

TP Storm: Find out when your teachers make a break

Goal: find when people are doing a break

Input: measures from captors inside the cafeteria

Output: call the others to tell them it's time to make a break

Entry point : Redis event on JSON format

```
{
  "id":15,
  "ts":"2015-12-09T09:55:12Z",
  "value":24
}
```

Captors on:

- id=7 : coffee machine
- id=11: console
- id=36: temperature
- id=37: humidity
- id=57: tea kettle

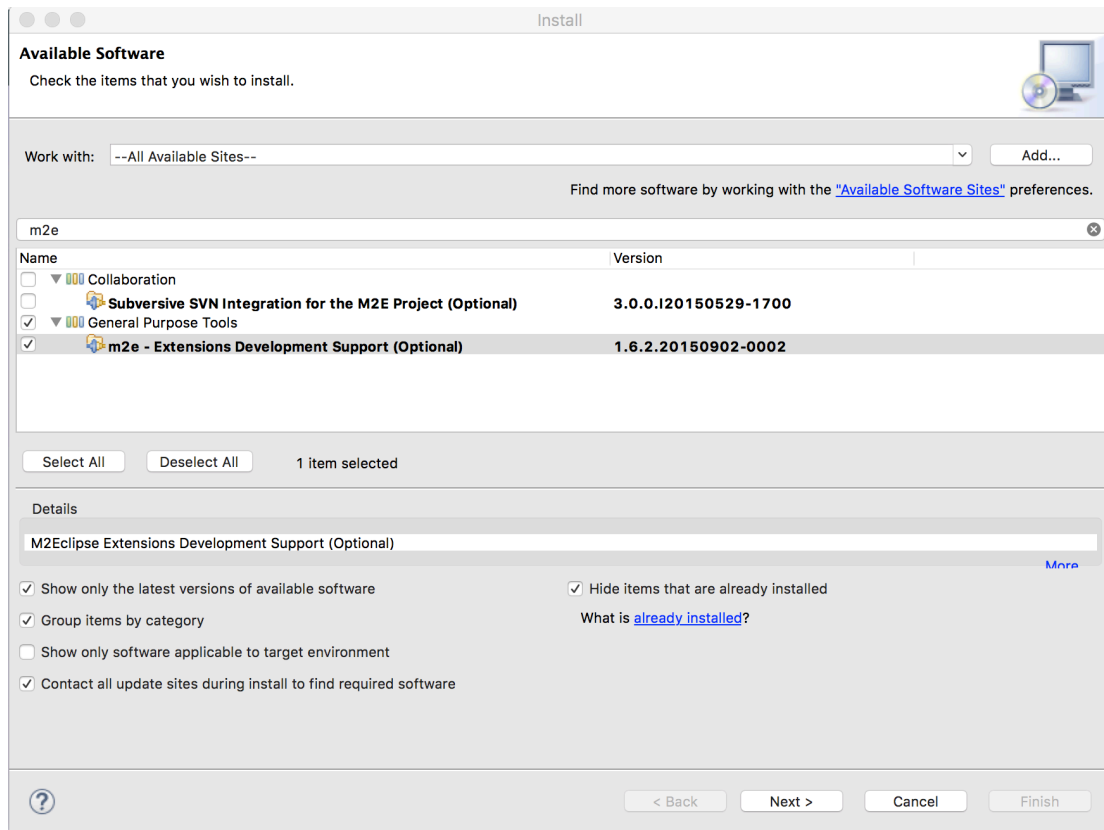
You receive a value for each captor each second.

Exit point: Redis queue on JSON format (only when it's the break)

```
{
  "ts":"2015-12-09T09:55:12Z",
  "break":true
}
```

I) Configure Eclipse

- Import the Maven plugin : Help > Install new software



Select "All available sites" in the "Work with" part.

In the search box, type m2e, then select the m2e plugin.
Always click "next" and "I accept".

