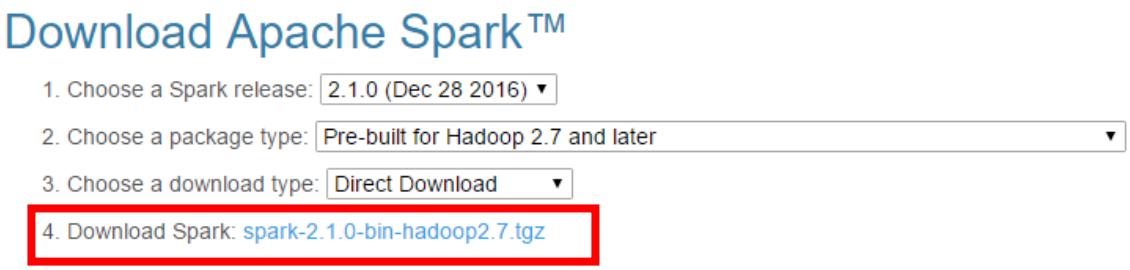
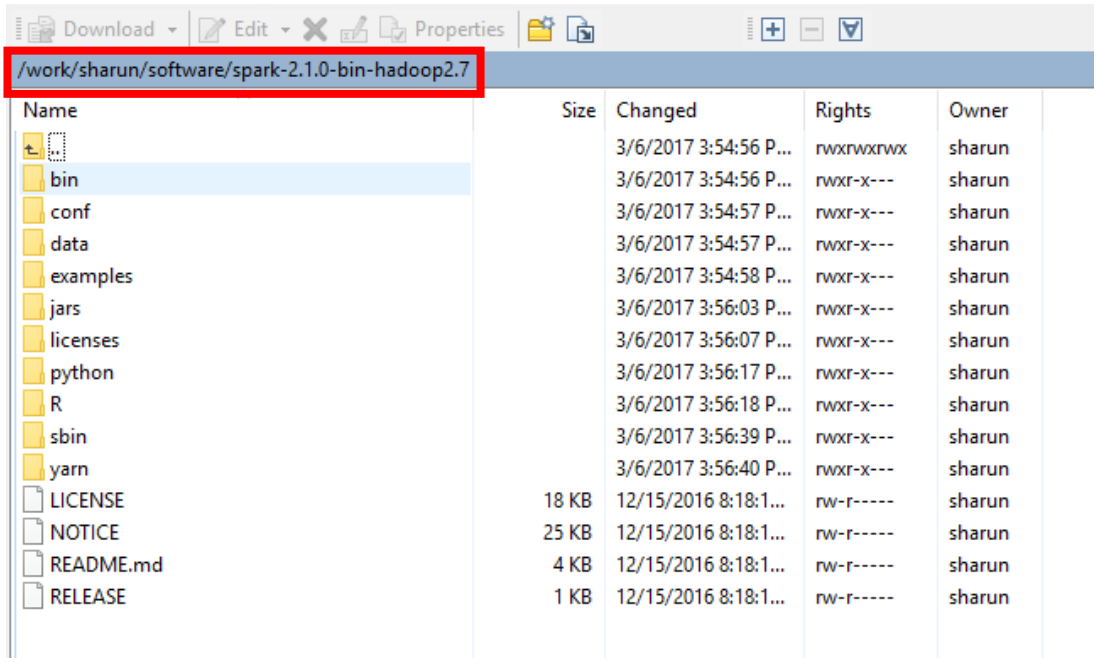
How to run LANS:

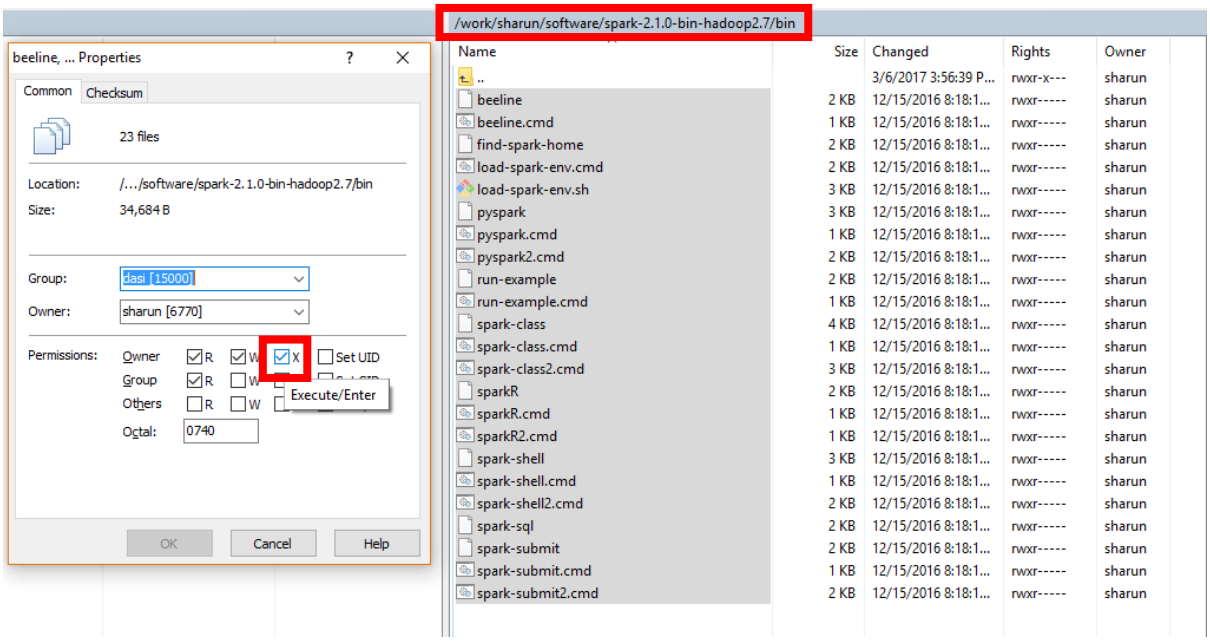
1. Download the following version of Spark from "http://spark.apache.org/downloads.html".



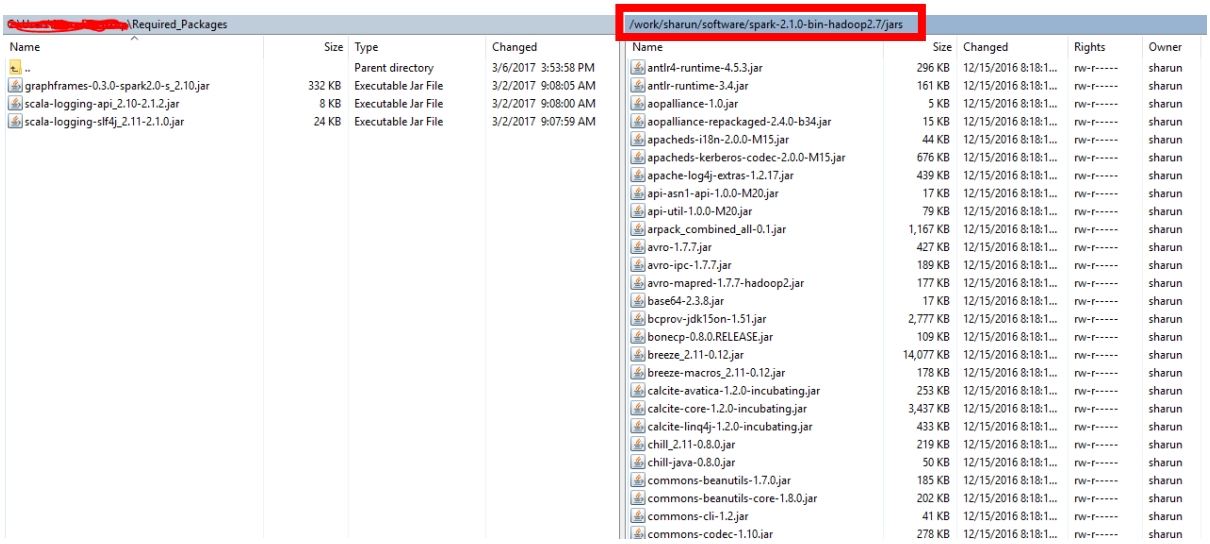
2. Unzip and copy it in a folder in working directory at Shadow.



