packs | iManager Server runs either in 32-bit or 64-bit mode. |
| Windows 8.1 Enterprise Edition (64-bit) | Supported on later versions of service packs | iManager Server runs only in 64-bit mode. |
| Windows Server 2008 (32-bit) | Supported on later versions of service packs | |
| SUSE Linux Enterprise Server 11 SP3 (64-bit), SP4 (64-bit) | Supported on later versions of support packs | iManager Server runs only in 64-bit mode. |
| SUSE Linux Enterprise Desktop 11 SP1 or later (32- or 64-bit) | Supported on later versions of support packs | iManager Server runs either in 32-bit or 64-bit mode. |
| Red Hat Enterprise Linux Server 5.11(32-bit), 5.10 (32-bit), 5.9 (32-bit), 5.8 (32-bit), and 5.7(32-bit) | Supported on later versions of support packs | |
| Red Hat Enterprise Linux Server 6.5 (32-bit), 6.4 (32-bit), 6.0 (32-bit), 6.3 (32-bit), 6.2 (32-bit), and 6.1 (32-bit) | Supported on later versions of support packs | |
| OpenSUSE 10.3 or later (32- or 64-bit) | Supported on later versions of support packs | iManager Server runs either in 32-bit or 64-bit mode. |
| OpenSUSE 13.2 (32- or 64-bit) | Supported on later versions of support packs | iManager Server runs either in 32-bit or 64-bit mode. |

iManager Workstation bundles the following versions of Tomcat and Java:

- ◆ Tomcat 7.0.81
- ◆ Java 1.8.0_144 (32-bit)

# Backward Compatibility

If the iManager server setup program detects a previously installed version of iManager, it gives you the option to stop the installation process or remove the existing iManager, JRE, and Tomcat installations.

Because iManager Workstation is a self-contained environment, you can install multiple versions on the same workstation, including older versions of Mobile iManager. However, you should not attempt to run them simultaneously. If you need to use different versions, run one version, close it, and then run the other version.

The same eDirectory tree can be managed with iManager 2.7, iManager 2.6, and iManager 2.5. Your RBS Collection(s) should be updated for iManager 2.7. The updated RBS Collection(s) maintains backward compatibility with iManager 2.6 and 2.5.

# Prerequisites

You must satisfy the following prerequisites in order to install and use either iManager or iManager Workstation.

## General Prerequisites

The following prerequisites apply to all server platforms:

❒ **eDirectory Management:** iManager can manage any server running NetIQ eDirectory 8.8 or later.

❒ **Admin-Equivalent Rights:** You must have admin-equivalent rights for the creation of a Role-Based Services (RBS) collection in the eDirectory tree, and to run the iManager RBS Configuration Wizard.

❒ **File System Rights:** You must have root access for Linux servers or Administrator access for Windows servers.

## Linux Prerequisites

In addition to the general prerequisites listed in "General Prerequisites" on page 13, the following prerequisites also apply to installing iManager on all Linux server platforms:

❒ **Required Linux Packages:** If any of the following packages are not installed, you must obtain them from the vendor of your Linux distribution and install them before installing iManager.

SUSE Linux Enterprise Server (64-bit)

- libstdc++33?32bit (SLES 11)
- libstdc++43?32bit (for SLES 11 SP1)
- libstdc++46?32bit (for SLES 11 SP2)
- libXtst6-32bit (for SLES 12 64-bit)

**IMPORTANT:** While installing iManager on a Redhat 64-bit version, ensure that the 32-bit versions of the RHEL libraries are also installed.

RHEL

- compat?libstdc++?33 (RHEL 5)
- compat-libstdc++-33-*.el6.i686.rpm (RHEL 6 64-bit)
- compat-libstdc++-33-*.el6.x86_64.rpm (RHEL 6 64-bit)
- libstdc++-4.4.*.el6.i686.rpm (RHEL 7, RHEL 6 64-bit)
- libstdc++-4.4.*.el6.x86_64.rpm (RHEL 7, RHEL 6 64-bit for GUI installation mode)
- glibc-2.12-*.el6.i686 (RHEL 7, RHEL 6 64-bit)
- libXau-*.el6.i686.rpm (RHEL 7, RHEL 6 64-bit)
- libxcb-*.el6.i686.rpm (RHEL 7, RHEL 6 64-bit))
- libX11-*.el6.i686.rpm (RHEL 7, RHEL 6 64-bit)
- libXext-*.el6.i686.rpm (RHEL 7, RHEL 6 64-bit)
- libXi-*.el6.i686.rpm (RHEL 7, RHEL 6 64-bit)

- libXtst-*.el6.i686.rpm (RHEL 7, RHEL 6 64-bit)
- libstdc++-*.el6.i686.rpm (RHEL 7, RHEL 6 64-bit)
- libgcc-*.el6.i686.rpm (RHEL 7, RHEL 6 64-bit)
- libXrender-0.9.5-1.el6.i686.rpm (RHEL 7, RHEL 6 64-bit)

**NOTE:** If you are using PKI plug-in, you must install the following RPMs on the iManager server:

- **SLES 10 32-bit:** compat (compat-2006.1.25-11.2)
- **SLES 10 64-bit:** compat-32bit (compat-32-bit-2006.1.25-11.2)
- **SLES 11 32-bit:** compat (compat-2009.1.19-2.1)
- **SLES 11 64-bit:** compat-32bit (compat-32bit-2009.1.19-2.1)

❒ **Previous Versions of iManager:** If you have installed iManager 2.7.x, you do not need to uninstall it. See Chapter 2, "Upgrading iManager," on page 29 for more information.

❒ **Processor:** Pentium III 600MHz or higher processor

❒ **Disk Space:** 200 MB for a local installation

❒ **Memory:** 512 MB (1024 MB recommended)

❒ **Port Setup:** Be aware of possible port conflicts. The iManager setup program installs Tomcat, which uses ports 8080, 8443, and 9009 by default. If the setup program determines that the default ports are in use, it prompts you to specify different ports for Tomcat to use.

**IMPORTANT:** On Linux, iManager is supported only with the version of Tomcat that is installed with iManager.

## Windows Prerequisites

In addition to the general prerequisites listed in "General Prerequisites" on page 13, the following prerequisites also apply to installing iManager on all Windows platforms:

❒ **Previous versions of iManager:** If you have installed iManager 2.7.x, you do not need to uninstall it. See Chapter 2, "Upgrading iManager," on page 29 for more information.

❒ **Web Services:** iManager uses Tomcat on Windows servers. It does not provide any integration with IIS or Apache environments. However, following the iManager 2.7 installation, you can manually integrate iManager with your existing Web server infrastructure, if desired.

❒ **Processor:** Pentium III 600 MHz or higher processor

❒ **Disk Space:** 500 MB minimum for a local installation

❒ **Memory:** 512 MB (1024 MB recommended)

## iManager Workstation on Linux Prerequisites

In addition to the general prerequisites listed in "General Prerequisites" on page 13, the following prerequisites also apply to installing iManager Workstation on Linux Clients:

❒ **Required Linux Packages:** If any of the following packages are not installed, you must obtain them from the vendor of your Linux distribution and install them before installing iManager.

