Distributed Systems

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Setting up Apache ignite in your DICE account

If you use one of the DICE machines, Java, [idea](#) and [Maven](#) will be already installed. However, you need to configure Apache ignite in them.

Setting up Apache Ignite

1. Open a terminal.

2. Download the latest binary relase of Apache Ignite from [here](#).

   ```
   wget http://mirror.ox.ac.uk/sites/rsync.apache.org//ignite/1.7.0/apache-ignite-fabric-1.7.0-bin.zip
   ```

   This will download a zipped file. Alternatively, you can use your favorite browser to download the same.

3. Unzip the archive into the installation folder in your system

   ```
   unzip apache-ignite-fabric-1.7.0-bin.zip
   ```

   This will unzip the archive in the diectory named as apache-ignite-fabric-1.7.0-bin.

4. Go inside apache-ignite-fabric-1.7.0-bin directory and run the ignite.sh script using

   ```
   cd apache-ignite-fabric-1.7.0-bin
   bin/ignite.sh
   ```

   You should see the output in the terminal similar to:

   ```
   [12:06:57] Ignite node started OK (id=6a54a76f)
   [12:06:57] Topology snapshot [ver=1, servers=1, clients=0, CPUs=4, heap=1.0GB]
   ```

   If you see this output, then your apache ignite is running ok and you can proceed to the the next section.

   Resources for more detail:

   - https://apacheignite.readme.io/docs/getting-started

   - https://dzone.com/articles/getting-started-with-apache-ignite

Running first cluster example - Hello World
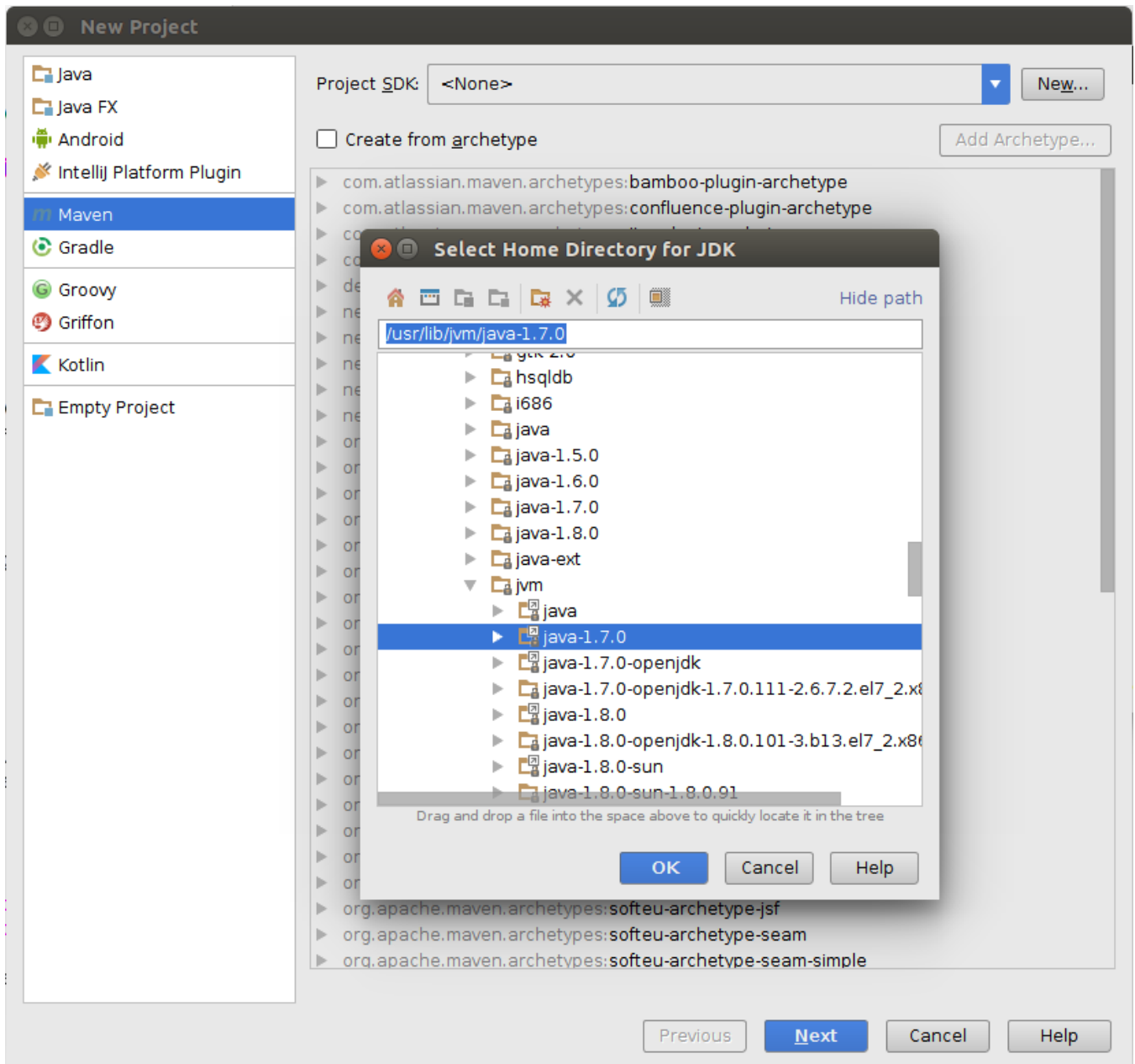
1. Open a terminal.

