**software** AG

# Installing Tamino XML Server

Version 9.7

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tamino
XML Server

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# About this Guide

This guide provides product-specific preparation, installation and uninstallation instructions for the latest release of Tamino XML Server. This guide is intended for use with the document *Using the Software AG Installer*, which explains how to prepare your machine to use the Software AG Installer, and how to use the Software AG Installer and Software AG Uninstaller to install and uninstall your products.

## Related Literature

## Documentation Installation

You can download the product documentation using the Software AG Installer.

The documentation is downloaded to a central directory named *_documentation* in the main installation directory (*Software AG* by default).

## Online Information

You can find additional information about Software AG products at the locations listed below.

> **Note:** The Empower Product Support Web site and the Software AG Documentation Web site replace Software AG ServLine24 and webMethods Advantage.

| If you want to ... | Go to ... |
|---|---|
| Access the latest version of product documentation. | Software AG Documentation Web site<br><br>http://documentation.softwareag.com |
| Find information about product releases and tools that you can use to resolve problems.<br><br>See the **Knowledge Center** to:<br><br>■ Read technical articles and papers.<br><br>■ Download fixes and service packs.<br><br>■ Learn about critical alerts.<br><br>See the **Products area** to:<br><br>■ Download products.<br><br>■ Download certified samples.<br><br>■ Get information about product availability.<br><br>■ Access older versions of product documentation.<br><br>■ Submit feature/enhancement requests. | Empower Product Support Web site<br><br>https://empower.softwareag.com |
| ■ Access additional articles, demos, and tutorials.<br><br>■ Obtain technical information, useful resources, and online discussion forums, moderated by Software AG professionals, to help you do more with Software AG technology.<br><br>■ Use the online discussion forums to exchange best practices and chat with other experts.<br><br>■ Expand your knowledge about product documentation, code samples, articles, online seminars, and tutorials.<br><br>■ Link to external Web sites that discuss open standards and many Web technology topics.<br><br>■ See how other customers are streamlining their operations with technology from Software AG. | Software AG Developer Community for webMethods<br><br>http://communities.softwareag.com/ |

# 1  Operating System, Browser, and JDK Support

For information on operating systems that are supported by Tamino, see the *webMethods System Requirements*.

The Software AG Installer automatically installs appropriate JDKs on most operating systems. Do not switch to any other JDK, and only apply JDK maintenance updates that are provided by Software AG.

# 2 Hardware Requirements

The table below lists the hardware requirements for Tamino.

Information on hardware requirements for other webMethods products can be found at **http://doc-umentation.softwareag.com/**.

⚠ **Important:** The hardware requirements below are for Tamino only. They do not include 200MB of hard drive space for Software AG infrastructure shared libraries required by most Software AG products and installed once per installation directory. You must determine the overall hardware requirements for each of your machines based on the overall require-ments of your operating system and software. However, in the case of Tamino XML Server the figures below include 500MB hard drive space, 1GB RAM, and 1 CPU for System Management Hub and Web Services Stack, as well as the minimum space required for initial databases.

| Hard Drive Space | RAM | CPUs |
|:---:|:---:|:---:|
| 5GB | 1GB | 1 |

# 3  Prepare Your Windows Machine

- Apply all operating system patches recommended by Microsoft for your operating system.

- Software AG strongly recommends that you create an installation image of your webMethods products and store it on your internal network before installing. You should create an image for each operating system on which you plan to install that is covered by your license agreement. This will help you reduce network traffic and speed up the installation, and ensure consistency across installations over time, since the installer provides only the latest release of each product.

- If you are going to install on a Windows 7, Windows 8, Windows Server 2008 or Windows Server 2012 system, disable User Account Control (UAC).

    ⚠ **Important:** If you do not disable UAC, installation will fail.

# 4 **Prepare Your UNIX Machine**

- Software AG strongly recommends that you create installation images of your webMethods products and store them on your internal network. Create an image for each operating system on which you plan to install that is covered by your license agreement. Storing images enables you to ensure consistency across installations over time; the installer provides only the latest product releases, while installation images contain the product releases you download into them. In addition, installing from images helps you reduce network traffic and improve install-ation speeds.

