



cockpit
IT Service Manager

Cockpit ITSM - Administration - Windows

Technical specification

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Introduction

This document is for technicians responsible for the on-going administration of components belonging to the Cockpit IT Service Manager application.

It describes the operating methods for the principle functions, as well the steps that need to be followed in order for the Cockpit IT Service Manager application to properly function.

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

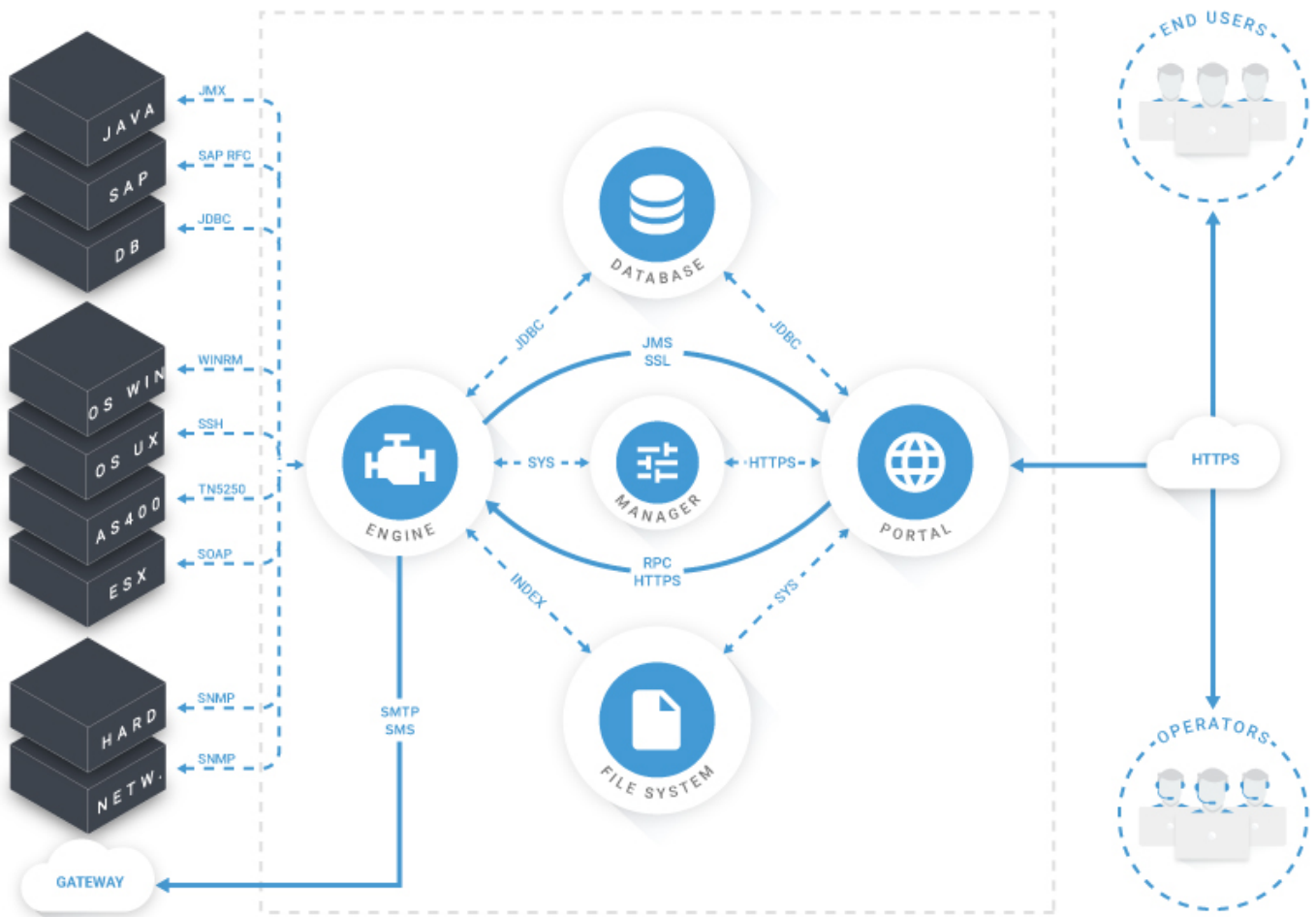
It explains the procedures that need to be followed in order to update the different components.