- GTK2

- GLIBC 2.3
- libstdc++33
    - SUSE Linux Enterprise Desktop (SLED) 11 (32-bit)
    - SLED 12 (32-bit)
    - SLED 11 SP1 (32-bit)
    - openSUSE 11.x (32-bit)
    - openSUSE 12.x  (32-bit)
    - openSUSE 13.2 (32-bit)
- libstdc++33-32 bit
    - SLED 11 (64-bit)
    - SLED 11 SP1 (64-bit)
    - SLED 12 (64-bit)
    - openSUSE 11.x (64-bit)
    - openSUSE 12.x (64-bit)
    - openSUSE 13.2 (64-bit)
- libgtk-2_0-0-32bit
    - openSUSE 12.x (64-bit)
    - openSUSE 13.2 (32-bit)
    - openSUSE 13.2 (64-bit)
- libXt6-32bit
    - openSUSE 12.x (64-bit)
    - openSUSE 13.2 (32-bit)
    - openSUSE 13.2 (64-bit)
- libgthread-2_0-0-32bit
    - openSUSE 12.x (64-bit)
    - openSUSE 13.2 (32-bit)
    - openSUSE 13.2 (64-bit)
- libXtst6-32bit
    - openSUSE 12.x (64-bit)
    - openSUSE 13.2 (32-bit)
    - openSUSE 13.2 (64-bit)
    - SLED 12 (64-bit)

❐ **Processor:**  Pentium III 600 MHz or higher processor

❐ **Disk Space:** 200 MB minimum

❐ **Memory:** 256 MB (512 MB recommended)

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**IMPORTANT:** Do not run iManager Workstation from a path that contains spaces.

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# Self-Signed Certificates

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**NOTE:** The information in this section does not apply to OES Linux, which installs both Tomcat and Apache. The OES Linux documentation includes information about replacing the self-signed Apache/Tomcat certificate.

For more information, see Setting Up Certificate Management in the *OES 11 SP2: Planning and Implementation Guide*.

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Standalone iManager installations include a temporary, self-signed certificate for use by Tomcat. It has an expiration date of one year.

This is not intended to be a long-term implementation. It is a temporary solution to get your system up and running so yu can securely use iManager immediately following installation. OpenSSL does not recommend using self-signed certificates except for testing purposes.

One challenge to replacing the self-signed certificate is that Tomcat's default keystore uses is in Tomcat (JKS) format file. The tool used to modify this keystore, `keytool`, cannot import a private key. It will only use a self-generated key.

If you are using eDirectory, you can use Novell Certificate Server to securely generate, track, store and revoke certificates with no further investment. To generate a public/private key pair in eDirectory using Novell Certificate Server, complete the following steps for your applicable platform:

## Linux

The following instructions show how to create a keypair in eDirectory and export the Public, Private, and Root Certificate Authority (CA) keys via a `PKCS#12` file on the Linux platform. This includes modifying Tomcat's `server.xml` configuration file in order to use the PKCS12 directive and point the configuration to an actual P12 file rather than use the default JKS keystore.

This process uses the following files:

 * The temporary keypair is held in the `/var/opt/novell/novlwww/.keystore` file.
 * The trusted roots are contained in the `/opt/novell/jdk1.7.0_25/jre/lib/security/cacerts` file.
 * The file for configuring Tomcat's use of certificates is `/etc/opt/novell/tomcat7/server.xml`.

### Procedure

1 Create a new server certificate with iManager.

   In iManager, select **Novell Certificate Server** > **Create Server Certificate**. Select the appropriate server, specify a nickname, and accept the rest of the certificate defaults.

2 Export the server certificate to the Tomcat home directory (`/var/opt/novell/novlwww`).

   In iManager, select **Directory Administration** > **Modify Object**. Browse to and select the Key Material Object (KMO) object. In the **Certificates** tab, select **Export**. Specify a password and save the server certificate as a PKCS#12 (`.pfx`).

3 Convert the `.pfx` file to a `.pem` file.

   To do this, use a command similar to the following:

   ```
   openssl pkcs12 -in newtomcert.pfx -out newtomcert.pem
   ```

Specify the certificate password that you specified in Step 2, and then specify a password for the new `.pem` file. You can use the same password, if desired.

**4** Convert the `.pem` file to a `.p12` file.

To do this, use a command similar to the following:

```
openssl pkcs12 -export -in newtomcert.pem -out newtomcert.p12 -name "New Tomcat"
```

Specify the certificate password specified in Step 3, and specify a password for the new `.p12` file. You can use the same password, if desired.

**5** Enter the following command to stop Tomcat:

```
/etc/init.d/novell-tomcat7 stop
```

**6** Edit the Tomcat configuration file (`/etc/opt/novell/tomcat7.0.42/server.xml`) and add `keystoreType`, `keystoreFile`, and `keystorePass` variables to let Tomcat use the newly created `.p12` certificate file. For example:

```
<Connector className="org.apache.coyote.tomcat7.CoyoteConnector"
 port="8443" minProcessors="5" maxProcessors="75" enableLookups="true"
 acceptCount="100" debug="0" scheme="https" secure="true"
 useURIValidationHack="false" disableUploadTimeout="true">
   <Factory className="org.apache.coyote.tomcat7.CoyoteServerSocketFactory"
 clientAuth="false" protocol="TLS" keystoreType="PKCS12"
 keystoreFile="/var/opt/novell/novlwww/newtomcert.p12" keystorePass="password"
 />
</Connector>
```

**NOTE:** When setting the keystore type to PKCS12 you must specify the entire path to the certificate file, as Tomcat will no longer default to using the Tomcat home path.

**7** Change the `.p12` file's ownership to the appropriate Tomcat user/group, typically `novlwww`, and set the file permissions to `user=rw`, `group=rw`, and `others=r`. For example:

```
chown novlwww:novlwww newtomcert.p12
```

```
chmod 654 newtomcert.p12
```

**8** Enter the following command to restart Tomcat:

```
/etc/init.d/novell-tomcat7 start
```

## Windows

The following instructions show how to create a keypair in eDirectory and export the Public, Private and Root Certificate Authority (CA) keys via a PKCS#12 file on the Windows platform. This includes modifying Tomcat's `server.xml` configuration file in order to use the PKCS12 directive and point the configuration to an actual P12 file rather than use the default JKS keystore.

The files, and their default locations, associated with this process are as follows:

- The temporary keypair: `C:\Program Files\Novell\Tomcat\conf\ssl\.keystore`.
- The trusted root certificates: `C:\Program Files\Novell\jre\lib\security\cacerts`.
- Configure Tomcat's certificate use: `C:\Program Files\Novell\Tomcat\conf\server.xml`

## Procedure

**1** Create a new server certificate with iManager.

In iManager, select **Novell Certificate Server** > **Create Server Certificate**. Select the appropriate server, specify a nickname and accept the rest of the certificate defaults.

**2** Export the server certificate.

In iManager, select **Directory Administration** > **Modify Object**. Browse to and select the KMO object. In the **Certificates** tab, select **Export**. Specify a password and save the server certificate as a PKCS#12 (`.pfx`).

**3** Convert the `.pfx` file to a `.pem` file.

---

**NOTE:** OpenSSL is not installed on Windows by default, but a version for the Windows platform is available on the OpenSSL Web site (http://www.openssl.org/related/binaries.html). Alternatively, you can convert the certificate on a Linux platform, on which OpenSSL is installed by default.

---

To do this, use a command similar to the following:

```
openssl pkcs12 -in newtomcert.pfx -out newtomcert.pem
```

Specify the certificate password from Step 2, and specify a password for the new `.pem` file. You can use the same password, if desired.

