

Tellus API overview

Thursday, February 16, 2017 12:39 PM

Documentation: http://tellusb01.pc.factset.com/qadocs/tellus_api_specification.html

Apache is configured to redirect API endpoints to PHP files in httpd.conf, for example,
RewriteRule /api/job/create /tellusapi/TellusAPICreateEvent.php
RewriteRule /api/job/status /tellusapi/result.php
RewriteRule /api/jobs/status /tellusapi/StatusCheckOfMultiJobs.php
RewriteRule /api/testcase/info /tellusapi/TellusAPIGetTestCaseInfo.php
RewriteRule /api/durations /php/getDurationEstimate.php

/api/job/create

Entry point is an alias of a PHP module which validates some parameters and calls Restful web service to validate other parameters.

Alias of PHP module: C:\tellus\htdocs\tellusapi\TellusAPICreateEvent.php

```
$response = new stdClass();

try {
    $json = file_get_contents("php://input");
    $jsonObj = json_decode($json, true);

    validateFields($jsonObj);

    convertParams($jsonObj);
    $newJson = array();
    $newJson['instance'] = $jsonObj;

    $jsonConfigArr = loadTellusAPIConfig();
    ....

    $responseFromAPI = sendPOSTRequest($newJson, $jsonConfigArr['JobSchedulerServer']); // call RestFul web services API
    $responseObj = json_decode($responseFromAPI, true);

    if (isset($responseObj['responseStatus'])) {
        $response = $responseObj['responseStatus'];
    } else if (isset($responseObj['instance'])) {
        $instance = $responseObj['instance'];

        $newrequest = convertInstanceToJsonObject($instance);

        if ( $newrequest['TestEnvironment'] === 'SITINT' ) {
            resetParamtersForSITINT($newrequest);
        }
        $response = sendJsonRequestToCreateJob($newrequest, $jsonConfigArr['WebServer']);
    }
} catch (Exception $e) {
    $logger->error($e->getMessage() . PHP_EOL . $e->getTraceAsString());
}

echo json_encode($response);
```

/api/job/status (check status of a single job)

Entry point is an alias of a php module which calls its dependent module to get the status of a job.

Alias of the PHP module: **result.php**

Dependent modules: StatusChecker.php, StafUtil4APITest.php

These two dependent modules can be used directly by other php modules to check status of a job.

```
require_once 'StatusChecker.php';

$response = new stdClass();

try {
    $dbh = DbUtil::connect();
    $json = file_get_contents("php://input");
    $jsonObj = json_decode($json, true);

    $groupId = $jsonObj["GroupID"];

    $jobInfo = StatusChecker::getJobInfo($groupId, $dbh);

    $testEnv = StatusChecker::getTestEnvironment($groupId, $dbh);

    $state = StatusChecker::getStateOfAJob($groupId, "tellusb01.pc.factset.com");

    $staxStatus = StatusChecker::getJobStatusForASingleJob($groupId, $dbh);

    $progressResult = StatusChecker::getJobProgressResults($groupId);

    $response = StatusChecker::getStatus($groupId, $jobInfo, $testEnv, $state, $staxStatus,
    $progressResult, $dbh);

} catch(Exception $e) {
    $logger->error($e->getMessage() . PHP_EOL . $e->getTraceAsString());
}

echo json_encode($response);
```

/api/jobs/status (check status of multiple jobs)

Entry point is an alias of a php module which calls its dependent module to get the status of module jobs.

Alias of the PHP module: **StatusCheckOfMultiJobs.php**

Dependent modules: StatusChecker.php, StafUtil4APITest.php

These two dependent modules can be used directly by other php modules to check status of multiple jobs.

```
require_once 'StatusChecker.php';
require_once 'StafUtil4APITest.php';

$response = new stdClass();

try {
    $json = file_get_contents("php://input");
    $jsonObj = json_decode($json, true);

    $listOfGroupIDs = array();
    foreach($jsonObj as $gidObj) {
        $gid = $gidObj["GroupID"];
        $listOfGroupIDs[] = $gid;
    }

    $response = StatusChecker::getStatuses($listOfGroupIDs);

} catch(Exception $e) {
    $logger->error($e->getMessage() . PHP_EOL . $e->getTraceAsString());
}
```

```
echo json_encode($response);
```

[RPD:36542199](#)

added new parameters (webSocketEnv1, WebSocketEnv2, service) to the Tellusdev API, will be saved in config.json

Implementation

For RESTful Web service, uses JAX-RS.