- When the install is complete, restart Eclipse

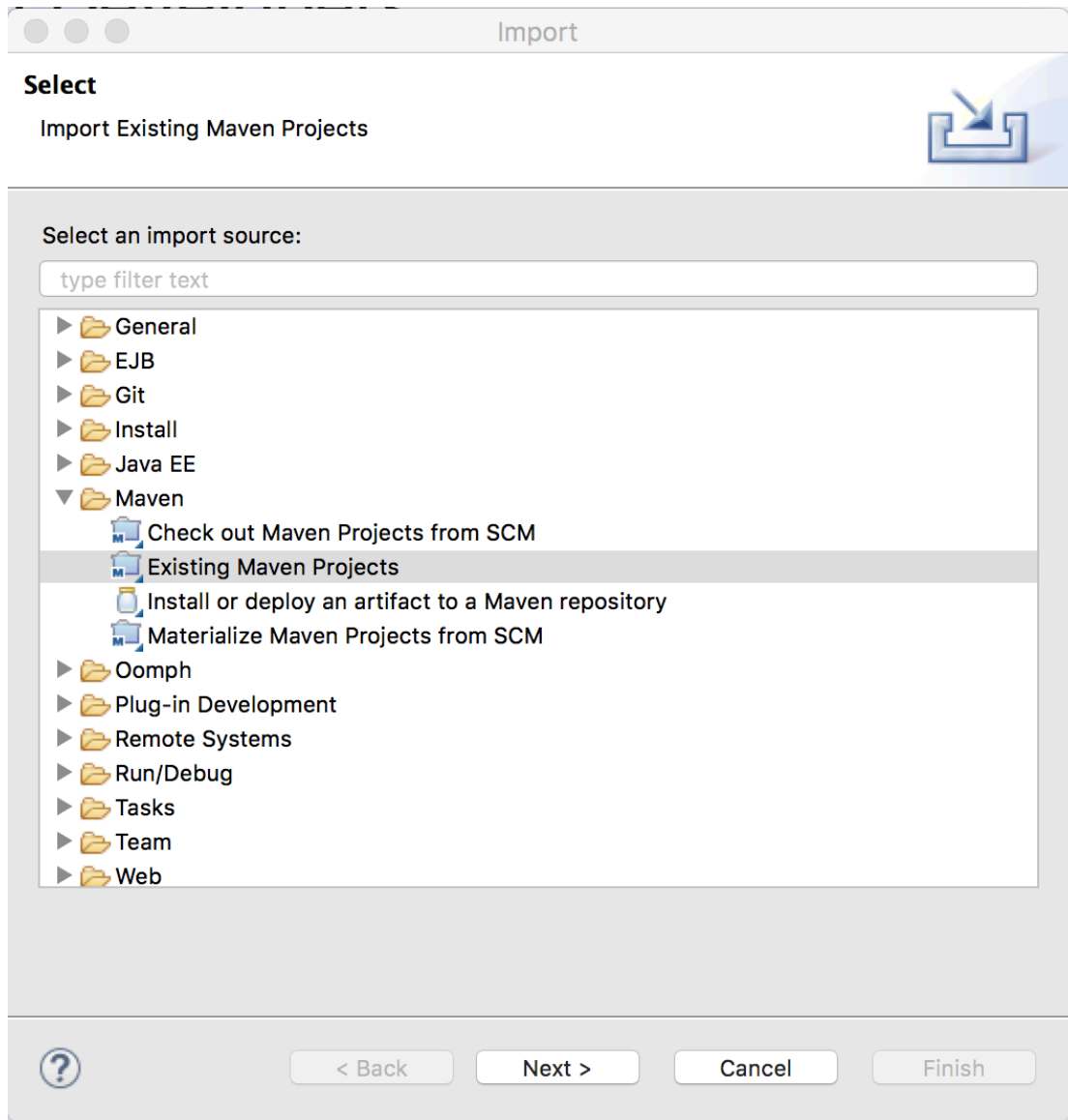
II) Import the project into Eclipse

You can find the base project here : <https://github.com/cjuste/tp-storm>
Click on the download ZIP button and unzip the folder.

Then, on Eclipse :

- File > Import...

Select Maven - Existing Maven projects



Click on next then choose the "practical" folder in the project you just downloaded.

III) Complete the spout

The spout RedisSpout has already some code done. You need to call the method "initializeRedisConnection" at the right time to subscribe to a Redis channel. Messages from the captors will be sent on the channel "feed".

You also need to fill the methods:

- declareOutputFields
- nextTuple
- onMessage

IV) Launch your first topology

Configure the topology in the class LaunchTopology with the spout you just finished and the CompareGrowthBolt as first bolt.

If messages from the captors are correctly printed on your terminal, it means your spout work.

You can run the topology with a right click on LaunchTopology.java -> Run as > Java Application

V) Finish the topology

Finish the classes CompareGrowthBolt and IsBreakBolt.

When it's the break, simply print the message "It's the break"

Adapt the topology in LaunchTopology.

VI) Now, notify the break

Try to send an event on Redis when it's the break, so the teachers receive the message.

To send an event, you first need to configure a jedisPool:

```
JedisPool jedisPool = new JedisPool(new JedisPoolConfig(), redisUrl);
```

Then, to send a event:

```
Jedis jedis = jedisPool.getResource();  
jedis.publish(channel, message);  
jedisPool.returnResource(jedis)
```

Use the channel "break", and give the ts in the message.

FAQ

To use JSON Objects:

```
JSONObject jsonObject = new JSONObject(message);
```

Then, you can get any field from the json with the methods :

jsonObject.getInt("id") -> to get the id (as an integer)

jsonObject.getDouble("value") -> to get the value as a double

jsonObject.getString("ts") -> to get the ts