**Selenium Grid Documentation High Level**

**Precondition for Standalone, Hub-Node and Distributed mode**

java -jar webdrivermanager-5.2.3-fat.jar resolveDriverFor chrome

java -jar webdrivermanager-5.2.3-fat.jar resolveDriverFor firefox

Download fat jar from following location

<https://github.com/bonigarcia/webdrivermanager/releases>

**Notes**: Precondition need to be run in machine only first time. Once driver exists on the machine and we are initiating the grid from same location no need to run above commands again

* **Standalone Mode**

java -jar selenium-server-4.5.0.jar standalone

-Change hub URL in generic.properties with your hub url generated under com.ttn.WebAutomation.properties

* **Hub Node Mode**

**Start hub**

java -jar selenium-server-4.5.0.jar hub --port 5555

After running the hub same can be viewed over UI under following URL

<http://localhost:5555/ui> or URL reflecting in cmd

-Change hub URL in generic.properties with your hub url generated under com.ttn.WebAutomation.properties

**Start Nodes from same machine**

java -jar selenium-server-4.5.0.jar node --port 4545

java -jar selenium-server-4.5.0.jar node --port 4547

**Start Node from different machine**

java -jar selenium-server-4.5.0.jar node --detect-drivers true --publish-events tcp://192.168.1.35:4442 --subscribe-events tcp://192.168.1.35:4443 --port 4547

Event bus and subscribe IP address fetched after starting the hub



After running the nodes verify on UI mode of grid that node registered successfully



* **Distributed Mode**

For distributed mode we need to start following components individually

**event bus**

java -jar selenium-server-<version>.jar event-bus --publish-events tcp://<event-bus-ip>:4442 --subscribe-events tcp://<event-bus-ip>:4443 --port 5557

**Session queue**

java -jar selenium-server-<version>.jar sessionqueue --port 5559

**Session Map**

java -jar selenium-server-<version>.jar sessions --publish-events tcp://<event-bus-ip>:4442 --subscribe-events tcp://<event-bus-ip>:4443 --port 5556

**Distributor**

java -jar selenium-server-<version>.jar distributor --publish-events tcp://<event-bus-ip>:4442 --subscribe-events tcp://<event-bus-ip>:4443 --sessions [http://<sessions-ip>:5556](http://%3Csessions-ip%3E:5556/) --sessionqueue [http://<new-session-queue-ip>:5559](http://%3Cnew-session-queue-ip%3E:5559/) --port 5553 --bind-bus false

**Router**

java -jar selenium-server-<version>.jar router --sessions [http://<sessions-ip>:5556](http://%3Csessions-ip%3E:5556/) --distributor [http://<distributor-ip>:5553](http://%3Cdistributor-ip%3E:5553/) --sessionqueue [http://<new-session-queue-ip>:5559](http://%3Cnew-session-queue-ip%3E:5559/) --port 4444

**Node**

java -jar selenium-server-<version>.jar node --publish-events tcp://<event-bus-ip>:4442 --subscribe-events tcp://<event-bus-ip>:4443



**Documentation References**

* <https://bonigarcia.dev/webdrivermanager/#:~:text=Selenium%20Grid%20is%20an%20infrastructure,usual%2C%20we%20can%20use%20WebDriverManager>.
* <https://www.selenium.dev/documentation/grid/getting_started/>