🗀 1. Upload a File in Selenium

```
// Locate the file upload element and send the file path

WebElement element = driver.findElement(By.id("uploadElementId"));
element.sendKeys("C:\\path\\to\\your\\file.txt");
```

📝 Use sendKeys() on an <input type="file"> element to upload a file.

📐 2. Capture Width and Height of an Element

```
// Get element's location and size
Point point = element.getLocation();
int elementWidth = element.getSize().getWidth();
int elementHeight = element.getSize().getHeight();

int x = point.getX();  // This gets the x-coordinate
int y = point.getY();  // (optional) gets the y-coordinate if needed
```

📝 getLocation() gives (x, y) position; getSize() gives width and height.

🕸 3. Selenium Grid Setup

✅ Start Hub

```
java -jar selenium-server-standalone-x.xx.x.jar -role hub
```

This starts the Hub server.
The Hub is the central point that receives test requests and distributes them to available Nodes.
Once started, the Hub listens

✅ Start Node

```
java -jar selenium-server-standalone-x.xx.x.jar -role node -hub
```

This starts a Node and registers it to the Hub.
A Node is a machine (or browser instance) where actual tests run.

✅ Grid Console URL
http://localhost:4444/grid/console

This URL opens the Selenium Grid Console in your browser.

It shows the status of the Hub and all registered Nodes, including what browsers are available, how many sessions are active, etc.

Selenium Grid is a tool that lets you:
Run tests in parallel (multiple tests at once).
Run tests on different browsers and operating systems.
Scale your test execution across multiple machines.
It uses a Hub-Node architecture:
Hub – Central controller.
Nodes – Machines where the tests actually run.