

Teams Integration document with Selenium Java framework

(without CI tool)

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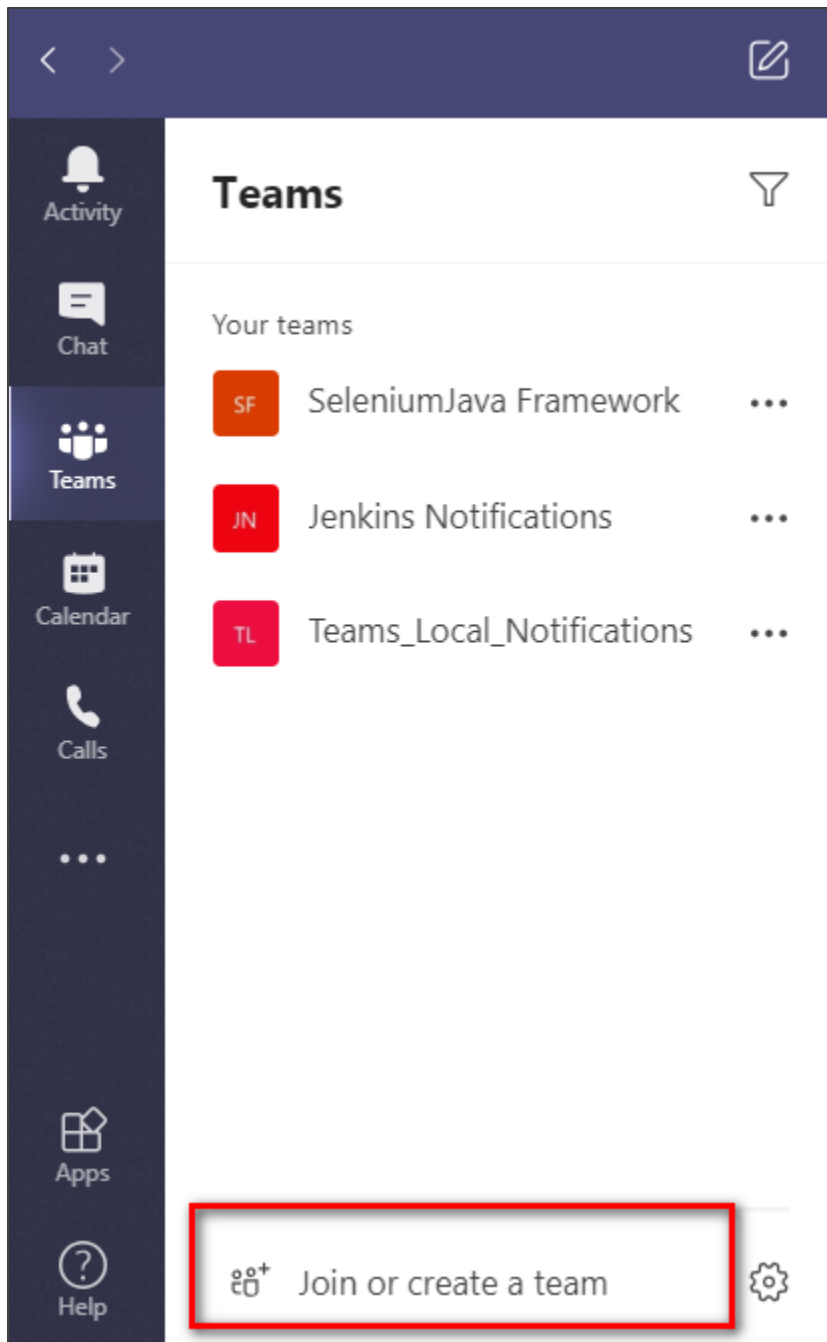