Production: <http://tellusstgb01.pc.factset.com:8080/api/job/create>

Tellus API development

Friday, June 09, 2017 2:41 PM

- API Entry points:
 - Create a new job:
 - <http://tellusdevb01.pc.factset.com/api/job/create> -> alias of
 - C:\tellus\htdocs\tellusapi\TellusAPICreateEvent.php
 - Check status of a single job
 - <http://tellusdevb01.pc.factset.com/api/job/status> -> alias of
 - C:\tellus\htdocs\tellusapi\result.php
 - Check status of multiple jobs
 - <http://tellusdevb01.pc.factset.com/api/jobs/status> -> alias of
 - C:\tellus\htdocs\tellusapi\StatusCheckOfMultiJobs.php
- Internally, API /api/job/create will call the RESTful web services in java to validate most of the parameters.
- GIT Repo: <https://gitlab.factset.com/app-ga-automation/api>
- Deployment Location: <\\tellusstgb01\apache-tomee-plus-1.7.3\webapps>

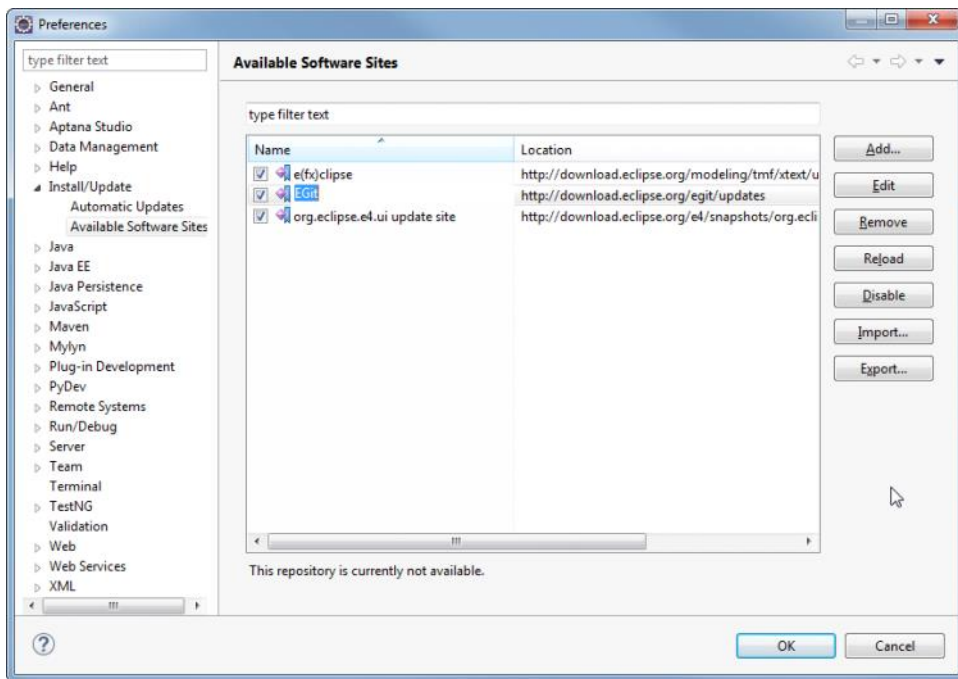
Dependencies

- JDBC SQL Server Driver: <https://www.microsoft.com/en-us/download/details.aspx?id=11774>
Copy its jar file to TomEE\lib\ (it is already done)
- log4j-1.2.17.jar file: <https://mvnrepository.com/artifact/log4j/log4j/1.2.17>
- You need to install TomEE 1.7.3 or 1.7.4 on your development laptop:
<http://tomee.apache.org/downloads.html>
Choose TomEE Plus version 1.7.3 (or 1.7.4).
 - Unzip the downloaded zip file like "**apache-tomee-1.7.4-plus.zip**" under C:

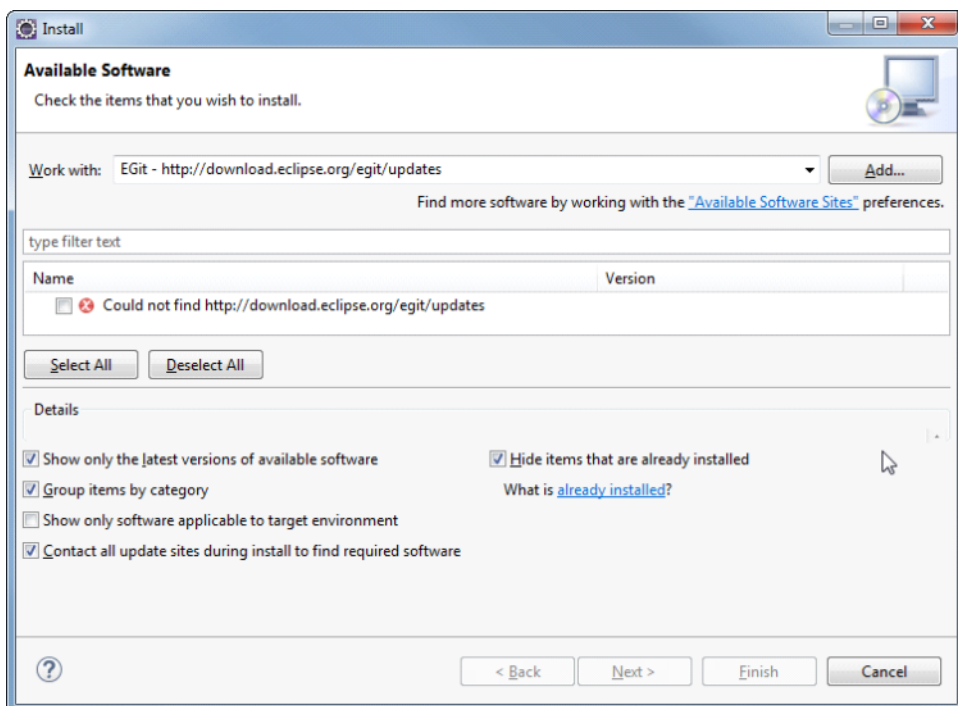
Eclipse

Install egit plugin "<http://download.eclipse.org/egit/updates>" by adding EGit location to Eclipse (new Eclipse versions have this plugin) if it does not have:

Help->Install new software->Available Software Sites->Add to the available software sites



Then add EGIT:



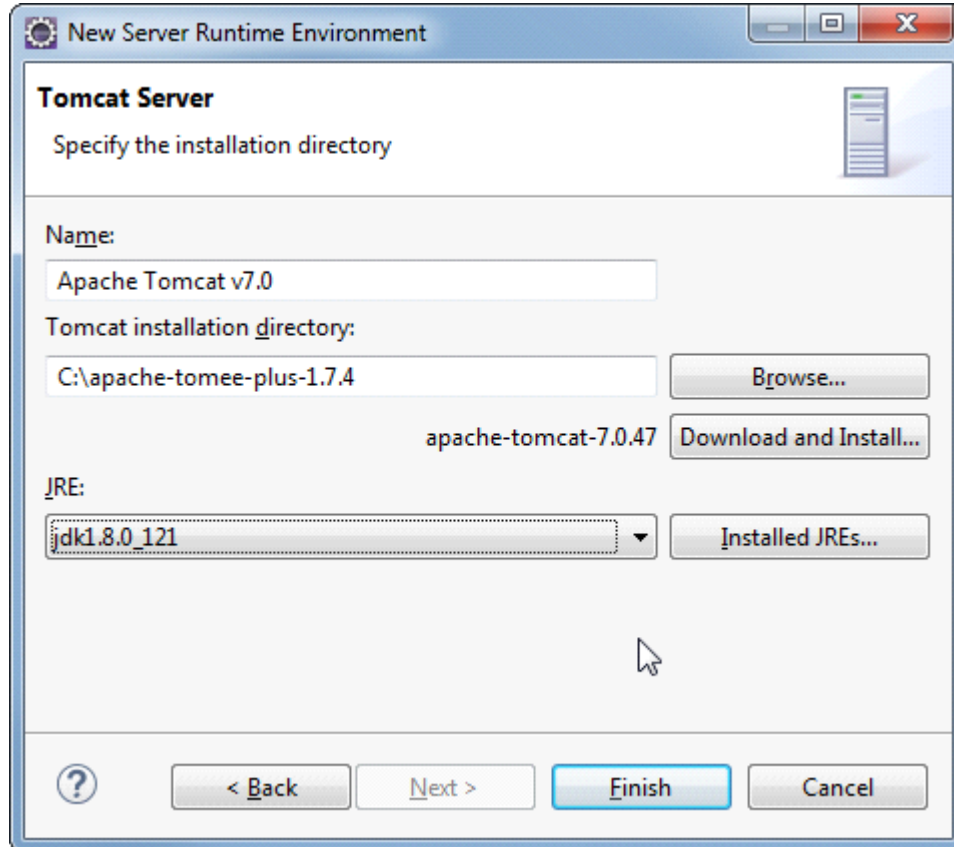
Development Environment Setup (Eclipse)

