

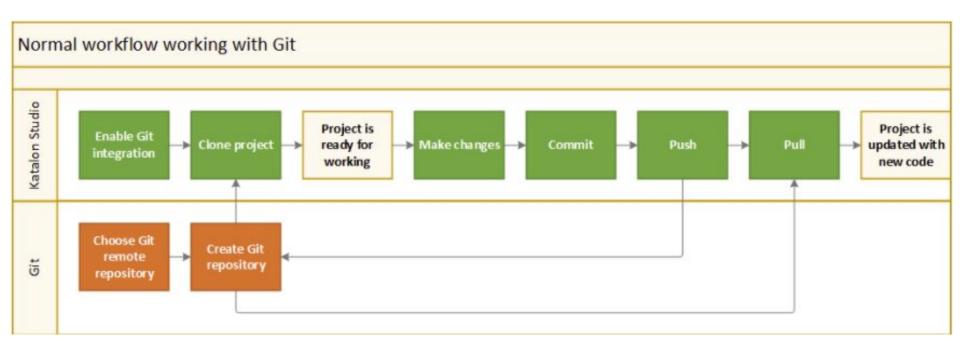
Katalon Studio For Automated Testing

Sesi 8

Integrations With GIT & JIRA

GIT X KATALON WORKFLOW



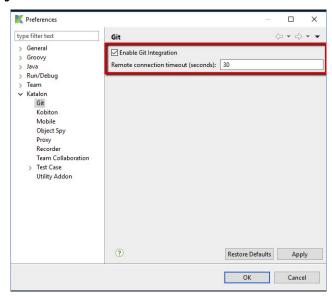


INTEGRATION WITH GIT

Steps to enable Git integration:

1. Enable Git Integration. In order to access all Git features, you need to enable Git Integration first by going to Window > Katalon Studio Preferences > Katalon > Git.

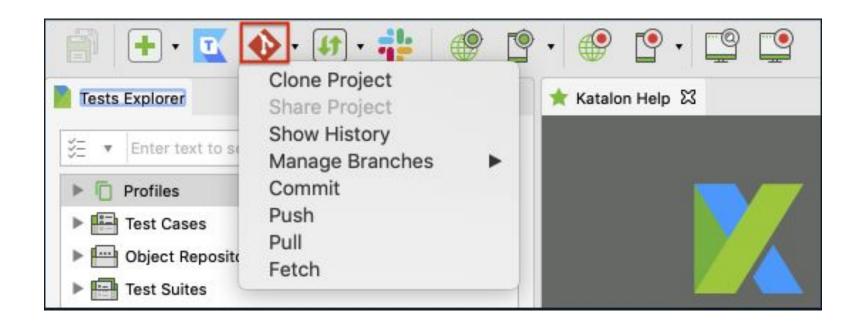
Once this option is enabled, you can use Git from the Katalon Studio main toolbar.



INTEGRATION WITH GIT



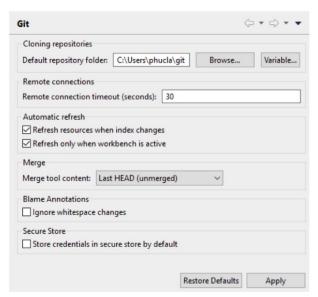
2. Now the Git integration feature should be enabled. We are ready to use Git from Katalon Studio.



INTEGRATION WITH GIT



3. Advanced configurations are available from Window > Preferences > Team > Git in case you want more detailed setups.



After enabling Git integration, you can perform Git commands such as sharing and cloning projects, committing changes, and managing branches.

CLONE PROJECT

Clone Project Share Project

Show History Manage Branches Commit Push Pull Fetch

After enabling Git Integration, you can clone an existing Git repository into a newly-created directory on the local machine.

From the main toolbar, select the Git icon > Clone Pr



2. The Source Git Repository dialog is displayed.

CLONE PROJECT



Connecting to Git with HTTPS

Enter all required information and click Next to let Katalon Studio get details about your repository.

Where:

- Repository URL: the remote URL to your Git repository in HTTPS protocol.
- Username: the username to access the Git repository.
- Password: the password to access the Git repository.