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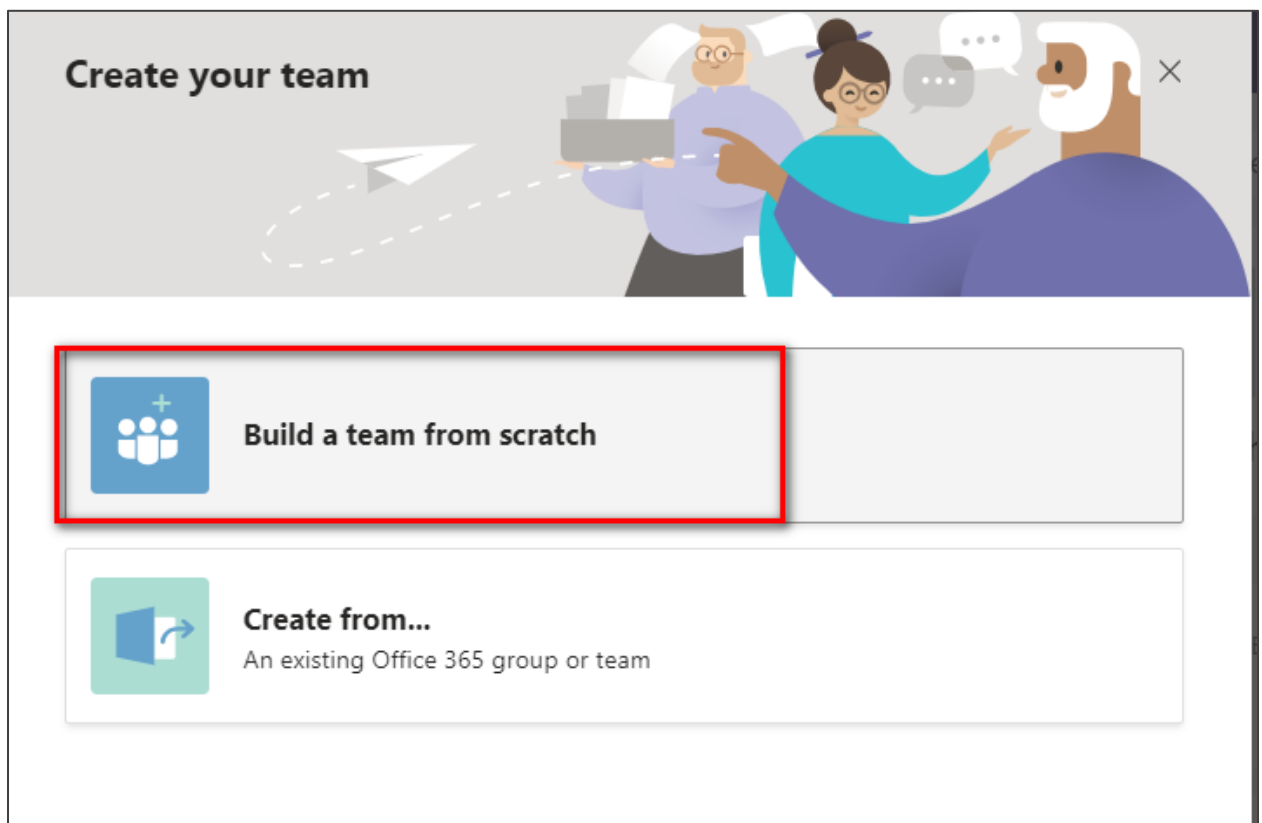
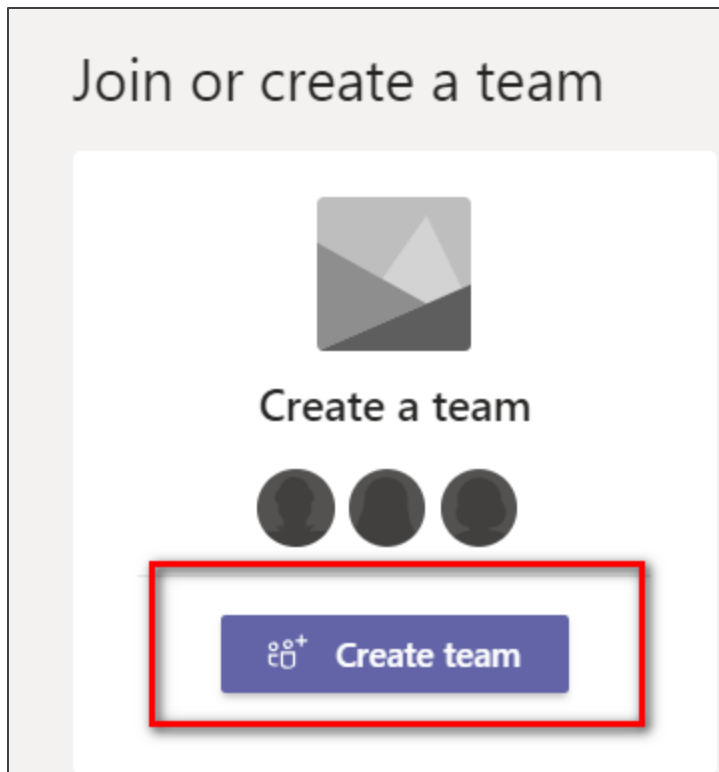
1. Overview

