



cockpit
IT Service Manager

Standalone engine management - Linux

FAQ document

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Introduction

I. Object

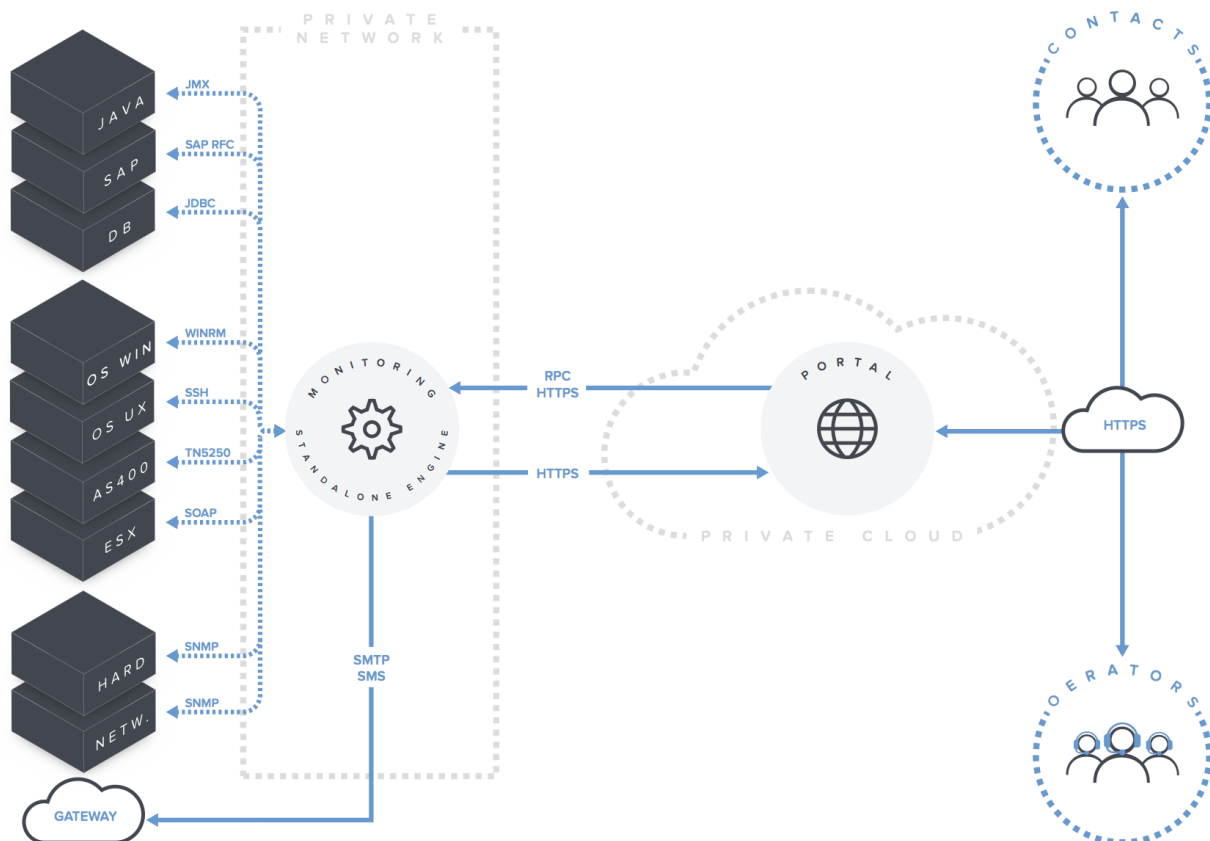
This document describes how to install a Cockpit IT Service Manager standalone engine on a host running the Linux operating system.

It describes how to administrate the engine.

It indicates the configuration files and logs and how to access them.

II. Architecture

Standalone engines use an API access to communicate with the portal.



Prerequisites

I. Software

| Usage | Software | Version |
|-------------------------------------|-----------------------------------|--|
| Operating system | Linux | Ubuntu server 14.04 LTS (64 bits) Debian 7.X "Wheezy" (64 bits) Must be installed in english (en_US.UTF-8) |
| Cockpit IT Service Manager - Engine | koaly-exp-engine-vX.Y.Z-setup.bin | |
| OS tools | Unzip | |

II. External libraries

Certain libraries necessary for the operation of Cockpit IT Service Manager services depend on the specific environment the services are installed in. For example, JDBC drivers may be specific to the database version you are using; other libraries exist in different versions for each operating system.