ISSUE WITH SSL VERIFICATION



If your network cannot access the repository, there may be a chance that it is not allowed by SSL verification from your connecting network. You can use the following command in your Git bash to bypass SSL verification:

git config --global http.sslVerify false



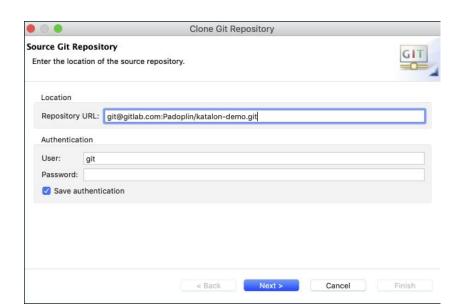
1. Generating a public/private rsa key pair with this command:

ssh-keygen -m PEM -t rsa -b 2048 -C "your_email@example.com"

Note: Katalon Studio only supports OpenSSL , NOT OpenSSH formats.

- 2. Enter file in which to save the key.
- 3. Enter the SSH key passphrase and confirm it.
- 4. Add your SSH key to the ssh-agent.
- 5. Add a new SSH key to your Git account.

In the Source Git Repository dialog, enter a repository URL with SSH Protocol and click Next.





Enter the passphrase for the key generated above.

Branch Selection Select branches to clone from remote repository. Remote tracking branches will be created to track updates for these branches in the remote repository. Branches of git@gitlab.com:Padoplin/katalon-demo.git: type filter text Information Provide information for ssh://git@gitlab.com:22 Passphrase for /Users/linhdppham/.ssh/id_rsa Cancel OK		Clone Git Repository	
Information Provide information for ssh://git@gitlab.com:22 Passphrase for /Users/linhdppham/.ssh/id_rsa	Select b	branches to clone from remote repository. Remote tracking branch	es will GIT
Information Provide information for ssh://git@gitlab.com:22 Passphrase for /Users/linhdppham/.ssh/id_rsa	Branches	es of git@gitlab.com:Padoplin/katalon-demo.git:	
Provide information for ssh://git@gitlab.com:22 Passphrase for /Users/linhdppham/.ssh/id_rsa	type fil	ilter text	
Getting remote branches information		Provide information for ssh://git@gitlab.com:22 Passphrase for /Users/linhdppham/.ssh/id_rsa Cancel	ОК



At Branch Selection screen, you can choose which branches to be checked out as local branches. Click Next to

continue. Clone Git Repository **Branch Selection** GIT Select branches to clone from remote repository. Remote tracking branches will be created to track updates for these branches in the remote repository. Branches of git@gitlab.com:Padoplin/katalon-demo.git: type filter text d connectSSH A master Select All Deselect All < Back Next > Cancel



At Local Destination dialog, specify the local location for cloning as well as the initial branch.

0 0	Clo	ne Git Reposito	ry	
Local Destination	on cal storage location fo	r katalon-demo.		GIT
Destination				
Directory:	/Users/linhdppham/	git/katalon-demo		Browse
Initial branch:	master			0
	< Back	Next >	Cancel	Finish

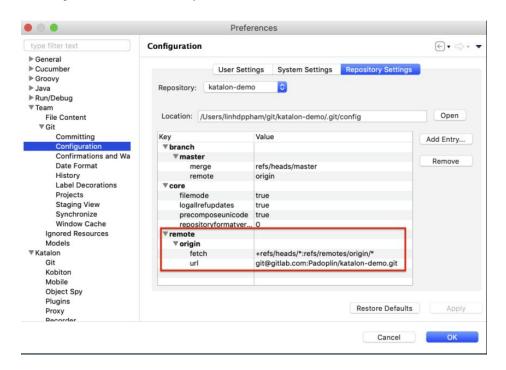
Where:

- Directory: the local storage location you want to store your Git's repository.
- Initial branch: all selected branches from the previous step are displayed here. Select the branch to be used initially from this list.

Click Finish when you are done. Katalon Studio automatically opens your cloned project.



To verify settings, go to Katalon Studio> Preferences > Team > Git > Configurations > Repository Settings. Ensure that the repository is selected correctly with the URL specified.

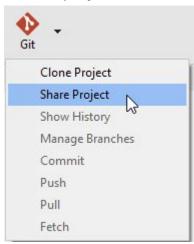


PUBLISH non-GIT PROJECT 1st TIME



Share Project is a step to enable Git configuration for your new Katalon Studio project.

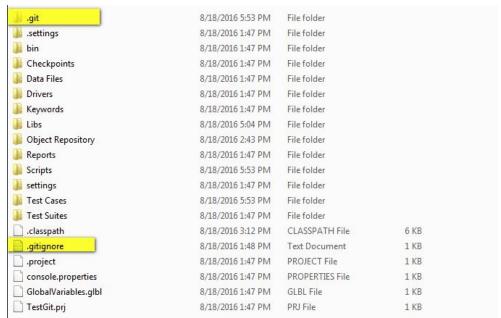
1. From the main toolbar, select the Git icon > Share Project.



