Sandbox

Sandbox is the quickest and easiest way to explore Kaa. It's a private Kaa environment which includes demo client applications. Sandbox includes all necessary Kaa components in a convenient virtual environment that can be set up in just 5 minutes!

With the use of Kaa Sandbox, anyone can learn Kaa, build a proof of concept and test their own applications locally.

Installing Sandbox

Sandbox is presented as a stand-alone virtual machine.

System requirements

To use Kaa Sandbox, your system must meet the following minimum system requirements.

- 64-bit OS
- 4GB RAM
- Virtualization enabled on BIOS

Installation steps

To install Kaa Sandbox, perform the following steps.

1. Install the virtualization environment.
   The current version of Sandbox supports Oracle VirtualBox 4.2+ which is available as a free download.
2. Download the Sandbox image from Kaa download page.
3. Import the Sandbox image using this guide.

Known issues

Please take into account the following known issues and limitations of Kaa Sandbox.

- Without the SMTP server configured, you will not be able to create new users. See the SMTP section for more details.
- Demo applications are available for download, however, they do not work properly due to the default sandbox networking configuration. To proceed with the demo applications, you need to configure the network as described in Networking section.

Troubleshooting

Kaa server logs can be found under `/var/log/kaa`:

- `kaa-admin-server.*` files contain log information from the Administrative UI component.
- `kaa-control-server.*` files contain log information from the Control server component.
- `kaa-bootstrap-server.*` files contain log information from the Bootstrap server component.
- `kaa-operation-server.*` files contain log information from the Operations server component.

You can also download logs from the Sandbox guest machine to the host machine by issuing an sftp command on the host machine as follows:

- in case of the default networking (port forwarding), execute the following command.

```
sftp -P 2222 kaa@127.0.0.1:/var/log/kaa/* .
kaa@127.0.0.1's password: kaa
```

- when the Sandbox guest machine is accessible via the IP address, execute the following command.

```
sftp kaa@<guest machine host ip>:/var/log/kaa/* .
kaa@<guest machine host ip>'s password: kaa
```

Configuration

SMTP

SMTP properties are used to send emails to newly created users with the information about their passwords, as well as other notifications.

By default, SMTP properties are not configured for Admin UI. To configure Admin UI to target your SMTP server, proceed as follows:

1. Execute the following command to start editing the admin-server.properties file.

```
sudo nano /usr/lib/kaa-admin/conf/admin-server.properties
```

2. Specify SMTP parameters according to your SMTP configuration.
3. To activate your changes, restart the Kaa-Admin component as follows:

```
sudo service kaa-admin restart
```

Networking

By default, Kaa Sandbox components are not accessible from the host network. Port forwarding is configured only for your local machine in order to give you ssh and web access. Thus, to explore demo applications you need to reconfigure the network interface for this virtual machine. Once the virtual box is available to devices on your local/test network, you need to change Sandbox host/IP on web UI or execute the following script on Sandbox.

```
sudo /usr/lib/kaa-sandbox/change_kaa_host.sh <new host/ip>
```

Sandbox web UI

Sandbox web UI provides you with access to Kaa demo projects and some basic Sandbox configuration capabilities. Once Sandbox is installed and opened, the web UI is available at the following URL (by default): http://127.0.0.1:8080/sandbox.

Demo projects

You can download both source and binary distributions for each demo project. A downloaded binary already contains Kaa SDK that targets current Sandbox. Thus, if you successfully configure the networking for your SDK, the downloaded application will be able to access it and will work correctly.

Host/IP reconfiguration

Sandbox also provides a convenient method for host/IP reconfiguration in the Networking section.

Further reading

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

Guide	What it is for
Administration UI guide	Use this guide to start working with the Kaa web UI (or Sandbox web UI)
Design reference	Use this reference to learn about features and capabilities of Kaa.
Programming guide	Use this guide to create your own Kaa applications.
Development environment setup	Use this guide to set up necessary environment for installing and programming Kaa.
Installation guide	Use this guide to install and configure Kaa either on a single Linux node or in a cluster environment.