Cockpit ITSM company does not distribute these external libraries, but you will need to provide them in a specific directory inside the installation directory (for engine: ext/lib).

The following libraries need to be downloaded from their respective web sites.

| Connection | Library | Download |
|-----------------------|---|---|
| ERP – SAP – ABAP | SAP JAVA Connector 3 apjco3.jar, sapjco3.dll | https://support.sap.com/swdc |
| ERP – SAP – JAVA | sap.com-tc-bl-pj_jmx-api.jar sap.com-tc-exception-impl.jar sap.com-tc-je-clientlib-impl.jar sap.com-tc-je-leanClient.jar sap.com-tc-logging-java-impl.jar | https://support.sap.com/swdc |
| Database – DB2 | DB2 connector db2jcc.jar, db2jcc_license_cu.jar | http://www-01.ibm.com/support/docview.wss?uid=swg21363866 |
| Database – MaxDB | MaxDB connector sapdbc.jar | http://service.sap.com/swdc |
| Database – MSSQL | SQL Server connector jtds-X.jar | http://sourceforge.net/projects/jtds/files/ |
| Database – MySQL | MySQL connector mysql-connector-java-5.X-bin.jar | http://dev.mysql.com/downloads/connector/j/5.0.html |
| Database – Oracle | Oracle JDBC connector ojdbcX.jar | http://www.oracle.com/technetwork/database/enterprise-edition/jdbc-112010-090769.html |
| Database – PostgreSQL | PostgreSQL connector postgresql-X.jdbc4 | http://jdbc.postgresql.org/download.html |
| Database – SAP HANA | SAP HANA connector ngdbc.jar | http://service.sap.com/swdc |

| Connection | Library | Download |
|-------------------|---|---|
| Database – Sybase | Sybase connector jtds-X.jar | http://sourceforge.net/projects/jtds/files/ |
| | Sybase secured connector jTDSXd.jar, jconnXd.jar, cryptoj*.jar | http://service.sap.com/swdc |

Installation

I. Engine creation

Connect to your Cockpit IT Service Manager - Portal.

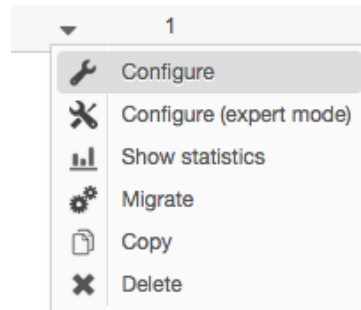
Use “Administration / Sub-systems / Engines” menu.

Add a new engine.

Save.

| New engine | |
|--------------|---|
| ID: | <input type="text" value="1"/> |
| Description: | <input type="text" value="Standalone 1"/> |

Edit the engine configuration.



Select the tab “Technical settings”.

Check option “Standalone”.

Choose a password for this engine or generate one using the “magic wand” button.

Remember ID and password for later.

| Engine | |
|------------------------------------|--|
| ID: | 1 |
| Description: | <input type="text" value="Standalone 1"/> |
| Type: | <input checked="" type="checkbox"/> Standalone |
| Engine password (standalone mode): | <input type="text" value="lhEXGRYuW8whRK4P"/>  |

II. Engine installation

A. System configuration

Important: Please make sure the OS is up-to-date prior to this installation and is running the latest kernel. Otherwise, the installation of certain packages may fail as they require package versions not available in your installation.

Connect to the system.

Update the system.

```
sudo aptitude update
sudo aptitude safe-upgrade
sudo reboot
```

If the application is installed on a virtual machine, service startup may be very slow right after the machine has been rebooted. This is due to the random number generator that does not generate enough randomness immediately after a reboot. To avoid this problem, it is recommended to install the `haveged` package.

```
sudo aptitude install haveged
```

To improve security, the engine service will run as an unprivileged user (`koalyeng`).

```
sudo adduser --system --home /dev/null --no-create-home --group koalyeng
```

B. Service installation

Make the installer executable.

```
chmod +x ./koaly-exp-engine-vX.Y.Z-setup.bin
```

Launch the installer.

```
sudo ./koaly-exp-engine-vX.Y.Z-setup.bin
```

We recommend keeping the default installation directory.

