

Introduction to Selenium grid

Thursday, June 29, 2017 7:33 AM

Official site of selenium grid: http://www.seleniumhq.org/docs/07_selenium_grid.jsp

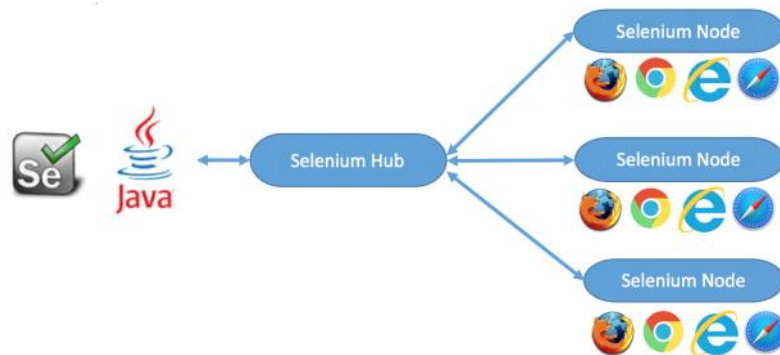
What is Selenium grid?

- Selenium grid allows you to run your tests on different machines against different browsers in parallel.

When to use selenium grid?

- Run your tests against different browsers, operating systems, and machines all at the same time.
- Save time in the execution of your test suites.

Selenium Grid Architecture



- The hub
 - The hub is the central point where you load your tests into
 - There should be only one hub in a grid
 - The hub is launched only on a single machine
 - The machine containing the hub is where the testing will be run, but you will see the browser being automated on the node
- The Nodes
 - Nodes are the selenium instances that will execute the tests that you loaded on the hub
 - There can be one or more nodes in a grid
 - Nodes can be launched on multiple machines with different platforms and browsers
 - The machines running the nodes need not be the same platform as that of the hub

Installation of Selenium grid

Thursday, June 29, 2017 1:54 PM

Installation of Selenium Hub:

1. Create a folder "C:\selenium\hub" on the machine where you plan to install the hub.
2. Copy all the files from

H:\Department\QualityAssurance\QAAutomation\web\seleniumgrid\hub

over to the folder "C:\selenium\hub" on the target machine.

3. Create a folder "C:\selenium\logs" for the log files.
4. Download nssm from

<http://nssm.cc/download>

Then unzip and install nssm on the target machine. nssm is used to install the hub as a windows service.

5. Download and install java jdk (Java SE 7u71/72 or above) from

<http://www.oracle.com/technetwork/java/javase/downloads/index.html>

on the target machine. Java is used to run the hub.

6. Install the hub as a windows service like what Joseph said in his email:

- a. Right-click **Command Prompt** and select "**run as administrator**"
- b. Enter command:
nssm.exe install "Service Name"

Sample:

nssm.exe install "Selenium Hub"

- c. Under **Application** tab, enter your program path and arguments, for example:

Path: C:\Program Files (x86)\Java\jdk1.7.0_60\bin\java.exe

Arguments: -classpath C:\Selenium\hub\selenium-server-standalone-2.53.1.jar org.openqa.grid.selenium.GridLauncher -role hub -hubConfig "C:\Selenium\hub\hubconfig.json"

- d. Click **Install Service**

7. Go to services window and start the service "Selenium Hub".
8. The following server url

<http://hub-machine-domainname:4444/wd/hub>

is used in the test script to create remote web driver to do the testing.

Installation of Selenium Node:

1. Create a folder "C:\selenium\node" on the machine where you plan to install the node
2. Copy all the files from

H:\Department\QualityAssurance\QAAutomation\web\seleniumgrid\node

over to the folder "C:\selenium\node" on the target machine.

3. Modify the file nodeConfig.json and point "hubHost" to the machine name of the target hub; Also point the "host" to the node machine.
4. Create a folder "C:\selenium\logs" for the log files of the node (debug info is also there).
5. Download nssm from

<http://nssm.cc/download>

Then unzip and install nssm on the target machine. nssm is used to install the hub as a windows service.

6. Download and install java jdk (Java SE 7u71/72 or above) from

<http://www.oracle.com/technetwork/java/javase/downloads/index.html>

on the target machine. Java is used to run the node.

7. Download and install firefox and chrome on the node machine.

8. Configure the firefox browser (firefox does not auto use system certs):

- a. Copy all the certs files from
H:\Department\QualityAssurance\QAAutomation\web\certs
to a temp folder on the node machine.
- b. Install all the three root certs:
Options -> Advanced -> Certificates -> View Certificate -> Import
Select .cer file one at a time
Click Open
Check Trust this CA to identify websites
Click OK

9. To configure IE, you need to follow the instructions here: <https://github.com/SeleniumHQ/selenium/wiki/InternetExplorerDriver>

10. To disable auto update for firefox, open firefox browser and do:

- a. Don't import from internet explorer
- b. Entering "about:config" in the browser url field
- c. Setting "app.update.enabled" to false
- d. Setting "app.update.auto" to false

11. To disable auto update for chrome, register a key by following <https://www.chromium.org/administrators/turning-off-auto-updates>

12. Install the node as a windows service like what Joseph said in his email:

- a. Right-click **Command Prompt** and select "**run as administrator**"
- b. Enter command:
nssm.exe install "Service Name"

Sample:

nssm.exe install "Selenium Node"

- c. Under **Application** tab, enter your program path and arguments, for example:

Path: C:\Program Files (x86)\Java\jdk1.7.0_60\bin\java.exe

Arguments: -classpath C:\Selenium\node\selenium-server-standalone-2.53.1.jar; -Djava.util.logging.config.file=C:/selenium/node/logging.properties
org.openqa.grid.selenium.GridLauncher -Dwebdriver.chrome.driver="C:\Selenium\node\chromedriver.exe" -Dwebdriver.ie.driver="C:\Selenium\node\IEDriverServer.exe" -
role node -nodeConfig "C:\Selenium\node\nodeConfig.json"

- d. Click **Log On** tab
- e. Click **This account** and enter Windows login with domain, for example, GREENWICH\svc-te11us
- f. Enter **Password** and **Confirm**
- g. Click **Install Service**

13. Go to services window and start the service "Selenium Node".

14. Check the registered browsers from the following hub url:

<http://hub-machine-domain-name:4444/grid/console>

15. To test this grid, use the hub url: <http://hub-machine-domain-name:4444/wd/hub>

Structure and Configuration of Selenium Grid in FactSet

Thursday, June 29, 2017 1:57 PM

Selenium grid in FactSet: <http://infonet/view/QualityAssurance/SeleniumGridDirectory>

Type	Hub	Hub Port	Nodes	Console	Remote WebDriver URL
Web Development	tellusgridb04	4444	tellusdevb02, tellusgridb05	http://tellusgridb04.pc.factset.com:4444/grid/console	http://tellusgridb04.pc.factset.com:4444/wd/hub
Web Production	tellusdevb03	4444	tellusgridb02, tellusgridb06	http://tellusdevb03.pc.factset.com:4444/grid/console	http://tellusdevb03.pc.factset.com:4444/wd/hub
IS Development	tellusgridb04	4445	tellusgridb03	http://tellusgridb04.pc.factset.com:4445/grid/console	http://tellusgridb04.pc.factset.com:4445/wd/hub
IS Production	tellusdevb03	4445	tellusgridb01	http://tellusdevb03.pc.factset.com:4445/grid/console	http://tellusdevb03.pc.factset.com:4445/wd/hub
iOS Development	tellusgridb04	4444	selgriddevct01	http://tellusgridb04.pc.factset.com:4444/grid/console	http://tellusgridb04.pc.factset.com:4444/wd/hub
iOS Production	tellusdevb03	4444	selgridct01, appiumct01, selgridct02, selgridct03	http://tellusdevb03.pc.factset.com:4444/grid/console	http://tellusdevb03.pc.factset.com:4444/wd/hub
Thief Grid	tellusgridb04	4446	tellusgridb07, telluscfgdevb01, telluscfgdevb02, telluscfgdevb03, telluscfgdevb04, telluscfgdevb05	http://tellusgridb04.pc.factset.com:4446/grid/console	http://tellusgridb04.pc.factset.com:4446/wd/hub

Current Directory structure of Prod Web and IS

Hub:

```
C:\selenium\
  hub\
    hubconfig.json
    logging.properties
    batch file to start the hub as a windows service
  hub4IS\
    hubconfig.json
    logging.properties
    batch file to start the hub as a windows service
  logs\
    log files for web hub and/or nodes
  logs4IS\
    log files for IS hub and/or nodes
  node\
  server\
    selenium-server-standalone-2.53.1.jar
    slf4j-api-1.7.7.jar
    slf4j-jdk14-1.7.7.jar
    gson-2.3.1.jar
    org.json-20120521.jar
    influxdb-java-1.2.jar
    other jar files
```