**4** Convert the `.pem` file to a `.p12` file.

To do this, use a command similar to the following:

```
openssl pkcs12 -export -in newtomcert.pem -out newtomcert.p12 -name "New
Tomcat"
```

Specify the certificate password from Step 3, and specify a password for the new `.p12` file. You can use the same password, if desired.

**5** Copy the `.p12` file to the Tomcat certifcate location.

By default, this is `C:\Program Files\Novell\Tomcat\conf\ssl\`.

**6** Stop the Tomcat Service.

```
/etc/init.d/novell-tomcat7 stop
```

**7** Edit the Tomcat's `server.xml` and add `keystoreType`, `keystoreFile`, and `keystorePass` variables to let Tomcat use the newly created `.p12` certificate file. For example:

```
<Connector className="org.apache.coyote.tomcat7.CoyoteConnector"
 port="8443" minProcessors="5" maxProcessors="75" enableLookups="true"
 acceptCount="100" debug="0" scheme="https" secure="true"
 useURIValidationHack="false" disableUploadTimeout="true">
   <Factory className="org.apache.coyote.tomcat7.CoyoteServerSocketFactory"
 clientAuth="false" protocol="TLS" keystoreType="PKCS12"
 keystoreFile="/conf/ssl/newtomcert.p12" keystorePass="password" />
```

When setting the keystore type to PKCS12, you must specify the entire path to the certificate file, as Tomcat will no longer default to using the Tomcat home path.

**8** Start the Tomcat Service.

# Downloading and Installing Plug-Ins During Installation

During the iManager patch installation, a message appears displaying a URL that refers to an XML descriptor file of the available plug-ins. The default location of the descriptor file is http://www.novell.com/products/consoles/imanager/iman_mod_desc.xml (http://www.novell.com/products/consoles/imanager/iman_mod_desc.xml). You can download the iManager plug-in from the *NetIQ iManager Plug-ins page* (https://www.netiq.com/support/imanager/plugins/).

You can change this URL to a different location if your iManager install is having trouble reaching the default descriptor file URL. See "Plug-In Module Installation" in the *NetIQ iManager 2.7.7 Administration Guide* for information on customizing iManager's plug-in download and install process.

For a clean install, the "typical" plug-ins are preselected. For an upgrade, only plug-ins that need to be updated are preselected. You can override the default selections and add new plug-ins to download but it is recommended that you do not unselect any plug-in that was already selected to be updated from a previous version of iManager.

**IMPORTANT:** iManager 2.7 plug-ins are not compatible with previous versions of iManager. Additionally, any custom plug-ins you want to use with iManager 2.7 must be re-compiled in the iManager 2.7 environment by using the iManager 2.7 SDK.

# Installing a New Version of iManager

You can install iManager on the platforms listed below. In general, you should apply the latest Service Packs for your platform and meet the prerequisites listed in "Prerequisites" on page 13, before installing iManager.

- "iManager Server on Linux" on page 19
- "iManager Server on Windows" on page 22
- "iManager Workstation on Linux Clients" on page 24
- "iManager Workstation on Windows Clients" on page 25

**IMPORTANT:** Do not install this patch on an OES server. The patch channel must be used instead.

## iManager Server on Linux

If the iManager server setup program detects a previously installed version of iManager, it gives you the option to stop the installation process or remove the existing iManager, jre, and Tomcat installations.

To prepare for the installation, review the checklist of prerequisites provided in "General Prerequisites" on page 13 and "Linux Prerequisites" on page 13.

When you install iManager, the process lays down the following products on your server:

- Tomcat 7.0.81
- Java 1.8.0_144 (32-bit)
- Novell International Cryptographic Infrastructure (NICI) 2.7.7

## Procedure

**1** At the NetIQ Downloads Web site (http://dl.netiq.com/), search for iManager products, select the iManager version that you want to use, then download it to a directory on your server. For example, `iMan_27711_linux.tgz`.

**2** Extract to the downloaded file in to the iManager folder:

For example, use the follwoing command:

`tar -zxvf iMan_27711_linux.tgz`

**3** Open a shell and change to the `/extracted_directory/iManager/installs/linux` directory.

This path is relative to the directory where you copied or extracted the iManager files.

**4** Enter one of the following commands while logged in as `root` or `root`-equivalent.

To do a command-line (text) install:

`./iManagerInstallLinux.bin`

To do a GUI install:

`./iManagerInstallLinux.bin -i gui`

After a successful install, the installer generates a configuration file (`/var/log/installer.properties`) with values based upon the questions asked during the install. You can modify this file for use in a silent installation. See "Silent Installation of iManager Server" on page 26.

**5** On the iManager splash screen, select a language, then click **OK**.

**6** Read through the Introduction, then click **Next**.

**7** Accept the license agreement, then click **Next**.

**8** Specify the components to install as part of the iManager installation, then click **Next**.

You can select one of the following options:

  1. NetIQ iManager, Tomcat, JVM

---

**NOTE:** Ensure that you select *only* this option. iManager will not work as expected if any of the other two options are selected.

---

  2. NetIQ iManager

  3. Tomcat, JVM

**9** On the Enable IPv6 window, click **Yes** to enable IPv6, then click **Next**.

Alternatively, you can enable IPv6 after installing iManager using the following steps:

  1. Open the `/var/opt/novell/tomcat7/conf/catalina.properties` file.

  2. Set the following configuration entries in the `catalina.properties` file:

    `java.net.preferIPv4Stack=false`

    `java.net.preferIPv4Addresses=true`

    `java.net.preferIPv4Stack` applies for iManager to work with eDirectory and `java.net.preferIPv4Addresses` applies for browsers to work with iManager.

  3. Restart Tomcat.

**10** Specify whether you want to download and install plug-ins as part of the installation, then click **Next**.

**11** (Conditional) To download plug-ins as part of the installation, specify the plug-ins you want to download, then click **Next**.

- For a console install, enter a comma-separated list of the plug-in numbers to download.

- For a GUI install, select the check boxes.

If the message `No new or updated plug-ins found. All plug-ins are downloaded or updated or the iManager download server is unavailable` appears in the plug-in download area, one or more of the following conditions exist:

- There are no updated plug-ins available on the Novell download site.

- There is a problem with your Internet connection. Verify your connection and try again.

- Connection to the Descriptor File (http://www.novell.com/products/consoles/imanager/iman_mod_desc.xml) was not successful.

- The iManager install is behind a proxy that does not allow a connection to the above URL

**12** Specify whether you want to install plug-ins from a local drive, then click **Next**.

**13** (Conditional) To install plug-ins from a local directory, specify the directory path that contains the appropriate plug-in (`.npm`) files.

The default path is `/extracted location/iManager/installs/plugins`, but you can specify any valid mount point here.

If desired, you can specify an alternative URL for downloading plug-ins. For more information, see "Downloading and Installing Plug-Ins During Installation" on page 19. When using an alternative URL for downloading plug-ins, you must verify the URL contents, and verify that the plug-in is appropriate for your use.

**14** Specify the ports on which you want Tomcat to run.

The defaults are 8080 for HTTP, 8443 for HTTPS, and 9009 as the MOD_JK connector port.

**15** (Optional) Specify an authorized user and the appropriate eDirectory tree name that this user will manage, then click **Next**.