- Create a directory like "C:\Users\username\Documents\gitRepo" as the workspace for Eclipse
- Change to the above directory
- Download source code:

```
git clone git@gitlab.factset.com:app-qa-automation/api.git
```

to the current directory.
- Open Eclipse and select the directory like "C:\Users\licao\Documents\gitRepo" you created as the Workspace
- Add server runtime:
 - Select **Window > Preferences**

- Select **Server > Runtime Environments > Add**
 - Select **Apache > Apache Tomcat v7.0**
 - Click **Next**
 - Select your local TomEE directory, for example C:\apache-tomee-plus-1.7.3
 - Click **Finish**
- Create a new Dynamic Web project called "**api**" (the same name as the project you pulled) in Eclipse:
 - Click **New Runtime** button for **Target runtime** and select "Apache->**Apache Tomcat v7.0**"
 - Click **Next**
 - Click **Browse** button to find the "**Tomcat installation directory**" (for me, this is C:\apache-tomee-plus-1.7.4)
 - Select your "**JRE**" like jdk1.8.0_121 under the "JRE" dropdown box.



- Click **Finish**
- You will see a window like this:

New Dynamic Web Project

Create a standalone Dynamic Web project or add it to a new or existing Enterprise Application.

Project name:

Project location

☒ Use default location

Location:

Target runtime

Dynamic web module version

Configuration

A good starting point for working with Apache Tomcat v7.0 runtime. Additional facets can later be installed to add new functionality to the project.

EAR membership

☐ Add project to an EAR

EAR project name:

Working sets

☐ Add project to working sets

Working sets:

- Click **Finish**

- Add SQL Server JDBC driver dependency:
 - Right-click project **api** and open **Properties** window
 - select **Build Path > Configure Build Path**
 - Click **Add External Jars**
 - Select path to **sqljdbc42.jar, log4j-1.2.17.jar**
 - Click **OK**

Building the Project

Eclipse automatically compiles when you modify the source code, so no need to build explicitly.

Deployment

To package a .war for deployment:

- Right-click project
- Select **Export > WAR file**
- Select any **Destination** folder (use a local directory for performance)
- Click **Finish**

Installation:

- Copy the .war file to **TOMEE/webapps/** directory on tellusstgb01 (there is Windows Share).

- It should automatically be reloaded by TomEE, but sometime the state might be messed up, so restart TomEE to start with clean state

TomEE:

- TomEE directory is C:\apache-tomee-plus-1.7.3 on tellusstgb01
- TomEE runs as Windows Service called "Apache TomEE"

Logging

(1) jar file and configuration file

C:\apache-tomee-plus-1.7.4\lib\log4j-1.2.17.jar

C:\apache-tomee-plus-1.7.4\lib\log4j.properties (configure location of log files and set log level)

(2) log files under C:\apache-tomee-plus-1.7.4\logs

job-scheduler.log

job-scheduler.log.1

job-scheduler.log.2

....

Configuration

(1) C:\Tellus\webapiresource\tellusAPIConfig.properties

Any change in this file need the Tomee server to be rebooted to take effects.

Example:

Url called to validate test plan id and test case id, etc.

GET_JUSTIFIER_TESTPLAN_CASES_URL=http://tellusdevb01.pc.factset.com/php/qJustifierTestPlanCases.php

urls for some data files used to validate corresponding parameters

WINDOWS_VERSION_URL=/data/WindowsVersion.json

OFFICE_VERSION_URL=/data/OfficeVersion.json

SG_BROWSER_TYPE_URL=/data/SGBrowserType.json

SG_BROWSER_VERSIONS_URL=/data/SGBrowserVersions.json

BROWSER_TYPE_URL=/data/BrowserType.json

BROWSER_VERSIONS_URL=/data/BrowserVersions.json

SMARTPHONE_DEVICES_URL=/data/smartphone_devices.json

PLATFORM_VERSIONS_URL=/data/platform_versions.json

Database resource

DEFAULT_MAX_TOTAL=20

DEFAULT_MAX_IDLE=10

DEFAULT_MAX_WAIT_MILLIS=1000

#host url for data files

HOST_URL=http://tellusdevb01.pc.factset.com

Valid values for some parameters

RunNow=0|1

RecurType=W|B|Y|M

ScheduleType=RunNow|RunAsScheduled|AddRecurrence

TestEnvironment=FPE|SGE|SITINT|SoapUI

Restart

To restart **RestfulSchedulingService**, simply restart TomEE Windows Server on tellusstgb01.

