

# [MELODIC] platform installation guide

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## Introduction

This document describes how to install Melodic platform from scratch.

## Prerequisites

### Requirements for Melodic's machine:

OS: Ubuntu 16.04

RAM: 8GB+

Following ports accessible:

Port	Protocol	Component	Purpose
22	TCP	ssh	Console
8080-8099	TCP	components	REST endpoints of Melodic components (generator, cp-solver, solver2deployment, adapter, esb, process)
9001-10000	TCP		
2036, 3306	TCP	cdo	mysql db
80	TCP	UI	Cloudiator's webinterface
4001	TCP	Lance	etc registry
9000	TCP	Colosseum	Cloudiator's REST API
8080	TCP	Axe	Time-series database
33034	TCP	Lance	rmi registry

## Installation steps

### Melodic

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

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

Open Melodic's installation script

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

and change value of NODEGROUP variable to for example your own login (new login must use only lowercase letters).

```
NODEGROUP=jdoe
```

3. Run the Melodic's installation script:

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

This installs melodic along with the Cloudiator.

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

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

5. Verify that melodic config files contain proper IP addresses (check files under ~/conf). Especially if you are running Cloudiator on a different host you need to update Cloudiator's IP in eu.melodic.integration.mule.properties file). List of files to be checked:

```
eu.melodic.integration.bpm.properties
eu.melodic.integration.mule.properties
eu.melodic.upperware.adapter.properties
eu.melodic.upperware.cpSolver.properties
eu.melodic.upperware.generator.properties
eu.melodic.upperware.solverToDeployment.properties
```

You can do it in this way:

```
cd ~/conf
grep "MELODIC_IP" *.properties;
```

This commands shouldn't return any match.

6. Add Cloud Provider credentials to allow Melodic to download Provider Offers in adapter configuration file. For instance - if you want Melodic to manage amazon machines, you need to edit file:

```
~/conf/eu.melodic.upperware.adapter.properties
```

and provide values to the following attributes:

```
clouds.endpoints.ec2=
clouds.logins.ec2=
clouds.passwords.ec2=
```

7. Add api key to generator config file (api key allows access to cloudiator's API). It can be received from Cloudiator installation. (Edyta Bakowska, Marcin Prusinski: you mean the 'play secret' that is shown during cloudiator setup?)

cloudiatorV2.apiKey=abcdefghijklmnopqrstuvwxyz12345687

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

```
ddeploy
```

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

```
10. dps
    mping
```

```
ubuntu@melodicinstallation:~$ dps
sudo: unable to resolve host melodicinstallation
CONTAINER ID        IMAGE                                     COMMAND                  CREATED            STATUS            PORTS            NAMES
f209f35a2a3d      88.99.85.63:5000/melodic/adapters:latest  *java -Djava.secur...   4 hours ago       Up 4 hours       8097/tcp        melodicStack_adapter.1.g3xc62xi62xhcygswa9raa890
1cef4e7c65ce      88.99.85.63:5000/melodic/generators:latest *java -Duser.timez...   4 hours ago       Up 4 hours       8091/tcp        melodicStack_generator.1.clyj1qtt3yoj7rdc93xsaec
f45508838779      88.99.85.63:5000/melodic/cpsolvers:latest *java -Djava.secur...   4 hours ago       Up 4 hours       8093/tcp        melodicStack_cpsolver.1.e2qmrzb6109gmbleyr21i6ln
f92ef764f463      88.99.85.63:5000/melodic/cdoservers:latest */docker-entrypoint...   4 hours ago       Up 4 hours       2036/tcp        melodicStack_cdoserver.1.4a0ba137a845ppfjv8p4lwl
979dad1c361       88.99.85.63:5000/melodic/s2ds:latest       *java -Djava.secur...   4 hours ago       Up 4 hours       8088/tcp        melodicStack_solver2deployment.1.xoink3qo2kvg1o1x7rk7y8
62e1930b2c6b      88.99.85.63:5000/melodic/mules:latest       */opt/mule/bin/ml...   4 hours ago       Up 4 hours       8088-8089/tcp   melodicStack_mule.1.mf1p25czp05xi061bnwy0s1
d75097055dd7      88.99.85.63:5000/melodic/processes:latest  *java -Duser.timez...   4 hours ago       Up 4 hours       8095/tcp        melodicStack_process.1.a22tn1j06rpr1nwj4yxs2f0
ubuntu@melodicinstallation:~$ mping
mule: 8088 status: OK
mule: 8089 status: OK
process: 8095 status: OK
adapter: 8097 status: OK
solver2deployment: 8096 status: OK
cdoserver: 2036 status: OK
generator: 8091 status: OK
cpsolver: 8093 status: OK
```

### False-negative NOKs

If you experience mping printing NOKs even if everything is up and running please consider [\[How to\] Extended connection test script for VMs](#).

Process GUI should be available under: [http://{PUBLIC\\_MELODIC\\_IP}:8095](http://{PUBLIC_MELODIC_IP}:8095) (admin:admin)

10. Status of colosseum (cloudiator) service can be checked with:

```
1. sudo service colosseum status
```

and the log files can be found under: `/var/log/colosseum.log`

Cloudiator GUI should be available under: [http://{PUBLIC\\_CLOUDIATOR\\_IP}/ui](http://{PUBLIC_CLOUDIATOR_IP}/ui) ([john.doe@example.com](mailto:john.doe@example.com) : admin : admin)

2. Script to restart cloudiator with full wipe out of colosseum data is available under: `~/cloudiator_reset.sh`

## 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 components

drestart - stops and then starts all of the Melodic's components

dundeploy - stops all of the components

ddeploy - starts all of the components