PUBLISH non-GIT PROJECT 1st TIME



2. Folder .git and file .gitignore are created within the Katalon project.



gitignore tells Git which files (or patterns) it should ignore. By default, gitignore contains these files and patterns:

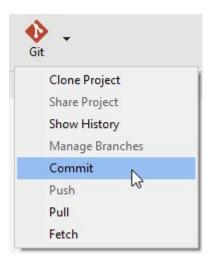
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COMMIT



The Commit option allows users to view all current changes and decide which changes to be stored in the local branch

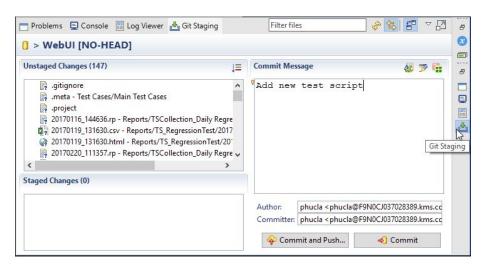
1. From the main toolbar, select the Git icon > Commit.



COMMIT



2. The Git Staging tab is displayed for configuration.



- 3. From the Unstaged Changes list, select the changes to be committed, then right-click on them and select Add To Index. Selected changes are added to the Staged Changes list.
- 4. Enter your comments into the Commit Message then click on Commit to store your staged changes into the local branch.

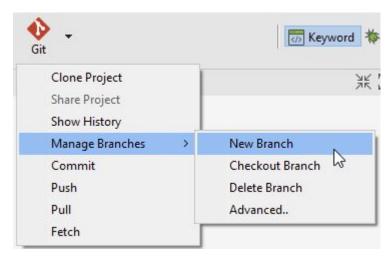
Unstaged Changes = > Changes which have been made.

Staged Changes = > Selected changes from Unstaged Changes. These changes are committed.

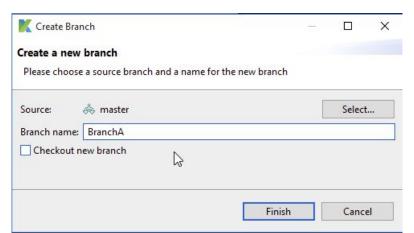
MANAGE BRANCHES



1. From the main toolbar, select the Git icon > Manage Branches > New Branch.

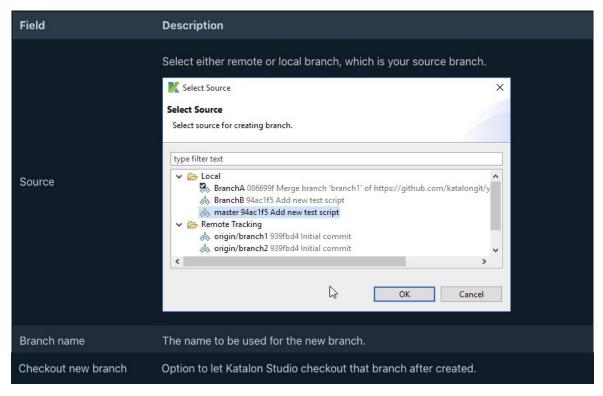


2. The Create Branch dialog is displayed.



MANAGE BRANCHES





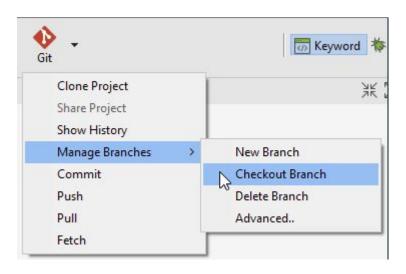
Click Finish to create a new branch.

CHECKOUT BRANCHES



The Checkout Branch option allows you to switch from one branch to another.

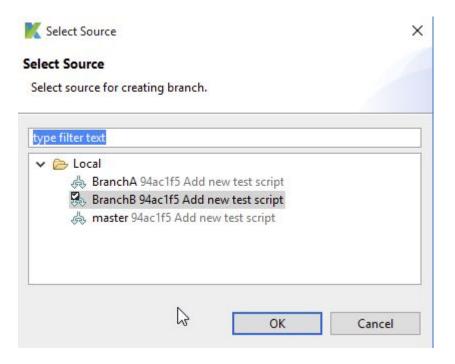
1. From the main toolbar, select the Git icon > Manage Branches > Checkout Branch.



CHECKOUT BRANCHES



2. The Select Source dialog is displayed. Select the local branch you want to check out to be the current branch. The branch with an √ icon is your current local branch.