- The installer will ask whether you want to install using sudo authentication. If you want to install using sudo, you must make sure sudo preserves your environment settings. For examples, if you are installing on a SuSE Linux Enterprise Server or Red Hat Enterprise Linux Server system, you cannot use the option `Defaults env_reset`. Instead, you would open the sudo configuration file */etc/sudoers* and do the following:

| On this system ... | Do this ... |
|---|---|
| SuSE Linux Enterprise Server 10 | Comment out the option `Defaults env_reset` |
| SuSE Linux Enterprise Server 11 or Red Hat Enterprise Linux Server 5 | Explicitly set the `Defaults env_reset` option with ! (that is, `Defaults !env_reset`). |

- If you are going to install on a SuSE Linux Enterprise Server system that is configured to run in parallel boot mode, disable parallel boot mode. Open the file */etc/sysconfig/boot* and set `RUN_PARALLEL=no`.

  ⚠ **Important:**  You must disable parallel boot mode or the rc.scripts that are installed by the installer will not work and installation will fail. Do not re-enable parallel boot mode after installation.

- If you are going to install on any Linux operating system the library *libcrypt.so* is required as prerequisite for the webMethods security infrastructure supporting login via OS user names/authentication.

Check the directories */usr/lib64* (for Linux x86_64) or */usr/lib* (for Linux x86) if the library *libcrypt.so* is present.

Should this not be the case then install the RPM package *glibc-devel* from your operating system distribution using the vendor instructions.

- If you are going to install on a Linux x86_64 system, install the RPM package compat-libstdc++ from your operating system distribution using the vendor instructions.

- If you are going to install on a SuSE Linux Enterprise Server 10 or Red Hat Enterprise Linux Server 5 system, install *compat.libstdc++*, *glibc*, *libgcc*, *pam*, and *ncurses RPM* from your operating system distribution using the vendor instructions.

- Red Hat Enterprise Linux 6 systems for 64bit (e.g. x86_64) usually do not have 32bit compatibility packages installed.

  In order to be able to run the installation successfully the packages listed below need to be installed (the version or release may differ):

  If you want to run the interactive graphical installation all packages, including their dependent packages, must be installed.

  Installation using console mode requires only the first two packages. Add the option "-nw" to the installation command line.

| Package | Install Using UI Mode | Install Using Console Mode |
|---|---|---|
| *glibc-2.12-17.el6.i686* | ✔ | ✔ |
| *nss-softokn-freebl-3.12.7-1.1.el6.i686* | ✔ | ✔ |
| *libX11-1.3-2.el6.i686* + dependencies | ✔ | |
| *libXext-1.1-3.el6.i686* | ✔ | |
| *libXft-2.1.13-41.el6.i686* + dependencies | ✔ | |

For your convenience, the dependent packages required by the above are listed as follows:

- libxcb-1.5-1.el6.i686.rpm

- libXau-1.0.5-1.el6.i686.rpm

- Xaw3d-1.5E-15.1.el6.x86_64.rpm

- fontconfig-2.8.0-3.el6.i686.rpm

- freetype-2.3.11-5.el6.i686.rpm

- expat-2.0.1-9.1.el6.i686.rpm

- libXrender-0.9.5-1.el6.i686.rpm

The list above is an indicative list of dependent packages required on Red Hat Linux 6. Consult your IT admin if there are any package-related issues for your installation.

■ Make sure the user has write access to the directory from which you start the installer. Do not run the installer as a background process.

■ Make sure your system is using the DES, MD5 or Blowfish algorithm to encrypt the password of the user name under which you are going to run the installer.

■ Set the shmmax parameter to the memory (RAM) that is physically available on your machine. Otherwise you might have problems during Tamino startup.

■ If you are going to install on an HP.UX 11i v3 system, apply the March 2010 (11.31 Standard Patch Bundles) operating system patch.

