

Questions for Selenium Grid

Category: Selenium Grid basics - (16 questions)

How to check that the Hub is running by looking at its console in a browser:

<http://localhost:4444/console>

Remote control instances that have been registered to the grid show up where?

in the Hub console
<http://localhost:4444/console>:

How do you tell a selenium remote control what environment to provide to the hub...and how does this interact with tests from the hub

1: When you start a Remote Control you define which environment it provides to the Hub.
`ant -Denvironment="Firefox on Windows" launch-remote-control`
 2: In your Selenium test, when instantiating the Selenium driver, pass the Hub environment in lieu of the browser string:

```
new DefaultSelenium("localhost", 4444,
  "**chrome**", 'http://amazon.com');
```

or

```
new DefaultSelenium("localhost", 4444,
  "**Firefox on Windows**",
  'http://amazon.com');
```

What is selenium grid

open-source tool speeds up web testing by leveraging your existing computing infrastructure.
 can run multiple tests in parallel and on multiple machines, cutting down the time required for running web acceptance tests.

Three fundamental functions Selenium web testing tool was designed to cover

launch a browser,
 drive the browser (open a url, enter some data, click on a link)
 check browser state (a section is visible, specific text is present, a widget is disabled).

how do you define your own environments

To define your own environments, edit the `grid_configuration.yml` file at the root of the Selenium Grid binary distribution.

<p>The grid concept refers to what in Selenium Grid?</p>	<p>a distributed grid of Selenium Remote Controls</p>
<p>How has scalability been addressed by the component of Selenium Grid known as the Selenium Hub</p>	<p>The Hub now handles</p> <ul style="list-style-type: none"> Allocating a one or more specific Selenium Remote Controls (selenium server) to a specific test (transparently) Limiting the number of concurrent test runs on each Remote Control Shielding the tests from the actual grid infrastructure
<p>How is Selenium Hub different from Selenium Remote Control</p>	<p>Essentially, not much...the Hub exposes an external interface that is exactly the same as the one of a traditional Remote Control so a test suite can transparently target a regular Remote Control or a Selenium Hub with no code change. it just needs to target a different IP address.</p>
<p>routing Selenese requests from tests to the appropriate remote control is handled by</p>	<p>Selenium Hub</p>
<p>component that allocates Selenium Remote Controls to each test</p>	<p>the Hub</p>
<p>What happens when a new test starts in terms of the Hub managing requests relative to remote controls being available?</p>	<p>the Hub puts its first request on hold if there is no available Remote Control in the grid providing the appropriate capabilities.</p> <p>As soon as a suitable Remote Control becomes available, the Hub will serve the request.</p>
<p>What knowledge of the grid is needed by the tests...</p>	<p>none, hub is just waiting for an http response to come back</p>
<p>How does a "traditional" Selenium test request a specific browser at the beginning of the Selenium session</p>	<p>. It requests it in the form of a pre-defined string such as *firefox or *iexplore.</p>
<p>Selenium Hub's "Knowledge" of OS environment provides which capabilities not found in selenium RC</p>	<p>You can specifically target for particular browser AND particular platform</p>

<p>what does this do /and how is it significant change in syntax from Remote Control to Grid</p> <pre>new DefaultSelenium("localhost", 4444, **'Firefox on Windows'**, 'http://amazon.com');</pre>	<p>launches firefox browser with a specific OS - no can do the OS part with remote control.</p>
<p>Category: Selenium Remote Control Basics - (6 questions)</p>	
<p>What is selenium remote control (overview)? What are its two components</p>	<p>test tool to write automated web application UI tests in any programming language against any HTTP website using any mainstream JavaScript-enabled browser. Selenium RC comes in two parts.</p> <p>A server which can</p> <ol style="list-style-type: none"> automatically launch and kill supported browsers, and acts as a HTTP proxy for web requests from those browsers. <p>Client libraries for your favorite computer language.</p>
<p>how do you drive the Selenium Remote Control,</p>	<p>by sending HTTP requests following a specific protocol (called Selenese)</p>
<p>two parts of selenium remote control</p>	<ol style="list-style-type: none"> 1 A server which can automatically launch and kill supported browsers, and acts as a HTTP proxy for web requests from those browsers. 2 Client libraries for your favorite computer language.
<p>How does Selenium Remote Control communicate with the browser</p>	<p>The Selenium Server communicates directly with the browser using AJAX (XmlHttpRequest).</p>
<p>Implication of selenium remote control sending XmlHttpRequests and your ability to send commands directly to the Server using simple HTTP GET/POST requests;</p>	<p>You can program in any language</p>
<p>How can you send commands to Selenium Server</p>	<p>You can send commands directly to the Server using simple HTTP GET/POST requests;</p>