Architecture

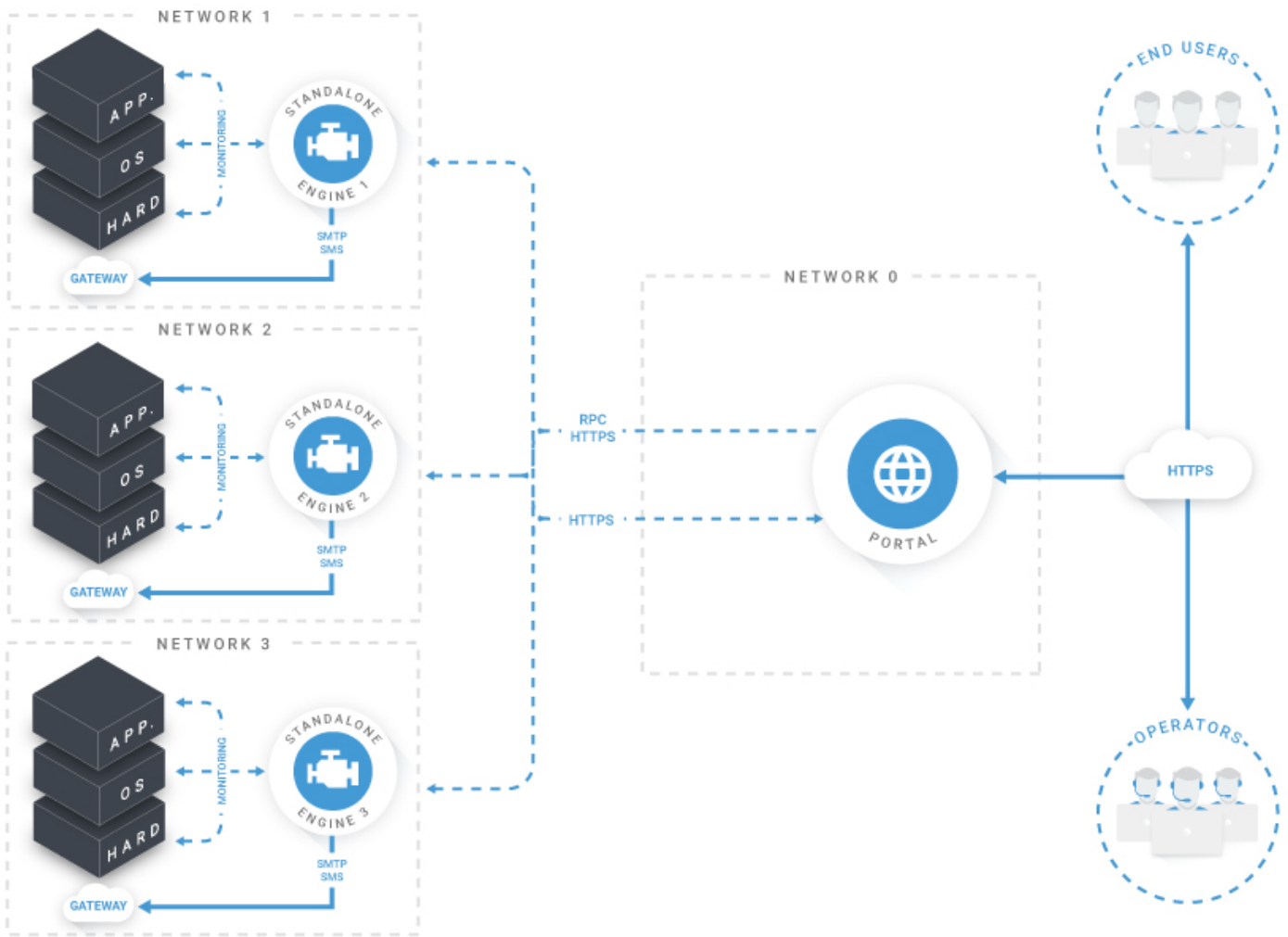
One Cockpit IT Service Manager instance is composed of several elements:

- A database
- One or more portals
- One or more engines

The following diagram describes the architecture of a simple Cockpit IT Service Manager instance.



The following diagram describes the architecture of Cockpit IT Service Manager with several engines spread across different networks.



Configuration

I. File location

A. Database

File	Application	Localization
my.ini	MariaDB database configuration	C:\Program Files\MariaDB 10.X\data
error.log	MariaDB database logs	C:\koaly\exp\database

B. Search engine

Application	File
Solr libraries	C:\Program Files\solr
Solr logs	C:\ProgramData\solr\logs

C. Cockpit IT Service Manager

Directory	Application
C:\koaly\backup	Backups
C:\koaly\exp\database	Data - MariaDB database
C:\koaly\exp\documents	Data - Files (documents, attachments, etc.)
C:\koaly\exp\portal	Cockpit ITSM - Portal
C:\koaly\management-interface	Cockpit ITSM - Manager
C:\koaly\update	Update files

II. Log level

The Cockpit support can ask to change the log level to analyze a problem. Edit the following files and apply the changes requested by the support team.

Portal log level configuration file:

C:\koaly\exp\portal\conf\log4j2.xml

Important: When the problem is fixed, return to the previous log level configuration.

III. Memory allocation

You can adapt the memory allocation for each component according to the total physical memory of the machine. To customize memory allocation, you will need to update the configuration of each component individually as described in the following table.

Component	File	Parameter	Default value
Database	C:\Program Files\MariaDB 10.X\data\my.ini	innodb_buffer_pool_size	512M
Portal	C:\koaly\exp\portal\conf\koaly-exp-portal-service.config	maxHeap	2048m

The following table contains recommended memory allocation for a standard deployment of all components on a single machine.

Physical memory	Database	Portal
4 Gb	512M	2048m
6 Gb	1024M	3072m
8 Gb	3072M	4096m
16 Gb	4096M	10240m

IV. Application launch

Application launch method		
Service	Description	Startup
solr	Solr search engine	Automatic
Koaly EXP Portal	Cockpit ITSM - Portal	Automatic
Koaly Management Interface	Cockpit ITSM - Manager	Automatic
MySQL	MariaDB database	Automatic

V. Cockpit IT Service Manager - Batches

An internal scheduler regularly process batchs. These batchs are necessary for the application to correctly function.

Batchs are processed by the portal.

In order to configure batchs (runtime portal, status, time, etc.) you need to:

- Connect to the Cockpit ITSM - Portal.
- Open "Administration / Settings / Tools / Batch scheduler".

Stop/Start Cockpit IT Service Manager

I. Sequencing

Stop:

1. Solr search engine
2. Cockpit ITSM - Portal
3. Cockpit ITSM - Manager
4. MariaDB database

Start:

1. MariaDB database
2. Cockpit ITSM - Manager
3. Cockpit ITSM - Portal
4. Solr search engine

Note: The Cockpit ITSM - Manager interface is independent from the Cockpit IT Service Manager application. It can be started and stopped without impacting the Cockpit IT Service Manager application.

II. MariaDB database

Open the service management console.

Check the application status:

Check "MySQL" service status.

Start the application:

Start "MySQL" service.

Stop the application:

Stop "MySQL" service.

III. Cockpit IT Service Manager - Portal

A. From Cockpit ITSM - Manager

Connect to Cockpit ITSM - Manager on the target server (default: <https://server:8081>).

Open the portal management menu.

