Session III

3.1. Deploying the simple Two Component application

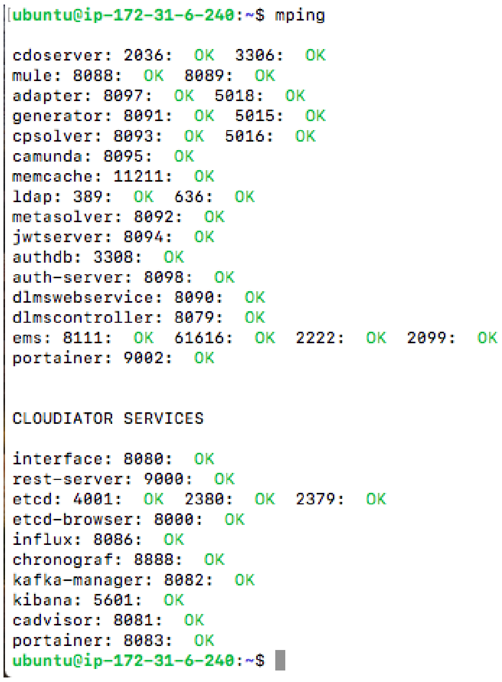
3.1.1. If you are not connected with the Melodic machine, open a terminal and login.

```
ssh -i {{nameOfKey}} ubuntu@{{MELODIC-IP}}
```

3.1.2. Check if all component are ready for deploying using alias

```
mping
```

The result should be:



```
[ubuntu@ip-172-31-6-240:~$ mping

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
auth-server: 8098:  OK
dlmswebservice: 8090:  OK
dlmscontroller: 8079:  OK
ems: 8111:  OK  61616:  OK  2222:  OK  2099:  OK
portainer: 9002:  OK


CLOUDIATOR SERVICES

interface: 8080:  OK
rest-server: 9000:  OK
etcd: 4001:  OK  2380:  OK  2379:  OK
etcd-browser: 8000:  OK
influx: 8086:  OK
chronograf: 8888:  OK
kafka-manager: 8082:  OK
kibana: 5601:  OK
cadvisor: 8081:  OK
portainer: 8083:  OK
ubuntu@ip-172-31-6-240:~$
```

3.1.3. Create a directory models and copy the .xmi file

```
mkdir ~/models

cd ~/models/

wget https://s3-eu-west-1.amazonaws.com/melodic.testing.data/ccgrid/TwoComponentApp.xmi

cd
```

3.1.4. Run the jar with following command and wait for model successfully stored into CDO

```
java -Deu.paasage.configdir=/home/ubuntu/utils/cdo-uploader/src/main/resources -jar cdo-uploader-1.0.1-SNAPSHOT-jar-with-dependencies.jar
```

3.1.5. Kill the CDO Uploader process by ctrl+C

3.1.6. Open the following link

https://reqbin.com/nwcfx5p2

3.1.7. In bookmark Content update values from the table. If you created a different credentials for the user, please update the username and password accordingly.

variable name	**value**
melodic-host	your machine public ip

aws-user	notes
aws-secret	notes
nodeGroup	your name*
user	your name*

* minimum 4 signs, lower case, without special signs and spaces

3.1.8. Alternatively, you can send the request using curl. To do that, replace variables accordingly to the table and use following command.

```
curl -X POST -H 'x-api-key: secure' -H 'Cache-Control: no-cache' -H
'Content-Type: application/json' -d '{
 "applicationId": "TwoComponentApp",
 "username": "user1",
 "password":"ccgrid",
 "cloudDefinitions":
 [


      {
   "endpoint": null,
   "cloudType": "PUBLIC",
   "api": {
      "providerName": "aws-ec2"
   },
   "credential": {
      "user": "{{AWS KEY}}",
      "secret": "{{AWS SECRET}}"
   },
   "cloudConfiguration": {
      "nodeGroup": "{{YOUR NAME}}",
      "properties": {
            "sword.ec2.ami.query": "image-id=ami-09f0b8b3e41191524",
            "sword.ec2.ami.cc.query": "image-id=ami-09f0b8b3e41191524",
            "sword.default.securityGroup": "sg-000c94554210d1820"
      }
   },
      "id": "f009efe1c9d7dfbf962fd13d03b1498e"
 }
   ],
 "watermark": {
      "user": "{{YOUR NAME}}",
      "system": "UI",
      "date": "2016-02-28T16:41:41+0000",
      "uuid": "fb6280ec-1ab8-11e7-93ae-92361f002AAA"


 }
}' -v -i 'http://{{MELODIC IP}}:8088/api/frontend/deploymentProcess'
```