Code Description

REST API entry point: TellusAPI.java in package com.factset.tellus.service

New Fields

PHP modules: Some parameters could be validated in .php modules. In that case, no need to validate them in Java modules.

- For PHP, the fields are handled in .php files. If a new field has special name which is not combination of regular words like QAIServerName, it should be converted to a new parameter qaiServerName in the convertParams() function (regular name like EmailRecipient is a combination of regular words, no need to convert). After the java API returns the response, parameters like qaiServerName need to be converted back to QAIServerName in the function convertInstanceToJsonObject(). RESTful web services API could not recognize those irregular parameter names like QAIServerName. That is why we need to do some conversion. For regular parameter names like OfficeVersion can be handled by JaxRS properly.

Java modules: New fields have to be added to Instance.java in `api` project with public get and set methods for them. If they need to be validated, they can be validated in either the validate() method or other corresponding methods like validateTestEnvironmentSGE() for SGE, validateTestEnvironmentFPE() for FPE, etc. in this class.

- Workflow is TellusAPI.create()->TellusServiceProcessor.createInstance()->Instance.validate()

Tellus API Entry Points

Monday, June 12, 2017 2:58 PM

Usage

Create a new job:

Development: <http://tellusdevb01.pc.factset.com/api/job/create>

Production: <http://tellusb01.pc.factset.com/api/job/create>

Php module: C:\Tellus\htdocs\tellusapi\TellusAPICreateEvent.php

Post Request To the above URL:

```
{
  "Title" : "HTML Data Downloading Widgets_Prompts",
  "FDSAv2_stage" : "-1",
  "FDSAv2_Override" : "-1",
  "TestEnvironment" : "FPE",
  "ScheduleType" : "RunNow",
  "RunNow" : "1",
  "BaseBuild" : "-1",
  "TestBuild" : "-1",
  "BrowserType" : "CEFMp",
  "BrowserVersion" : "Any",
  "TestPlans" : [{
    "JustifierTestPlanID" : 82143,
    "JustifierTestPlanName" : "HTML Data Downloading Widgets_Prompts",
    "JustifierConfigID" : 21621,
    "JustifierConfigName" : "CEFMp",
    "Duration" : 41,
    "TestCases" : [{
      "JustifierTestCaseID" : "129858",
      "TestPlanTestCaseLinkHistoryId" : 788996
    }, {
      "JustifierTestCaseID" : "129859",
      "TestPlanTestCaseLinkHistoryId" : 788997
    }, {
      "JustifierTestCaseID" : "129860",
      "TestPlanTestCaseLinkHistoryId" : 788998
    }, {
      "JustifierTestCaseID" : "129861",
      "TestPlanTestCaseLinkHistoryId" : 788999
    }, {
      "JustifierTestCaseID" : "129862",
      "TestPlanTestCaseLinkHistoryId" : 789000
    }, {
      "JustifierTestCaseID" : "129864",
      "TestPlanTestCaseLinkHistoryId" : 795015
    }, {
      "JustifierTestCaseID" : "129865",
      "TestPlanTestCaseLinkHistoryId" : 795016
    }
  ]
}
```

```

    }, {
      "JustifierTestCaseID" : "129866",
      "TestPlanTestCaseLinkHistoryId" : 795017
    }, {
      "JustifierTestCaseID" : "129867",
      "TestPlanTestCaseLinkHistoryId" : 795018
    }
  ],
  "JustifierTestPlanHistoryID" : 167328
}
},
"Duration" : 41,
"EmailRecipient" : "no_reply@factset.com",
"Stage" : "QA",
"VMSUserID" : "FDSQAR_C",
"CaccessCode" : "LARGESETCACCESS",
"BuildID" : "8867",
"BuildVersion" : "\2017_V1\atlas_snapshot_2013.15.257\2013.15.257.143",
"WindowsVersion" : "Win 7x64",
"BitVersion" : "64bit",
"OfficeVersion" : "Office 2013",
"LanguageName" : "English (US)",
"JustifierSystemID" : "0",
"JustifierBuildID" : "26780",
"JustifierProductID" : "374",
"FixedTime" : "0",
"TickerListRequired" : "0",
"TickerList" : "-1",
"HTMLReports" : "Staging",
"HTMLReportsOS" : "DEFAULT",
"TestCaseStage" : "Live",
"IsRegressionJob" : "0",
"IsLateRegressionJob" : "0",
"StartDate" : "2017-06-12",
"StartTime" : "09:55"
}
}