■ SELinux is not supported. If you are going to install on a Linux system, disable SELinux by setting `SELINUX=disabled` in the *etc/selinux/config* file or by executing `system-config-securitylevel`.

■ If you are going to install on an AIX 5.3 system, enable the AIX asynchronous I/O facility, as follows:

   1. Log on as super user.

   2. Run the AIX system administration command `smit`.

   3. Go to **Devices > Asynchronous I/O** and click **Change/Show Characteristics of Asynchronous I/O**. Accept the default values.

   4. Go to **Devices > Asynchronous I/O** and click **Configure Defined Asynchronous I/O**. If the command is successful, the system returns the message `aio0 available`.

■ If you are going to install on an AIX 6.1 system, make sure the I/O facility, which is enabled by default, is available by running the command `ioo -a | grep active`. If the command runs successfully, the system returns the message `aio_active = 1 posix_aio_active = 1`.

■ If you are going to install on a Solaris 9 system, certain kernel parameters settings are required. Check the *etc/system* file to make sure the current parameter settings match or exceed the minimum values listed below. Software AG recommends setting the `shmmax` parameter to the size of the physical memory on your machine in bytes.

You can use the `prtconf` command to find your machine's physical memory.

> **Note:** If you change any of the parameter settings in your *etc/system* file, you must reboot your machine to make the changes take effect.

```
set pt_cnt=512
* set inode cache
set ufs_ninode=32000
* set DNLC (Directory Name Lookup Cache)
set ncsize=32000
set msgsys:msginfo_msgmap=512
set msgsys:msginfo_msgmax=8192
set msgsys:msginfo_msgmnb=64000
set msgsys:msginfo_msgmni=512
set msgsys:msginfo_msgseg=8192
set msgsys:msginfo_msgssz=8
set msgsys:msginfo_msgtql=512
set semsys:seminfo_semaem=16384
set semsys:seminfo_semmap=512
set semsys:seminfo_semmni=512
set semsys:seminfo_semmsl=512
set semsys:seminfo_semmns=1024
set semsys:seminfo_semmnu=1024
set semsys:seminfo_semume=36
set semsys:seminfo_semvmx=32767
set shmsys:shminfo_shmmax=1024000000
set shmsys:shminfo_shmmni=100
set npty=512
```

# 5 Installation Procedures

This section describes the product-specific panels in the Software AG Installer. These instructions are intended for use with *Using the Software AG Installer* (available at **http://documentation.softwareag.com/**), which describes all general installer panels that precede or follow the product-specific panels.

This section is valid for Windows and UNIX platforms. Specific differences between operating systems are indicated.

Installing Tamino XML Server requires the installation of the following package:

▪ **Tamino Server 9.5** and the optional package of **XTools 9.5 SP1**

> **Note:** We recommend not to change the default installation directories and settings. Should there be any requirement for doing so contact your local Software AG support.

If you are going to install Tamino in an environment where users will be authenticated against a central service such as Active Directory Server, and you plan to disconnect your machine from the network, run the installer as a local user. If you run the installer as a user of the central service, when you disconnect your machine, Tamino will not be able to authenticate you.

> **Note:** Of each version of Tamino you can install only one instance on the same machine running a Windows operating system. On UNIX operating systems, should you intend to install several instances of Tamino XML Server, we suggest for you to contact your local Software AG support.

> **Note:** Should there be an existing installation of Tamino XML Server v8.2 on the target machine, Software AG recommends to install the Tamino XML Server v9.5 in the same directory.

## Installing the Tamino XML Server

When completing the installation of the infrastructure you are now ready to install the packages for Tamino XML Server.

1. Start the appropriate version of Software AG Installer.

2. Select the sub node **Tamino Server 9.5** and optionally -if desired- the sub node **XTools 9.5 SP1**.

3. In the license panel specify the full path to your Tamino XML Server license file.

4. Unless you have specific requirements deviating from the default settings you may accept all following panels by selecting **Yes**.

