**Desired Capabilities in Selenium:**

When we start Firefox browser using Selenium, ***it opens a fresh instance of browser***. If we have customized setting in the browser like bookmarks, plugins, firebug, firepath etc. it will not be loaded with the opened browser instance in Selenium. It will speed up the browser slightly.

But sometime there might be requirement we would like to customize the browser that should open during execution.

**Firefox profiling in Selenium:**

To create Firefox Profile:

Steps:

1. Windows Key+R
2. firefox.exe -p
3. Create Profile
4. Provide desired profile\_name
5. Click finish
6. Start Firefox
7. Do some bookmarking/or settings and File > Exit

**Using the Firefox Profile**:

ProfilesIni prof=new ProfilesIni();

FirefoxProfile profile=prof.getProfile(“profile\_name”);

WebDriver driver=new FirefoxDriver(profile);

**Note:** *not all server implementations will support every WebDriver feature*, ***DesiredCapabilities*** help to set the properties for WebDriver.

**Capabilities** are series of ***key/value*** pairs that express the essential features of a browser.

1. Using the preferred browser:

DesiredCapabilities cap=new DesiredCapabilities().firefox();

WebDriver driver=new FirefoxDriver(cap);

1. Changing the proxy of the System:

String PROXY = "localhost:8080";

Proxy proxy = new Proxy();

proxy.setHttpProxy(PROXY)

.setFtpProxy(PROXY)

.setSslProxy(PROXY);

DesiredCapabilities cap = new DesiredCapabilities();

cap.setCapability(CapabilityType.PROXY, proxy);

WebDriver driver = new FirefoxDriver(cap);

//can set for other browser like internet explorer

//WebDriver driver = new InternetExplorerDriver(cap);

1. FirefoxProfile at run time with desired capabilities.

DesiredCapabilities caps=DesiredCapabilities.firefox();

FirefoxProfile profile = new FirefoxProfile();

caps.setCapability(FirefoxDriver.PROFILE, profile);

Webdriver driver = new FirefoxDriver(caps);

1. Can be helpful in selenium Grid:

Selenium Grid is helpful to provide parallel testing of the test cases. It can have multiple browser instances , different browser types and platforms.

DesiredCapability can help to select the browser and platform preferences as given below in the table.

Key Type Description

browserName string We can set the preferred browser name like (android|chrome|firefox|htmlunit|internet explorer|iPhone|iPad|opera|safari).

version string The browser version, or the empty string if unknown.

platform string It is used to specify the particular operating system or platform where test cases will be executing.Its values could be (WINDOWS|XP|VISTA|MAC|LINUX|UNIX|ANDROID).

If platform is unknown , keyword ANY could be specified.

DesiredCapabilities caps = new DesiredCapabilities().firefox();

caps.setVersion("30");

caps.setPlatform(Platform.WIN8);

WebDriver driver = new RemoteWebDriver(new URL("http://localhost:4444/wd/hub"), caps);

or

DesiredCapabilities caps = new DesiredCapabilities().firefox();

caps.setVersion("30");

caps.setPlatform(Platform.ANY);

WebDriver driver = new RemoteWebDriver(new URL("http://localhost:4444/wd/hub"), caps);

others

capability.setPlatform(Platform.MAC); //Set platform to OSX

capability.setPlatform(Platform.LINUX); // Set platform to Linux based systems

capability.setPlatform(Platform.MAC); //Set platform to OSX

capability.setPlatform(Platform.LINUX); // Set platform to Linux based systems

capability.setPlatform(Platform.WINDOWS); //Set platform to Windows

capability.setPlatform(Platform.WINDOWS); //Set platform to Windows

capability.setPlatform(Platform.VISTA); //Set platform to VISTA

capability.setPlatform(Platform.VISTA); //Set platform to VISTA

capability.setPlatform(Platform.WIN8); //Set platform to Windows

capability.setPlatform(Platform.WIN8); //Set platform to Windows

capability.setPlatform(Platform.WIN8\_1); //Set platform to Windows 8.1

capability.setPlatform(Platform.WIN8\_1); //Set platform to Windows 8.1

Proxy Server: the machine/server which acts as middle - man/layer between local machine and web application.

* It can cache web pages which are frequently visited.
* It can be used to mask our IP address to the outside world.
* It creates security/protection of the local machine from hackers as the IP is masked.