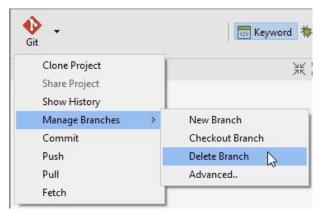


3. Click OK to finish checking out to the new local branch.

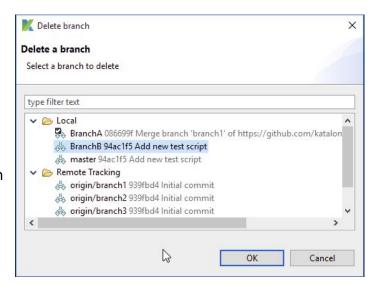
DELETE BRANCH



1. From the main toolbar, select the Git icon > Manage Branches > Delete Branch.



2. In this dialog, both local and remote branches are displayed. Select a branch to be deleted then click OK.

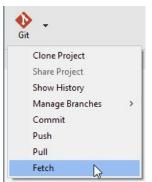


FETCH

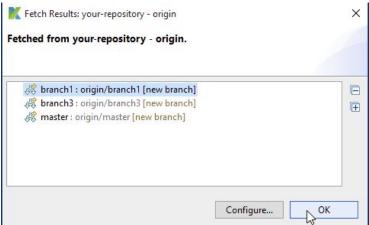


Retrieve all information about changes that have occurred in remote branches.

From the main toolbar, select the Git icon > Fetch.



2. It automatically fetches remote branches, tags, and remote changes.

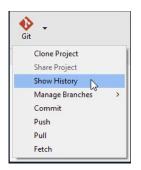


FETCH

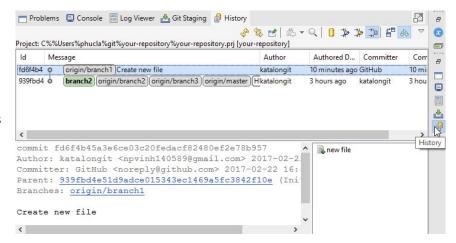


Retrieve all information about changes that have occurred in remote branches.

3. Select History from the main toolbar.



4. Details regarding all the branches and tags you've just fetched are displayed.

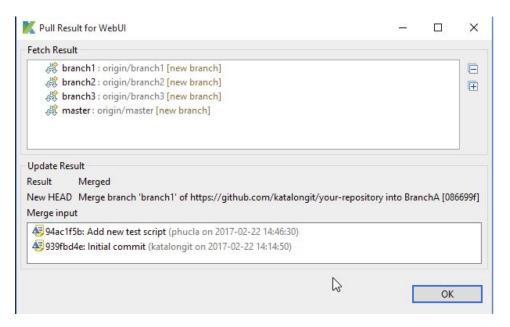


PULL



Incorporate changes from a remote repository into the current branch.

3. The Pull Result dialog is displayed with all data about pulling requests on the selected branch.



PUSH



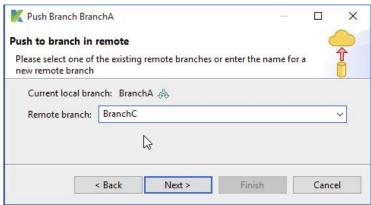
Update the remote branch using the local branch.

Before doing any push, you have to commit your changes first.

1. From the main toolbar, select the Git icon > Push.



2. The Push to Branch dialog is displayed. Choose from the Remote branch list which branch to be updated (All remote branches in your Git repository are listed here).



Click Next after finished selecting your remote branch.

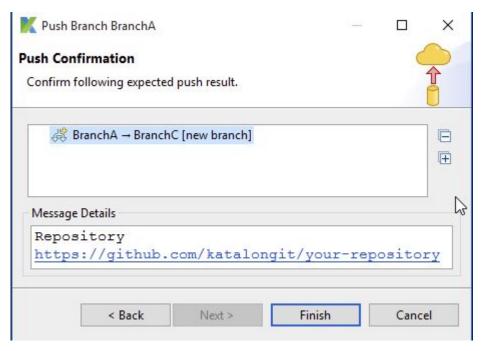
If you enter a different name besides the listed branches, a new remote branch with that name is created accordingly.

PUSH



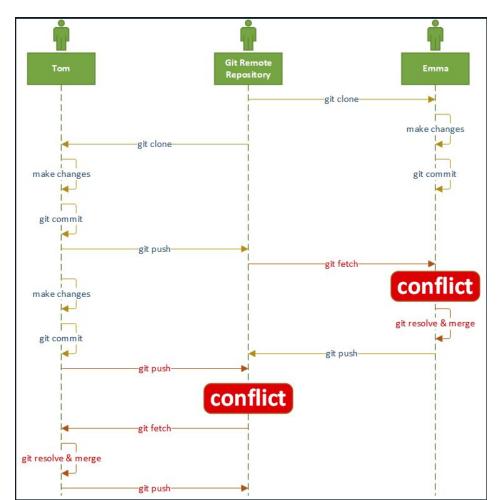
Update the remote branch using the local branch.