Node:

```
C:\selenium\
  chromedriver\
    chromedriver-2.15.exe
    chromedriver-2.19.exe
    ...
    chromedriver-2.26.exe
    chromedriver-2.28.exe
  chromes\
    chrome-v45\
    chrome-v46\
    chrome-v47\
    chrome-v54\
    chrome-v55\
    chrome-v56\
  firefoxes\
    firefox39\
    firefox40\
    firefox45\
    firefox46\
  logs\
    log files for web hub and/or nodes
  logs4IS\
    log files for IS hub and/or nodes
  node\
    nodeffv45\
      logging.properties
      nodeConfig.json
    nodegc41\
```

```

        logging.properties
        nodeConfig.json
nodegc54\
    logging.properties
    nodeConfig.json
IEDriverServer.exe
some jar files
batch files to start the nodes as windows services
Node4IS\
    nodeffv45\
        logging.properties
        nodeConfig.json
    nodegc41\
        logging.properties
        nodeConfig.json
    nodegc54\
        logging.properties
        nodeConfig.json
    IEDriverServer.exe
    some jar files
    batch files to start the nodes as windows services
server\
    selenium-server-standalone-2.53.1.jar
    slf4j-api-1.7.7.jar
    slf4j-jdk14-1.7.7.jar
    gson-2.3.1.jar
    org.json-20120521.jar
    influxdb-java-1.2.jar
    other jar files

```

New Directory structure of Prod Web and IS (tellusgridb09)

```

C:\selenium\
bin\
    batch files to start the hubs or nodes in the foreground
chromedriver\
    chromedriver-2.15.exe
    chromedriver-2.19.exe
    ...
    chromedriver-2.26.exe
    chromedriver-2.28.exe
chromes\
    Chrome45\
    Chrome46\
    Chrome47\
    Chrome54\
    Chrome55\
    Chrome56\
    ...
config\
    configuration files for all hubs and/or nodes as well as their corresponding logging.properties files if any
    examples:
    WebChrome54.json
    WebChrome54-logging.properties
    ...
firefoxes\
    v39\
    v40\
    v45\
    v46\
    v53\
    ...
geckodriver\
    geckodriver-0.15.0.exe
    geckodriver-0.16.1.exe
    ...
iedriver\
    IEDriverServer.exe
logs\
    log files for web hub and/or nodes
server\
    selenium-server-standalone-2.53.1.jar
    slf4j-api-1.7.7.jar
    slf4j-jdk14-1.7.7.jar
    gson-2.3.1.jar
    org.json-20120521.jar
    influxdb-java-1.2.jar

```

```

    other jar files
services\
    (batch files to start the hubs/nodes as window services)
    InstallSelenium2hub.bat
    InstallWebChrome54.bat
    InstallSG2WebChromeIE11.bat
    InstallWebFirefox53.bat

```

Command to launch a hub in the command line:

```

java -classpath c:\selenium\server\selenium-server-standalone-2.53.1.jar;c:\selenium\server\slf4j-jdk14-1.7.7.jar;c:\selenium\server\slf4j-api-1.7.7.jar;c:\selenium\server\org.json-20120521.jar -Djava.util.logging.config.file=C:\selenium\config\selenium2hub-logging.properties org.openqa.grid.selenium.GridLauncher -role hub -hubConfig "c:\selenium\config\selenium2hub.json"

```

Command to launch a node in the command line:

```

java -classpath C:\Selenium\server\selenium-server-standalone-2.53.1.jar;c:\selenium\server\slf4j-jdk14-1.7.7.jar;c:\selenium\server\slf4j-api-1.7.7.jar -Djava.util.logging.config.file=C:\selenium\config\nodeConfig_SG2Chrome54_logging.properties -Dwebdriver.chrome.driver="C:\selenium\chromedriver\chromedriver-2.26.exe" org.openqa.grid.selenium.GridLauncher -role node -trustAllSSLCertificates -nodeConfig "C:\selenium\config\nodeConfig_SG2Chrome54.json"

```

Example of a hub config file:

```

selenium2hub.json:
{
    "host": "tellusgridb09.pc.factset.com",
    "port": 4445,
    "newSessionWaitTimeout": -1,
    "servlets": [],
    "withoutServlets": [],
    "capabilityMatcher": "org.openqa.grid.internal.utils.DefaultCapabilityMatcher",
    "throwOnCapabilityNotPresent": true,
    "cleanUpCycle": 5000,
    "timeout": 30000,
    "browserTimeout": 0,
    "maxSession": 5,
    "debug": false,
    "custom": {}
}

```

Example of a node config file:

```

WebChromeIE11-4SG2.json:
{
    "capabilities": [
        {
            "maxInstances": 10,
            "seleniumProtocol": "WebDriver",
            "platform": "WINDOWS",
            "browserName": "chrome",
            "version": "45",
            "chrome_binary": "C:\\selenium\\chromes\\Chrome45\\chrome.exe"
        },
        {
            "seleniumProtocol": "WebDriver",
            "platform": "WINDOWS",
            "browserName": "internet explorer",
            "requireWindowFocus": true,
            "version": "11",
            "maxInstances": 1
        }
    ],
    "configuration":
    {
        "registerCycle": 5000,
        "hubHost": "tellusgridb09.pc.factset.com",
        "browserTimeout": 0,
        "cleanUpCycle": 5000,
        "register": true,
        "host": "tellusgridb09.pc.factset.com",
        "proxy": "org.openqa.grid.selenium.proxy.DefaultRemoteProxy",
        "timeOut": -1,
        "maxSession": 11,
        "port": 5555,
        "hubPort": 4445
    }
}

```

Thief grid

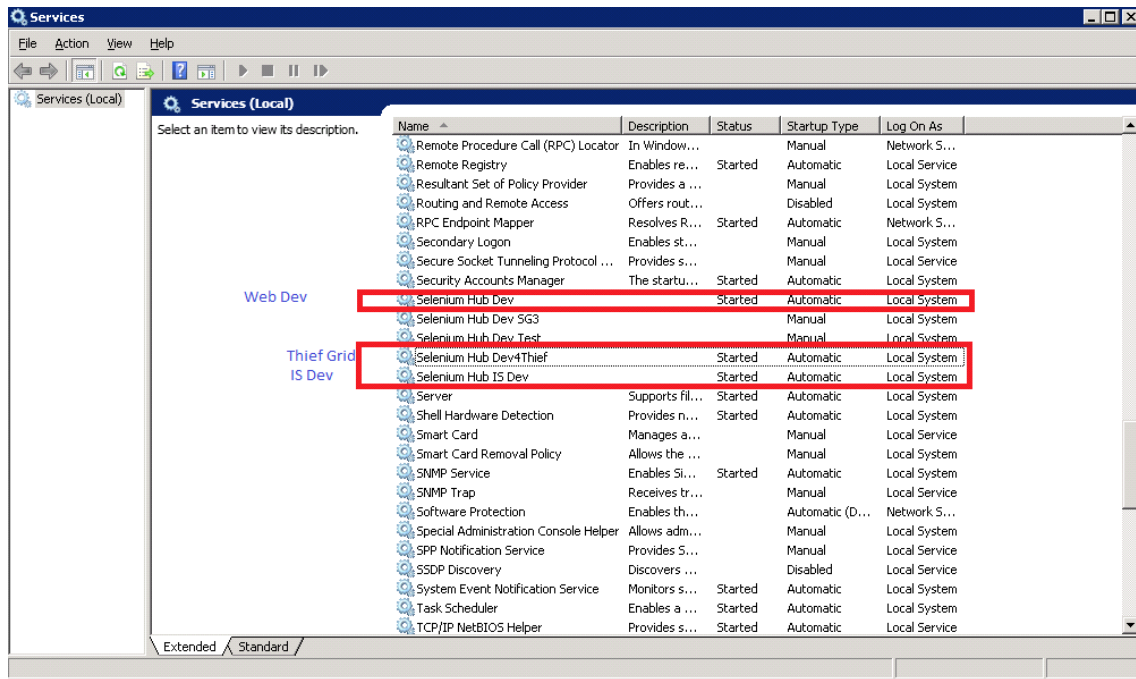
Friday, June 30, 2017 7:44 AM

<http://tellusgridb04.pc.factset.com:4446/grid/console>

Thief Grid Hub:

Location: tellusgridb04

Service:

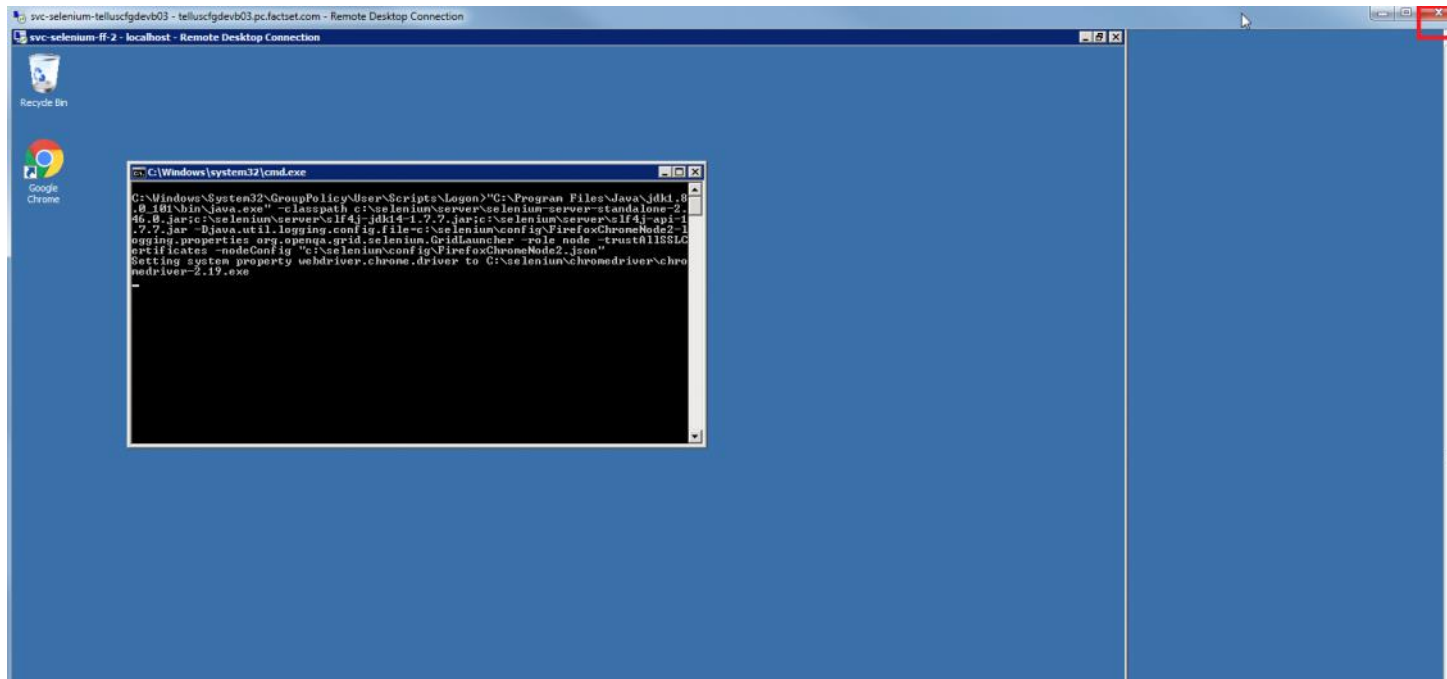


Node machines on this grid:

- Tellusgridb07
- Telluscfgdevb01
- Telluscfgdevb02
- Telluscfgdevb03
- Telluscfgdevb04
- Telluscfgdevb05

How to start nodes on each machine?

- Log into each machine as the user [svc-selenium](#) through Remote Desktop Connection
- Nodes on each machine will be automatically started one by one (there are a few nodes on each machine)
- Wait until all nodes are started
- Don't log out
- Close the window by clicking x on the top right of the big window



- All nodes on each machine are running in the foreground (different from our Tellus grid where each node is running as a windows service)

How to find the node with issues (usually hung browsers)?

- Log into each machine as the user svc-selenium
- Check each node to see if there is any hung browser
- Log off the node (if there is a hung browser on that node) for further investigation

Tellus grid

Friday, June 30, 2017 8:14 AM

Web Development: <http://tellusgridb04.pc.factset.com:4444/grid/console>

IS Development: <http://tellusgridb04.pc.factset.com:4445/grid/console>

Web Production: <http://tellusdevb03.pc.factset.com:4444/grid/console>

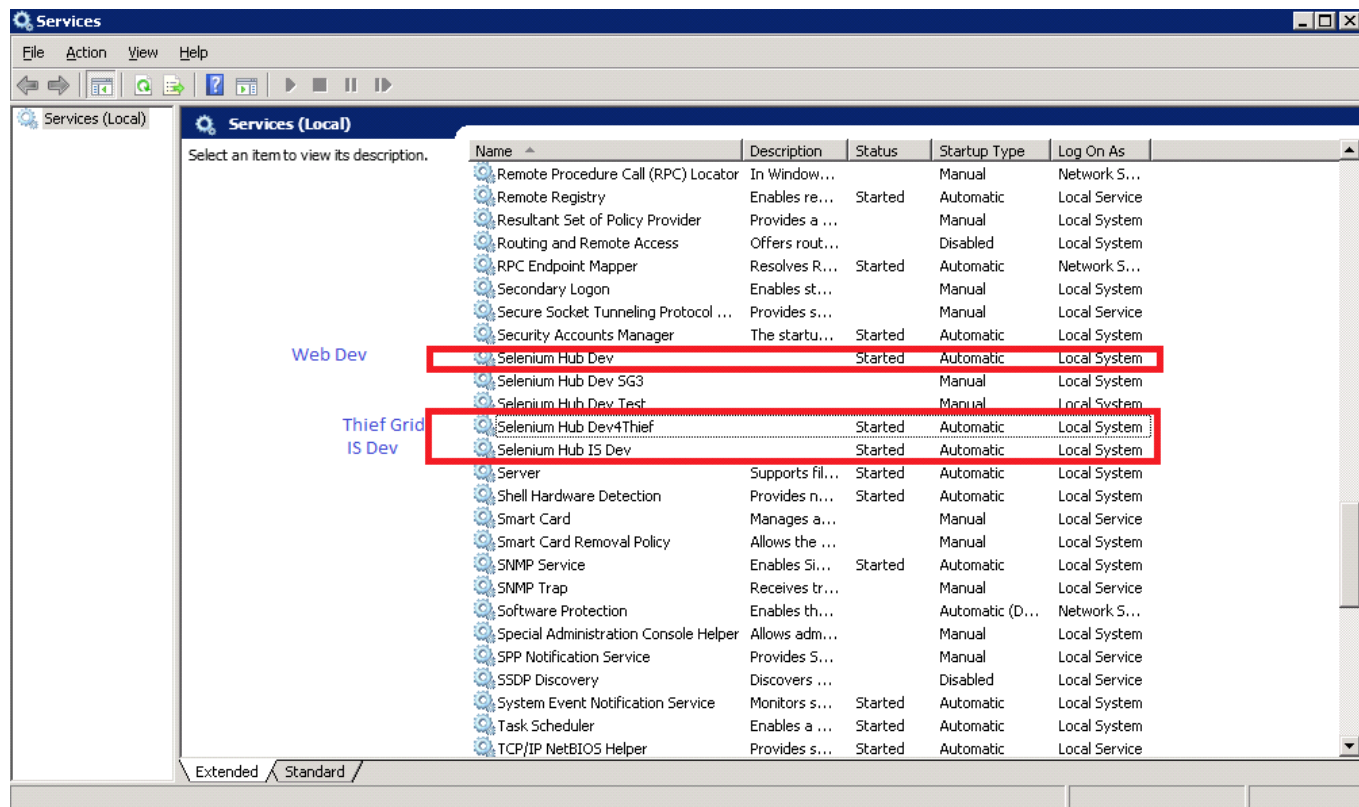
IS Production: <http://tellusdevb03.pc.factset.com:4445/grid/console>

Hub Machines:

- Servers: tellusgridb04(dev), tellusdevb03(prod)
- Login: Can only log into these two servers as TellusAdmins because they are off-domain machines

Dev Hubs:

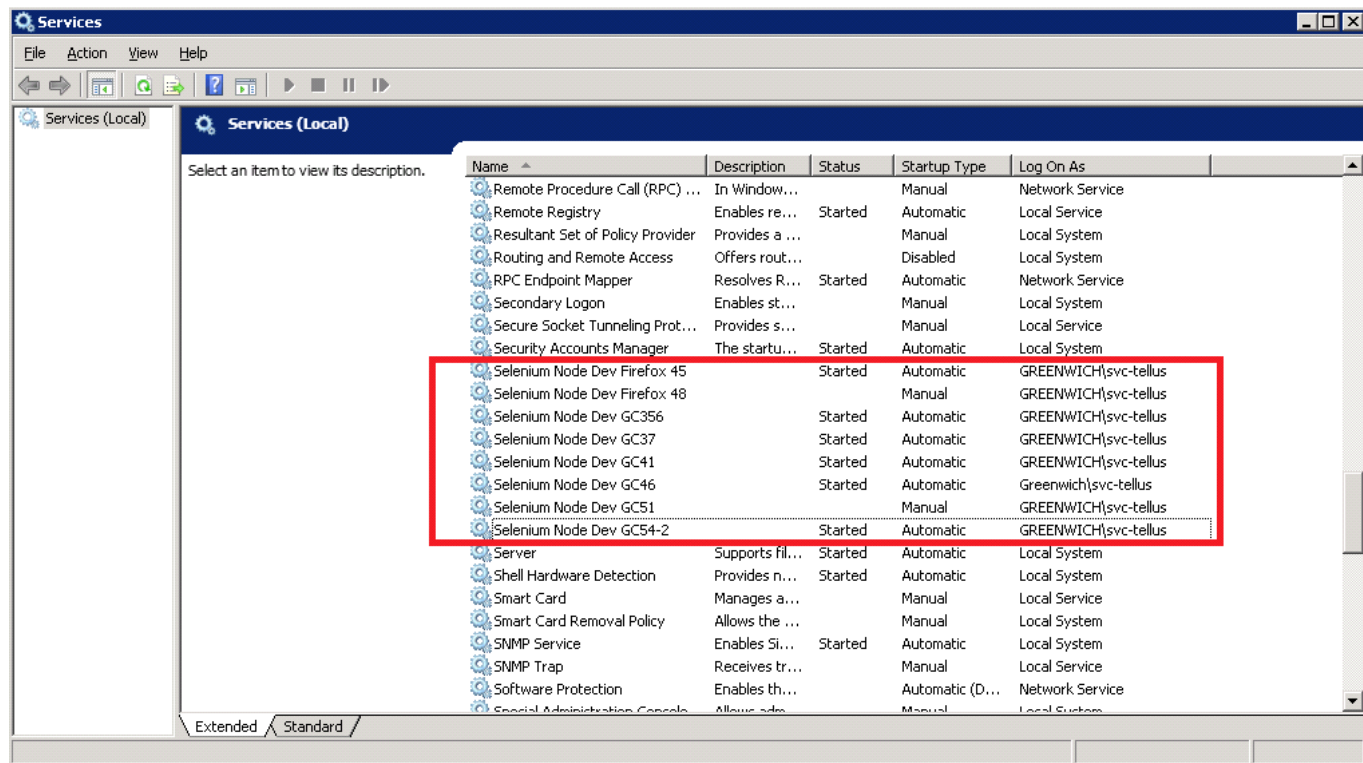
- Server: Tellusgridb04
- Services: Web Dev, IS Dev and Thief Grid



Web Development:

Node machines: tellusdevb02, tellusgridb05

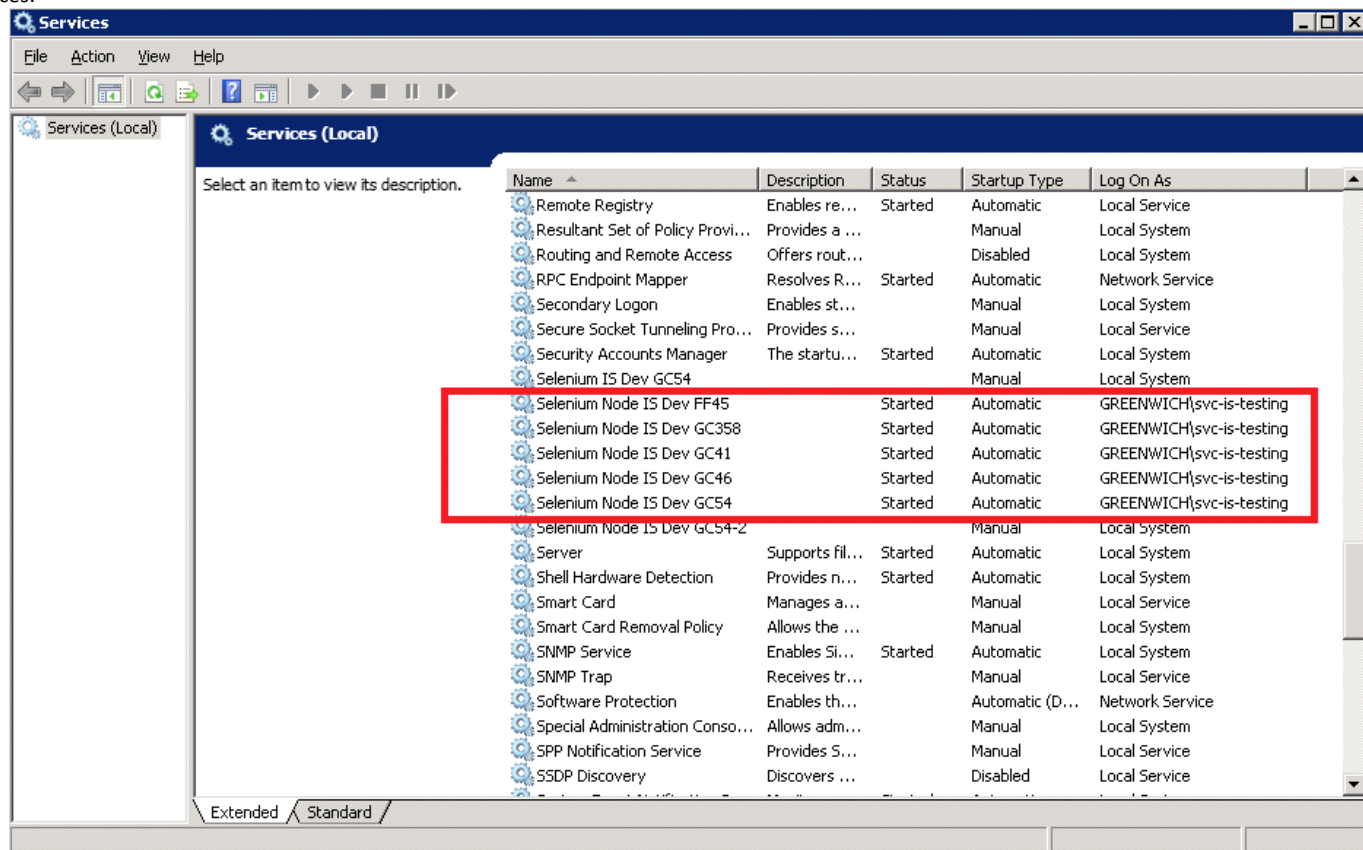
Services:



IS Dev:

Node machine: tellusgridb03

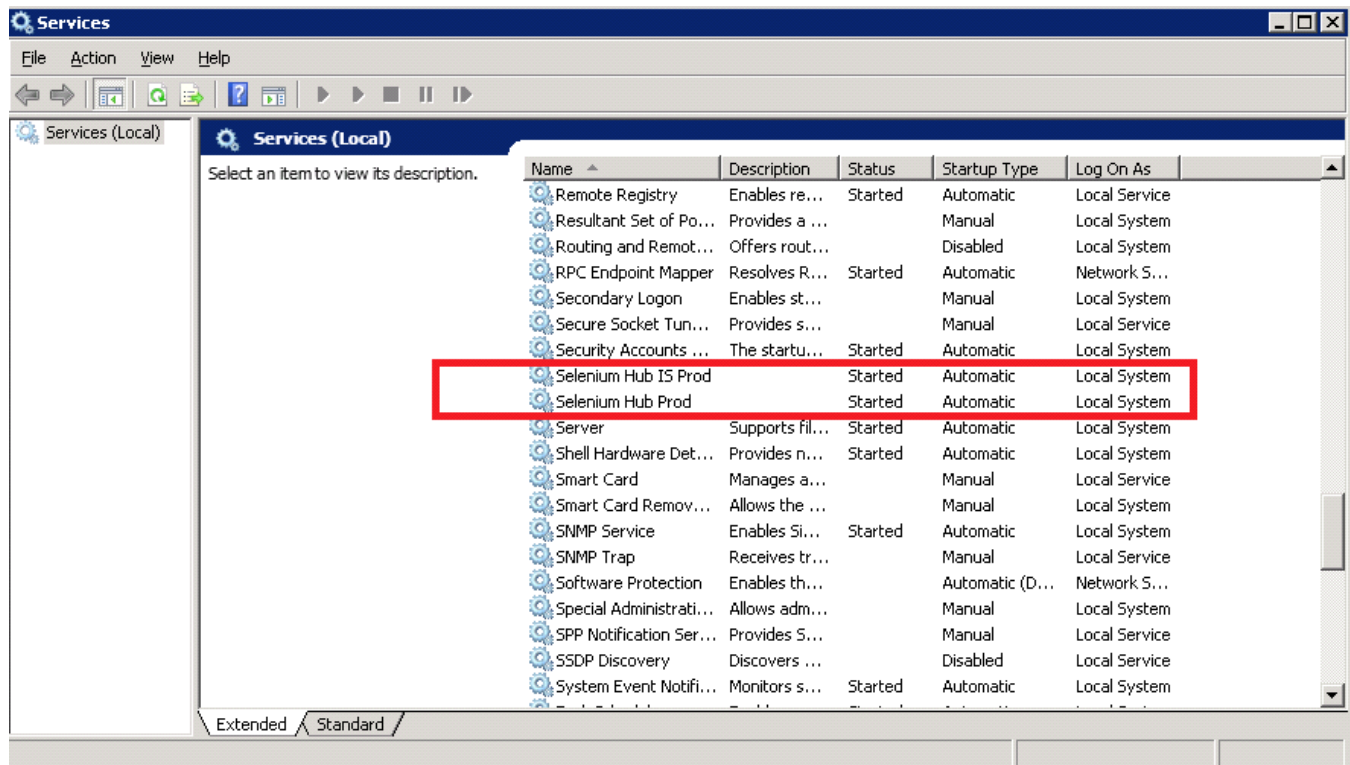
Services:



Prod Hubs:

Server: tellusdevb03

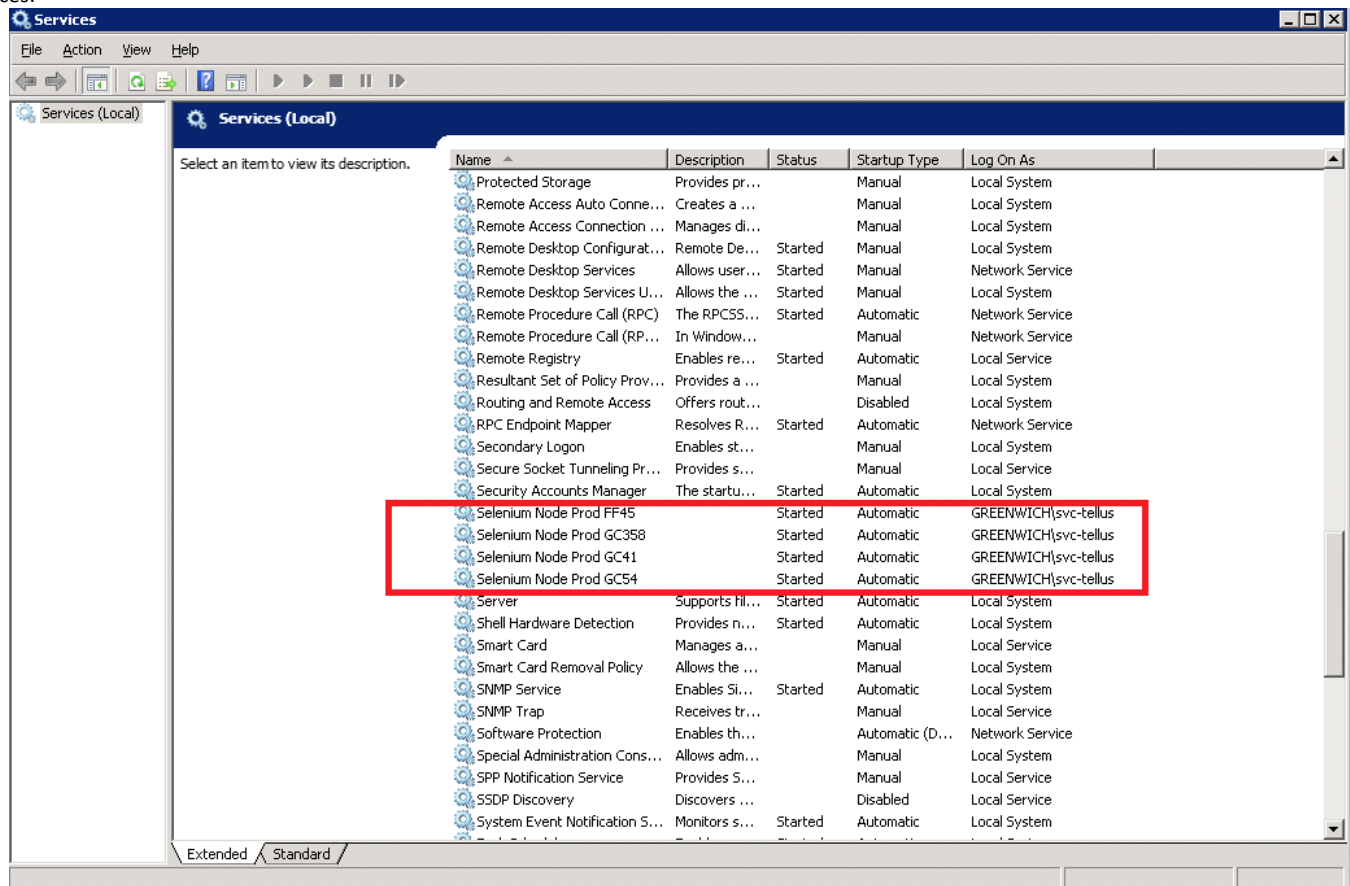
Services:



Prod Development node:

Server: tellusgridb02, tellusgridb06

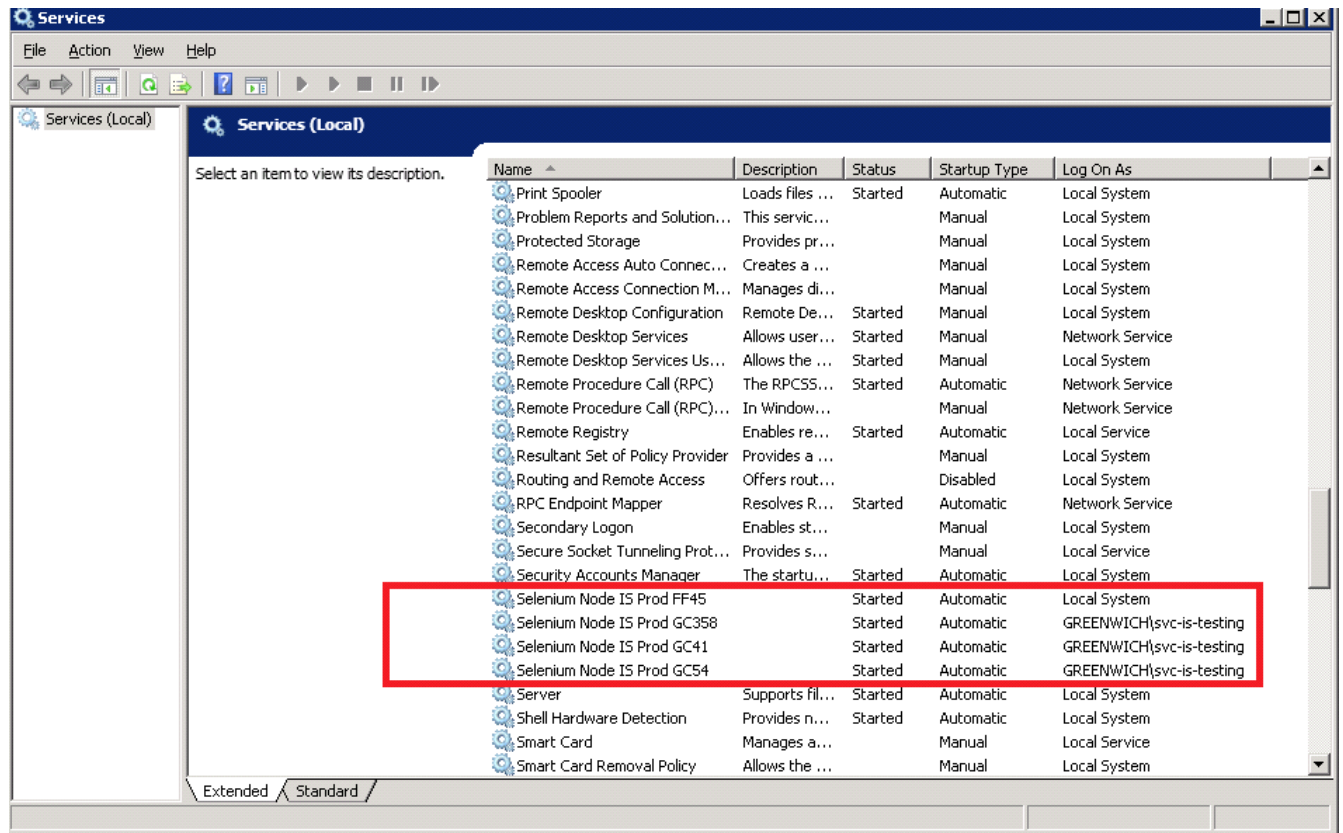
Services:



IS Prod nodes:

Server: tellusgridb01

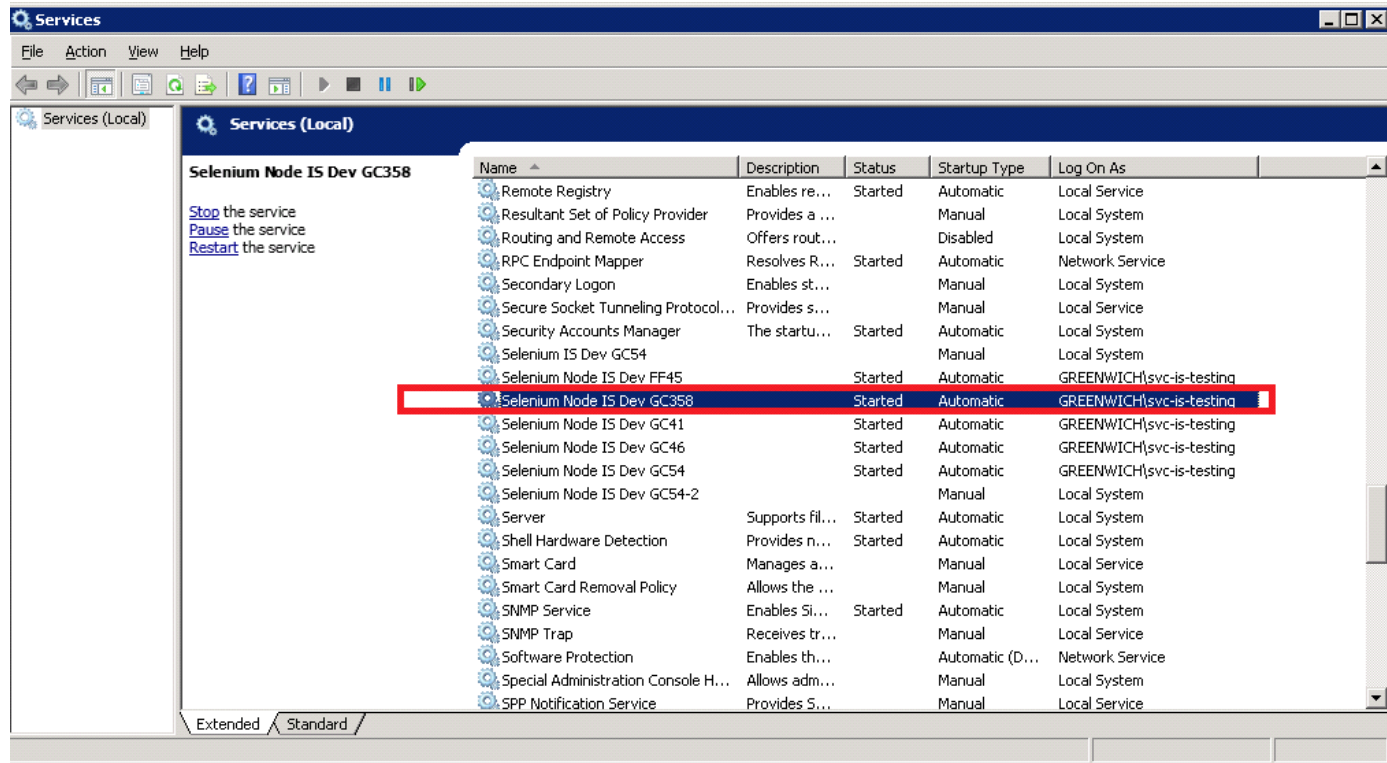
Services:



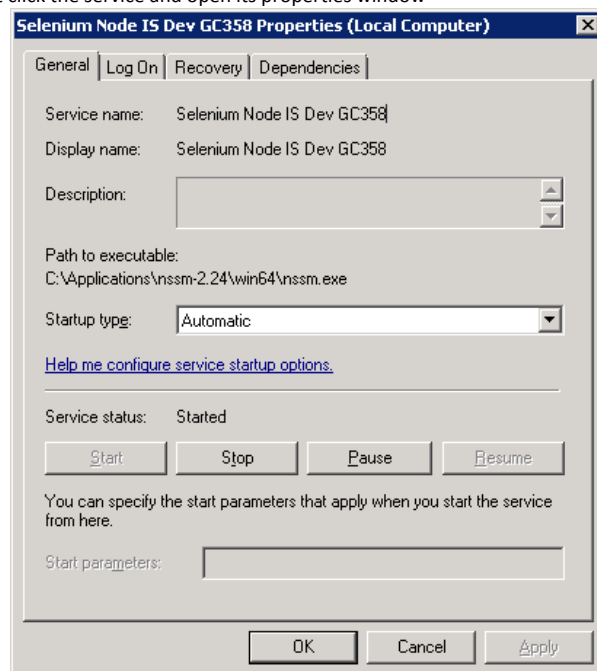
Increase screen resolution on Selenium grid

Monday, July 03, 2017 9:12 AM

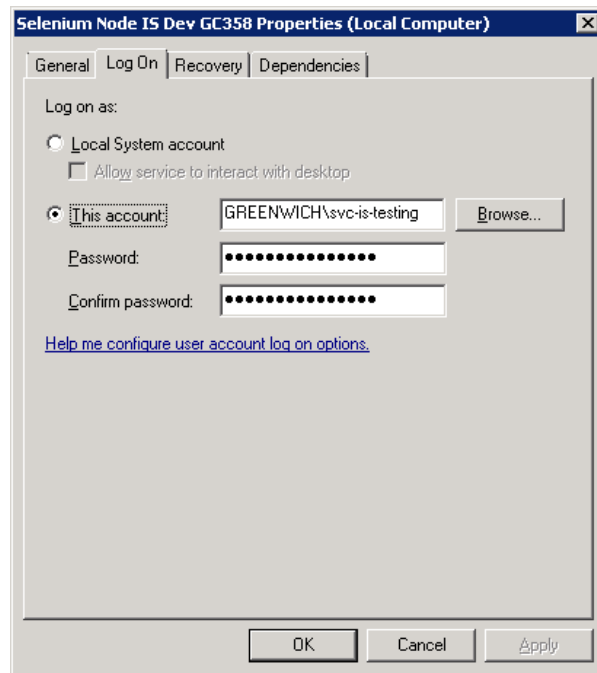
1. Refer to <http://is.factset.com/rpd/summary.aspx?messageId=22217840&commentId=26457959>
2. Log into the node machine like tellusgridb03
3. Open Services windows
4. Scroll down to the node services



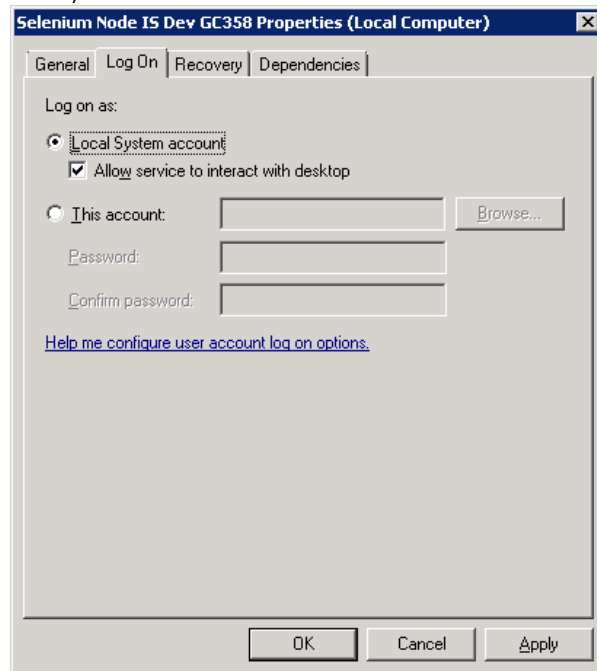
5. Select one node that is not being used most often like "Selenium Node IS Dev GC358"
6. Right click the service and open its properties window



7. Click "Log On" tab

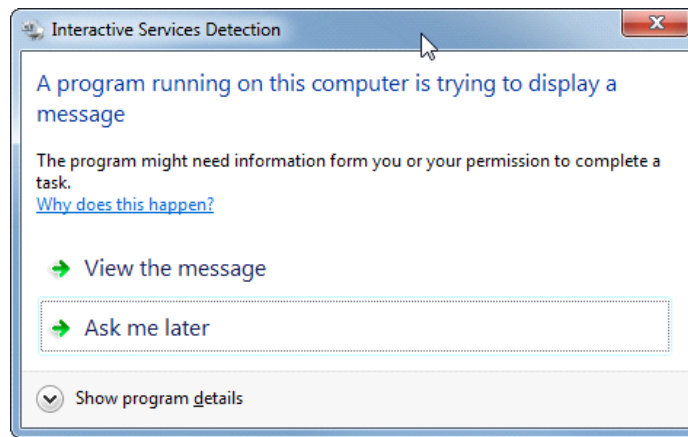


8. Click "Local System account" and check "Allow service to interact with desktop"



9. Click "Apply" and then "OK" buttons
10. Restart the node service "Selenium Node IS Dev GC358"
11. [Once you see the picture in red on the task bar](#)
12. Click on it and Click "View the message"





13. You will see a window saying "Interactive Services detection" with big word "NSSM", click "Return now"
14. You will be brought back to the original window, but don't close the Interactive window.
15. All nodes should be able to use the higher screen resolution.
16. After this, open the properties window for the service "[Selenium Node IS Dev GC358](#)", change its "Log On" as its original account, and restart the service.
17. Only one node needs to be configured like this. After that, all other nodes on the same machine will use higher screen resolution.
18. This process may need to be done when the server is rebooted or in other unknown cases that change the settings as this workaround is not permanent. Permanent solution is still not found.