This information is not used to authenticate to eDirectory during installation and the information is not validated in any way.

If you leave these fields blank, iManager allows any user to install plug-ins and make changes to iManager server settings. NetIQ does not recommend leaving these settings blank. Specify an authorized user post-install from the **Configure** > **iManager Server** > **Configure iManager** > **Security** page in iManager. For more information, see "iManager Authorized Users and Groups" in the *NetIQ iManager 2.7.7 Administration Guide.*

**16** Read the Pre-Installation Summary page, and then click **Next**.

**17** Click **Done** to quit the installer.

A browser window appears which displays the Getting Started page.

Wait for iManager to initialize before attempting access.

To access iManager, click the first link on the Getting Started page, then log in. For more information, see "Accessing iManager" in the *NetIQ iManager 2.7.7 Administration Guide.*

---

**IMPORTANT:** When you install iManager on Linux, the following files from InstallAnywhere are given write permissions:

- `/var/opt/novell/tomcat7/webapps/nps/UninstallerData/.com.zerog.registry.xml`

- `/var/opt/novell/tomcat7/webapps/nps/UninstallerData/Uninstall_<PluginName>/.com.zerog.registry.xml`

`<PluginName>` - The name of the plug-in installed on iManager.

You must change the permissions from 600 to 644 using the `chmod` command. However, you should not modify the content in the files. If you modify the files, any change might impact the other installations that use InstallAnywhere.

# iManager Server on Windows

If the iManager server setup program detects a previously installed version of iManager, it gives you the option to stop the installation process or remove the existing iManager, jre, and Tomcat installations.

When the setup program removes the previously installed version of iManager, it backs up the directory structure to the old *TOMCAT_HOME* directory and retains any previously created custom content.

To prepare for the installation, review the checklist of prerequisites provided in "General Prerequisites" on page 13 and "Windows Prerequisites" on page 14.

When you install iManager, the process lays down the following products on your server:

- ◆ Tomcat 7.0.81
- ◆ Java 1.8.0_144 (32-bit)
- ◆ Novell International Cryptographic Infrastructure (NICI) 2.7.7

## Procedure

For information about running iManager Server on the same machine as Novell eDirectory, see "Running eDirectory and iManager on the Same Machine (Windows only)" in the *NetIQ iManager 2.7.7 Administration Guide*.

1 Log in as a user with administrator privileges.

2 At the Novell Downloads Web site (http://download.novell.com), search for iManager products, select iManager 2.7.7.11, then download `iMan_27711_win.zip` to a directory on your server.

3 Extract the file into the iManager folder.

4 Run `iManagerInstall.exe` (*extracted_directory*`\iManager\installs\win`).

You can view the debug output of the installation program by holding down the Ctrl key immediately after launching the installer. Continue to hold down the key until a console window appears. For more information on debugging, see "Troubleshooting" in the *NetIQ iManager 2.7.7 Administration Guide*.

5 On the iManager splash screen, select a language and click **OK**.

6 On the introduction page, click **Next**.

7 Accept the license agreement, then click **Next**.

8 Read the Detection Summary page.

The Detection Summary page lists the currently installed Servlet container and JVM software that iManager will use once it is installed, and supporting components that are installed as part of the iManager install. Use the **Browse** button to modify the list of installed components if the correct version is not listed.

9 (Optional) Use the Browse button to modify the list of installed components, if the correct version is not listed.

10 Click **Next**.

**11** On the Get PORT Input window, specify the HTTP and SSL port numbers on which Tomcat server must run on, and click **Next**.

By default, the HTTP port and SSL port values are 8080 and 8443, respectively. However, if you have any other service or Tomcat server configured on the default ports, you can configure ports of your choice.

**12** On the Enable IPV6 window, click **Yes** to enable IPv6, then click **Next**.

Alternatively, you can enable IPv6 after installing iManager using the following steps:

1. Open `<USER_INSTALL_DIR>\Tomcat\conf\catalina.properties` file.

2. Set the following configuration entries in the `catalina.properties` file:

   `java.net.preferIPv4Stack=false`

   `java.net.preferIPv4Addresses=true`

3. Restart Tomcat.

**13** Specify the install folder, then click **Next**.

The default installation location is `C:\Program Files\Novell`.

**14** Select the plug-ins to download and install, then click **Next**.

If desired, you can specify an alternative URL. For more information, see "Downloading and Installing Plug-Ins During Installation" on page 19. When using an alternative URL for downloading plug-ins, it is solely your responsibility to verify the URL contents, and verify that the plug-in is appropriate for your use.

If the message `No new or updated plug-ins found. All the plug-ins are downloaded or updated or the iManager download server is unavailable` appears in the plug-in download area, one or more of the following conditions exist:

- ◆ There are no updated plug-ins available on the Novell download site.
- ◆ There is a problem with your Internet connection. Verify your connection and try again.
- ◆ Connection to the Descriptor File (http://www.novell.com/products/consoles/imanager/iman_mod_desc.xml) was not successful.
- ◆ The iManager install is behind a proxy that does not allow a connection to the above URL

**15** (Optional) Select plug-ins to install from the local disk drive, then click **Next**.

This lets you to install previously downloaded or custom plug-ins during the installation.

**16** (Optional) Specify an authorized user and the appropriate eDirectory tree name that this user will manage, then click **Next**.

This information is not used to authenticate to eDirectory during installation and the information is not validated in any way. Make sure you use the syntax required by the iManager login page.

If you leave these fields blank, iManager allows any user to install plug-ins and make changes to iManager server settings (not recommended long-term.) Specify an authorized user post-install from the **Configure** > **iManager Server** > **Configure iManager** > **Security** page in iManager. For more information, see "iManager Authorized Users and Groups" in the *NetIQ iManager 2.7.7 Administration Guide*.

**17** Read the Pre-installation summary page, then click **Install**.

After the installation completes, the Install Complete page, which displays the successful/unsuccessful installation message, is displayed.

---

**NOTE:** The Install Complete page displays the following error message in spite of a successful installation:

```
The installation of iManager Install 2.7.7.11 is complete, but some errors
occurred during the install.
Please see the installation log <Log file path> for details. Press "Done" to
quit the installer.
```

18 (Conditional) If the installer displays the error message, do the following:

   **18a** Make note of the log file path that is specified within the error message in the Install Complete page.

   **18b** In the Install Complete page, click **Done**.

   **18c** Open the log file.

   **18d** If you find the following error in the log file, you can ignore the error message. The installation was successful, and iManager functions properly.

   ```
   Custom Action: com.novell.application.iManager.install.InstallDLLs
   Status: ERROR
   Additional Notes: ERROR - class
   com.novell.application.iManager.install.InstallDLLs
   NonfatalInstallException C:\WINDOWS\system32\msvcr71.dll (The process
   cannot access the file because it is being used by another process)
   ```

19 Click **Done** to quit the setup program.

   When the Getting Started page appears, wait for iManager to initialize before attempting access.

   To access iManager, click the first link on the Getting Started page, then log in. For more information, see "Accessing iManager" in the *NetIQ iManager 2.7.7 Administration Guide*.

## iManager Workstation on Linux Clients

iManager Workstation is a self-contained environment. You can install multiple versions on the same workstation (including older versions of Mobile iManager). However, you should not attempt to run them concurrently. If you need to use different versions, run one version, close it, and then run the other version.

