

Building Kaa from source

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This page describes how to build Kaa using its source code.

Before building Kaa from source, ensure that Oracle JDK 7 and Apache Maven are installed on your machine.

Building Kaa with default Java client

To build Kaa with the default Java client, proceed as follows:

1. Clone or download the sources from [GitHub](#).
2. Execute the following command to build all the server and java client components into either Debian or RPM packages.

NOTE

The Debian build will work correctly on both Linux and Windows operation systems, while an RPM build will work only on Linux operated machines with the RPM tool installed.

NOTE

For the mvn command, the build number and git commit variables are set to emulate jenkins build variables that are substituted automatically on the build machine.

Compiling the GWT profile is critical to getting the Admin UI working, but can be skipped during regular builds. The build-sandbox profile is necessary to trigger a sandbox build, which may be quite resource/time consuming.

Building Kaa with two clients: C++ client and default Java client

To build C++ client SDK libraries, a few C++ platform dependent features must be installed beforehand.

The C++ endpoint build that uses maven is based on the shell script invocation. The current version of the build can only work on Unix.

System requirements

Ensure that your system meets the following requirements.

	Requirements	Recommended version
Compiler	C++11 standard support	g++ 4.7
Build system	CMake	cmake 2.8.8+

Third party components

The following third party libraries are required for Kaa installation.

Library	Link	Required version
Boost	http://www.boost.org	1.55.0
AvroC++	http://avro.apache.org	1.7.6
Botan	http://botan.randombit.net	1.10

To install these components, proceed as follows.

1. Install the **libbz2-dev** and **zlib1g-dev** libraries by executing the following command.

```
sudo apt-get install maven cmake libbz2-dev zlib1g-dev
```

2. Install the **Boost** libraries (Kaa client requires **log**, **system**, and **unit_test_framework** libraries) either automatically or manually.

NOTE

If Boost-1.55.0 version is not available in your OS package repository, you need to install it manually.

- a. For automatic installation, execute the following commands.

```
sudo apt-get install libboost-log-dev
sudo apt-get install libboost-system-dev
sudo apt-get install libboost-unit_test_framework-dev
```

- b. For manual installation, refer to the following example.

```
wget -O boost.tar.gz <boost_download_link>
tar -xvf boost.tar.gz
# Go to unpacked directory
./bootstrap.sh --without-libraries=coroutine,chrono,graph,graph_parallel,math,python,wave
./b2
sudo ./b2 install
```

3. Install the **AvroC++** library manually as illustrated in the following example.

```
wget -O boost.tar.gz <boost_download_link>
tar -xvf boost.tar.gz
# Go to unpacked directory
./bootstrap.sh --without-libraries=coroutine,chrono,graph,graph_parallel,math,python,wave
./b2
sudo ./b2 install
```

4. Install the **Botan** library by executing the following command.

```
sudo apt-get install libbotan1.10-dev
```

5. After the required libraries are installed, you can build the C++ SDK and all server components by executing the following command.

```
mvn -DBUILD_NUMBER=1 -DGIT_COMMIT=2 -P jenkins,compile-client-cpp,compile-gwt,build-sandbox,build-rpm
clean install
```

Running Kaa

To start all the Kaa components, execute the following script.

```
for x in `cd /etc/init.d ; ls kaa-*` ; do sudo service $x start ; done
```

A similar script, as shown in the following example, can be used to restart or stop all the components.

```
for x in `cd /etc/init.d ; ls kaa-*` ; do sudo service $x restart ; done
for x in `cd /etc/init.d ; ls kaa-*` ; do sudo service $x stop ; done
```

Further reading

Use the following guides and references to make the most of Kaa.

Guide	What it is for
Installation guide	Use this guide to configure Kaa after the installation or to set up a Kaa cluster. This guide also provides instructions on how to install Kaa by downloading an installation package.

Design reference	Use this reference to learn about features and capabilities of Kaa.
Programming guide	Use this guide to create your own Kaa applications.