

Installing Apama

Version 10.15.5

June 2024

This document applies to Apama 10.15.5 and to all subsequent releases.

Specifications contained herein are subject to change and these changes will be reported in subsequent release notes or new editions.

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Document ID: PAM-IG-10155-20240624

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About this Guide

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Installing Apama summarizes all important installation information.

Documentation roadmap

Apama provides documentation in the following formats:

- HTML (available from both the documentation website and the `doc` folder of the Apama installation)
- PDF (available from the documentation website)
- Eclipse help (accessible from Software AG Designer)

You can access the HTML documentation on your machine after Apama has been installed: Display the `index.html` file, which is in the `doc/apama-onlinehelp` directory of your Apama installation directory.

The following guides are available:

Title	Description
<i>Release Notes</i>	Describes new features and changes introduced with the current Apama release as well as earlier releases.
<i>Installing Apama</i>	Summarizes all important installation information.
<i>Introduction to Apama</i>	Provides a high-level overview of Apama, describes the Apama architecture, discusses Apama concepts and introduces Software AG Designer, which is the main development tool for Apama.
<i>Using Apama with Software AG Designer</i>	Explains how to develop Apama applications in Software AG Designer, which is an Eclipse-based integrated development environment.
<i>Developing Apama Applications</i>	Describes the the technology for developing Apama applications: EPL monitors. You can use this technology to implement a single Apama application. In addition, there are C++ and Java APIs for developing components that plug in to a correlator. You can use these components from EPL.
<i>Connecting Apama Applications to External Components</i>	Describes how to connect Apama applications to any event data source, database, messaging infrastructure, or application.
<i>Building and Using Apama Dashboards</i>	Deprecated. Describes how to build and use an Apama dashboard, which provides the ability to view and interact with DataViews. An Apama project typically uses one or more dashboards, which are created in the Dashboard Builder. The Dashboard Viewer provides the ability to use dashboards created in the Dashboard Builder. Dashboards can also be deployed as simple web pages. Deployed dashboards connect to one or more correlators by means of a dashboard data server or display server.

Title	Description
<i>Deploying and Managing Apama Applications</i>	Describes how to deploy Apama applications using Docker and Kubernetes. It also provides information for improving Apama application performance by using multiple correlators, for managing and monitoring Apama components over REST (Representational State Transfer), and for using correlator utilities and configuration files.

In addition to the above guides, Apama also provides the following API reference information:

- API Reference for EPL (ApamaDoc)
- API Reference for Java (Javadoc)
- API Reference for C++ (Doxygen)
- API Reference for .NET
- API Reference for Python
- API Reference for Component Management REST APIs

Online Information and Support

Product Documentation

You can find the product documentation on our documentation website at <https://documentation.softwareag.com>.

In addition, you can also access the cloud product documentation via <https://www.softwareag.cloud>. Navigate to the desired product and then, depending on your solution, go to “Developer Center”, “User Center” or “Documentation”.

Product Training

You can find helpful product training material on our Learning Portal at <https://learn.softwareag.com>.

Tech Community

You can collaborate with Software AG experts on our Tech Community website at <https://techcommunity.softwareag.com>. From here you can, for example:

- Browse through our vast knowledge base.
- Ask questions and find answers in our discussion forums.
- Get the latest Software AG news and announcements.
- Explore our communities.

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- Go to our public GitHub and Docker repositories at <https://github.com/softwareag> and <https://containers.softwareag.com/products> and discover additional Software AG resources.

Product Support

Support for Software AG products is provided to licensed customers via our Empower Portal at <https://empower.softwareag.com>. Many services on this portal require that you have an account. If you do not yet have one, you can request it at <https://empower.softwareag.com/register>. Once you have an account, you can, for example:

- Download products, updates and fixes.
- Search the Knowledge Center for technical information and tips.
- Subscribe to early warnings and critical alerts.
- Open and update support incidents.
- Add product feature requests.

Data Protection

Software AG products provide functionality with respect to processing of personal data according to the EU General Data Protection Regulation (GDPR). Where applicable, appropriate steps are documented in the respective administration documentation.

1 Before You Start the Installation

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Overview of Apama packages

Apama is available in a number of different packages, which contain Apama and a different selection of associated components. There are also some add-on packages that can be overlaid on the core Apama installation to provide specific additions such as documentation or samples. The table below outlines the available packages.