---

**NOTE:** iManager 2.7.7 Patch 11 is a full build installer. You don't need to install the base version and patch separately. The full installer will install the iManager 2.7.7 base version with the patch.

---

To prepare for the installation, review the checklist of prerequisites provided in "General Prerequisites" on page 13 and "iManager Workstation on Linux Prerequisites" on page 14.

When you install iManager, the process lays down the following products on your server:

- Tomcat 7.0.81
- Java 1.8.0_144 (32-bit)

## Procedure

1 At the NetIQ Download Web site (http://www.dl.netiq.com/), search for iManager products, select iManager 2.7.7 Patch 11, then download `iMan_27711_workstation_linux.tar.bz2` to a directory on your server.

2 Use the following command to extract the file:

   `tar -xjvf iMan_27711_workstation_linux.tar.bz2`

   The extraction creates an `imanager` folder in the same folder where iManager Workstation's `tar.bz2` file is located.

**3** To install or upgrade the Novell International Cryptography Infrastructure (NICI) software, log in as `root` or a `root`-equivalent.

**4** Execute the following command from the `imanager/NICI/linux` directory:

```
rpm -Uvh nici.i586.rpm
```

On desktops where NICI is not installed, this command installs NICI. On desktops where NICI is already installed, this command upgrades NICI.

**5** (Conditional) If you plan to run iManager Workstation as a non-root user in the future, do not run iManager as root the first time. Navigate to the `imanager/bin` directory and execute the iManager Workstation startup script.

```
./iManager.sh
```

**6** When the iManager login screen appears, specify a user name, password, and eDirectory tree.

To access iManager, see "Accessing iManager" in the *NetIQ iManager 2.7.7 Administration Guide*.

**7** To enable IPv6, complete the following steps:

    1. Open `<USER_INSTALL_DIR>/Tomcat/conf/catalina.properties` file.

    2. Set the following configuration entries in the `catalina.properties` file:

```
java.net.preferIPv4Stack=false

java.net.preferIPv4Addresses=true
```

    3. Restart Tomcat.

# iManager Workstation on Windows Clients

Because iManager Workstation is a self-contained environment, you can install multiple versions on the same workstation (including older versions of Mobile iManager.) However, you should not attempt to run them concurrently. If you need to use different versions, run one version, close it, and then run the other version.

To prepare for the installation, review the following checklist of prerequisites.

## Prerequisites

❒ **Additional Configuration:** If you configure Internet Explorer to use a proxy server for your LAN, then you must also select the **Tools** > **Internet Options** > **Connections** > **LAN Settings** > **Bypass Proxy Server for Local Addresses** option.

❒ **Processor:** Pentium III 600 MHz or higher processor

❒ **Disk Space:** 200 MB minimum

❒ **Memory:** 256 MB of RAM (512 MB recommended)

❒ Do not run iManager Workstation from a path with spaces in it.

❒ If you are running a Novell Client earlier than version 4.91, make sure that the Novell Modular Authentication Service (NMAS) client is already installed on the workstation before launching iManager Workstation.

❐ Running iManager Workstation from a path where any directory contains `temp` or `tmp` in the name is not supported. If you do this, iManager plug-ins won't install. Run iManager Workstation from `C:\imanager` or some other permanent directory, rather than `c:\temp\imanager` or `d:\tmp\imanager` or `c:\programs\temp\imanager`

❐ The first time you run iManager Workstation on a Windows workstation, you must do so as a user that is a member of the workstation's Administrators group.

iManager installs the following products during installation:

- Tomcat 7.0.81
- Java 1.8.0_144 (32-bit)

## Procedure

1 At the NetIQ Download Web site (http://www.dl.netiq.com/), search for iManager products, select iManager version , then download the file. For example, `iMan_27711_workstation_win.zip`.

2 Extract the `iMan_27711_workstation_win.zip` file to a folder.

3 Navigate to the imanager\NICI\windows folder.

4 Run the `NICI_w32` file.

5 Navigate to the `imanager`\bin folder.

6 Run the `iManager.bat` file.

7 When the iManager login page appears, enter your user name, password, and tree.

To access iManager, see "Accessing iManager" in the *NetIQ iManager 2.7.7 Administration Guide*.

8 To enable IPv6:

1. Open `<USER_INSTALL_DIR>\Tomcat\conf\catalina.properties` file.

2. Set the following configuration entries in the `catalina.properties` file:

`java.net.preferIPv4Stack=false`

`java.net.preferIPv4Addresses=true`

3. Restart Tomcat.

If you upgraded from a previous version of iManager, see Chapter 2, "Upgrading iManager," on page 29.

# Silent Installation of iManager Server

A silent (non-interactive) installation doesn't display a user interface or ask the user any questions. Instead, InstallAnywhere uses information from a properties file for this purpose.

There are two silent installation options:

- "Standard Silent Install" on page 27
- "Customized Silent Install" on page 27

# Standard Silent Install

To perform a standard silent install on Linux or Windows server using the default install values:

**1** Open a console window and go to the directory containing the iManager file you downloaded.

**2** On the command line, enter one of the following:

- For Linux:

  `./iManagerInstall<`*`platform`*`>.bin -i silent`

- For Windows:

  `iManagerInstall.exe -i silent`

# Customized Silent Install

For more control over which modules are installed, you can customize the silent installation process.

**1** To perform a silent install using the `install.properties` file, enter:

`./iManagerInstall`*`platform`*`.bin -i silent -f `*`pathto_properties_file`*

The `install.properties` file is available in the same directory that contains the installer executable file.

**2** In `install.properties`, set and save the following values for:

- `$PLUGIN_INSTALL MODE$`: The property that controls whether plug-ins are installed. Specify one of the following:

    - DISK (default) installs the plug-ins from disk.
    - NET installs the plug-ins from the network.
    - BOTH installs the plug-ins from both disk and network.
    - SKIP does not install the plug-ins.

- `$PLUGIN_DIR$`: The property that defines an alternate path where plug-ins are located on disk.

  The default path is *`installer_root_directory`*`/iManager/installs/`*`platform path`*`/`
  `  plugin`.
  All modules found in the plug-in directory are installed, except for subdirectories.

- `$PLUGIN_INSTALL_URL$`: The property that specifies the URL where plug-ins are located.

  You can modify this URL. For more information, see "Downloading and Installing Plug-Ins During Installation" on page 19.

- `$LAUNCH_BROWSER$`: The property that specifies whether the `gettingstarted.html` file launches when the iManager installation completes.

- `$USER_INSTALL_DIR$`: The property that specifies the default path where iManager is to be installed.

- `USER_INPUT_ENABLE_IPV6`: The property that specifies whether to enable IPv6. By default, it is set to `yes`.

**3** To specify particular modules to download, specify the module ID and version from the `MANIFEST.MF` file, located in the NPM's `META-INF/` folder. For example:

`$PLUGIN_MODULE_ID_1$=eDirectoryBackupAndRestore`

`$PLUGIN_VERSION_1$=2.7.20050517`

```
$PLUGIN_MODULE_ID_2$=ldap

$PLUGIN_VERSION_2$=2.7.20050517

etc. . . . (repeated as many times as there are modules)
```

If you do not specify any modules, the most commonly installed modules, tagged as "selected" in the `iman_mod_desc.xml` files on the download Web site, are installed.

If you do not define a version for a module, the setup program installs any module that matches the NPM name.