You will now have to configure your installation of Tamino XML Server in order to connect to any existing databases. Please refer to section *Complete the Installation* for further instructions.

# Optional Tamino XTools and Software AG Designer Features

The installation of Tamino XML Server offers the following optional components:

- Tamino XTools
- Software AG Designer: Eclipse Features

### Tamino XTools

Tamino XML Server offers two useful tools that run independent of Tamino's infrastructure and can be installed any time.

- Tamino Schema Editor

- Tamino Xplorer

In contrast to the possibility of installing a Tamino XML Server v8.2 side-by-side with v9.5 the Tamino XTools 9.5 installation will overwrite the former installation.

For more information on Tamino XTools see the documentation of Tamino XML Server.

### Software AG Designer: Eclipse Features

From the Software AG Installer you can install Eclipse-based Software AG Designer features for Tamino XML Server (Nodes: Designer > Tamino XML Server).

The features allow you to create:

- XQuery Modules as Web Services

- Tamino Doctypes as Web Services

- BIRT Reports

For more information on Designer features specific for Tamino see the documentation of Tamino XML Server.

# Additional Components of the Distribution

- Apache Web Server
- Software AG Directory Server

## Apache Web Server

Depending on whether Tamino XML Server should be accessed via an Apache web server, the Tamino distribution for Windows includes an Apache installation package in the following location:

*\SoftwareAG\Tamino\v95\X_Port\Apache\dist*

Information on how to set up web servers for Tamino can be found in the Tamino documentation (*Setting Up Tamino > Before You Start Using Tamino > Configuring the Web Server*).

## Software AG Directory Server

In case XTS communication with Tamino databases via the Software AG directory server is the preferred method and the Software AG directory server has not yet been installed on the target machine, the Tamino XML server distribution brings along an installation for setting up a Software AG directory server.

| Windows | *\Software AG\Tamino\Infrastructure\adi* <br><br> Execute *setup.exe* |
|---|---|
| UNIX | */opt/softwareag/Tamino/Infrastructure* <br><br> Execute *setup.ux adi v53* |

**Replication:**

> **Note:** In order to use the replication feature of Tamino using Software AG directory server is mandatory should the replication databases be located on different nodes. In this case an XTSDIR setting using a "flat file" directory server must not be active. Instead, a Software AG directory server must be accessible from all participating machines.

For more information about replication see the Tamino documentation:

*Tamino Replication Guide*
*Tamino Manager > Using the Tamino Manager > Database Administration Functions > Replicate a Database*

# Remarks on Specific Product Configuration Prompts

- Tamino XML Server License Prompt

**Tamino XML Server License Prompt**

Specify the full path to your Tamino XML Server license file.

# Install Using Console Mode

The Software AG Installer also offers the possibility to be run in Console Mode.

While offering a text-based user interface (in contrast to the graphically supported UI mode), the installation procedures for Tamino are technically identical to the steps described in the previous chapter *Installing the Tamino Infrastructure and Tamino XML Server*.

However, experience in using the operating system's console is required.

# 6 Complete the Installation

# Connecting to Databases of a Previously Installed Tamino XML Server

Tamino databases can always be addressed by both TCP/IP and XTS (eXtended Transport Service).

## Addressing Databases Created With Tamino XML Server v8.x

In version 8.x of Tamino XML Server the clients had two options for addressing databases via XTS:

Either using a "flat file" approach via an environment variable that needs to be set as described below ...
or using the Software AG directory server (optional configuration, usually performed when databases created with Tamino v4.4 had to be addressed).

Depending on the choice made at that time, addressing existing databases created with Tamino v8.x requires the following procedures.