Issues with Selenium Grid

Thursday, July 06, 2017 11:18 AM

1. **Small resolution:** [Increase screen resolution on Selenium grid](http://is.factset.com/rpd/summary.aspx?messageid=22217840)
<http://is.factset.com/rpd/summary.aspx?messageid=22217840>
<http://is.factset.com/rpd/summary.aspx?messageid=30176960>
[RPD:27878370](http://is.factset.com/rpd/summary.aspx?messageid=30176960)

Have a script to reset the right machine resolution post every restart

2. **Lima Overrides are not injecting**

RPD: <http://is.factset.com/rpd/summary.aspx?messageid=27618992>
<http://is.factset.com/rpd/summary.aspx?messageid=30294222>
[RPD:32528830](http://is.factset.com/rpd/summary.aspx?messageid=30294222)

Documentation for Fiddler setup you can follow the below instructions

<http://tellusdev/qadocs/Fiddler%20Setup%20for%20setting%20Lima%20Overrides.htm>

And if there is a problem with fiddler which is installed, it is more of a "trial and error" by

- deleting certificates
- resetting certificate
- reinstalling fiddler

Fix: most of these issues were fixed by Avanthi

3. **Selenium scripts are failing with Net::ReadTimeout error**

<http://is.factset.com/rpd/summary.aspx?messageid=30024135>
[RPD:26433585](http://is.factset.com/rpd/summary.aspx?messageid=30024135)

Fix: This may be due to the existence of dead browsers. One way is to **kill those dead browsers** on the node. If the issue still exists, scripters may need to modify their scripts to close the browsers in case of any exceptions.

4. **IE 11 issue:**

- o [RPD:32247357](http://is.factset.com/rpd/summary.aspx?messageid=32247357) IE 11 grid runs are failing in Tellus production environment with Communication Error
- o Fix: Run the nodes with IE 11 under Local System account with interactive mode on. May need to test the scripts a few times. Every time the node needs to be restarted to have a fresh node.

5. **Need a way to know the node and session being used for the job**

- a. This is needed in similar context for FPE where by virtue VM IP scripters can monitor the script execution.
- b. Not necessarily scripter want to know which node is executing the test so that they can monitor the execution "remotely" without logging on to machine
- c. Currently 1 Protractor job = 1 group id = 1 session id on grid, hence this can be achieved
- d. Selenium have 1 group id can have multiple sessions as it is a new browser instance which means new node for each test

6. Unable to debug an issue as everyone cannot access the machine in interactive mode

- a. **Service which manages 2 browser types is 1 and hence on restart etc it disrupts both browser types. Hence we should have separate service with different browser types.**
- b. **Better naming conventions**

7. **Selenium grid jobs are failing with session terminated error**

[RPD:32668803](http://is.factset.com/rpd/summary.aspx?messageid=32668803),
[33064198](http://is.factset.com/rpd/summary.aspx?messageid=33064198)

From <<http://is.factset.com/rpd/summary.aspx?messageid=33064198>>

Fix: (1) killed dead browser processes from Task Manager, split the node into individual nodes for different versions of chrome browser.

Command to kill all idle chromium processes: **taskkill /IM chrome.exe /F** (execute it when no browsers are used on the node)

- (2) Increased the memory from 4GB to 8GB
- (3) Added another node server to the grid to spread out the jobs across different nodes.

```

Administrator: C:\Windows\System32\cmd.exe

C:\Selenium\chromes\chrome-v47>taskkill /IM chrome.exe /F
SUCCESS: The process "chrome.exe" with PID 8488 has been terminated.
SUCCESS: The process "chrome.exe" with PID 8904 has been terminated.
SUCCESS: The process "chrome.exe" with PID 8288 has been terminated.
SUCCESS: The process "chrome.exe" with PID 7700 has been terminated.
SUCCESS: The process "chrome.exe" with PID 5544 has been terminated.
SUCCESS: The process "chrome.exe" with PID 7416 has been terminated.
SUCCESS: The process "chrome.exe" with PID 9272 has been terminated.
SUCCESS: The process "chrome.exe" with PID 9948 has been terminated.
SUCCESS: The process "chrome.exe" with PID 11000 has been terminated.
SUCCESS: The process "chrome.exe" with PID 10908 has been terminated.
SUCCESS: The process "chrome.exe" with PID 9992 has been terminated.
SUCCESS: The process "chrome.exe" with PID 8280 has been terminated.
SUCCESS: The process "chrome.exe" with PID 10888 has been terminated.
SUCCESS: The process "chrome.exe" with PID 10516 has been terminated.
SUCCESS: The process "chrome.exe" with PID 7368 has been terminated.
SUCCESS: The process "chrome.exe" with PID 7912 has been terminated.
SUCCESS: The process "chrome.exe" with PID 11208 has been terminated.
SUCCESS: The process "chrome.exe" with PID 7028 has been terminated.
SUCCESS: The process "chrome.exe" with PID 9908 has been terminated.
SUCCESS: The process "chrome.exe" with PID 6160 has been terminated.
SUCCESS: The process "chrome.exe" with PID 6536 has been terminated.
SUCCESS: The process "chrome.exe" with PID 10936 has been terminated.
SUCCESS: The process "chrome.exe" with PID 9252 has been terminated.
SUCCESS: The process "chrome.exe" with PID 8200 has been terminated.
SUCCESS: The process "chrome.exe" with PID 8220 has been terminated.
SUCCESS: The process "chrome.exe" with PID 7060 has been terminated.
SUCCESS: The process "chrome.exe" with PID 10272 has been terminated.
SUCCESS: The process "chrome.exe" with PID 6788 has been terminated.
SUCCESS: The process "chrome.exe" with PID 11236 has been terminated.
SUCCESS: The process "chrome.exe" with PID 10056 has been terminated.
SUCCESS: The process "chrome.exe" with PID 8988 has been terminated.
SUCCESS: The process "chrome.exe" with PID 8996 has been terminated.
SUCCESS: The process "chrome.exe" with PID 10648 has been terminated.
SUCCESS: The process "chrome.exe" with PID 9020 has been terminated.
SUCCESS: The process "chrome.exe" with PID 6328 has been terminated.
ERROR: The process "chrome.exe" with PID 7448 could not be terminated.
Reason: There is no running instance of the task.
ERROR: The process "chrome.exe" with PID 11064 could not be terminated.
Reason: There is no running instance of the task.
ERROR: The process "chrome.exe" with PID 10632 could not be terminated.
Reason: There is no running instance of the task.
ERROR: The process "chrome.exe" with PID 10580 could not be terminated.
Reason: There is no running instance of the task.
ERROR: The process "chrome.exe" with PID 10084 could not be terminated.
Reason: There is no running instance of the task.
SUCCESS: The process "chrome.exe" with PID 12104 has been terminated.
SUCCESS: The process "chrome.exe" with PID 5672 has been terminated.
SUCCESS: The process "chrome.exe" with PID 11924 has been terminated.
SUCCESS: The process "chrome.exe" with PID 10920 has been terminated.
SUCCESS: The process "chrome.exe" with PID 10024 has been terminated.
SUCCESS: The process "chrome.exe" with PID 11664 has been terminated.
SUCCESS: The process "chrome.exe" with PID 10980 has been terminated.
SUCCESS: The process "chrome.exe" with PID 7968 has been terminated.
SUCCESS: The process "chrome.exe" with PID 9096 has been terminated.
SUCCESS: The process "chrome.exe" with PID 9636 has been terminated.
ERROR: The process "chrome.exe" with PID 11964 could not be terminated.
Reason: The operation attempted is not supported.

C:\Selenium\chromes\chrome-v47>_

```

8. Fiddler uses lots of memory with time going:

On tellusgrid09:

Image Name	User Name	CPU	Memory (Pr...	Description
Fiddler.exe	svc-tellus	00	3,635,432 K	Fiddler
java.exe	svc-tellus	00	363,324 K	Java(TM) ...
svchost.exe	SYSTEM	00	57,756 K	Host Proc...
java.exe	SYSTEM	00	52,844 K	Java(TM) ...
java.exe	SYSTEM	00	49,180 K	Java(TM) ...
java.exe	svc-tellus	00	48,756 K	Java(TM) ...