This document provides explanation about how to integrate the selenium Java Framework with Microsoft Teams notifications to be triggered for automation runs.

2. Steps To integrate MS Teams with Selenium Java Framework

1. Create a new team/group in Microsoft Teams





2. Name the team/group and click on Create:

Some quick details about your private team ×

Team name

Give your team a name

Description

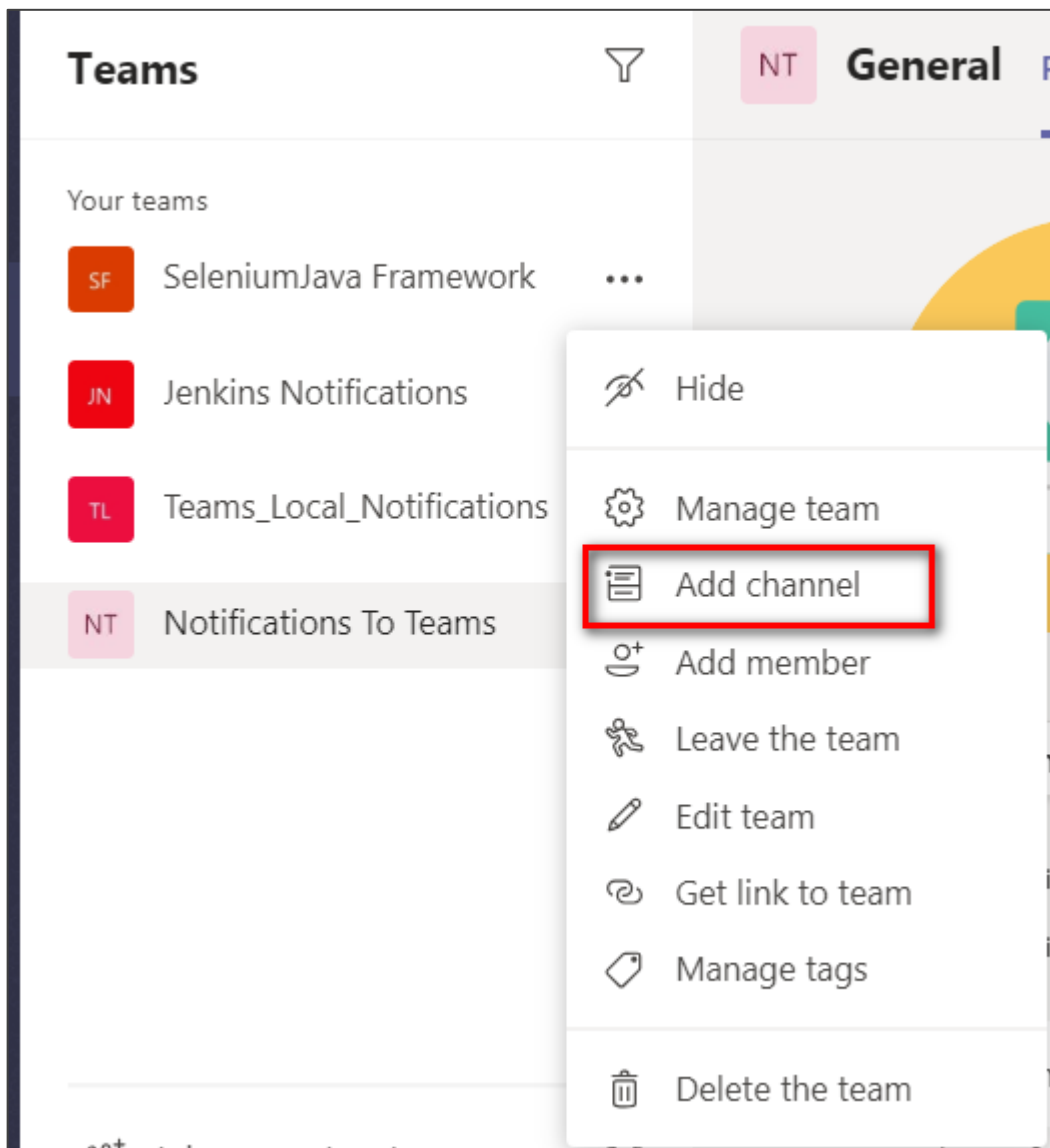
Let people know what this team is all about

3. Add Members to the channel created and click on “Add”:

Add members to Notifications To Teams

Start typing a name, distribution list, or security group to add to your team. You can also add people outside your organization as guests by typing their email addresses.

4. Click on more options of channel created and select “Add channel”:



5. Enter Channel Name and click on “Add”:

Create a channel for "Notifications To Teams" team

Channel name

Letters, numbers, and spaces are allowed

Description (optional)

Help others find the right channel by providing a description

Privacy

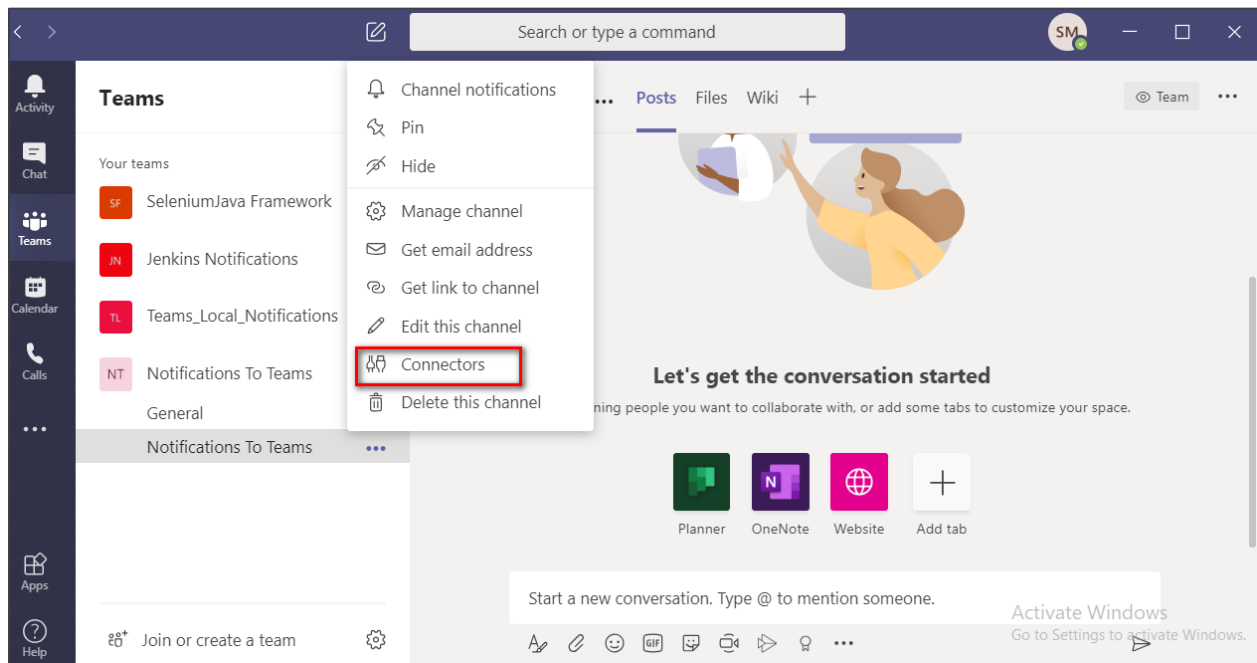
Standard - Accessible to everyone on the team