1. Using Tamino Manager (System Management Hub), navigate to the entry **Registry**

2. In the registry navigate to

   *HKEY_LOCAL_MACHINE\SOFTWARE\Software AG\System Management Hub\Products\Tamino\Versions\8.x\Environment*

3. Check if a registry value XTSDIR is present

   - If a registry value XTSDIR is present
   - If a registry value XTSDIR is NOT present

## If a registry value XTSDIR is present

1. Find the registry value XTSDIR

2. Record the environment variable (path) for this registry value.

3. Navigate to

   *HKEY_LOCAL_MACHINE\SOFTWARE\Software AG\System Management Hub\Products\Tamino\Versions\9.5\Environment*

4. Change the entry for this registry value to point to the entry of the registry value of the v8.x installation.

With this setting Tamino XML Server v8.x and v9.5 databases are using the "flat file" approach (via environment variable) for XTS communication.

**If a registry value XTSDIR is NOT present**

1. In the registry navigate to

   *HKEY_LOCAL_MACHINE\SOFTWARE\Software AG\System Management Hub\Products\Tamino\Versions\9.5\Environment*

2. Find the registry value XTSDIR

3. Delete this registry value

With this setting Tamino XML Server v8.x and v9.5 databases are using the Software AG directory server for XTS communication.

## Wrapping Up

- On a Windows system, re-enable User Account Control (UAC). On a Windows Server 2008 or Windows Server 2012 system, grant write access for the installation directory to the Windows group Users.

- If you installed Tamino on a SuSE Linux Enterprise Server system that was configured to run in parallel boot mode, you disabled parallel boot mode before installation. Do not re-enable parallel boot mode after installation.

# 7 Uninstall

Uninstalling Tamino XML Server implies that the product package and the infrastructure must be uninstalled in the reverse order as they were installed.

First you uninstall the Tamino XML Server.
Then you uninstall the infrastructure, provided the components are no longer needed by other Software AG AG products.

These routines are performed using the Software AG Uninstaller.

The uninstaller will delete all files except the installer-maintained *history.txt* file from the *Software AG/install* sub directories. If you have stored your own files in either of those sub directories and want to keep them, move those files to a non-webMethods directory.

## Uninstalling Tamino XML Server

1. Shut down Software AG products.

2. Run the Software AG Uninstaller as instructed in *Using the Software AG Installer*.

3. From the panel depicting the tree view of installed Software AG products select the node Tamino XML Server.

# 8   International Operating Environments

## Overview

Software AG products are designed for use anywhere in the world, and enable you to exchange data with systems and users who speak languages other than your own. The products use the Universal Character Set (ISO/IEC 10646-2, or Unicode). At minimum, the products support the requirements of Unicode 3.0. HTML content, including administration tools, uses Unicode UTF-8 encoding.

## Language Packs

The Software AG Installer always installs the English files necessary to run your products. However, for many products, you can also install language packs that provide translated user interfaces, messages, help, and documentation.

Most products support multiple languages at a time; you can install as many language packs as you need. For products that support multiple languages, your client setup (that is, browser language preference, default locale in which the product is started, and locale selected in your user profile) will determine which language you see. If you operate a product in a locale for which language packs are not available or installed, you will see English.

## Extended Character Set

The Software AG Installer offers an extended character set that extends Java's `java.nio.Charset` class to support additional installable character encodings and adds more than 870 custom character encodings. The extended character set allows you to use custom character encodings such as EBCDIC and OEM.

## Configure Browsers and JDK Font

Some HTML interfaces for Software AG products detect the language setting for your browser. If you have installed language packs on your products, those interfaces try to supply the user interface, messages, and data in that language. You can indicate which of the installed languages to display in your browser as follows:

| Browser | Action |
|---|---|
| Firefox | Go to **Tools > Options > Content**, click **Choose**, and add the language you want to use to the top of the list. |
| Internet Explorer | Go to **Tools > Internet Options**, click **Languages**, and add the language you want to use to the top of the list. |

Your Java run-time environment might require modification to display non-ASCII data. If you see hollow boxes or black squares where you would expect to see non-ASCII characters, you might need to modify your JDK.s font configuration file to provide an appropriate font for displaying these characters.

# 9 Default Ports

| Tamino XML Server | Default Port | Protocol |
|---|---|---|
| Ports for new databases | 49600 - 49800 | TCP |
| | 3200 - 3300 | TCP |