# Installing iManager on Unsupported Platforms

NetIQ recommends that you run the iManager installation only the supported platforms. For more information, see .

If you run the installation on unsupported platforms, the installer displays the following warning message:

**The iManager installation program has detected an uncertified platform. To continue the installation, select OK. Select Cancel to exit the installation**.

If you still want to proceed with the installation, NetIQ does not take the responsibility and you would be doing so at your own risk.

# 2 Upgrading iManager

Upgrading or migrating NetIQ iManager to 2.7.x depends on the currently installed iManager version on the server. This section explains the following procedures:

- "Upgrade Scenarios" on page 29
- "Authorized Users" on page 36
- "Updating Role Based Services" on page 37
- "Re-Installing or Migrating Plug-in Studio Plug-ins" on page 37

## Upgrade Scenarios

The following sections describe various upgrade scenarios of iManager:

- "Upgrading OES Installations Running iManager 2.5/2.6" on page 29
- "Upgrading to iManager 2.7.5" on page 30
- "Upgrading to iManager 2.7.7 on Linux" on page 30
- "Upgrading to iManager 2.7.7 on Windows" on page 32
- "Silent Upgrade of iManager" on page 33
- "Upgrading to iManager 2.7.7 Patch 11 on Linux" on page 34
- "Upgrading to iManager 2.7.7 Patch 11 on Windows" on page 35

### Upgrading OES Installations Running iManager 2.5/2.6

To upgrade the iManager version from 2.5/2.6 to 2.7, you should first upgrade the corresponding version of Operating System.

For OES-Linux, upgrade:

- OES 1 SP2 Linux (32-bit) to OES 2 SP1 Linux (32-bit)
- OES 2 Linux (32-bit) to OES 2 SP1 Linux (32-bit)

For more information on upgrading the Linux version, refer to *Novell Open Enterprise Server 2 Installation Guide* (http://www.novell.com/documentation/oes2/inst_oes_lx/data/front.html).

When you upgrade OES to OES 2 SP1, iManager will be upgraded to iManager 2.7.2 (iManager 2.7 Support Pack 2). You can then upgrade iManager to version 2.7.7 using OES patch channel.

# Upgrading to iManager 2.7.5

The following is a generic scenario to upgrade the iManager version from 2.7.$x$ to iManager 2.7.5. Patches and support packs are cumulative, so you only need to install the latest available pack or patch to upgrade your iManager installation.

Perform the following steps to upgrade iManager:

1 Log in to iManager.

2 Click **Configure > Plug-in Installation > Available Novell Plug-in Modules**. The Available Novell Plug-in Modules page is displayed.

3 Navigate to the Novell Downloads Web site (http://download.novell.com) and download the latest support pack or patch.

4 In iManager, under **Novell Plug-in Modules**, click **Add**.

5 Browse to select the NPM file downloaded with the support pack or patch, then click **OK**.

6 In the Novell Plug-in Modules list, select the support pack or patch to which you want to upgrade iManager 2.7 and click **Install**.

7 If iManager displays the License Agreement page, read the License Agreement, select **I Agree**

8 Click **OK**. The progress indicator is displayed. If you want to stop the installation, click **Stop**.

9 After the installation is completed, click **Close**. The following successful message is displayed.

```
Success: The plug-in module has been successfully installed.
You must now restart Tomcat in order for the changes to take effect.
After Tomcat restarts, if Role Based Services is installed you will need to
configure the newly installed modules.
```

10 Open a command-line interface and enter the following commands to restart Tomcat:

```
/etc/init.d/novell-tomcat7 stop
```

```
/etc/init.d/novell-tomcat7 start
```

# Upgrading to iManager 2.7.7 on Linux

If the iManager installation detects a previously installed version of iManager 2.7.x, it prompts you to upgrade the installed version. If you choose to upgrade it, the installer replaces the existing JRE and Tomcat versions with the latest versions. This will also upgrade the iManager to the latest version.

---

**IMPORTANT:** Do not install standalone iManager package on a server running any OES version. Instead, you must use the OES version's patch channel to upgrade to the latest iManager version.

---

To prepare for the installation, review the checklist of prerequisites provided in "General Prerequisites" on page 13 and "Linux Prerequisites" on page 13.

iManager installs the following products during installation:

- Tomcat 7.0.81
- Java 1.8.0_144 (32-bit)

1 (Conditional) If you have modified the `server.xml` and `context.xml` configuration files, make a backup copy of the files in a different location before performing the upgrade. The upgrade process replaces the configuration files.

2 At the Novell Downloads Web site (http://download.novell.com), search for iManager products, select iManager 2.7.7, then download `iMan_277x_linux.tgz` to a directory on your server.

3 To extract to the iManager folder, use the following command:

`tar -zxvf iMan_277x_linux.tgz`

4 Open a shell and change to the `/extracted_directory/iManager/installs/linux` directory.

This path is relative to the directory where you copied or extracted the iManager files.

5 Enter one of the following commands while logged in as root or root?equivalent:

To do a command-line (text) installation, enter:

`./iManagerInstallLinux.bin`

To do a GUI install, enter:

`./iManagerInstallLinux.bin -i gui`

After a successful installation, the installer generates a configuration file (`/var/log/installer.properties`) with values based upon the questions asked during the installation process. This file can then be modified and used for a silent installation. See "Silent Installation of iManager Server" on page 26.

6 On the iManager splash screen, select a language, then click **OK**.

7 At the Upgrade prompt, select **Upgrade**.

8 Read through the Introduction, then click **Next**.

9 Accept the license agreement, then click **Next**.

---

**NOTE:** By default, the HTTP port and SSL port values that were configured in the previous version of iManager will be used to configure the latest version of iManager.

---

10 On the Enable IPV6 window, click **Yes** to enable IPv6, then click **Next**.

Alternatively, you can enable IPv6 after installing iManager using the following steps:

1. Open `<USER_INSTALL_DIR>\Tomcat\conf\catalina.properties` file.

2. Set the following configuration entries in the `catalina.properties` file:

`java.net.preferIPv4Stack=false`

`java.net.preferIPv4Addresses=true`

3. Restart Tomcat.

11 Read the Pre-Upgrade Summary page and click **Next.**

During upgrade, new iManager files are installed and they cause configuration changes. Upgrade can take several minutes. After the upgrade completes, the Upgrade Complete page displays the success or failure status of the installation.

12 Click **Done** to quit the installer.

When the Getting Started page appears, wait for iManager to initialize before attempting access.

To access iManager, click the first link on the Getting Started page, then log in. For more information, see "Accessing iManager" in the *NetIQ iManager 2.7.7 Administration Guide*.

**13** (Conditional) If you made backup copies of the `server.xml` and `context.xml` configuration files prior to starting the upgrade process, replace the new configuration files with the backup copies.

# Upgrading to iManager 2.7.7 on Windows

If the iManager 2.7.7 installation detects a previously installed version of iManager 2.7.x, it prompts you to upgrade the installed version. If you choose to upgrade it, the installer replaces the existing JRE and Tomcat versions with the latest versions. This will also upgrade iManager to the latest version.

For information about running iManager Server on the same machine as eDirectory, see "Running eDirectory and iManager on the Same Machine (Windows only)" in the *NetIQ iManager 2.7.7 Administration Guide*.

**1** (Conditional) If you have modified the `server.xml` and `context.xml` configuration files, make a backup copy of the files in a different location before performing the upgrade. The upgrade process replaces the configuration. files.