3. The Push Confirmation Dialog is displayed with details regarding your commit.



Click on Finish to push your commits to the remote repository.

Resolve Git conflicts



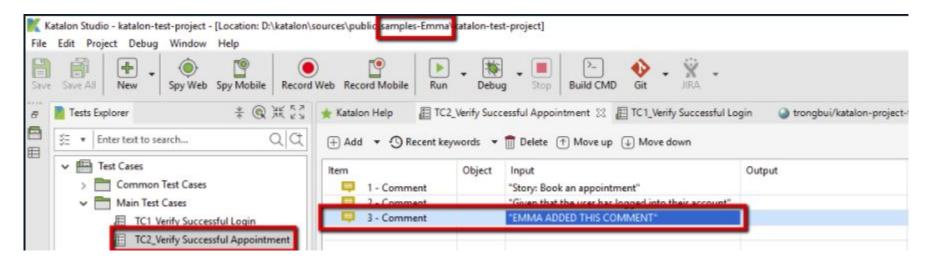
Resolve Git conflicts

In a source control system like Git, conflicts may occur when two or more people make changes to the same file concurrently. The conflicts may appear at a member's local repository or Git remote repository. In order to avoid conflicts, the team must collaborate following several Git practices. For example, before pushing new source code to the Git remote repository, one must remember to fetch the latest version from Git remote repository, resolve any conflicts and merge the code with local version.

The chart below demonstrates how conflicts may occur when Tom and Emma are working in the same project. The conflicts occur when Tom and Emma try to push new code to the Git remote repository without updating the changes from each other.

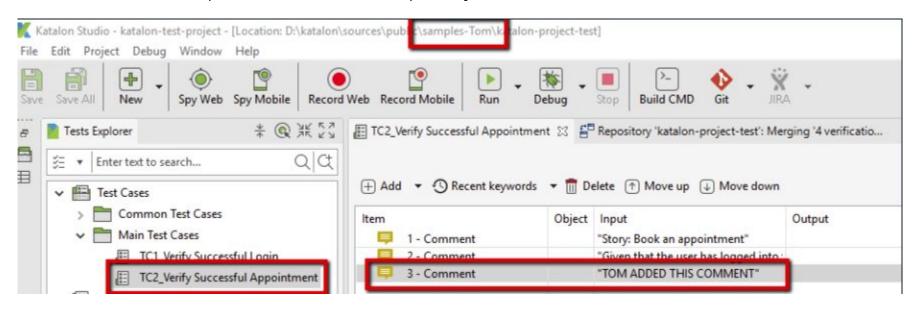


Let's consider the following situation: Tom and Emma are working on the same test case in a test project. Emma added a new comment ("EMMA ADDED THIS COMMENT"), then committed and pushed the change to the Git remote repository.





At almost the same time, Tom also added a new comment ("TOM ADDED THIS COMMENT"), then committed and tried to push to the Git remote repository.

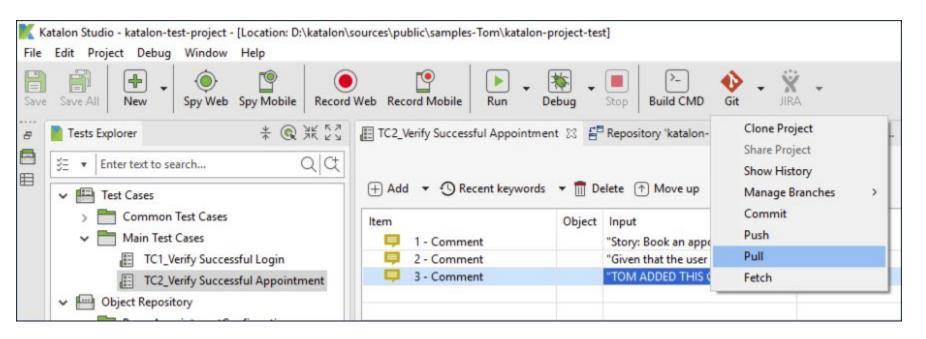


What should Tom do to have push its change to the Git remote control?

Unfortunately, since Emma had pushed the code before Tom, so the version of code in Git was different from the version of code in Tom's local repository and therefore, Git rejected Tom's "push" action.