☐ Automatically show this channel in everyone's channel list

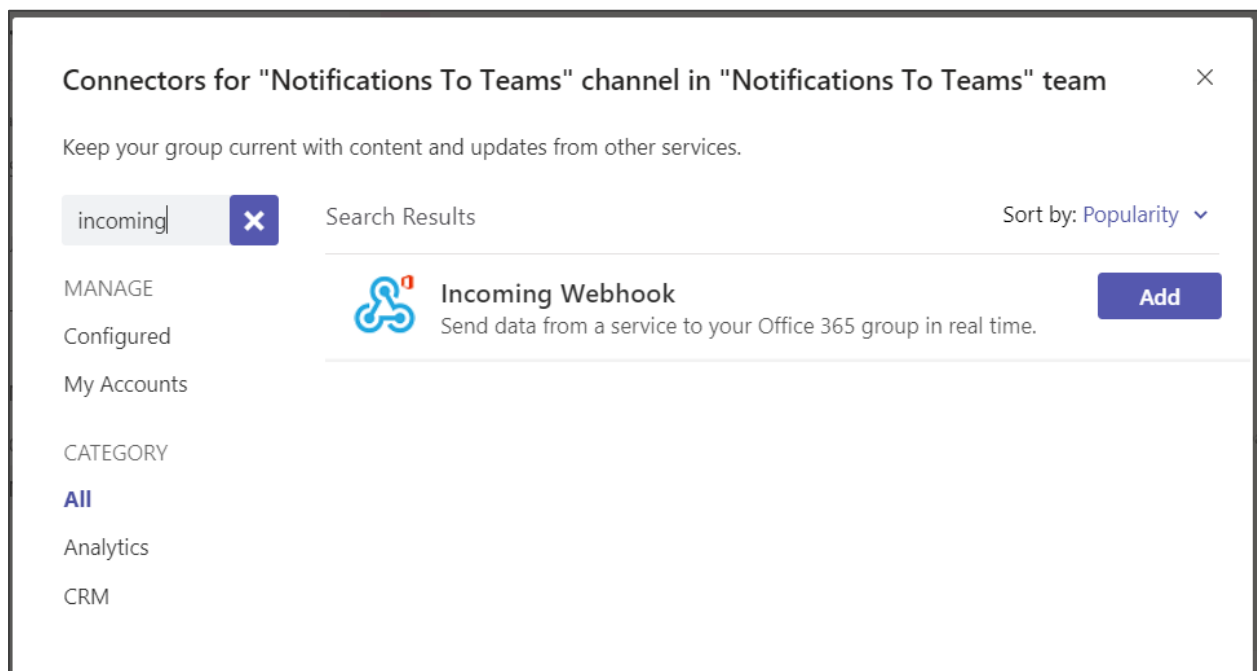
Cancel

Add

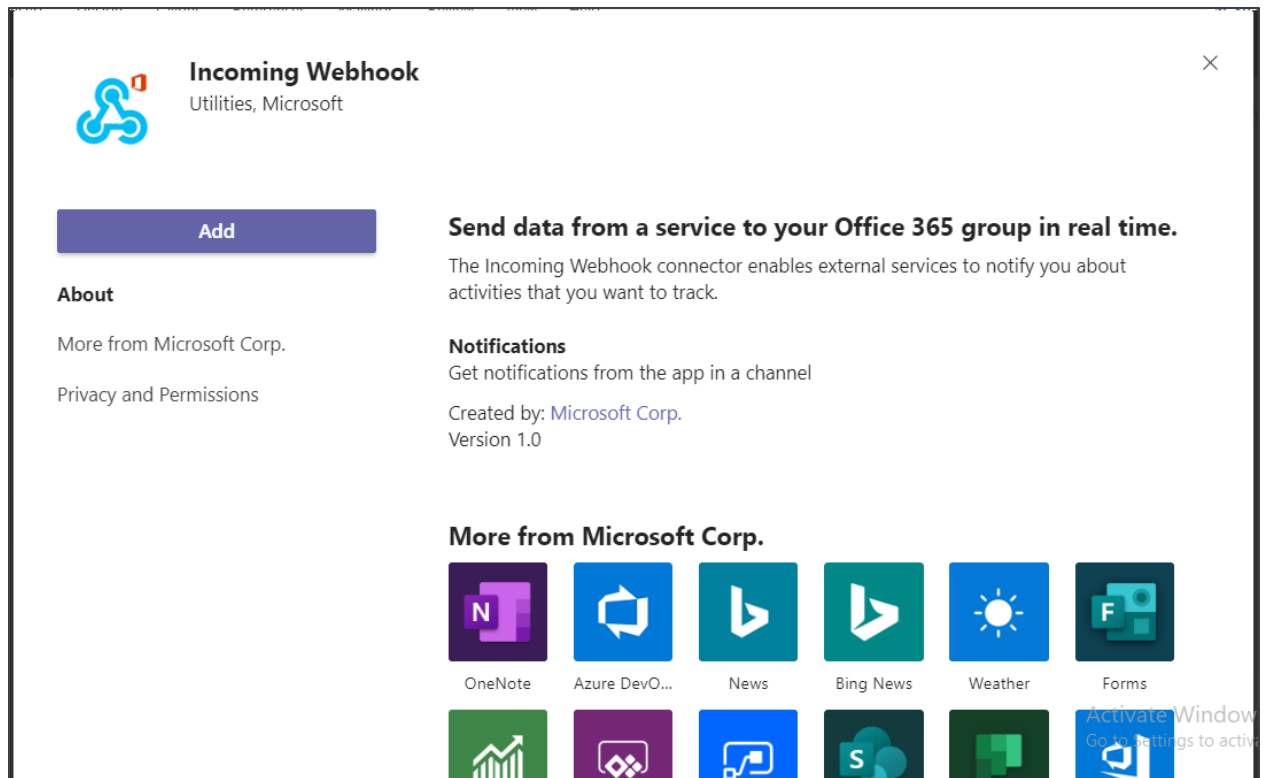