```

Response:

```

[
  {
    "GroupID" : 379249,
    "JustifierTestPlanID" : 82143,
    "InstanceID" : 275211,
    "SeriesID" : null,
    "BatchID" : null,
    "Start" : "2017-06-12T09:56:42"
  }
]

```

Check status of a single job

Development: <http://tellusdevb01.pc.factset.com/api/job/status>

Production: <http://tellusb01.pc.factset.com/api/job/status>

Php module: C:\Tellus\htdocs\tellusapi\result.php

Post Request to the above URL:

```
{
  "GroupID": 383748
}
```

Response:

```
{
  "Status" : "in progress",
  "RunningTimeSinceStarted" : "5 Minute(s)",
  "Message" : "testcases downloaded and packaged.",
  "Scheduled" : true,
  "ScheduledStart" : "2017-06-19 09:02:19"
}
```

Check status of multiple jobs

Development: <http://tellusdevb01.pc.factset.com/api/jobs/status>

Production: <http://tellusb01.pc.factset.com/api/jobs/status>

Php module: C:\Tellus\htdocs\tellusapi\StatusCheckOfMultiJobs.php

Post Request to the above URL:

```
[{
  "GroupID": 383748
},
{
  "GroupID": 383740
}]
```

Post Request to the above URL:

```
[{
  "Status" : "in progress",
  "RunningTimeSinceStarted" : "9 Minute(s)",
  "Message" : "testcases downloaded and packaged.",
  "Scheduled" : true,
  "ScheduledStart" : "2017-06-19 09:02:19",
  "GroupID" : 383748
}, {
  "Status" : "in progress",
  "RunningTimeSinceStarted" : "16 Minute(s)",
  "Message" : "completed installation.",
  "Scheduled" : true,
  "ScheduledStart" : "2017-06-19 08:54:31",
  "GroupID" : 383740
}]
```

Test the RESTful web service in Java to validate some parameters:

Local: <http://localhost:8080/api/job/create>

Production: <http://tellusstgb01.pc.factset.com:8080/api/job/create>

Post Request to the above URL:

```
{
  "instance" : {
    "title" : "CEFMP Chromium Browser Feature Tests",
    "fdsAv2Stage" : null,
    "fdsAv2Override" : null,
    "testEnvironment" : "FPE",
    "scheduleType" : "RunNow",
    "runNow" : "1",
    "baseBuild" : "-1",
    "testBuild" : "-1",
    "browserType" : "Chrome",
    "browserVersion" : "51",
    "testPlans" : [{
      "justifierTestPlanID" : 75701,
      "justsifierTestPlanName" : "CEFMP Chromium Browser Feature Tests",
      "justifierConfigID" : 21171,
      "justifierConfigName" : "Default",
      "duration" : 5,
      "testCases" : [{
        "justifierTestCaseID" : "114406",
        "testPlanTestCaseLinkHistoryId" : 537131
      }
    ],
    "justifierTestPlanHistoryID" : 163685
  },
  "duration" : 5,
  "emailRecipient" : "no_reply@factset.com",
  "stage" : "Live",
  "vmsUserID" : "FDSQAR_C",
  "caccessCode" : "LARGESETCACCESS",
  "buildID" : "11813",
  "buildVersion" : "\2017_V1\atlas_snapshot_2016.5.255\2016.5.255.002",
  "windowsVersion" : "Win 7x64",
  "bitVersion" : "64bit",
  "officeVersion" : "Office 2013x64",
  "languageName" : "English (US)",
  "justifierSystemID" : "11",
  "justifierBuildID" : "26561",
  "justifierProductID" : "3785",
  "fixedTime" : "0",
  "tickerListRequired" : "0",
  "tickerList" : "-1",
  "htmlReports" : "Production",
  "htmlReportsOS" : "DEFAULT",
  "testCaseStage" : "Live",
  "isRegressionJob" : "0",
  "isLateRegressionJob" : "0",
  "startDate" : "2017-06-12",
  "startTime" : "13:54",
}
```

```

    "qaiServerName" : "is.factset.com"
  }
}

