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**4) Selenium Supporting Environments**  
   
**a) Operating Environment**  
    MS Windows  
  
    Linux  
  
    Macintosh  
  
    Apple OX  
  
**b) Application Environment**  
    i) CUI based (Command User Interface, Only 2% app exists with CUI)- Selenium doesn't support.   
  
    ii) Windows based-Selenium doesn't support.

Under windows based app, it can be either one tier or two tier app. One tier example is notepad .No db connection. Flight reservation is two tier.  
  
    iii) Web based (3 tier apps or multi tier) - Selenium supports.  
  
    iv) Mobile based- Supports Mobile Applications which have Web forms.  
  
**c) Programming Environment**  
    Java  
  
    C#  
  
    Python  
  
    Perl  
  
    Ruby  
  
    PHP  
  
Note: Selenium IDE doesn't support any programming language.  
  
**d) Browser Environment**  
    Google Chrome  
  
    Mozilla Firefox  
  
    IE  
  
    Safari  
  
    Opera etc...  
  
Note: Selenium IDE supports Firefox Browser only.  
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**5) Selenium License**  
   
All Selenium Projects released under the Apache 2.0 License  
  
> Anybody can download and use all Selenium projects with free of cost.  
  
> Anybody can modify the source code and distribute the source code  
  
\*\* Selling modified code is not allowed.  
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**6) Testing Frameworks and Other tools used in Selenium**  
   
**Testing Frameworks**  
    JUnit Framework – Unit test Framework. Mostly used by dev for unit testing.  
  
    TestNG Framework – Inspired by JUnit and have some advance features.

The above are not a part of selenium test suite but are open source and can be used.  
  
Eclipse IDE -   
  
> To create and execute Java programs,   
  
> Add Selenium WebDriver .jar files to Java project and use Webdriver features.  
  
> Install TestNG/JUnit Testing Frameworks  
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Firebug and Firepath plug ins (Mozilla Firefox) for inspecting elements in Firefox browser.  
  
Note: Google Chrome and IE browsers have built Developer tools (F12) to inspect elements.  
  
Browser Drivers for Cross Browser Testing  
  
For Google Chrome, IE etc... Browsers, download Browser drivers and set driver path in test scripts.  
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**7) Selenium Environment Setup**  
   
**Choose Selenium Tools**  
    Selenium WebDriver to create Test cases.  
  
    Java as Programming Language  
  
    TestNG Framework as Test Runner.  
  
    Firebug and Firepath plug in for Mozilla browser to inspect Elements.  
  
    Browser Drivers etc...  
  
**Configure Selenium:**  
> Download Eclipse IDE and extract  
  
> Download Java software and Install.  
  
> Set Environment variable (Path variable).  
  
> Download Selenium WebDriver java language binding (seleniumhq.org) and add   
  WebDriver jar file to Java project in Eclipse IDE.  
  
> Download and install Firebug and Firepath from Mozilla browser to inspect elements.  
  
> Download IE, Chrome etc... Browser drivers.  
  
> Download and install TestNG Testing Framework from Eclipse IDE  
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**8) Advantages of Selenium**  
   
    i) It is an Open source Software.  
  
    ii) It supports various Operating environments (Windows, Linux, Mac etc...)  
  
    iii) It supports various browsers (IE, Mozilla Firefox, Chrome, safari, Opera etc...)  
      
    iv) It supports various programming environments (Java, Perl, Python, Ruby and PHP)  
      
    v) It supports parallel Test execution.  
  
    vi) It uses less Hardware resources.  
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**9) Disadvantages of Selenium**  
      
    i) It supports Web based Applications only.  
  
    ii) No reliable support from anybody.  
  
    iii) No centralized maintenance of Elements/objects  
  
    iv) Difficult to setup environment.  
  
    v) Difficult to use.  
  
    vi) Limited support for Image based testing.  
  
    vii) New features may not work properly.  
  
    viii) No other tool integration for test management.  
  
    ix) No built in Reporting facility.  
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**10) Selenium Versus UFT**

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| --- | --- |
| Selenium | UFT / QTP |
| 1) Open Source | Vendor tool, License is required. |
| 2) Supports various OS Environments. | MS Windows only. |
| 3) Supports various Programming Environments | VBScript only. |
| 4) No Object Repositories | Local and Shared object Repositories. |
| 5) No built-in Reporting feature. | Built-in reporting feature. |
| 6) Selenium WebDriver has no IDE and Selenium IDE has no Programming Interface. | UFT has both IDE and Programming Interface. |
| 7) Uses less Hardware resources. | Uses more Hardware resources |
| 8) Difficult to setup environment and use. | Easy to setup and use. |
| 9) Limited support for Image Testing | Rich support for Image Testing |
| 10) No Reliable support | Support from HP |
| 11) No other tool integration for Test management. | UFT can be integrated with ALM/QC for Test Management. |
| 12) New features may not work properly. | New features will properly. |
| 13) No Add ins for supporting Application Environments. | Add ins are required for supporting Application environments. |
| 14) Supports Web Applications only | Supports Desktop and Web Applications. |
| 15) No Authorized Certification | Authorized Certification program. |