Open the portal's control panel.

Open the "Control" tab.

Check the application's status:

Check the current status.

Click on "Reload" in order to update the status.

Start the application:

Click on "Start".

Click on "Reload" in order to update the status.

Stop the application:

Click on "Stop".

Click on "Reload" in order to update the status.

B. From the system

Open the service management console.

Check the application status:

Check "Koaly EXP - Portal" service status.

Start the application:

Start "Koaly EXP - Portal" service.

Stop the application:

Stop "Koaly EXP - Portal" service.

IV. Cockpit ITSM - Manager

Open the service management console.

Check the application status:

Check "Koaly Management Interface" service status.

Start the application:

Start "Koaly Management Interface" service.

Stop the application:

Stop "Koaly Management Interface" service.

Backups and restoring

I. Backups

A. Backup policy

A regular (at least once a day) backup of the server that hosts the application and a regular (at least once a day) export of the database is a good backup policy.

B. Files

1. Configuration files and libraries

Backup configuration files (my.ini, etc.) after every change.

2. Application

Backup Cockpit IT Service Manager application files(C:\koaly\exp) after every change.

3. Documents

Backup the directory (at least once a day)

- C:\koaly\exp\documents\

C. Database

1. User

Create a specific SQL user to execute the database dumps.

Use the following commands to create the SQL user "backup" with the necessary rights.

```
GRANT SELECT, LOCK TABLES ON koalyexp.* TO 'backup'@'localhost' IDENTIFIED BY 'my_password' WITH GRANT OPTION;  
UPDATE mysql.user SET Reload_priv = 'Y' WHERE user = 'backup';  
FLUSH PRIVILEGES;
```

2. Command

To make a dump using the command line, go to the MariaDB directory C:\Program Files\MariaDB 10.X\bin\ and execute the following command.

```
mysqldump koalyexp -u my_user -p'my_password' -BFRcq --single-transaction > file_name.sql
```

| Command description: |

```

Command: mysqldump
Options/
u: SQL user
p: SQL user password
B: shows "USE dbname" on the SQL dump file.
F: performs a log flush before running a backup.
R: includes stored routines (procedures and functions)
c: generates complete INSERTS of data
q: allows faster saving of large tables
single-transaction: generates a single-transaction dump so that the dump is consistent
nom_fichier.sql: the SQL filename generated by the dump

```

D. Script

Use the following script to make a consistent database export, to compress it (with gzip.exe tool) and to keep it 10 days.

Copy the text into a ".bat" file and adapt the settings.

Create a windows task to execute it at least once a day.

```

:: -----
:: Script parameters
:: -----
set dump_tool=C:\Program Files\MariaDB 10.X\bin\mysqldump.exe
set zip_tool=c:\koaly\backup\script\gzip.exe
set bkupdirectory=c:\koaly\backup\dumps
set host=localhost
set user=my_user
set pass=my_password
set date_format=dd/mm/yyyy
set /a nb_backup=10

:: -----
:: Get Date and time.
:: -----
set temp=%date:~2,1%
if %temp%==/ (
    set date_tmp=%date%
) else (
    For /f "tokens=1-2 delims= " %%a in ('date /t') do ( set date_tmp=%%b)
)

if %date_format%==dd/mm/yyyy For /f "tokens=1-3 delims=/ " %%a in ("%date_tmp%") do ( set
yyyymmdd=%%c%%b%%a)
if %date_format%==mm/dd/yyyy For /f "tokens=1-3 delims=/ " %%a in ("%date_tmp%") do ( set
yyyymmdd=%%c%%a%%b)

For /f "tokens=1-2 delims=: " %%a in ('time /t') do (set hhmm=%%a%%b)

:: -----
:: Set the backup file name