2. Open Idea IDE

```
idea-ce &
```

3. First time usage for Idea would require you to setup launcher preferences. Setup as per your convinience.

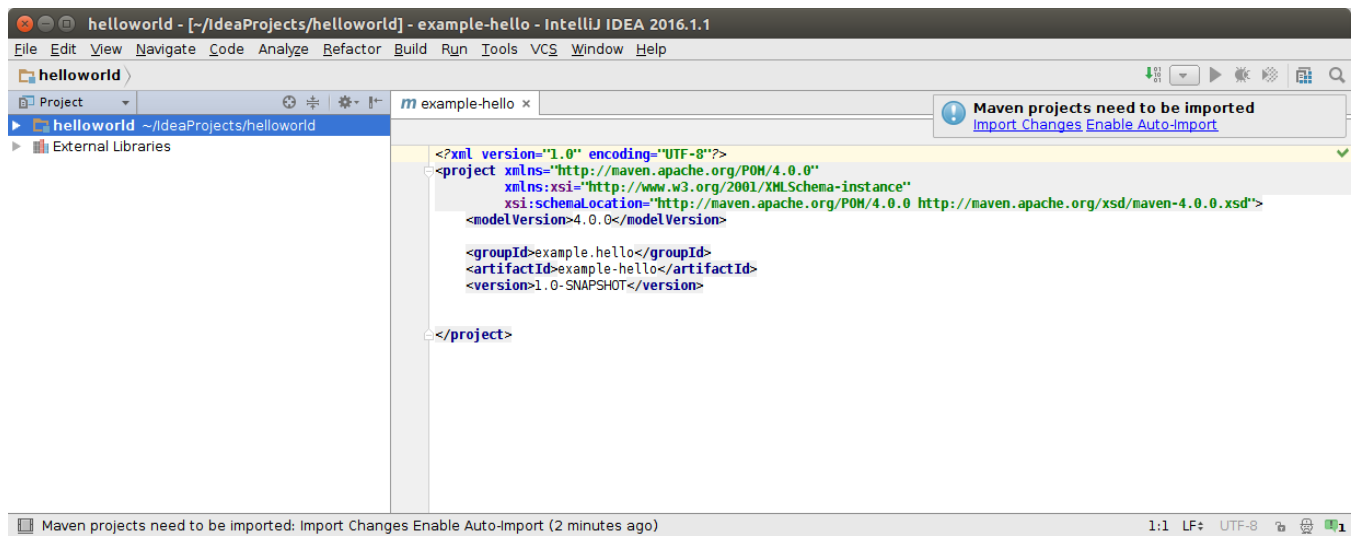4. You should see welcome screen like this:

Select "Create New Project".