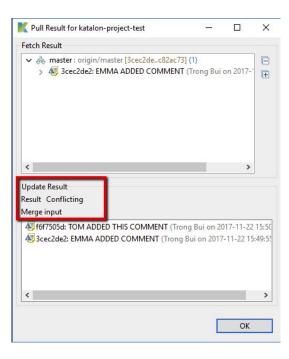


First, Tom has to "pull" the code from the Git remote repository to his local machine.





Obviously, Tom will see a message about the conflict:





In the "Script" mode of the test case "TC2_Verify Successful Appointment" in Tom's Katalon Studio project, there are errors with indicators such as "<<<<<" (convention from Git). Let's look at the script more carefully:

```
WebUI.comment('Story: Book an appointment')
WebUI.comment('Given that the user has logged into their account')

WebUI.comment('Given that the user has logged into their account')

WebUI.comment('TOM ADDED THIS COMMENT')

======
WebUI.comment('EMMA ADDED THIS COMMENT')

>>>>>> branch 'master' of https://github.com/trongbui/katalon-project-test.git
```

Recall that the comments were added by Tom and Emma, and the "conflict" is now on Tom's Katalon Studio project. Everything within "<<<<< HEAD" and "======" is the change from Tom. And, everything within "=======" and ">>>>>> branch 'master'..." comes from Emma, which is currently in the Git remote repository.



Now Tom has to decide which change is correct, or both are correct or wrong. Tom has to replace these lines of code by the correct one, e.g., "THIS IS THE CORRECT COMMENT":

```
☐ □ WebUI.comment('Story: Book an appointment')

WebUI.comment('Given that the user has logged into their account')

WebUI.comment('THIS IS THE CORRECT COMMENT')
```

After resolving the conflict, Tom is now able to commit and push the change to the Git remote repository.

SUGGESTION



- Commit often: do not wait until a huge amount of scripts created to commit and push to the Git remote repository. The smaller set of the scripts is pushed, the easier you resolve the conflict.
- Pull changes from the Git remote repository before working on new scripts and before committing.
- Each member works on each feature at a time.

In order to minimize the conflict in a team having more than one members, you should define a process from the very beginning so that all team members are on the same page when using Git. Here are some suggestions for good practices:

Integrations With JIRA

INTEGRATION WITH



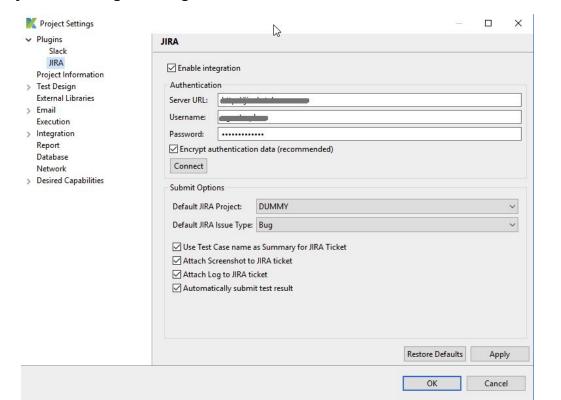
Prerequisites

- Install Jira Integration plugin for Katalon Studio from Katalon Store.
- Install Katalon BDD app for Jira from Atlassian Marketplace.

INTEGRATION WITH



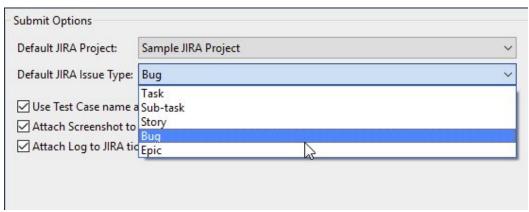
You need to enable JIRA Integration in order to submit issues to JIRA. This setting is available at Project > Settings > Integration > JIRA.



INTEGRATION WITH



- 1. Select Enable integration option. The settings will be available for configuration.
- Jira Cloud
 - Server URL must be in the form https://<site_name>.atlassian.net.
 - Use a Atlassian Cloud's API token for *Password*. See instructions here.
- Jira Server
 - Server URL must be in the form http(s)://domain without any trailing parts e.g. /secure.
 - Use username instead of email for *Username*.
- 2. Specify information regarding your JIRA Server and login credential then click Connect button.
- 3. After successfully authenticating with JIRA, all relevant JIRA Projects and Issue Types will be retrieved and displayed under Submit Options. You can specify the default project and issue type for submission here.



4. Click OK button to complete the JIRA Integration setup.

INTEGRATE TEST CASE



You need to enable Jira integration with Katalon TestOps to have an insightful look at your testing data and better test management.