```

```

:: -----
set bkupfilename=%bkupdirectory%\KOALYEXP_%yyyymmdd%_%hhmm%

:: -----
:: Database dump
:: -----
"%dump_tool%" -h "%host%" koalyexp -u "%user%" -p"%pass%" -BFRcq --single-transaction >
"%bkupfilename%"

:: -----
:: Backup compression
:: -----
"%zip_tool%" -S .gz "%bkupfilename%"

:: -----
:: Keep only the "nb_backup" last backups
:: -----
set dirtodel=%bkupdirectory%\temp
md %dirtodel%
ROBOCOPY "%bkupdirectory%" %dirtodel% /move /minage:%nb_backup%
del %dirtodel% /q

```

II. Recovery

A. Files

Recovering files (configuration, libraries, application, documents) is done by copying the files.

B. Database

It's possible to recover the SQL dump files.

Command:

```
cd "C:\Program Files\MariaDB 10.X\bin"
mysql -u root -p
```

Enter the password

If necessary, delete the old Cockpit IT Service Manager database.

```
DROP DATABASE koalyexp;
```

Create a database.

```
CREATE DATABASE koalyexp;
```

Select the Cockpit IT Service Manager database.

```
USE koalyexp;
```

Recovering the dump.

```
source xxxx.sql;
```

Description of options:

u: SQL user

p: SQL user password
xxxx.sql: name of file to be restored

III. Tests

Regularly execute a restore test on an independent MariaDB database.

Regularly execute a file restore test in an independent directory.

Monitoring

I. Elements to check

A. Portal logs

Connect to the Cockpit ITSM - Manager of the target server (default: <https://server:8081>).

Open the portal management menu.

Open the portal control panel.

Open the "Logs" tab.

Check the following log files.

Portal log files	
Name	Description
engine_sync.log	Messages related to standalone monitoring engine synchronization
koaly_exp.log	Messages
koaly_exp_warring.log	Messages including "error" and "warning"
koaly_exp_error.log	Messages including "error"
mail.log	Messages related to SMTP gateway
tickets_sync.log	Messages related to ticket synchronization service

B. Batch logs

Connect to the Cockpit ITSM - Portal.

Open the menu "Administration / Parameters / Tools /Batch logs".

Check that there are no "Error" messages in the log history.

II. Monitoring

A. Operating system

Monitor disk occupation, especially the disk which stores data.

Monitor physical memory usage

Monitor virtual memory usage (it must be null).

B. Standalone engines

Connect to the Cockpit ITSM - Portal, open the "Home / Dashboard" menu.

All the engine status must be green.

In order to monitor the standalone engines, a check can be executed by the local engine.

Monitor a specific engine

Control Type: DB - SQL - Query - Return integer

SQL command:

```
SELECT COUNT(engine_id) FROM gen_engines WHERE (UNIX_TIMESTAMP() - UNIX_TIMESTAMP(engine_alert_heartbeat)) > 1800 AND engine_id = X;
```

Threshold: Alert if the result is greater than 0

Result: If the engine with ID "X" didn't send a heartbeat for more than 30 minutes, an alert is generated.

Monitor all engines

Control Type: DB - SQL - Query - Return string

SQL command:

```
SELECT CASE WHEN (SELECT COUNT(engine_id) FROM gen_engines WHERE (UNIX_TIMESTAMP() - UNIX_TIMESTAMP(engine_alert_heartbeat)) > 1800) = 0 THEN 'OK' ELSE (SELECT GROUP_CONCAT(engine_desc SEPARATOR ', ') FROM gen_engines WHERE (UNIX_TIMESTAMP() - UNIX_TIMESTAMP(engine_alert_heartbeat)) > 1800) END;
```

Threshold: Alerts if the result is different than "OK".

Result: If one or more engines didn't send a heartbeat for more than 30 minutes, an alert is generated with the engine list.

C. SMTP gateway

In order to monitor the SMTP gateway, you need to check the email log file.

Control type: Unix - Log file / Windows - Log file

File: XXXXX / engine / logs / mail.log

Terms: ERROR mail -. * SMTP. *

Result: If an error is found in the log, an alert is generated.