Option for very high level security system:
If you want to use a system-specific encryption key, use “Cockpit IT Service Manager - Portal installation – System-specific encryption key” documentation.
1/ Generate the `koaly.key` file
2/ Copy the `koaly.key` file to “`/home/koaly/exp/engine/conf`”

We now need to adjust ownership and permissions for the directory we created. To do so, we recommend using the shell script provided with the application.

```
sudo /bin/sh /home/koaly/exp/engine/bin/post-install.sh
```

If you plan to monitor databases, copy the JDBC drivers corresponding to your databases to the directory ext/lib.

If you plan to monitor SAP systems, copy the SAP JCo module to ext/lib.

Create the file “/home/koaly/exp/engine/conf/standalone.config” if it does not exist.

```
sudo vim /home/koaly/exp/engine/conf/standalone.config
```

Add or adapt the following information:

```
# Engine ID - Unique identifier for each engine in the system
koaly.server.id=0

# Server password - Unique password for each engine in the system
koaly.server.password=password_configured_for_this_engine


# URL to the Cockpit IT Service Manager - portal to synchronize with
koaly.portal.url=http://public_URL_of_your_portal/

# Certificate fingerprint
koaly.portal.cert.fingerprint=xxxxxxxxxxxxxx

# Proxy configuration
#
# Use these properties to configure a proxy server for auto-update and synchronization.
# Note that the proxy will only be used for connections to the portal and *not* by the monitoring module.
# Host and port are mandatory, username and password are optional.
#
# Uncomment the following 2 or 4 lines if you want to configure a proxy:
#koaly.proxy.host=replace with host name or IP of proxy server
#koaly.proxy.port=replace with proxy port
#koaly.proxy.username=replace with username
#koaly.proxy.password=replace with password
```

koaly.server.id: must be the same as the engine ID on the Cockpit IT Service Manager - Portal

koaly.server.password: must be the same as the engine password on the Cockpit IT Service Manager - Portal

| Engine | |
|------------------------------------|---|
| ID: | 1 |
| Description: | Standalone 1 |
| Type: | <input checked="" type="checkbox"/> Standalone |
| Engine password (standalone mode): | lhEXGRYuW8whRK4P  |

koaly.portal.url: The URL must be reachable from the engine

koaly.portal.cert.fingerprint: If the engine refuses to validate the certificate provided by the server, add the SHA-1 fingerprint of your portal certificate.

Note: If the certificate is OK, this parameter should be commented out by adding a hash sign (#) at the beginning of the line. The following steps can be skipped in this case.

Proxy configuration: Use these parameters when you have a proxy between the standalone engine and the portal.

Note: The connections via a proxy have been tested with the proxies Squid 3 and Privoxy.

C. Memory allocation

Edit the init script.

`sudo vim /etc/init.d/koaly-exp-engine`

Update the value of the “CONFIG” parameter.

Update the value of the “RT_MAX_HEAP” parameter.

```
CONFIG="standalone"
RT_MAX_HEAP=xxxxx
```

The following table contains the recommended memory allocation for a standard deployment of a standalone engine on a dedicated machine.

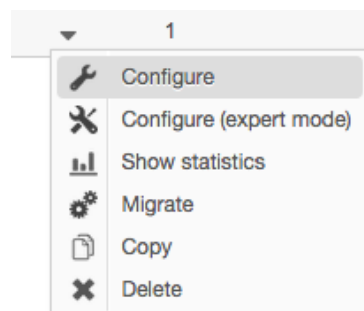
| Physical RAM | Engine |
|--------------|--------|
| 1 Gb | 768m |
| 2 Gb | 1536m |
| 4 Gb | 3072m |

III. Engine configuration

Connect to your Cockpit IT Service Manager - Portal.

Open the “Administration / Sub-systems / Engines” menu.

Edit the engine configuration.



A. Functional settings

Select the tab “Functional settings”.

The engine configuration is reloaded every day.