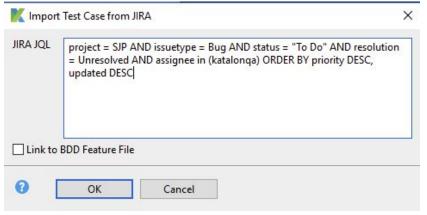
1. Prepare Jira JQL Script



2. Open Jira Integration > click Import Test Case from JIRA JQL



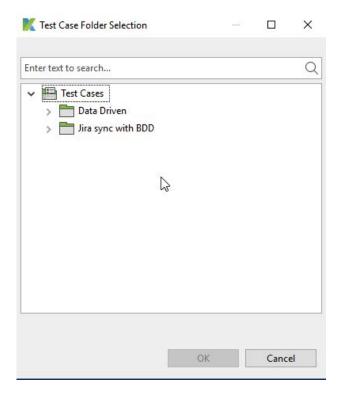
3. Enter the Jira JQL. Click OK.



INTEGRATE TEST CASE



4. The Test Case Folder Selection window will appear. Choose the destination to store the issues. Click OK.



INTEGRATE TEST CASE



5. The Jira Issues window will appear. Click OK.

D	Summary	Status	
JP-54	TC161101 - Google Search	To Do	
https://ji	ra.katalon.com/browse/SJP-54		
- 0			

66

If your test cases have already been linked to a JIRA ticket, Katalon Studio will not sync them again.

99



IMPORT BDD FEATURES FILES

Import BDD Feature Files

Jira Integration also allows you to import Jira BDD Feature Files to Katalon Studio.

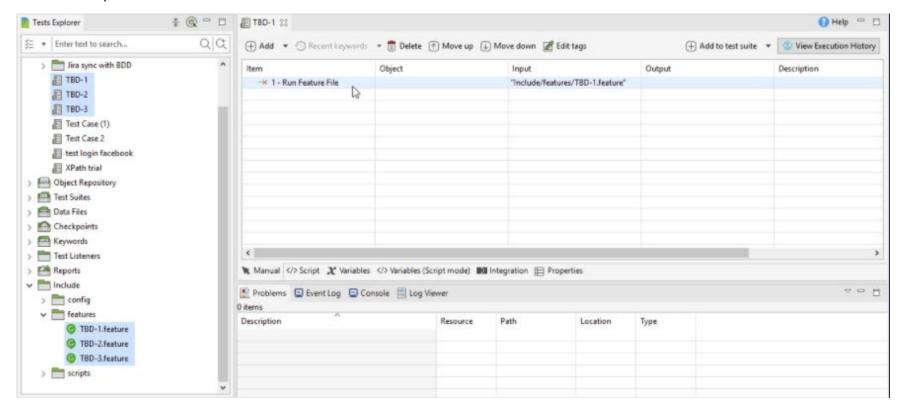
When importing test cases from Jira, please check Link to BDD Feature File > OK > Choose the destination to store the issues.

M Import	Test Case from JIRA	×
JIRA JQL	text ~ "bdd"	
Link to	BDD Feature File	
0 [OK Cancel	



IMPORT BDD FEATURES FILES

A new Feature File (with the same name as the test case) will be created with the content from Jira BDD. Moreover, a RunFeature step will be created in the linked test case to Jira.



VIEW TEST RESULTS ON



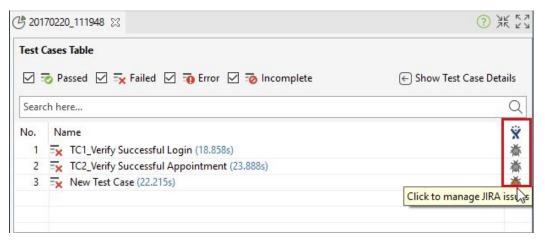
After you have successfully integrated test cases, test execution results will be automatically created in the associated Jira ticket. Review the status and attachments of Katalon Studio test cases right inside Jira.

Test Steps: 1. openBrowser 2. navigateToUrl 3. click 4. closeBrowser		Dates Created: Updated:	5 minutes ago 5 minutes ago	
ttachments	******	Agile View on Board		
	Drop files to attach, or browse.	Katalon Executio	Katalon Execution Result	
		Status: Attachments:	execution0.log	
		-		



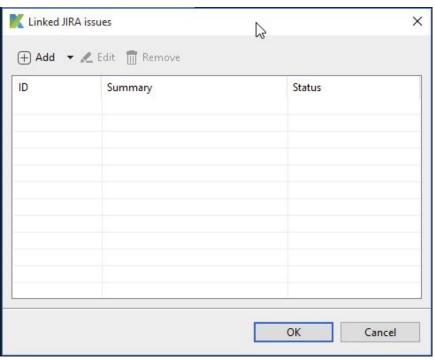
Bug submission options will be available in Test Reports after JIRA Integration setup is successfully configured.