5. Select "Maven" from the left side bar.

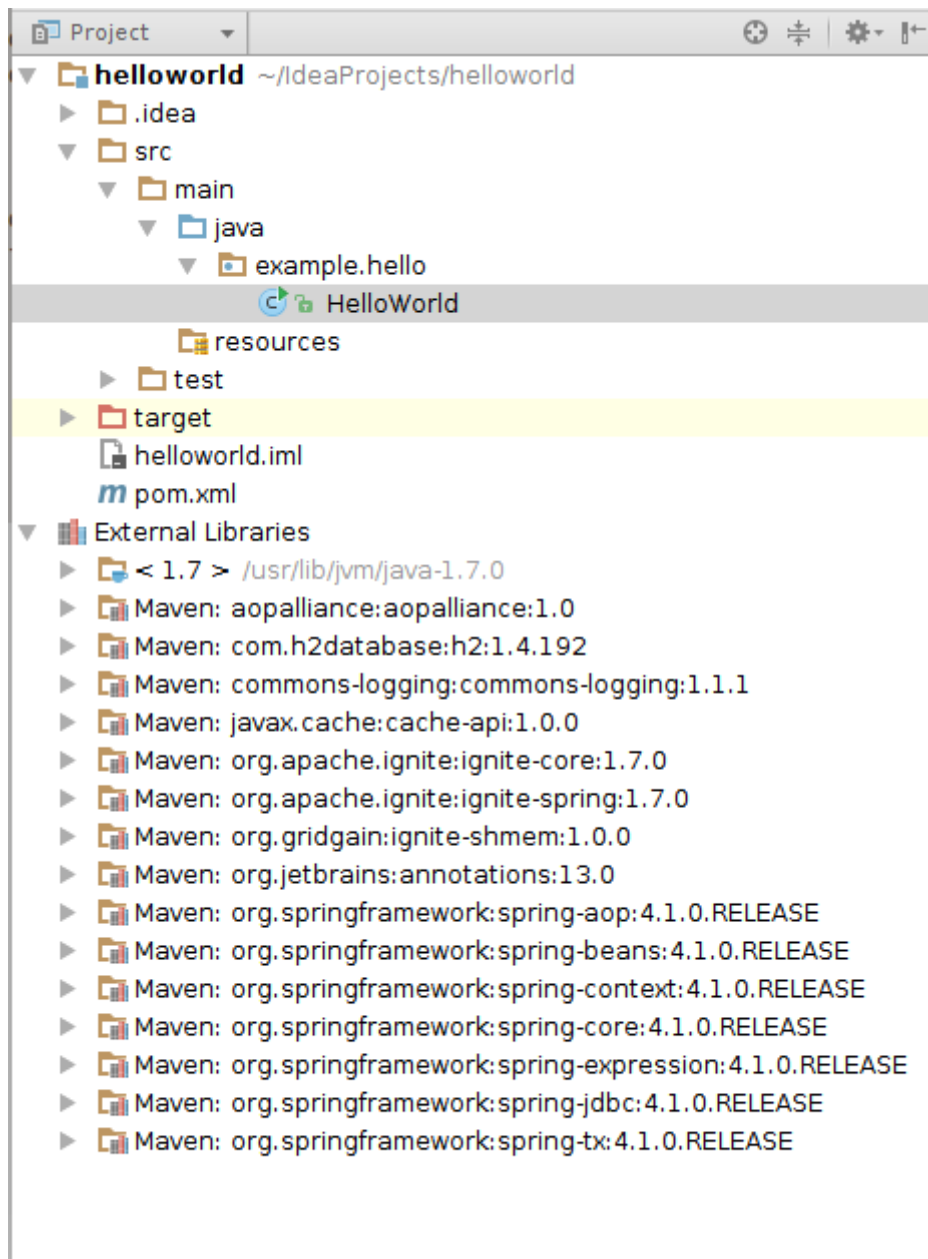6. To select Project SDK click "New". Select Java-1.7.0 from the file browser
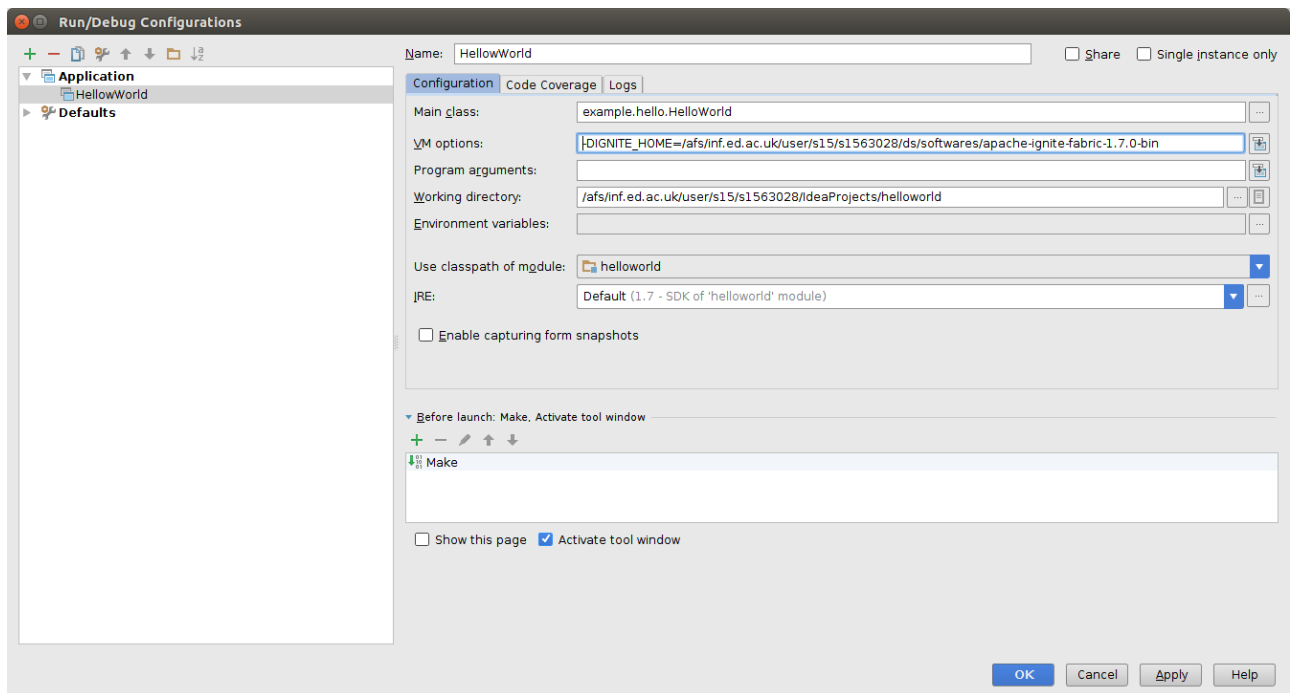
Click OK and then Next.