3.1.9. If configurations are set properly, send the request.

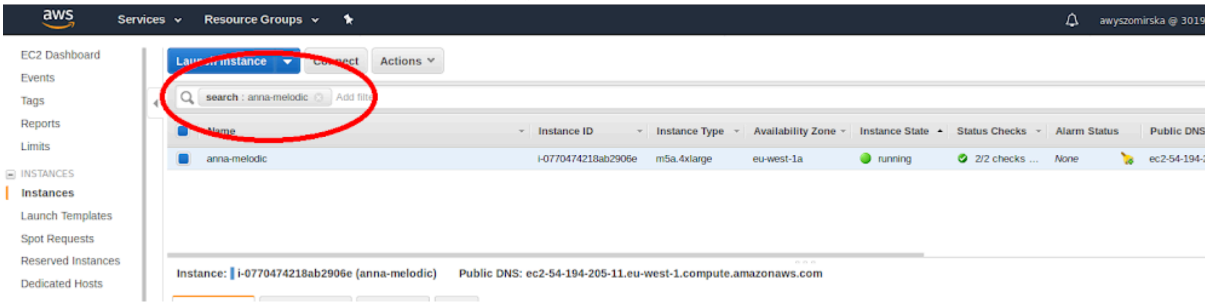
3.2. Deployment observations

3.2.1. It is possible to see the process view using Camunda on {{MELODIC-IP}}:8095
admin/admin

3.2.2. Check the logs of the components. For example in the CP Solver log you can find the chosen configuration that will be deployed:

```
tail -300f logs/cpsolver.log
```

3.2.3. In the AWS console new components should be visible after few minutes. Find your instance out typing the instance name



search : anna-melodic

Name	Instance ID	Instance Type	Availability Zone	Instance State	Status Checks	Alarm Status	Public DNS
anna-melodic	i-0770474218ab2906e	m5a.4xlarge	eu-west-1a	running	2/2 checks ...	None	ec2-54-194-

Instance: i-0770474218ab2906e (anna-melodic) Public DNS: ec2-54-194-205-11.eu-west-1.compute.amazonaws.com

3.2.4. Let’s do a simple test if application works properly:

http://{{application-ip-host}}:9999/demo/all

3.2.5. Save name and e-mail to the database

http://{{application-ip-host}}:9999/demo/add?name=Name&email=email@melodic.com

3.2.6. Check if it has been saved.

http://{{application-ip-host}}:9999/demo/all

3.3. Deploying a Spark application

3.3.1. If you deployed the TwoComponentApplication previously, you need to restart the Melodic. Use command:

```
drestart
```

3.3.2. If you are not connected with the Melodic machine, open a terminal and login.

```
ssh -i {{nameOfKey}} ubuntu@{{MELODIC-IP}}
```

3.3.3. Wait until or check if all components are ready to deploy. You can check the status of each component using command:

```
mping
```

3.3.4. Open directory models/ (if you do not have one, create: $mkdir ~/models) and download the .xmi file of the Genome Spark application

```
cd ~/models/

wget
https://s3-eu-west-1.amazonaws.com/melodic.testing.data/ccgrid/Genomnew.xmi
```

3.3.5. Set AWSKEY and AWSSECRET from the note and run commands

```
sudo sed -i "s/AWSKEY/{{YOUR AWS KEY}}/g"
~/models/Genomnew.xmi
```

```
sudo sed -i "s/AWSSECRET/{{YOUR AWS SECRET}}/g"
~/models/Genomnew.xmi
```

3.3.6. Run the jar with following command and wait for model successfully stored into CDO

```
cd

java
-Deu.paasage.configdir=/home/ubuntu/utils/cdo-uploa
der/src/main/resources -jar
~/cdo-uploader-1.0.1-SNAPSHOT-jar-with-dependencies
.jar
```