 Open a test execution in Reports that you want to review for issues. In Test Cases Table, a dedicated column for JIRA Integration will be enabled.



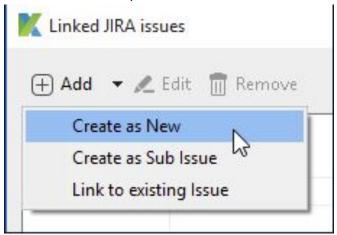


2. Click on the bug icon to display the list of related JIRA issues associated with the selected Test Case. The issues are shown in the following screen.

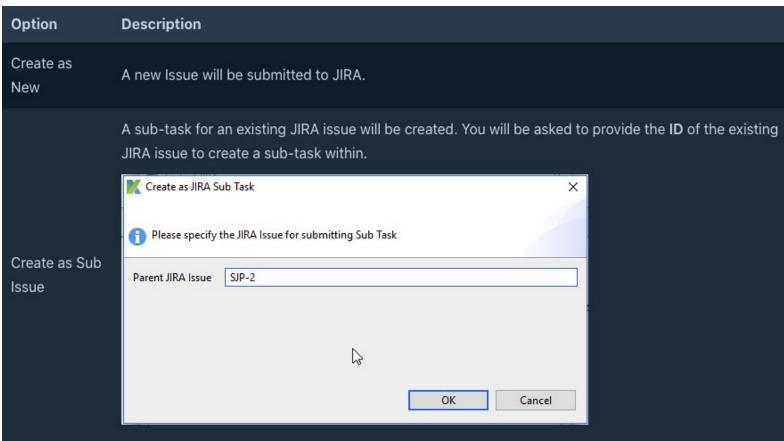




3. Select submit option under the Add command.





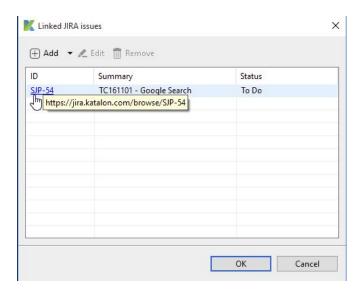




This option will append execution details to an existing JIRA issue. You will be asked to provide the ID of the existing JIRA issue for this. Link to JIRA Issue X Please specify the JIRA Issue for linking Link to Linked JIRA Issue existing Issue OK. Cancel

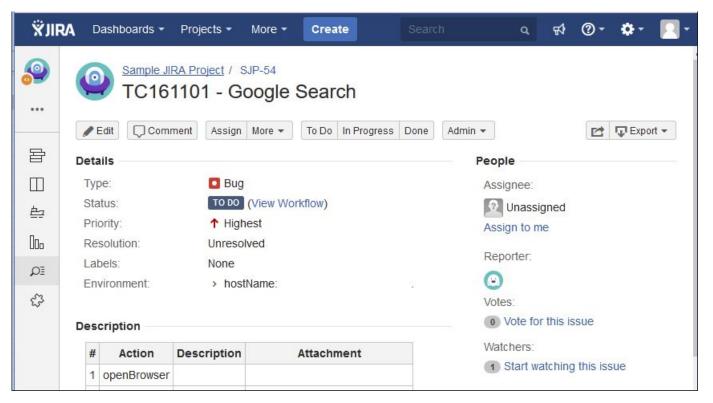


- 5. Based on your preferences in JIRA Integration settings, the Summary, Screenshots, Logs, Reporter, and Description of test cases will be populated and attached accordingly. Once done, click on the Create button at bottom of the form.
- 6. A created JIRA issue will have its ID recorded in the Linked JIRA issues list so that you can quickly navigate there from Katalon Studio. You can also edit linked JIRA issue or remove the linking of the created JIRA issue.





7. Once clicked on ID, you will be taken to JIRA issues page accordingly as shown below







Katalon Studio test execution status can be queried via JQL. The syntax is as following:

"Katalon Status"=<status>

Status	Description
PASSED	The automation tests that executed successfully.
FAILED	The automation tests that failed to execute at certain steps.
INCOMP LETE	The automation tests that did not finish running all the steps due to other factors such as wrong syntax, power shortage, disconnected network, etc.
ERROR	The automation tests that have some errors occurred.

JQL SYNTAX

For example, to search for all issues that have failed in Katalon Studio test execution_:_