Package Name	Use Case	Notes	Contents								
			Core	Cumulocity IoT	Eclipse with Apama plug-in*	IAF/ADBC	IBM webMethods	Samples	Documentation	SL Dashboards	
apama_core	Runtime deployment	Current apama_core.	✓								
apama-c8y-dev	Cumulocity IoT development		✓	✓	✓				✓	✓	✗
apama-dev	Standalone users without IBM		✓		✓	✓			✓	✓	✗
apama-dbp-dev	Standalone users with IBM	As apama-dev with IBM components.	✓		✓	✓	✓		✓	✓	✗
apama_core_{VERSION}_cumulocity	Retained for compatibility with existing zip files	Cumulocity IoT components only. Overlay on apama_core or apama-dev.		✓							
apama_core_{VERSION}_samples	Samples for EPL et al.	Current samples zip. Can be extracted separately.							✓		
apama_core_{VERSION}_doc	Apama documentation	Current documentation zip. Can be extracted separately.								✓	
apama-sl-dashboards	Dashboard development or deployment	Only SL components. Installs its own JVM into a separate directory.									✓

* Windows only

IAF: Integration Adapter Framework

ADBC: Apama Database Connector

Supported platforms

Before you install Apama, make sure that you are running one of the supported operating system versions. For detailed information, see the *Supported Platforms* document for the current Apama version. This can be found in the list of guides for the current Apama documentation on the Software AG documentation website at <https://documentation.softwareag.com/>.

Ways to install Apama

It is possible to install Apama in different ways, as described below.

Extraction of installation files

Apama can be extracted from `.zip` files (Windows) or `.tar.gz` files (Linux) directly to a chosen location on the disk. All included components are extracted to a location relative to this root installation directory.

The compressed packages can be downloaded from the Software AG Empower website at <https://empower.softwareag.com/>. You can find them in the Software Download Center (SDC).

Side-by-side installations

You can install the same Apama version more than once on the same machine. And you can also install several different versions of Apama on the same machine. This may be necessary to test a new version before it is taken over into a production environment. Each version, however, must be installed in a separate directory. For example, when Apama is already installed in a directory named `Apama`, you can install a second instance of Apama in a directory named `Apama2`.

Service packs

Service packs and fixes are provided as `.zip` files and `.tar.gz` files in the same manner as the releases. To install a service pack or fix, remove the existing installation of Apama that you wish to replace, and extract the service pack or fix in its place in the same directory.

The service pack or fix provides a complete installation and there is no need to install the base release first. The *Apama Release Notes* may have more information about the end of support for a specific service pack version. Note that the support lifetime for a service pack may be different, depending on the base version on which the service pack is installed.

Docker and Software AG images

Software AG has a presence on the Docker Hub image repository. Several images are available for Software AG products. Apama offers several runtime images to run instances of the correlator application. These images differ based on which external connectivity features are required. Apama also offers several buildtime images to be used as part of a multi-stage build to deploy Apama projects, corresponding to the runtime images. See <https://hub.docker.com/search?q=softwareag%2F&type=image> for the published images.

Alternatively, images for several products, including Apama, may be built from an installation using scripts included in the installation. For more information, see "Introduction to Apama in Docker" in *Deploying and Managing Apama Applications*.

Debian

On Debian-based Linux distributions, you can install Apama using the default package management tool. For more information, see [“Installing Apama Using Debian apt” on page 15](#).

Community Edition

The Apama Community Edition is a freemium version of Apama that can be used to get familiar with Apama. It does not need a license and therefore has restricted functionality (see also "License Terms and Technical Restrictions" in the *Apama Release Notes*).

To install the freemium version, choose the `apama-*dev` package which best fits your situation, and which comes as a single `.zip` or `.tar.gz` file, which is extracted and used directly as with the premium product. The packages are available from the Software AG Empower website.

Disk space requirements

The disk space requirements vary, depending on which options you want to install. For a full installation of Apama including the Apama plug-in for Eclipse (Windows only), approximately 2.5 GB of hard-disk space is required with approximately 1.5 GB of hard-disk space consumed. More disk space will be required depending on what applications you develop and deploy.