**2** Extract the `iMan_277x_win.zip` file into the iManager folder.

**3** Run the `iManagerInstall.exe` file from the `extracted_directory\iManager\installs\win` folder.

**4** On the iManager splash screen, select a language, then click **OK**.

**5** On the introduction page, then click **Next**.

**6** Accept the license agreement, then click **Next**.

**7** On the Enable IPV6 window, click **Yes** to enable IPv6, then click **Next**.

Alternatively, you can enable IPv6 after installing iManager using the following steps:

1. Open `<USER_INSTALL_DIR>\Tomcat\conf\catalina.properties` file.

2. Set the following configuration entries in the `catalina.properties` file:

   `java.net.preferIPv4Stack=false`

   `java.net.preferIPv4Addresses=true`

3. Restart Tomcat.

**8** At the Upgrade prompt, select **Upgrade**.

---

**NOTE:** By default, the HTTP port and SSL port values that were configured in the previous version will be used to configure the latest version of iManager.

---

**9** Read the Detection Summary page, then click **Next**.

The Detection Summary displays the latest version of Servlet container and JVM software that iManager will use once it is installed.

**10** Read the Pre-installation summary page, then click **Install**.

The upgrade process can take several minutes.

After the upgrade completes, the Upgrade Complete page displays the success or failure status of the installation.

**NOTE:** On Windows, the Install Complete page displays the following error message in spite of a successful installation.

```
The installation of iManager Install 2.7.7 is complete, but some errors
occurred during the install.
Please see the installation log <Log file path> for details. Press "Done" to
quit the installer.
```

If the specified error message is displayed, do the following:

1. Make note of the log file path that is specified within the error message in the Install Complete page.

2. In the Install Complete page, click **Done**.

3. Open the log file.

4. If you find the following error in the log file, you can ignore the error message. The installation was successful, and iManager properly functions.

   ```
   Custom Action: com.novell.application.iManager.install.InstallDLLs
   Status: ERROR
   Additional Notes: ERROR - class
   com.novell.application.iManager.install.InstallDLLs
   NonfatalInstallException C:\WINDOWS\system32\msvcr71.dll (The process
   cannot access the file because it is being used by another process)
   ```

**11** Click **Done** to quit the installer.

A browser window appears which displays the Getting Started page.

Wait for iManager to initialize before attempting access.

To access iManager, click the first link on the Getting Started page, then log in. For more information, see "Accessing iManager" in the *NetIQ® iManager Administration Guide*.

**12** (Conditional) If you made backup copies of the `server.xml` and `context.xml` configuration files prior to starting the upgrade process, replace the new configuration files with the backup copies.

# Silent Upgrade of iManager

A silent (non-interactive) upgrade does not display a user interface or ask the user any questions. Instead, InstallAnywhere uses information from a properties file for this purpose.

To perform a standard silent install on Linux server and Windows Server, use the default install values.

**1** Open a console window and browse to the directory that contains the iManager file you downloaded.

**2** On the command line, run the following command:

**For Linux:**

```
./iManagerInstall<platform>.bin -i silent
```

**For Windows:**

```
 iManagerInstall.exe -i silent
```

# Upgrading to iManager 2.7.7 Patch 11 on Linux

If the iManager installation detects a previously installed version of iManager 2.7.7.x, it prompts you to upgrade the installed version. If you choose to upgrade it, the installer replaces the existing JRE and Tomcat versions with the latest versions. This will also upgrade the iManager to the latest version.

---

**IMPORTANT:** Do not install standalone iManager package on a server running any OES version. Instead, you must use the OES patch channel to upgrade to the latest iManager version.

---

To prepare for the installation, review the checklist of prerequisites provided in "General Prerequisites" on page 13 and "Linux Prerequisites" on page 13.

iManager installs the following products during installation:

- Tomcat 7.0.81
- Java 1.8.0_144 (32-bit)

1. (Conditional) If you have modified the `server.xml` and `context.xml` configuration files, make a backup copy of the files in a different location before performing the upgrade. The upgrade process replaces the configuration. files.

2. At the NetIQ Download Web site (http://www.dl.netiq.com/), search for iManager products, select iManager version, then download the file to a directory on your server. For example, `iMan_27711_linux.tgz`

3. To extract to the iManager folder, use the following command:

   `tar -zxvf iMan_27711_linux.tgz`

4. Open a shell and change to the `/extracted_directory/iManager/installs/linux` directory.

   This path is relative to the directory where you copied or extracted the iManager files.

5. Enter one of the following commands while logged in as root or root?equivalent:

   To do a command-line (text) installation, enter:

   `./iManagerInstallLinux.bin`

   To do a GUI install, enter:

   `./iManagerInstallLinux.bin -i gui`

   After a successful installation, the installer generates a configuration file (`/var/log/installer.properties`) with values based upon the questions asked during the installation process. This file can then be modified and used for a silent installation. See "Silent Installation of iManager Server" on page 26.

6. On the iManager splash screen, select a language, then click **OK**.

7. At the Upgrade prompt, select **Upgrade**.

8. Read through the Introduction, then click **Next**.

9. Accept the license agreement, then click **Next**.

---

**NOTE:** By default, the HTTP port and SSL port values that were configured in the previous version of iManager will be used to configure the latest version of iManager.

---

10. On the Enable IPV6 window, click **Yes** to enable IPv6, then click **Next**.

    Alternatively, you can enable IPv6 after installing iManager using the following steps:

    1. Open `<USER_INSTALL_DIR>\Tomcat\conf\catalina.properties` file.

2. Set the following configuration entries in the `catalina.properties` file:

   `java.net.preferIPv4Stack=false`

   `java.net.preferIPv4Addresses=true`

3. Restart Tomcat.

**11** Read the Pre-Upgrade Summary page and click **Next.**

During upgrade, new iManager files are installed and they cause configuration changes. Upgrade can take several minutes. After the upgrade completes, the Upgrade Complete page displays the success or failure status of the installation.

**12** Click **Done** to quit the installer.

When the Getting Started page appears, wait for iManager to initialize before attempting access.

To access iManager, click the first link on the Getting Started page, then log in. For more information, see "Accessing iManager" in the *NetIQ iManager 2.7.7 Administration Guide*.

**13** (Conditional) If you made backup copies of the `server.xml` and `context.xml` configuration files prior to starting the upgrade process, replace the new configuration files with the backup copies.

# Upgrading to iManager 2.7.7 Patch 11 on Windows

If the iManager installation detects a previously installed version of iManager 2.7.7.x, it prompts you to upgrade the installed version. If you choose to upgrade it, the installer replaces the existing JRE and Tomcat versions with the latest versions. This will also upgrade the iManager to the latest version.

For information about running iManager Server on the same machine as Novell eDirectory, see "Running eDirectory and iManager on the Same Machine (Windows only)" in the *NetIQ iManager 2.7.7 Administration Guide*.

**1** (Conditional) If you have modified the `server.xml` and `context.xml` configuration files, make a backup copy of the files in a different location before performing the upgrade. The upgrade process replaces the configuration. files.