6. Go to channel created -> click on more options -> Select Connectors:



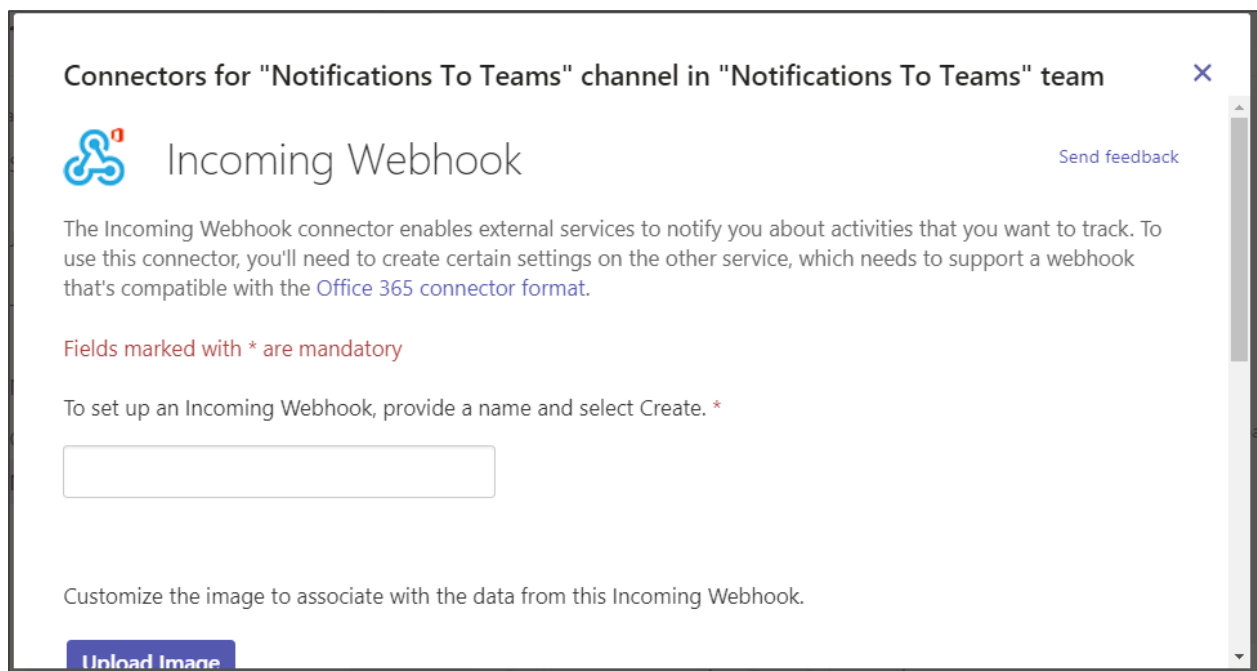
Search for “Incoming webhook” and click on “Add”:



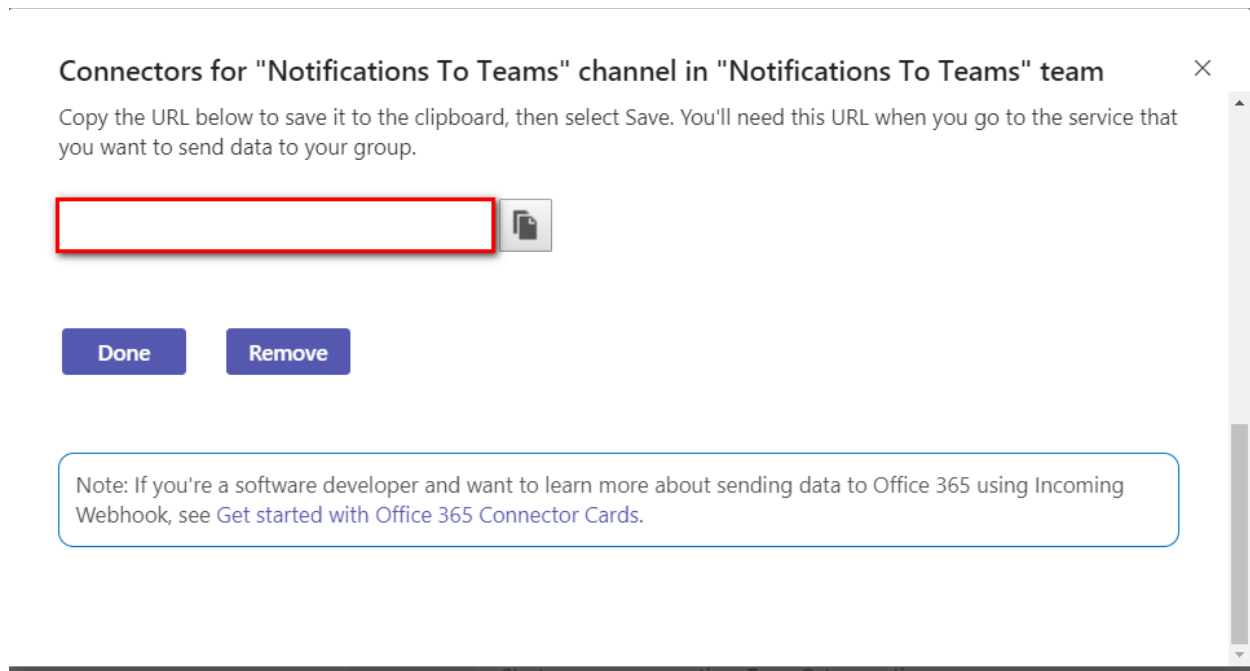
Click on “Add”:



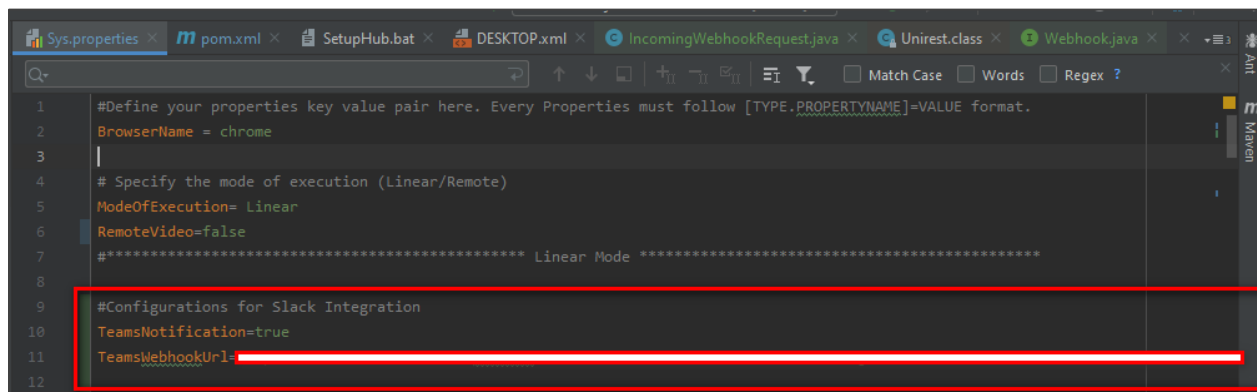
7. Set the name for "Incoming Webhook" and click on "Create"



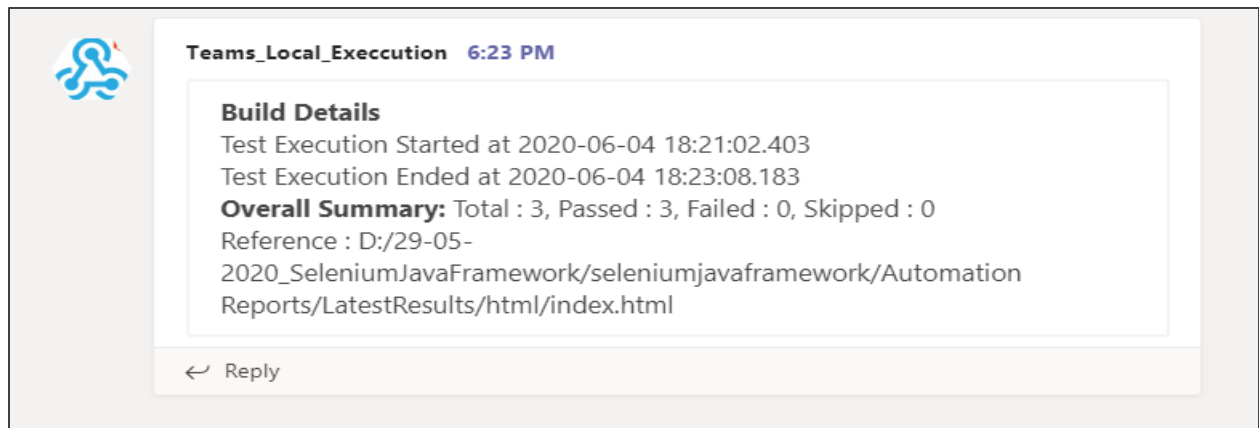
- Copy the Webhook URL and click on "Done":