Category: ant commands - (11 questions)	
ant command to launch a hub in a new terminal	ant launch-hub
Command to launch remote control with ant	ant launch-remote-control
syntax to run a test process defined in your selenium grid client library	ant [process_name]
Command format/syntax to launch three remote control instances	<p>give it the port (any other options) and use</p> <pre> launch_remote_control ant -Dport=5556 launch-remote-control ant -Dport=5557 launch-remote-control ant -Dport=5558 launch-remote-control </pre>
Command to launch the task demo-in-parallel in a new terminal (ant command)	ant run-demo-in-parallel
<p>port in the statment below is what?</p> <pre> ant -Dport=<port> -Dhost=<hostname> -DhubURL=<hub url> launch-remote-control </pre>	<p>Port that the remote control will be listening at. Must be unique on the machine the remote control runs on.</p>
<p>hostname in the statement below is what?</p> <pre> ant -Dport=<port> -Dhost=<hostname> -DhubURL=<hub url> launch-remote-control </pre>	<p>Hostname or IP address of the machine the remote control runs on. Must be visible from the Hub machine. Note: this information could be inferred as it is always referring to the machine the remote control runs on. It might not be required in future versions of the Selenium Grid.</p>
<p>hub URL in the command below is what?</p> <pre> ant -Dport=<port> -Dhost=<hostname> -DhubURL=<hub url> launch-remote-control </pre>	<p>hub the remote control should register/unregister to.</p> <p>If the hub is running on hostname my.hub.com, this URL will be http://my.hub.com:4444</p>
In what way does Selenium Grid "instrument" the Selenium Remote Controls that comprise the grid	<p>remote controls (instances of selenium server) register themselves to the Hub when they start - optionally describing which environment they are providing...for example Firefox on Windows.the above is important to know because it is the hub's job is to parse out tests that target specific environments, and load balance those tests</p>

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What key peice of information that might be easy to forget, and will, if omitted, futz " ant launch-remote-control" command on your remote machines?	the port added to DhubURL Make sure you specifiy port http://123.45.6.78:4444 or the remote control will report failures to register and tell you its because the environment is probably not defined
Category: Selenium Basics - (6 questions)	
Where do Selenium tests run (for vanilla Selenium - not Grid, or RC)	directly in the browser
The two modes of operation for Selenium are	Core and REmote Control
Capability of Selenium Remote Control that allows you to distribute tests across hardware	Selenium Grid
Selenium Remote Control differs from Selenium Core how (the introductory sentance)	more advanced. It is able to test a wider range of web-applications than Selenium-Core and is more scalable,
How does Selenium work in Core mode/when is it appropriate	the JavaScript core library and the tests in question are loaded into your webapp. simpler form of Selenium, suitable for non-developers, has some inherent limitations
Selenium Remote Control model differs from/builds on Core in what primary way....	Core=everything has to be on the same server
Category: Integration with EC2 - (8 questions)	
What is EC2 the hip lingo for?	Amazon Elastic Compute Cloud
SeleniumGrids Demo for EC2 assumes what platforms	a UNIX plaform (Mac OS X, Linux Solaris, BSD)

<p>5 EC2 Environment variables that must be set</p>	<p>"HPCKK"</p> <p>EC2_HOME Should point to the directory where you installed EC2 API tools</p> <p>EC2_PRIVATE_KEY Should point to your EC2 private key file. e.g. /somewhere/pk-5CCEI7ODBPYGRXYOAZW GPVCG5LJ6HLGE.pem</p> <p>EC2_CERT Should point to your EC2 certificate file. e.g. /somewhere/cert-5CCEI7ODBPYGRXYOAZ WGPVCG5LJ6HLGE.pem</p> <p>EC2_KEYPAIR Should point to your EC2 keypair file. e.g. /somewhere/id_rsa-gsg-keypair.pem</p> <p>EC2_KEYPAIR_NAME Should be the name of your EC2 keypair. e.g. gsg-keypair</p>
<p>Command to install capistrano on OS X10.5 (leopard)</p>	<p>sudo gem install capistrano -y</p>
<p>capistrano command to vnc to all Remote Controls on EC3 Grid</p>	<p>cap rc:view</p>
<p>capistrano command to start Selenium Grid Hub, Remote Controls and VNC on the EC2 grid once booted</p>	<p>cap grid:start</p>
<p>capistrano command view selenium Grid Hub Console</p>	<p>cap hub:console</p>
<p>capistrano command to discover the dns name of the selenium Grid Hub</p>	<p>cap grid:info</p>