**2** Extract the `iMan_27711_win.zip` file into the iManager folder.

**3** Run the `iManagerInstall.exe` file from the `extracted_directory\iManager\installs\win` folder.

**4** On the iManager splash screen, select a language, then click **OK**.

**5** On the introduction page, then click **Next**.

**6** Accept the license agreement, then click **Next**.

**7** On the Enable IPV6 window, click **Yes** to enable IPv6, then click **Next**.

Alternatively, you can enable IPv6 after installing iManager using the following steps:

1. Open `<USER_INSTALL_DIR>\Tomcat\conf\catalina.properties` file.

2. Set the following configuration entries in the `catalina.properties` file:

   `java.net.preferIPv4Stack=false`

   `java.net.preferIPv4Addresses=true`

3. Restart Tomcat.

**8** At the Upgrade prompt, select **Upgrade**.

**NOTE:** By default, the HTTP port and SSL port values that were configured in the previous version will be used to configure the latest version of iManager.

**9** Read the Detection Summary page, then click **Next**.

The Detection Summary displays the latest version of Servlet container and JVM software that iManager will use once it is installed.

**10** Read the Pre-installation summary page, then click **Install**.

The upgrade process can take several minutes.

After the upgrade completes, the Upgrade Complete page displays the success or failure status of the installation.

**NOTE:** On Windows, the Install Complete page displays the following error message in spite of a successful installation.

```
The installation of iManager Install 2.7.7 is complete, but some errors
occurred during the install.
Please see the installation log <Log file path> for details. Press "Done" to
quit the installer.
```

If the specified error message is displayed, do the following:

1. Make note of the log file path that is specified within the error message in the Install Complete page.

2. In the Install Complete page, click **Done**.

3. Open the log file.

4. If you find the following error in the log file, you can ignore the error message. The installation was successful, and iManager properly functions.

```
Custom Action: com.novell.application.iManager.install.InstallDLLs
Status: ERROR
Additional Notes: ERROR - class
com.novell.application.iManager.install.InstallDLLs
NonfatalInstallException C:\WINDOWS\system32\msvcr71.dll (The process
cannot access the file because it is being used by another process)
```

**11** Click **Done** to quit the installer.

A browser window appears which displays the Getting Started page.

Wait for iManager to initialize before attempting access.

To access iManager, click the first link on the Getting Started page, then log in. For more information, see "Accessing iManager" in the *NetIQ® iManager Administration Guide*.

**12** (Conditional) If you made backup copies of the `server.xml` and `context.xml` configuration files prior to starting the upgrade process, replace the new configuration files with the backup copies.

# Authorized Users

When upgrading iManager you will not see the Authorized User screen during the upgrade process if an existing `configiman.properties` file is detected. The upgrade will use the existing Authorized User settings from that file.

# Updating Role Based Services

The first time you use iManager to log in to an eDirectory tree that already contains an RBS collection, it is possible that not all of the roles and tasks are displayed. This is working as expected because some of the plug-ins require updates so that iManager can fully utilize them. The RBS Configuration task lists which RBS modules are out-of-date. We recommend that you update your RBS modules to the latest version so that you can see and use all of the available functionality in iManager.

Be aware that you might have multiple roles with the same name. When plug-ins were updated for iManager 2.5, some plug-in developers changed task IDs or module names but retained the same display names, thus causing the roles to appear to be duplicated when, in fact, one instance is from one version and the other is from a newer version.

NOTE: Because different installations of iManager might have a different number of plug-ins locally installed, you might see discrepancies in the module report for any given collection from the **Role Based Services** > **RBS Configuration** page. In order for the numbers to match between iManager installations, make sure that the same subset of plug-ins is installed on each iManager instance in the tree.

To check whether you have outdated RBS objects:

1  From the Configure view, select **Role Based Services** > **RBS Configuration**.

   The table on the 2.*x* Collections tabbed page displays any out-of-date modules.

2  To update them, select the number in the **Out-Of-Date** column for the Collection you want to update.

   The list of outdated modules is displayed.

3  Select the module you want to update, then click **Update** at the top of the table.

NOTE: When updating to iManager, or re-installing the product, existing plug-ins are not updated automatically. To update plug-ins manually, launch iManager and browse to **Configure** > **Plug-in Installation** > **Available Novell Plug-in Modules**. For more information, see "Plug-In Module Installation" in the *NetIQ iManager 2.7.7 Administration Guide*.

# Re-Installing or Migrating Plug-in Studio Plug-ins

To migrate or replicate Plug-in Studio plug-ins to another iManager instance, or a new or updated version of iManager, do the following:

1  From the iManager Configure view, select **Role Based Services > Plug-in Studio.** The Content frame displays the Installed Custom Plug-ins list, including the location of the RBS collection to which the plug-ins belong.

2  Select the plug-in you want to re-install or migrate, then click **Edit**. You can only edit one plug-in at a time.

3  Click **Install**. You should receive a message saying it was successful. Do this for every plug-in you need to re-install or migrate.

# 3 Uninstalling iManager

This section explains how to uninstall iManager on the following platforms:

---

**IMPORTANT:** As a precaution, before uninstalling iManager, back up any custom content or other special iManager files that you want to preserve.

---

There is no specific sequence in which iManager or the associated third-party components must be uninstalled.

There are, of course, ramifications to uninstalling any of these components. For example, if you uninstall either the Web server or the servlet container, you cannot run iManager. Also, on all platforms, the uninstall removes only files that it installed in the first place. If there are files that were created by the application (for example, the log files and auto-generated configuration files that are created while Tomcat runs), these are not deleted by the uninstall because it did not install them.

Likewise, if you have created new files or modified existing files within the directory structure that was originally laid down during the install, these files are not removed by the uninstall. This is a safeguard so that data is not unintentionally deleted when a product is uninstalled.

Uninstalling iManager does not affect any of the RBS configurations that you have set in your tree. The uninstall procedure does not remove log files or custom content.

If you try reinstalling iManager when these directories are not cleaned, the installation does not successfully complete and the installer throws some errors.

## Linux

`Root` access is required for uninstalling.

1  Open a shell and execute the following command:

   `/var/opt/novell/Uninstaller/Uninstaller.sh`

---

**NOTE:** Executing the above command will also remove the following directories along with the `JDK` file:

- `/var/opt/novell/iManager`
- `/var/opt/novell/novlwww`
- `/etc/opt/novell/iManager/`
- `/opt/novell/iManager/`
- `/var/opt/novell/tomcat7/`
- `/etc/opt/novell/tomcat7/`
- /etc/novell/iManager/

---

As noted during the uninstall routine, the iManager uninstall process does not uninstall NICI. You can uninstall NICI separately, if desired. Once the standalone iManager is uninstalled completely, you can see the `NetIQ_iManager_2.7.7.8_UninstallLog.log` in the `/var/log/` path.

**IMPORTANT:** If eDirectory is installed on the same server as iManager, NICI is required to continue to run eDirectory.

# Windows

Uninstall iManager using Windows Add or Remove Programs applet in the Control Panel.

Tomcat and NICI are listed separately. If you are no longer using them, you can uninstall each program separately.

**IMPORTANT:** If eDirectory is installed on the same server as iManager, NICI is required to continue to run eDirectory.

When you remove iManager, only some files in the file system are removed. You are asked if you want to remove all iManager files. If you select Yes, all iManager files are removed, including all custom content. However, the RBS objects are not removed from the eDirectory tree, and the schema remains in the same state.

# iManager Workstation

To uninstall iManager Workstation, delete the directory where you extracted the files. You can remove NICI through Add or Remove Programs in the Control Panel on Windows or with the `rpm` command on Linux.