- Open Sys.properties -> set "TeamsNotification" to true and set the copied webhookUrl (Webhook URL copied in step 8) to "TeamsWebhookUrl" in Sys.properties:

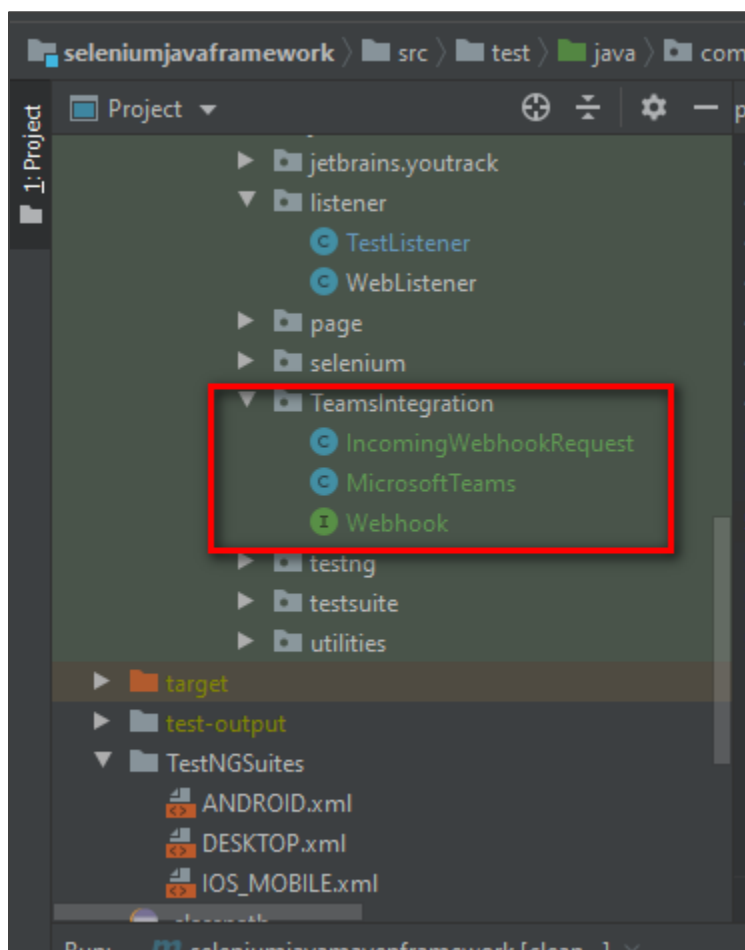


- Execute the required class file or Desktop.xml or RunTests.bat. We will see the build Notification in Microsoft Teams as below:



3. Code Implementation For MS Teams Integration:

1. Created MicrosoftTeams, IncomingWebhookRequest classes and Webhook interface to send Test Execution Start time, End Time, Test TotalCount, PassCount, FailCount, SkipCount and Reference to access the index.html file available from Latest results folder in Automation reports.



```

public class MicrosoftTeams {
    private static ConfigManager sys = new ConfigManager();
    static String teamsMessage="";
    public static IncomingWebhookRequest forUrl(Webhook webhook) { return new IncomingWebhookRequest(webhook); }

    public static void sendTeamsMessage(String time) throws UnirestException {
        IncomingWebhookRequest incomingWebhookRequest=MicrosoftTeams.forUrl(new Webhook() {
            public String getUrl() {
                return sys.getProperty("TeamsWebhookUrl");
            }
        });
        String methodName=Thread.currentThread().getStackTrace()[2].getMethodName();
        if(methodName.equalsIgnoreCase( anotherString: "beforeSuite")) {
            //teamsMessage="<b>Build Details</b>\n\rTest Execution Started at " + time;
            incomingWebhookRequest.sendMessage( text: "<b>Build Details</b>\n\rTest Execution Started at " + time);
        }
        else if(methodName.equalsIgnoreCase( anotherString: "AddLogFileToReport")) {
            //teamsMessage=teamsMessage+"\n\rTest Execution Ended at " + time;
            incomingWebhookRequest.sendMessage( text: "Test Execution Ended at " + time);
        }
    }

    public static void testCasesCountTeams(int totalCount,int passCount,int failCount,int skipCount) throws UnirestExc
        IncomingWebhookRequest incomingWebhookRequest=MicrosoftTeams.forUrl(new Webhook() {
            public String getUrl() {
                return sys.getProperty("TeamsWebhookUrl");
            }
        });
    }
}

```

```

import org.apache.http.impl.Client.CloseableHttpClient;
import org.apache.http.impl.client.HttpClientBuilder;
import org.json.JSONObject;
import org.json.simple.parser.ParseException;

import java.io.IOException;
import java.io.UnsupportedEncodingException;

public class IncomingWebhookRequest {
    private Webhook webhookDetails;

    public IncomingWebhookRequest(Webhook webhookDetails) {
        this.webhookDetails = webhookDetails;
    }

    public void sendMessage(String text) throws UnirestException {
        String url = webhookDetails.getUrl();
        JSONObject object = new JSONObject();
        object.put("text", text);
        Unirest.post(url).header( name: "Content-Type", value: "application/json").body(object).asString();
    }
}