7. Enter GroupId as "example.hello" and ArtifactId as "example-hello". For better understanding refer [here](). Click Next

8. Select Project Name as "helloworld". Click Finish.

9. A project screen will be opened. Click on the "Enable Auto-import" in the "Maven projects to be imported" popup.

10. Create new package "example.hello" in src->main->java in the project window in the left hand side. Then Create a new Java class "HelloWorld" in it.

11. You need to add dependency for ignite-core, ignite-spring and h2 database. Your pom.xml should look like this.

12. Your HelloWorld.java should look like this.

13. Your project directory structure should look like this

14. Now make the project by clicking "Build->Make Project". On successful building the project, this would generate class files in target/classes directory.

15. Edit the run configuration by clicking "Run->Edit Configurations". Click on "+" and select "Applicaiton".

   ○ Enter "HelloWorld" as the "Name" of the configuration.

   ○ Enter "example.hello.HelloWorld" in "Main Class".

   ○ In "Configuration" tab, Enter "-DIGNITE_HOME=[path to apache-ignite-fabric-1.7.0-bin without /]" in "VM options". As we have spacified the relative path for the config file, this settings is needed. The configuration screen should look similar to this:

16. Open another terminal. Run ignite.sh with config file "examples/config/example-ignite.xml" as

```
bin/ignite.sh examples/config/example-ignite.xml
```

17. From Idea click Run->Run to run the program. You should see similar lines as below in the new terminal you have just opened in the previous step:

```
[14:22:27] Topology snapshot [ver=2, servers=2, clients=0, CPUs=16, heap=11.0GB]
>>> Hello Node: 0103935b-9eee-49ce-a1ef-16341a3b352a
```