D. Inboxes

In order to monitor the inbox email collection (module "Ticketing" or module "Monitoring"), it is possible to add a database check.

Control Type: DB - SQL - Query - Return string

SQL command:

```
SELECT CASE WHEN (SELECT COUNT(*) FROM gen_job_logs WHERE event = 'ERROR' and (UNIX_TIMESTAMP() - UNIX_TIMESTAMP(date) < 3600)) < 10 THEN 'OK' ELSE (SELECT GROUP_CONCAT(message SEPARATOR ', ') FROM gen_job_logs WHERE event = 'ERROR' and (UNIX_TIMESTAMP() - UNIX_TIMESTAMP(date) < 3600)) END;
```


Threshold: Alert if the result is different than "OK".

Result: If more than 10 errors are found during the last 60 minutes, an alert is generated.

Updates

I. Cockpit IT Service Manager instance update

A. Pre-requisites

Before updating Cockpit IT Service Manager, you must shut down the following components in the specified order :

- All local (i.e. non-standalone) Cockpit IT Service Manager engines
- All Cockpit IT Service Manager portals

Please read the chapter "Stop/Start Cockpit IT Service Manager application" for detailed shutdown instructions.

Note that standalone engines are not required to be shut down.

B. Backup

Before updating the instance, it's recommended that you back up the different components of the Cockpit instance you intend to update.

1. Back up the database.
2. Back up documents(default directory: C:\koaly\exp\documents).

For secure systems (cluster, replication), disable the synchronization system (if possible) so that you keep one of the environments in an older version. Synchronization can be re-activated once the update is validated.

C. Database update

1. Connect to the Cockpit ITSM - Manager of the target server (default: https://server:8081).
2. Select the "Database" menu.
3. Click on the koaly-exp-db-update-X.Y.Z file (provided by Support) under the "Package upgrade" section.
4. Click on "Download".
5. Make sure the version shown in the "Latest version" field corresponds to the version to be installed.

There are two ways to update.

1. Updating using the Manager

Click on "Start migration process".

Migration logs will show up in a notification zone. They can be downloaded and sent to the editor in the event of an update error.

2. Generating an update script

Click on "Generate script".

The script generated can be manually applied to the database;

D. Cockpit ITSM - Portal update

1. Connect to the portal's Cockpit ITSM - Manager (default: https://server:8081).
2. Open the portal management menu.
3. Open the portal control panel.
4. Open the "Update" tab. The current and new version names will be listed.
5. Load the koaly-exp-portal-service-update.zip file (provided by Support) and select "Download".
6. Make sure the version shown in the "Latest version" field corresponds to the version to be installed.
7. Click on the "Update" button.
8. The portal will be updated. The portal will automatically close and start up.
9. Check the portal logs.
10. Connect to the portal to ensure it is functioning correctly.

Note :The previous version is stored in the parent directory of the portal installation directory (default : C:\koaly\exp). The previous version directory format name is « portal_AAAAMMJJ ». We recommend to keep the previous version of the portal. The oldest versions must be removed.

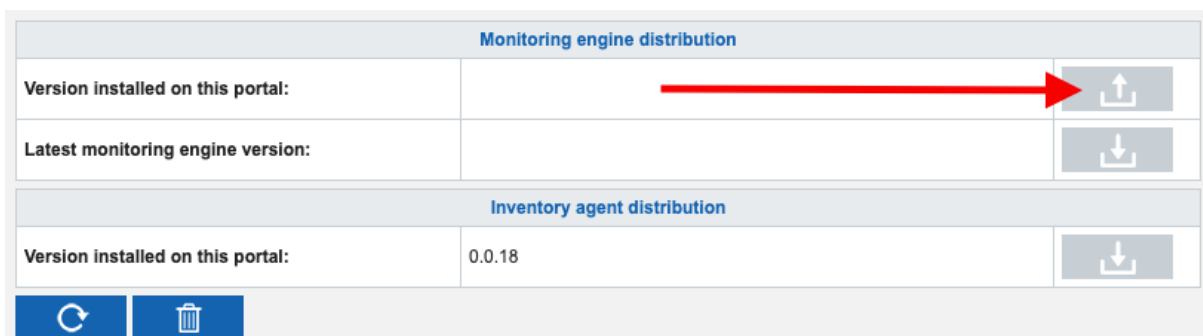
E. Cockpit ITSM - Engine (standalone mode) update

