

## Steps to execute MapReduce programs on Hadoop:

1. Create a new file named **Bash.sh** inside your **hadoop-3.3.2** folder by typing **vi Bash.sh** in terminal
2. Copy below code and paste inside Bash.sh file

```
export JAVA_HOME=$(readlink -f $(which javac) | awk 'BEGIN {FS="/bin"} {print $1}')
export PATH=$(echo $PATH):$(pwd)/bin
export CLASSPATH=$(hadoop classpath)
```
3. In terminal execute Bash.sh file using **source Bash.sh**
4. Create your program directory and write Driver.java, MapperCode.java, ReducerCode.java (names may not be the same for the files), make sure the Driver.java has the correct class names of Mapper and Reducer Class. Make sure all java files have a package in them Eg:  
package Test;
5. Navigate to your program directory and follow below steps to execute programs.
6. Compile all java files (driver.java,mapper.java,Reducer.java)  
**javac -d . \*.java**  
The above command compiles all the java files and creates .class files inside the package folder
7. Set driver class in manifest  
**echo Main-Class: <packagename.driver> > Manifest.txt**  
**ex: Main-Class: oddeven.driver > Manifest.txt**
8. Create an executable jar file  
**jar cfm <jar\_name>.jar Manifest.txt <package-name>/\*.class**  
**ex: jar cfm oddeven.jar Manifest.txt oddeven/\*.class**
9. Run the jar file  
**hadoop jar <jarfilename>.jar <inputfile> <output>**  
**ex: hadoop jar oddeven.jar oe.txt ouput**
10. To see the output  
**cat <output\_folder>/\***  
**ex: cat output/\***