You can select time for this reloading.

| Engine | |
|-----------------------------------|------------------------------------|
| ID: | 1 |
| Description: | Standalone 1 |
| Configuration reload time: | <input type="text" value="12:15"/> |

Activate the desired modules and options in the “Monitoring and Infrastructure” section.

| Monitoring and Infrastructure | | | |
|---------------------------------------|--|-------------------------------|--|
| Module status: | <input checked="" type="checkbox"/> Active | | |
| Server inventory: | <input checked="" type="checkbox"/> Active | | |
| Monitoring - DB: | <input checked="" type="checkbox"/> Active | | |
| Monitoring - Jobs: | <input checked="" type="checkbox"/> Active | | |
| Monitoring - Network: | <input checked="" type="checkbox"/> Active | SNMP trap - Status: | <input checked="" type="checkbox"/> Active |
| | | SNMP trap - Port: | <input type="text" value="16100"/> |
| | | SNMP trap - Community: | <input type="text" value="public"/> |
| Monitoring - SAP: | <input checked="" type="checkbox"/> Active | | |
| Monitoring - AS400: | <input checked="" type="checkbox"/> Active | | |
| Monitoring - ESX: | <input checked="" type="checkbox"/> Active | | |
| Monitoring - UNIX, Linux, BSD: | <input checked="" type="checkbox"/> Active | | |
| Monitoring - Web: | <input checked="" type="checkbox"/> Active | | |
| Monitoring - Windows: | <input checked="" type="checkbox"/> Active | | |

Notes:

If you enable “Monitoring – Network – SNMP”, your engine will listen for SNMP traps on the specified port. You can send SNMP traps to the engine IP address and port.

If you check “Monitoring – DB” option, you have to copy the JDBC driver corresponding to your database to the directory ext/lib.


If you check “Monitoring – SAP” option, you have to copy the SAP JCo module to ext/lib.

If you check “Monitoring – Windows” option, you have to use WinRM protocol to connect to Windows systems. WMI connections are not possible from a Linux machine.

B. SMTP gateway

Standalone engine can use the global settings to send emails. These settings are set in the “Administration / Settings / SMTP gateway” menu. In this case, check the “Use global settings” option.

If you want to use another SMTP gateway (e.g. a local SMTP server), uncheck the “Use global settings” option and provide the necessary configuration data.

| | | | |
|---------------------------------|---|---|--|
| Connection settings: | <input type="checkbox"/> Use global settings |  | |
| Server: | <input type="text" value="smtp.gateway.net"/> | | |
| Port: | <input type="text" value="465"/> | | |
| Secure connection (TLS): | <input checked="" type="checkbox"/> Enabled | | |
| Authentication: | <input checked="" type="checkbox"/> Enabled | User: | <input type="text" value="myuser"/> |
| | | Password: | <input type="password" value="*****"/> |
| Electronic mailbox: | <input type="text" value="no_answer@itsm-cockpit.com"/> | | |
| Description: | <input type="text" value="ITSM Cockpit - Support"/> | | |

C. Local settings

In the configuration of the engine standalone, the “Local settings” is visible only after the first synchronization.

The “Settings” field allows you to update the “standalone.conf” file from the Cockpit ITSM portal.

Update the field “Settings” and save:

- The consistency of the configuration is checked.
- The standalone engine updates its configuration from the portal and delete the old one, then service is restarted.
- During the restart the engine status is “Update in progress...”.

IV. Start the service

Connect to your server, open the “Services” console and start the service “Koaly EXP Engine”.

V. Test

Connect to the Cockpit IT Service Manager - Portal.

Select the engine list (Home / Dashboard).

The newly installed engine should be present in this list.

The status must be green after a couple of minutes.

| | Description | Type | Status | Last signal |
|---|--------------|------------|--|------------------|
|  | Standalone 1 | Standalone |  | 10/09/2015 20:18 |

Administration

I. File location

| Directory | Description |
|-----------------------------|---------------------------------|
| /home/koaly/exp/engine | Application files |
| /home/koaly/exp/engine/conf | Application configuration files |
| /home/koaly/exp/engine/logs | Application log files |


II. Logs

You can request the engine log files from the portal.

Open the engine information panel from the engine list.