3.3.7. Kill the CDO Uploader process by ctrl+C

3.3.8. Open the following link

https://reqbin.com/147fhy9g

3.3.9. In bookmark Content update values from table. If you created a different credentials for the user, please update the username and password accordingly.

variable name	value
melodic-host	your machine public ip
aws-user	notes
aws-secret	notes
nodeGroup	your name*
user	your name*

* minimum 4 signs, lower case, without special signs and spaces

3.3.10. Alternatively, you can send the request using curl. To do that, replace variables accordingly to the table and use following command.

```
curl -X POST -H 'x-api-key: secure' -H 'Content-Type: application/json' -H
'Cache-Control: no-cache' -d '{
 "applicationId": "Genomnew",
  "username": "user1",
  "password": "ccgrid",
  "cloudDefinitions":
 [
      {
   "endpoint": null,
   "cloudType": "PUBLIC",
   "api": {
       "providerName": "aws-ec2"
   },
   "credential": {
       "user": "{{AWS USER}}",
       "secret": "{{AWS SECRET}}"
   },
   "cloudConfiguration": {
       "nodeGroup": "{{YOUR NAME}}",
       "properties": {
           "sword.ec2.ami.query": "image-id=ami-08a0a7bee3f024aeb",
           "sword.ec2.ami.cc.query": "image-id=ami-08a0a7bee3f024aeb"
       }
   },
   "id": "f009efe1c9d7dfbf962fd13d03b1498e"
 }
 ],
   "watermark": {
       "user": "{{YOUR NAME}}",
       "system": "UI",
       "date": "2016-02-28T16:41:41+0000",
       "uuid": "fb6280ec-1ab8-11e7-93ae-92361f002AAA"
   }
}
' -v -i 'http://{{MELODIC IP}}:8088/api/frontend/deploymentProcess'
```

3.3.11. If all configurations are set properly, send the request.

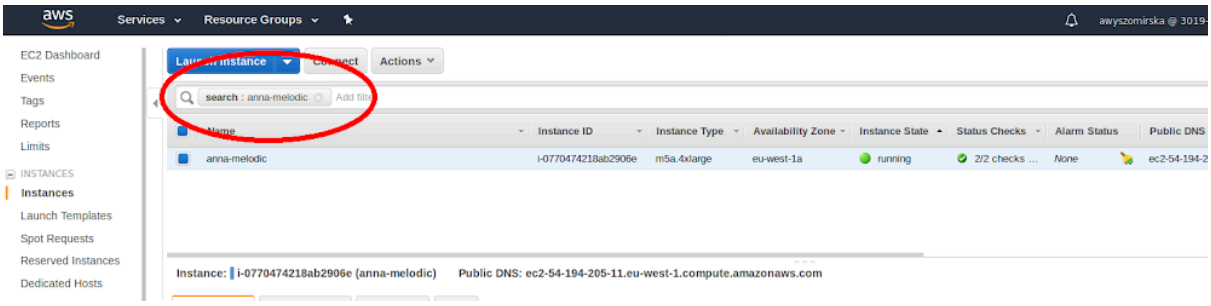
3.4. Deployment observations

3.4.1. It is possible to see the process view using Camunda on **{{MELODIC-IP}}:8095**

3.4.2. Check the logs of the components. For example in the CP Solver log you can find the chosen configuration that will be deployed:

```
tail -300f logs/cpsolver.log
```

3.4.3. In the AWS console new components should be visible after few minutes. Find your instance out typing the instance name



search : anna-melodic

	Name	Instance ID	Instance Type	Availability Zone	Instance State	Status Checks	Alarm Status		Public DNS
■	anna-melodic	i-0770474218ab2906e	m5a.4xlarge	eu-west-1a	● running	✓ 2/2 checks ...	None		ec2-54-194-2

Instance: i-0770474218ab2906e (anna-melodic) Public DNS: ec2-54-194-205-11.eu-west-1.compute.amazonaws.com

3.4.4. To check if workers are correctly connected with the Spark Master, check the

{{MELODIC-IP}}:8181

3.4.5. Check that the metrics are being correctly calculated and passed to the MELODIC in the logs/metasolver.log.
Logs with values of MinimumCores metric should be visible there.

3.4.6. After around 10 minutes, the reconfiguration should start and more instances should be visible in the AWS console and in the Spark Master UI.