1. Automatic update

In most cases, standalone engines will be automatically updated. The engine will detect when a new version is available by connecting to the portal and will automatically update.

To check if a newer version is available via the portal:

1. Download the koaly-exp-engine-standalone-service-update.zip file.
2. On the portal, open the "Administration / Engines - Agents / Distribution" menu and click on "upload".



3. Select the koaly-exp-engine-standalone-service-update.zip file to put it online.
4. Once connected, the standalone engines will download the latest version and will automatically update.

Update process logs are found in the syslog and in the update/work/logs/update.log file.

2. Manual update

Some important updates cannot be done automatically. These are detailed in the information messages that accompany the updates.

Manual updates are sometimes necessary when automatic updates fail.

In order to manually update a standalone engine:

1. Download the koaly-exp-engine-v.X.X.X-setup.bin file.
2. Stop the "Koaly EXP Engine" service.
3. Save the following directories:
 - configuration (default: C:\koaly\exp\engine\conf)
 - external libraries (default: C:\koaly\exp\engine\ext\lib)
4. Save the file koaly-exp-engine-service.exe.config if changes have been made (directory: C:\koaly\exp\engine)
5. Uninstall the engine, execute Uninstall.exe (directory: C:\koaly\exp\engine).
6. Execute koaly-exp-engine-standalone-v.X.X.X-setup.exe.
7. Recover directories and the saved file.
8. Start the "Koaly EXP Engine" service.

F. Cockpit ITSM - Engine (local mode) update

1. To check that external libraries are showing up in the libraries directory (default: C:\koaly\update\koaly-exp-engine\ext\lib)
2. Connect to the Cockpit ITSM - Manager associated with the engine (default: https://server:8081).
3. Open the engine manager menu.
4. Open the engine control panel.
5. Open the "Update" tab. The current and new version names will be listed.
6. Load the koaly-exp-engine-service-update.zip file (provided by Support) and select "Download".
7. Make sure the version shown in the "Latest version" field corresponds to the version to be installed.
8. Click on the "Update" button.
9. The engine will be updated. The engine will automatically close and start up.
10. Check the engine logs.

Note :The previous version is stored in the parent directory of the engine installation directory (default : C:\koaly\exp). The previous version directory format name is « engine_AAAAMMJJ ». We recommend to keep the previous version of the engine. The oldest versions must be removed.

II. Cockpit ITSM - Manager update

In order to update the Cockpit ITSM - Manager, it needs to be uninstalled and re-installed.

1. Open the service management console and stop the "Koaly Management interface" service.
2. Open the Cockpit ITSM - Manager installation directory (default: C:\koaly\management-interface). Save the following files:
 - conf/service.xml
 - conf/koaly.config
3. Open the "Programs and Features" console and uninstall Cockpit ITSM - Manager.
4. Install the new version of Cockpit ITSM - Manager.
 - Execute the setup program (administration rights necessary): koaly-management-interface-vXX-setup.exe
 - Hit "Next".
 - Select "All users".
 - Modify the default installation directory (C:\koaly\management-interface) if necessary.
 - Modify the default shortcut directory (Koaly\Koaly Management Interface) if necessary.
 - Hit "Next".
 - Hit "End".
5. Open the Cockpit ITSM - Manager installation directory (default: C:\koaly\management-interface). Copy old files into the new directory (replace existing files if necessary).
 - conf/service.xml
 - conf/koaly.config
6. Open the service management console and start the "Koaly Management interface" service.
7. Connect to the Cockpit ITSM - Manager interface (default: https://server:8081)

III. Solr search engine update

If the server does not access the internet, download Solr:

1. Check the Solr version to install in the file "c:\koaly\exp\portal\solr\solr_version.txt".
2. Download the version on "https://archive.apache.org/dist/lucene/solr/X.X.X/solr-X.X.X.tgz".
3. Copy the "solr-X.X.X.tgz" file on the directory "c:\koaly\exp\portal\solr\".