```

Response:

```

{
  "instance" : {
    "allDay" : false,
    "baseBuild" : -1,
    "bitVersion" : "64bit",
    "browserType" : "Chrome",
    "browserVersion" : 51,
    "buildID" : 11813,
    "buildVersion" : "\2017_V1\atlas_snapshot_2016.5.255\2016.5.255.002",
    "caccessCode" : "LARGESETCACCESS",
    "codeRedInstaller" : -1,
    "controlServer" : "",
    "duration" : 5,
    "emailRecipient" : "no_reply@factset.com",
    "fdsAv2Override" : "",
    "fdsAv2Stage" : "",
    "fixedTime" : 0,
    "gherkin" : 0,
    "htmlReports" : "Production",
    "htmlReportsOS" : "DEFAULT",
    "installerNeeded" : 1,
    "isLateRegressionJob" : 0,
    "isRegressionJob" : 0,
    "justifierBuildID" : 26561,
    "justifierLibraryID" : -1,
    "justifierProductID" : 3785,
    "justifierSystemID" : 11,
    "languageName" : "English (US)",
    "officeVersion" : "Office 2013x64",
    "platform" : "WINDOWS",
    "prebuildName" : "",
    "priority" : 3,
    "projectType" : "Selenium",
    "qaiServerName" : "is.factset.com",
    "runNow" : 1,
    "scheduleType" : "RunNow",
    "scheduledStart" : "BuildCreation",
    "scm" : "P4",
    "sitEnvironment" : -1,
    "stage" : "Live",
    "startDate" : "2017-06-12",
    "startTime" : "13:56",
    "subProjectID" : -1,
    "subProjectType" : "",
    "testBuild" : -1,
    "testBuildID" : -1,
    "testBuildVersion" : -1,
  }
}

```

```

"testCasePrebuildName" : "",
"testCaseStage" : "Live",
"testEnvironment" : "FPE",
"testPlans" : {
    "duration" : 5,
    "justifierConfigID" : 21171,
    "justifierConfigName" : "Default",
    "justifierTestPlanHistoryID" : 163685,
    "justifierTestPlanID" : 75701,
    "justifierTestPlanName" : "CEFMP Chromium Browser Feature Tests",
    "tellusTestPlanID" : 596,
    "tellusTestPlanName" : "CEFMP Chromium Browser Feature Tests",
    "testCases" : {
        "automationStatusID" : 6,
        "basePath" : "depot\\smqa\\Tellus\\SeleniumDev\\",
        "inProduction" : true,
        "installerNeeded" : 1,
        "justifierTestCaseID" : 114406,
        "justifierTestCaseName" : "CEFMP Passing Browser Arguments via Run Prompt",
        "prodBasePath" : "depot\\smqa\\Tellus\\Selenium\\",
        "prodTestPath" : "\\Infrastructure Browser\\tests\\Infrastructure Browser\\",
        "projectType" : "Selenium",
        "scm" : "P4",
        "subProjectID" : -1,
        "tellusTestCaseID" : 2296,
        "tellusTestCaseName" : "CEFMPPassingBrowserArgumentsviaRunPrompt",
        "testPath" : "\\Infrastructure Browser\\tests\\Infrastructure Browser\\",
        "testPlanTestCaseLinkHistoryId" : 537131,
        "value" : 114406
    }
},
"testServer" : "",
"tickerList" : -1,
"tickerListRequired" : 0,
"title" : "CEFMP Chromium Browser Feature Tests",
"vmsUserID" : "FDSQAR_C",
"windowsVersion" : "Win 7x64"
}
}

```

Tellus API Data Specs

Wednesday, December 06, 2017 2:06 PM

webservices TestEnvironment will be used to run test cases for SOAPUI and WebSocket testing

QAI link to Tellus API

Friday, January 19, 2018 10:16 AM

QAI talks to two endpoints:

- <http://tellus/swp-green/index.php> [swp-green trigger]
- <http://tellusb01.pc.factset.com/api> [qai launch automation and status]