What is docker ?

Docker is a set of platform as a service products that use OS-level virtualization to deliver software in packages called containers. Containers are isolated from one another and bundle their own software, libraries and configuration files; they can communicate with each other through well-defined channels.

What is Docker image ?

* Docker image represent the set of software
* ex: Selenium/standalone-server-chrome this is the image which contains the selenium web driver and chrome installed

What is Docker container

* Docker containers are instance of the docker image.

What is Docker Hub ?

* It’s just like a maven repository. It’s repository of the docker images

What are the steps involved in dockerization:

* Download and install the docker
* Go to the command prompt and download the necessary docker image.
* Start the container for the corresponding image.
* Perform the operation on the container
* And stop the container

Basic docker commands :

* Docker pull { image name}  : is the command used to pull the docker image from docker hub.
* Docker run  { image name} : is used to run the image pulled image from the docker hub
* Docker ps : used to check the containers that already running.
* Docker stop { container ID } : is used to stop the already running container.
* docker images: to check what images are downloaded from docker hub.
* docker machine ip: to get the ip addresses of the docker machine

Selenium docker images link: <https://github.com/SeleniumHQ/docker-selenium>

Set of images already created by selenium guys are :

* **selenium/base**: Base image which includes Java runtime and Selenium Server JAR file
* **selenium/hub**: Image for running a Grid Hub
* **selenium/node-base**: Base image for Grid Nodes which includes a virtual desktop environment
* **selenium/node-chrome**: Grid Node with Chrome installed, needs to be connected to a Grid Hub
* **selenium/node-firefox**: Grid Node with Firefox installed, needs to be connected to a Grid Hub
* **selenium/node-opera**: Grid Node with Opera installed, needs to be connected to a Grid Hub
* **selenium/node-chrome-debug**: Grid Node with Chrome installed and runs a VNC server, needs to be connected to a Grid Hub
* **selenium/node-firefox-debug**: Grid Node with Firefox installed and runs a VNC server, needs to be connected to a Grid Hub
* **selenium/node-opera-debug**: Grid Node with Opera installed and runs a VNC server, needs to be connected to a Grid Hub
* **selenium/standalone-chrome**: Selenium Standalone with Chrome installed
* **selenium/standalone-firefox**: Selenium Standalone with Firefox installed
* **selenium/standalone-opera**: Selenium Standalone with Opera installed
* **selenium/standalone-chrome-debug**: Selenium Standalone with Chrome installed and runs a VNC server
* **selenium/standalone-firefox-debug**: Selenium Standalone with Firefox installed and runs a VNC server
* **selenium/standalone-opera-debug**: Selenium Standalone with Opera installed and runs a VNC server

How to start the containers of selenium docker images ?

$ docker run -d -p 4444:4444 -v /dev/shm:/dev/shm selenium/standalone-chrome:3.141.59-20200525

How to setup grid hub and grid nodes using the selenium docker ?