Fix: restart FiddlerService when no jobs are running on the server.

Reason:

Fiddler is designed with the expectation that a human user will be around to clear the traffic list once in a while, otherwise **Fiddler's memory usage will grow unbounded**. You can help ensure that Fiddler doesn't use crazy amounts of memory by using the "Keep only" dropdown in the toolbar to automatically trim the session list once it reaches a certain length [4].

Refer to: <https://www.coretechnologies.com/products/AlwaysUp/Apps/RunFiddlerAsAService.html>

For FDSAV2 we have an API which can be used

For lima we need another way to proxy the Lima override. **Talk to Central Auth team**

9. If for some reasons we got error like "'assert_ok': Error communicating with the remote browser", we may have dead browsers on the node server. After we kill the browser processes like chromium "chrome.exe", this error should be gone.

10. Windows Server 2012 (Chrome 54, 55, 56): I always got the following error

```
[remote server] sun.reflect.NativeConstructorAccessorImpl():-2:in `newInstance0'  
: unknown error: cannot get automation extension (Selenium::WebDriver::Error::UnknownError)  
from unknown error: page could not be found: chrome-extension://aapnijgdinlhnhlm  
odcfapnahmbfebeb/_generated_background_page.html
```

Did research online: <https://stackoverflow.com/questions/42944775/org-openqa-selenium-webdriverexception-unknown-error-cannot-get-automation-ext>

Somebody said that we need to download the latest chromedriver version, but the latest chromedriver version only supports chrome 58+.

Need to do more research and testing

11. Screenshot issue

This issue only happened on Windows Server 2012. It is a manual process outside of the script. Whenever you see the script running on one node, you can visit the node url like <http://tellusgridb09.pc.factset.com:5580/wd/hub>. Then you can refresh the session, go to the latest one and take screen shot manually. On Windows Server 2012, the script did not run properly, so we couldn't do that.

12. Error "Error communicating with the remote browser"

Fix: Kill all the chromedriver and chromium processes for chrome browser in the Task Manager (kill corresponding browser processes for other browsers)

Restart the node

Reason: This issue may be due to some idle browser processes.

13. Thief grid: Mouse is positioned incorrectly in an IE10 node on tellusgridb04

[RPD:27883932](#) <Resolved>

Fix: changed the ledriver for IE10 and made it the same as that for IE 11.

14. Thief grid: tellusgridb04 is significantly slower than Thief's current grid

[RPD:27730182](#)

Fix: Added "requireWindowFocus: true" to the config file for IE's desired capability

15. Thief grid: Internet Explorer Hover Issues

[RPD:22873498](#)

Fix: Used the same IEDriver for IE 10 and IE 11. Configured these two browsers on each server in the same way. Also slowness caused the problem.

<Resolved>

16. Mac machine: Configure the mac machines with automation software to run mobile jobs from Tellus

[RPD:27520705](#)

Fix: check with Vasu or @[SurendraBabuParchuru](#) to see how it is fixed.

<Resolved>

17. Node on Web Development hub throws SO_TIMEOUT error

[RPD:27426926](#)

Fix: Set chrome version and removed chromeOptions

<Monitoring>

18. chromeOptions shouldn't be used with the hub, only with the node directly

[RPD:26783587](#)

<Resolved>

19. Logical Drive C: Running Low on Space : TELLUSGRIDB03

[RPD:25925555](#)

Fix: increase the space

<Resolved>

20. Tellus selenium grid hub console is not accessible

[RPD:25280515](#)

Fix: Check if the hub service is up or not. There may be an outage. Make sure that you could remotely connect to the hub server and that the hub service is up.

<Resolved>

21. mobile nodes on dev selenium grid are down

[RPD:24416625](#)

Fix: ask Surendra Babu Parchuru to check it. iOS may need to be upgraded.

22. Thief grid: Window Size Inconsistencies in IE10

[RPD:22873522](#)

Fix: Need to check each node to make sure that IE10 is maximized when it is open.

<Resolved>

23. Unable to run mobile test cases from tellusdev using SG

[RPD:17472933](#)

Fix: The user "appium" to run the node was logged off the device when the machine was rebooted. Jason Olsen create a new profile manager policy and move the mac server to it to make sure that the new groups will not log any user out of a device.

<Resolved>

24. Manually test Fiddler Cookie Injection into a Browser header

[RPD:18331409](#)

Fix: check the RPD. For any Fiddler issue, check with Avanthi

<Resolved>

25. FiddlerService **Same as 17**

May need to restart the FiddlerService on the node machine where there is high CPU and Memory Usage. May need to do that whenever no job is running on the server.

Or we can restart the FiddlerService at a regular time interval.

26. The svc-tellus is only used for Web dev/prod nodes while The account svc-is-testing is only used for IS dev/prod nodes.

[RPD:24578608](#) **IS application runs on TellusDev are failing due to Session was terminated due to CLIENT_GONE**

<Resolved>

27. Unable to morph

[RPD:22865516](#) **Unable to morph and open the Tags tab from RPD via Selenium Grid**

Fix: check the RPD.

28. **Scripts were not executing in IS-Grid against Chrome versions 54, 55, 56**

RPD: <http://is.factset.com/rpd/summary.aspx?messageid=30334890>

Root cause:

The issue is caused due to the problem in identifying the title of the page opened since title of the page is Url itself. For example the url of the page is - <http://iswebqa.pc.factset.com/CookieSetter?delete=true> . Generally in the previous versions, in this scenario the url and title are same. But in the latest versions its not considering Url as the title. Hence caused the issue.

<Resolved>

29. Unable to handle alert in IS Dev hub

RPD: <http://is.factset.com/rpd/summary.aspx?messageid=30495969>

Fix: changed selenium 2.53.0 to 2.47.0, chromedriver 2.19 to 2.15 on IS Dev node **<Resolved>**

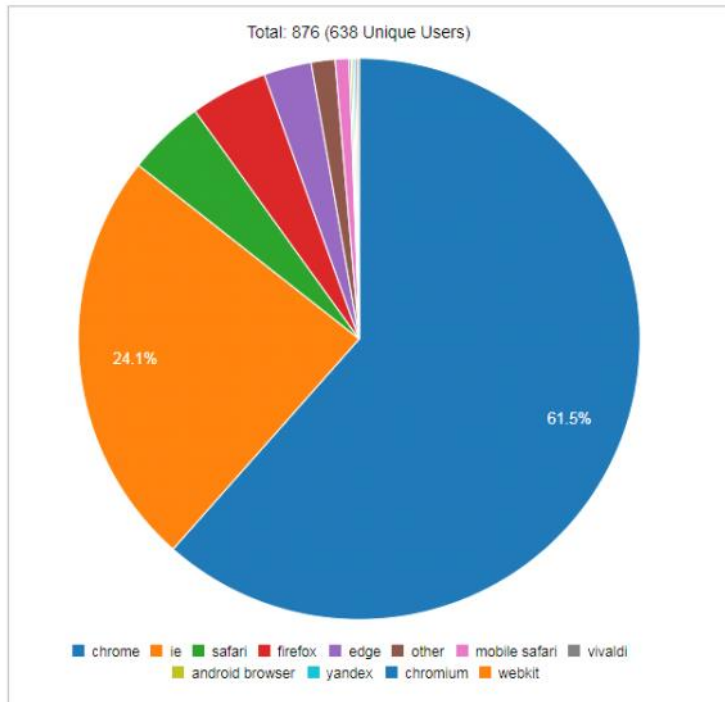
30. If the node/console is not accessible, then restart the node in respective service account.

- 31.

What should QA Selenium Grid look like from capacity stand point?

Wednesday, July 26, 2017 4:24 PM

QA Selenium grid should represent the browser version in the same percentage availability as our customer base based on browser usage



Chrome user - 61%
IE - 24%
Safari - 6%
Firefox - 6%
Edge - 4%

Grid should also constitute browsers in same %

Currently we have following servers in production which produce 18 nodes overall.
We have 2 servers in Dev which have in total 13 nodes

ServerName	Current # of CPU	Current Memory (GB)	Requested CPU Core	Requested Memory (GB)	Server Type	# of Nodes
Tellusgridb06 (virtual machine)	4 virtual processors	4	6	12	Windows 2012R2	4
Tellusgridb02	4	8	6	12	Windows 2008R2	5
Tellusgridb09	4	8	6	12	Windows 2008R2	4
Tellusgridb08(to be on grid)	4	8	6	12	Windows 2008R2	5

In Order to support to