[MELODIC] Platform installation guide

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Introduction

This document describes how to install Melodic platform on one machine, from scratch.

Requirements for Melodic's machine

OS: Ubuntu 16.04/18.04

RAM: 64GB+

Storage: 100GB+

Following ports accessible:

Port	Protocol	Component	Purpose
22	TCP	ssh	Console
80	TCP	UI frontend	Melod UI frontend
443	TCP	UI frontend	Melod UI frontend SSL
8088	TCP	ESB	REST API
8095	TCP	Camunda UI	Process UI
8181 8998 7077 38000 38100 38200 38300 38400 38500	TCP	Spark	Spark components
8080	TCP	UI	Cloudiator's webinterface
4001	TCP	Lance	etc registry
9000	TCP	Cloudiator	Cloudiator's REST API
33034	TCP	Lance	Cloudiator rmi registry
61610-61619	TCP	EMS	ActiveMQ event broker ports
2222	TCP	EMS	Baguette server port
1099	TCP	EMS	ActiveMQ JMX connector port
8111	TCP	EMS	REST API of EMS
8078	TCP	UI backend	Melodic UI backend
2036	TCP	CDO Server	CDO Server
3077	TCP	JWT	JWT
2121	TCP	webssh	webssh
3000	TCP	Grafana	
8123	TCP	mq-http-adapter/UI	(optional, if diagnosis endpoint is used)

Installation steps

Full installation includes installing of both: Upperware and the Executionware components of Melodic platform.

Installation instructions

1. SSH login into machine (ubuntu 16.04/18.04)
2. Run the following commands (this will download installation files):

```
git clone https://bitbucket.7bulls.eu/scm/mel/utils.git
```

3. (optional) To use integration (non-stable, newest changes) version of Melodic checkout the rc2.5 branch:
   skip this step if you need the STABLE version

```
cd ~/utils
git checkout rc2.5
```

4. Run the Melodic's installation script:

```
sudo ~/utils/melodic_installation/installMelodic.sh
```

5. After installation new ".profile" is created in home dir of the user. Load it by executing the following:

```
cd ~/
. .profile
```

6. Now the machine is ready to download and run latest docker images from Melodic and Cloudiator artifact repository. To download and start the components simply use the following:

```
drestart
```

7. Running this for the first time can take some more time as docker swarm is being initialised. After the above command components shoud be started. You can check the status by running the following 2 commands:

```
dps
mping
```

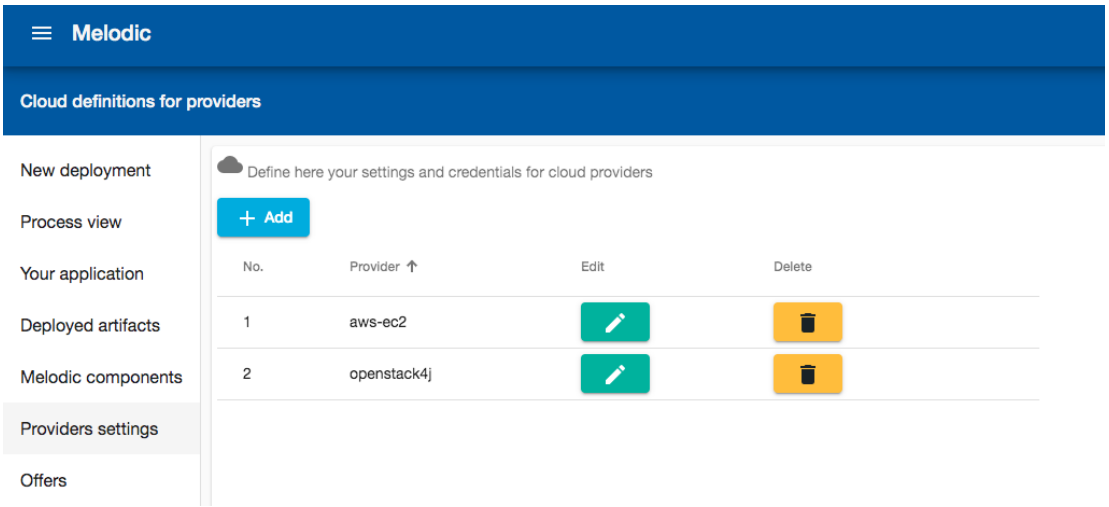
```
ui-mq-http-adapter: 8123:  OK
ui-grafana: 3000:  OK
cdoserver: 2036:  OK  3306:  OK
mule: 8088:  OK  8089:  OK
adapter: 8097:  OK  5018:  OK
generator: 8091:  OK  5015:  OK
cpsolver: 8093:  OK  5016:  OK
camunda: 8095:  OK
memcache: 11211:  OK
ldap: 389:  OK  636:  OK
metasolver: 8092:  OK
jwtserver: 8094:  OK
authdb: 3308:  OK
authserver: 8098:  OK
dlmswebservice: 8090:  OK
dlmscontroller: 8079:  OK
ems: 8111:  OK  61616:  OK  2222:  OK  2099:  OK
gui-backend: 8078:  OK
```

> **False-negative NOKs**
>
> If you experience mping printing NOKs even if everything is up an running please consider [How to] Extended connection test script for VMs.

8. In order to managing of Melodic'c users, please configure ldap policy and create new ldap user. For the convenience there is simple script packaged with the Melodic allowing to configure ldap and add a user with admin permissions by the following commands:

```
cd ~/utils/melodic_installation/
./configureLdap.sh
```

9. You need to add gui-backend self-signed certificate to trusted certificates in your browser. (**ATTENTION**: Execution of this point is required after each changes of Melodic IP, e.g. after each running of 'ipupdate' command). The easiest way:
    a. open https://{PUBLIC_MELODIC_IP}:8078 in your browser
    b. confirm the security exception
10. Login to GUI on https://{{PUBLIC_MELODIC_IP}}
11. Go to Provider settings and update your Cloud credentials



12. Now this machine should be ready for deploying some application.

GUI should be available under: {PUBLIC_MELODIC_IP} (log in with your ldap credentials)

Process GUI is present in UI and http://{PUBLIC_MELODIC_IP}:8095 (log in with your ldap credentials)

Usefull aliases

Below you can find usefull commands to manage melodic components:

Commands
dps - displays docker containers running (alias for sudo docker images)
mping - tests connection to each of the commponents
drestart - stops and then starts all of the Melodic's components
dundeploy - stops all of the components
ddeploy - starts all of the components
ipupdate - updates cloudiator's and upperware's env files with current IP of the machine - useful when the IP of the machine changes