Request log file.

| Engine Information | |
|------------------------------|---|
| ID: | 1 |
| Description: | Standalone 1 |
| Type: | Standalone |
| Version: | 2.4.5 |
| Status | |
| Status: | Engine is OK |
| Last synchronization: | ● 11/09/2015 12:34 |
| Last signal: | ● 11/09/2015 12:34 |
| Load: | 0,00 |
| Active Checks: | 0 |
| Late checks: | 0 |
| Latest error log: | |
| Latest log file: | |
| Reset pending: | No |
| Log file requested: | No |



It is also possible to assess the log files directly on the standalone engine server.

| Name | Description |
|------------|--|
| engine.log | Messages |
| warn.log | Messages including "error" and "warning" |

| | |
|-----------|--|
| error.log | Messages including “error” |
| mail.log | Messages related to sent mail functionality (SMTP gateway) |
| sms.log | Messages related to sent SMS functionality (SMS gateway) |

III. Start/Stop

Check the engine status.

```
sudo service koaly-exp-engine status
```

Stop the engine.

```
sudo service koaly-exp-engine stop
```

Start the engine.

```
sudo service koaly-exp-engine start
```

IV. Backups

Standalone engine do not store data permanently (emporary storage only), it is not necessary to backup the engine server.

If you use a virtual machine, you can take a snapshot of your server after the installation.

V. Updates

A. Cloud mode

Standalone engines are automatically updated.

B. On premise mode

Follow the administration guide.

VI. Reset


In case of a synchronization error, it is possible to request a reset of the engine.

The action will delete temporary data stored by the engine.

Open the engine information panel from the engine list.

Request a reset.

| Engine information | |
|-----------------------|---|
| ID: | 1 |
| Description: | Standalone 1 |
| Type: | Standalone |
| Version: | 2.4.5 |
| Status | |
| Status: | Engine is OK |
| Last synchronization: | ● 11/09/2015 13:09 |
| Last signal: | ● 11/09/2015 13:08 |
| Load: | 0,00 |
| Active Checks: | 0 |
| Late checks: | 0 |
| Latest error log: | |
| Latest log file: | |
| Reset pending: | No |
| Log file requested: | No |

← ☰ ↻ ✖


VII. Monitoring

A. Status

Go to “Home / Dashboard” menu.



Check the engine status table.

You can open engine list to check the status of each engine.

| | Description | Type | Status | Last signal |
|---|--------------|------------|--------------------------------------|------------------|
|  | Standalone 1 | Standalone | ● | 10/09/2015 20:18 |

You can open the engine information panel.

The “Status” table provides information about engine status, load and synchronization status.

| Status | |
|-----------------------|--|
| Status: | Engine is OK |
| Last synchronization: |  11/09/2015 13:20 |
| Last signal: |  11/09/2015 13:20 |
| Load: | 0,00 |
| Active Checks: | 0 |
| Late checks: | 0 |
| Latest error log: | |
| Latest log file: | |
| Reset pending: | No |
| Log file requested: | No |

If you want to check a standalone engine status automatically, the best way is to check the last signal with the following SQL request.


```
SELECT COUNT(engine_id) FROM gen_engines WHERE (UNIX_TIMESTAMP() - UNIX_TIMESTAMP(engine_alert_heartbeat)) > 7200;
```

This request will return 0 if all engines are available.

B. Synchronization

From the engine information panel, open the synchronization history.

| Engine Information | |
|-----------------------|---|
| ID: | 1 |
| Description: | Standalone 1 |
| Type: | Standalone |
| Version: | 2.4.5 |
| Status | |
| Status: | Engine is OK |
| Last synchronization: | ● 11/09/2015 13:09 |
| Last signal: | ● 11/09/2015 13:08 |
| Load: | 0,00 |
| Active Checks: | 0 |
| Late checks: | 0 |
| Latest error log: | |
| Latest log file: | |
| Reset pending: | No |
| Log file requested: | No |



A detailed list of synchronizations is displayed.

| Timestamp | Engine -> Portal | | | | | Portal -> Engine | | | | |
|------------------|------------------|----------|-----------|-----------|--------|------------------|-------|-------------|-------|--|
| | Alerts | Cap. pl. | Inv. (HW) | Inv. (SW) | Checks | Jobs | Hosts | Inv. Sched. | Other | |
| 11/09/2015 13:12 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| 11/09/2015 13:11 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| 11/09/2015 13:10 | 0 | 30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| 11/09/2015 13:09 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| 11/09/2015 13:08 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| 11/09/2015 13:07 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| 11/09/2015 13:06 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |

Document end