License file

A license file is required for the full functionality of Apama. See also "About Apama license files" in *Introduction to Apama*.

It is possible to install Apama without specifying a license file. In this case, however, the correlator will run with reduced capabilities. See also "Running Apama without a license file" in *Introduction to Apama*.

System clock

Apama requires the system clock to move forwards without large jumps, and never move backwards. This applies only to the underlying clock measuring UTC (Coordinated Universal Time) seconds since 1970; daylight saving time and time zone adjustments will not affect Apama's timers.

Discontinuities in the system clock can result in disconnections and/or unpredictable application behavior, especially with any application-level timeouts. Virtual machine infrastructure can be particularly vulnerable to such clock issues. Consult your virtual machine vendor's documentation or support for recommendations on how to correctly handle time for the host operating system you are using and ensuring that the virtual machine host's clock is correctly synchronized.

Outside of virtual machines, we would strongly recommend using the Network Time Protocol (NTP) on both Windows and Linux, and ensuring that system administrators never make manual adjustments to the system clock. NTP's default configuration is to handle time adjustments by slightly slowing down or speeding up time, avoiding any sudden jumps. The Windows Time service can cause large time jumps and is not suitable.

Persistence database backup

If using correlator persistence, you are recommended to shut down any running correlators and then take a backup of the persistence database before installing any new major or service pack version, or fix, as the persistence database is automatically upgraded when opened using a newer correlator version and cannot be downgraded or then used with the original correlator version.

See also "Using Correlator Persistence" in *Developing Apama Applications*.

Windows platform notes

You can only install Software AG products on a local hard drive on a Windows system. You cannot install the products on a network-mounted drive.

The port of the Apama dashboard data server must be accessible to the Apama Dashboard Viewer. If you are on a Windows system and the firewall is enabled, unblock network access for this port. The default value for the port is 3278. For security reasons, never change firewall settings such that this port is exposed to untrusted clients.

Important:

If you are going to install on a Windows system, make sure the machine has the latest Windows updates.

Linux platform notes

Apama does not support Security Enhanced Linux (SELinux). This option should be turned off on Linux for Apama to run.

To build the samples and develop applications using the C/C++ API, development tools that are not present in the default installation of the supported platforms must be installed. On all supported Linux platforms, the GCC-C++ package and all its dependencies must be installed. These are typically provided on the installation media as part of your distribution.

If you intend to use the compiled runtime, ensure that the `binutils` package is installed.

Note that the performance of latency-critical applications can be significantly impacted by the choice of the file system where the correlator writes its log files and/or persistence database. File systems such as ext3, ext4, NFS, ZFS and GFS2 can have surprisingly poor worst-case latency especially when the system is loaded, so for latency-critical applications we would recommend use of XFS where possible.

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Overview of installing Apama with Debian apt

On Debian-based Linux distributions on both x86_64 and ARMv7, it is possible to install Apama using the default package management tool. Apama is located in a repository hosted on <https://downloads.apamacommunity.com/debian>.

To install from this repository, you must first add the repository to your apt configuration. See the instructions for doing this in the repository readme at <https://downloads.apamacommunity.com/debian/README.txt>.

Once configured, you can install Apama's core edition through the package manager:

```
apt update
apt install apama
```

If you wish to use Python plug-ins with your Apama installation, you also need to install the correct Python interpreter for your Apama release:

```
apt install apama-python
```

Fixes to Apama can be automatically applied using the package manager. If a new fix is released, it is installed with any run of the following:

```
apt update
apt upgrade
```

You can also remove Apama using the apt tool:

```
apt remove apama apama-python
```


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Post-installation steps

There are no mandatory post-installation steps for Apama. However, when you have installed Apama on Linux, see [“Post-installation considerations for Linux users” on page 18](#) for further information.

See also the content of the `Apama/doc` directory in your Apama installation, which contains the full documentation for Apama.

Post-installation considerations for Linux users

Linux core file size setting (RLIMIT_CORE)

Linux systems are often run with their core file size limit set to zero. A consequence of this is that in the unlikely event that the correlator or an adapter crashes, no core file is written, which hinders investigation of the cause of the crash. To avoid this situation, set the core file size to unlimited in the login configuration for each user who runs Apama components.