```

```

package com.TeamsIntegration;

public interface Webhook {
    String getUrl();
}

```

2. Updating the MS Teams channel with execution status total count from TestListener class as follows:

```

TestListener.java x Sys.properties x pom.xml x SetupHub.bat x DESKTOP.xml x IncomingWebhookRequest.java x Uni
472
473 @Override
474 public void onFinish(ISuite arg0) {
475     int totalTestCount = arg0.getAllMethods().size();
476     int successPercentage = (int) (noOfTestsPassed * 100 / totalTestCount);
477     int baseSuccessPercentage = 65;
478     if (sys.getProperty("TeamsNotification").equalsIgnoreCase("true")) {
479         int passedCount = 0;
480         int failedCount = 0;
481         int skippedCount = 0;
482         String suiteName = arg0.getName();
483         //Getting the results for the said suite
484         Map<String, ISuiteResult> suiteResults = arg0.getResults();
485         for (ISuiteResult sr : suiteResults.values()) {
486             ITestContext tc = sr.getTestContext();
487             passedCount = passedCount + tc.getPassedTests().getAllResults().size();
488             failedCount = failedCount + tc.getFailedTests().getAllResults().size();
489             skippedCount = skippedCount + tc.getSkippedTests().getAllResults().size();
490         }
491         int totalCount = passedCount + failedCount + skippedCount;
492
493         try {
494             MicrosoftTeams.testCasesCountTeams(totalCount, passedCount, failedCount, skippedCount);
495         } catch (UnirestException | IOException | ParseException e) {
496             e.printStackTrace();
497         }
498     }
499     end();

```

3. Updating the Test Start time and Test End time from BaseSetup class as below:

```

88  *
89  * @throws IOException
90  *     throws IO Exception
91  */
92  @BeforeSuite(alwaysRun = true)
93  public void beforeSuite() throws Exception {
94      //configuring log4j.xml file for generating logs
95      DOMConfigurator.configure( filename: userDir+File.separator+"ConfigFiles"+File.separator+"log4j.xml");
96
97      startTime = Calendar.getInstance().getTimeInMillis();
98      if (sys.getProperty("TeamsNotification").equalsIgnoreCase( anotherString: "true")) {
99          String testStartTime = UtilityMethods.getDateTimeInSpecificFormat( format_Needed: "yyyy-MM-dd HH:mm:ss.SSS");
100          MicrosoftTeams.sendTeamsMessage(testStartTime);
101      }
102      fail.cleanFailureTestCases();
103      if (isReportFolderCreated) {
104          ReportSetup.createFolderStructure();
105          isReportFolderCreated = false;
106      }
107      if (sys.getProperty("LaunchDashboard").equalsIgnoreCase( anotherString: "Manual")) {
108          log.info("Dashboard need to be launched manually");
109      } else if (sys.getProperty("LaunchDashboard").equalsIgnoreCase( anotherString: "Automatic")) {
110          /*
111           * Here we need to invoke live results using "--allow-file-access-from-files" flag
112           * That cannot be achieved by launching report using file system
113           * Use: InvokeDashboard.main(); for launching report
114           */
115          InvokeDashboard.main();

```

```

268  */
269  @AfterSuite(alwaysRun = true)
270  public void AddLogFileToReport() throws UnirestException {
271      duration = Calendar.getInstance().getTimeInMillis() - startTime;
272      executionTime = String.format("%02dh:%02dm:%02ds", duration / (3600 * 1000), duration / (60 * 1000) % 60,
273          duration / 1000 % 60);
274      if (sys.getProperty("TeamsNotification").equalsIgnoreCase( anotherString: "true")) {
275          String testEndTime = UtilityMethods.getDateTimeInSpecificFormat( format_Needed: "yyyy-MM-dd HH:mm:ss.SSS");
276          MicrosoftTeams.sendTeamsMessage(testEndTime);
277      }
278      fail.setExecutionTime(executionTime);
279      log.info("after suite");
280      String sSeparator = UtilityMethods.getFileSeperator();
281      String logFilePath = ".." + sSeparator + "Logs.log";
282      Reporter.log( s: "<br>");
283      Reporter.log( s: "<a class='button' href='\" + logFilePath + \"'>Click to Open Log File</a>");
284      String PageLoadTimeSummaryFilePath = ".." + sSeparator + "PageLoadTime_Summary.html";
285      File f = new File(PageLoadTimeSummaryFilePath);
286      if (f.exists()) {
287          Reporter.log( s: "<br>");
288          Reporter.log( s: "<a class='button' href='\" + PageLoadTimeSummaryFilePath
289              + \"'>Click to Open PageLoad Time Summary File</a>");
290      }
291
292      if(!new File( pathname: "Automation Reports/LatestResults/Logs.log").exists()){
293          try {
294              FileUtils.copyFileToDirectory(new File( pathname: "Automation Reports/Logs.log"),new File( pathname: "Automation Rep
295
296      //If we open the report in chrome linux its showing logs in Raw format.To avoid that i am converting them into

```