3. Modify the properties of the files at bin folder and make them executable (by default they are not executable).



4. Copy all the jar files from "Graph-Simulation-X-master/Required_Packages" and paste it to "/spark-2.1.0-bin-hadoop2.7/jars" folder.



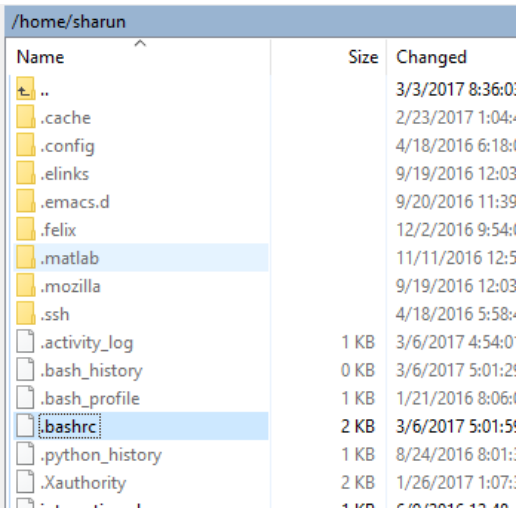
5. Configure SPARK_HOME, python, openmpi and R at ".bashrc" file in "/home/$User" folder using the following commands:

   swsetup openmpi-1.10

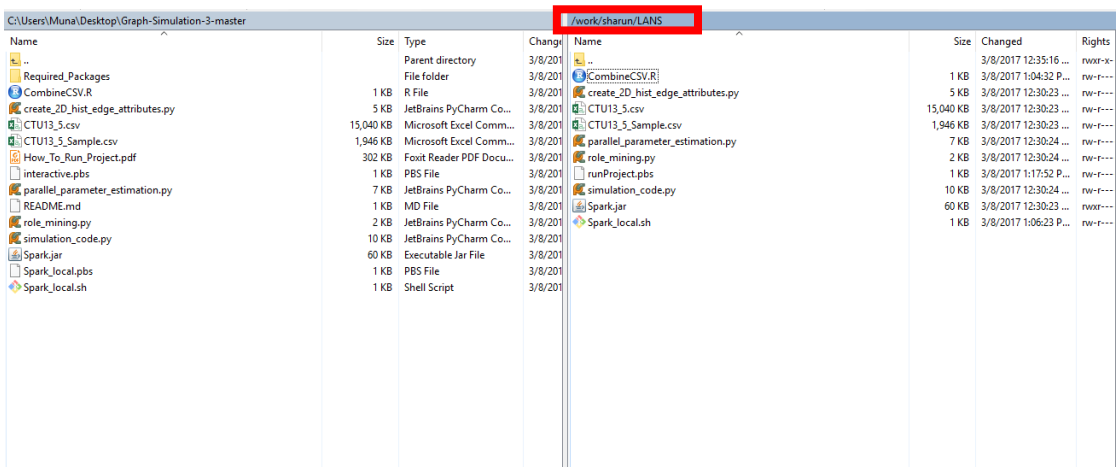
   swsetup python

   swsetup r-3.2.1

   export SPARK_HOME=/work/$User /...../spark-2.1.0-bin-hadoop2.7 (provide full path)



6. Create a working directory to execute all the codes. For example, we have created "LANS" as our working directory and copy all the files except "Required_Packages" from "Graph-Simulation-X-master" to "LANS".



7. Keep all the input files inside of the "input_files" folder.
8. Now, using putty, log in to Shadow and change directory to "LANS".
9. Submit job "runProject.pbs" to shadow.
10. When the job ends it will provide the simulated graph in "SimulatedGraph" folder.