Open a PowerShell windows as administrator and execute the following commands.

Get-ExecutionPolicy

Set-ExecutionPolicy -ExecutionPolicy AllSigned -Scope Process

If confirmation is requested, please confirm the operation by replying "Yes". This will allow the execution of signed PowerShell scripts for the remainder of this PowerShell session.

Change the directory to the portal installation directory.

```
cd c:\koaly\exp\portal\solr
```

Set the JAVA environment.

```
$Env:JAVA_HOME = "c:\koaly\exp\portal\rt"
```

Execute the script.

```
.\install.ps1
```

If confirmation is requested, please confirm the operation by replying Run once.

The script downloads, updates and starts Solr.

You should see the following message once the update is complete.

```
Installation succeeded, Solr is ready for use.
```

You can now close the PowerShell session:

```
exit
```

IV. MariaDB Server upgrade

The MariaDB Server upgrade is only to be carried out at the express request of the Cockpit ITSM SAS editor. This is not a simple database update (described above) but a database server version upgrade. This is an exceptional request.

The upgrade requires uninstalling the old database server version and then installing the new version.

Preparing to upgrade:

1. Download the version to be installed from the MariaDB website.
2. Stop all the local Cockpit IT Service Manager engines.
3. Stop all the Cockpit IT Service Manager portals.
4. Execute a database backup.
5. Copy the configuration file "C:\Program Files\MariaDB 10.X\data\my.ini" and save the copy.

Uninstall "MariaDB Server":

1. Open the Windows add/remove programs menu.
2. Launch the MariaDB uninstall program.
3. In the MariaDB Wizard, select "Next".
4. Select the "Remove" option and then select "Next".
5. Select the "Remove data" option and select "Next".
6. Select the "Remove" option.

The program uninstalls the MariaDB server, but the database data contained in the "C:\koaly\exp\database" directory is not removed.

Install the "MariaDB Server" new version:

1. Launch the MariaDB installation executable.
2. Accept the license agreement and select "Next".
3. Select all components in the group "MariaDB Server", all other components are not need (choose "Entire feature will be unavailable"), and select "Next".
4. Check the option "Modify password for user 'root'" and choose your root password, leave the option "Enable access from remote machines for 'root' user" unchecked, leave the option "Create An Anonymous Account" unchecked, check the option "Use UTF-8 as default server's character set", and select "Next".
5. Check the option "Install as service", check the option "Enable networking", choose TCP port 3306 (default), check the option "Optimize for transactions" and set the buffer pool size to 1024 Mb, and select "Next".
6. Uncheck the feedback option, then select "Next", "Install" and "Finish".

Restore the configuration:

1. Stop the "MySQL" service.
2. Remove the directory "C:\Program Files\MariaDB 10.X\data*" content.
3. Remove the log file "C:\koaly\exp\database\error.log".
4. Copy the file "my.ini" saved during the first upgrade step and paste it in the directory "C:\Program Files\MariaDB 10.X\data\".
5. Start the "MySQL" service.
6. Check the logs in the "C:\koaly\exp\database\error.log" file.

V. Cockpit IT Service Manager license update

1. Connect to the portal.
2. Open the menu "Administration / Technical parameters / Portal / Licenses".
3. Click on the "Download" button and download the license file provided by Support.
4. A message will show if the license is valid or not.
5. If the license is valid, click on the "Save" button.
6. If the license is not valid, contact Support.

Document end