

Commit Processing

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Commit Processing (Merge and Revert):

Prerequisites:

1. Coding tool in *connected* state and repository with *track* and *track file changes* enabled and *configured*

Note: For the guide purpose we will use GitHub Coding tool

Steps:

1. To *configure* the repository and enable *track* and *track file changes* flags on the repository.
 - a. Navigate to the repository you want to configure
 - b. Click on *Configure* UI action, for configuring the repository
(Username: *devops.integration.user* and it's password)

Repository: sarahfatima1298/azure-pipelines-python-examples

Update Configure Delete

Name: sarahfatima1298/azure-pipelines-python-examples
Repository URL: https://github.com/sarahfatima1298/azure-pipelines-python-examples
Tool: GitHubSarah
Track file changes: ☒
Configure status: Unconfigured
App:
Track: ☐

Created: 2021-05-24 02:12:32
Created by: system
Updated: 2021-05-24 02:12:32
Updated by: system
External created date: 2020-03-06 09:39:52

Details

Total commits:
Total merges:
Total reverts:
Average files per commit:
Average lines per commit:
Average number of commenters:

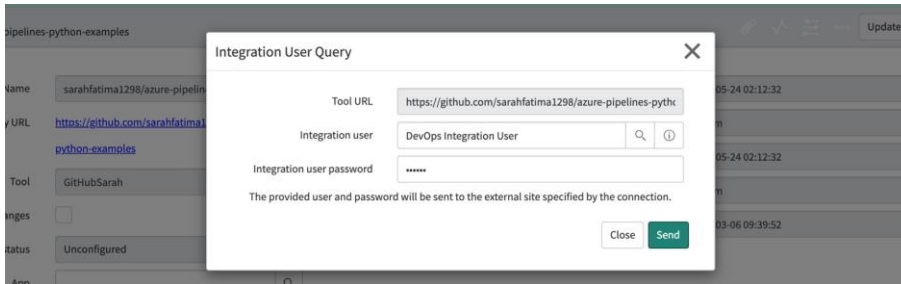
Update Configure Delete

Related Links

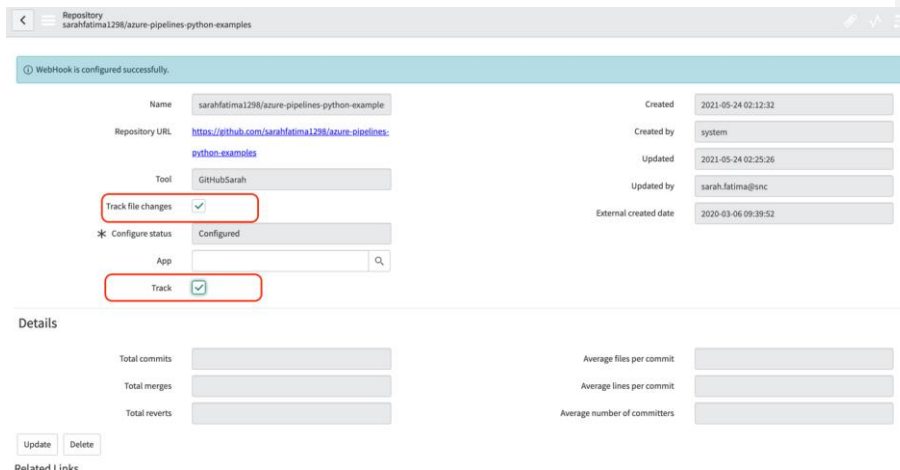
Import

Import Requests

Repository = sarahfatima1298/azure-pipelines-python-examples



- c. Enable tracking for the repository by checking the *Track* and *Track file changes* checkboxes for real-time tracking of the repository



2. Once configured, make any commit or merge commits or revert commit to the repository on GitHub and the commit will be persisted in the *commits* related list on repository

Details

Total commits

3

Average files per commit

1

Total merges

0

Average lines per commit

3

Total reverts

0

Average number of committers

1

Update

Delete

Related Links

[Import](#)

Branches (6)

Commits (3)

Import Requests (1)

Branches

Search

Name

Search

Repository = sarahfatima1298/azure-pipelines-python

	Name	Branch URL
<input type="checkbox"/>	refs/heads/scratch/release1.24	https://github.com/sarahfatima1298/azure-pipelines-python/tree/scratch/release1.24
<input type="checkbox"/>	refs/heads/master	https://github.com/sarahfatima1298/azure-pipelines-python/tree/master
<input type="checkbox"/>	refs/heads/main	https://github.com/sarahfatima1298/azure-pipelines-python/tree/main
<input type="checkbox"/>	refs/heads/scratch/release1.25	https://github.com/sarahfatima1298/azure-pipelines-python/tree/scratch/release1.25
<input type="checkbox"/>	refs/heads/dev	https://github.com/sarahfatima1298/azure-pipelines-python/tree/dev
<input type="checkbox"/>	refs/heads/scratch/release1.26	https://github.com/sarahfatima1298/azure-pipelines-python/tree/scratch/release1.26

Actions on selected items...

1 to 6 of 6

Expected Results:

- Normal commit will look something like this:
 - Data related to files modified and additions and deletions can we viewed in *Commit Details*

Commit

COM00000017

Update

Delete

Number	COM00000017	Created	2021-05-14 06:23:12
Commit ID	1942ba5b6c461310a5f905b4a5072563	Created by	devops.integration.user
Commit URL	https://github.com/sarahfatima1298/azure-pipelines-python/commit/1942ba5b6c461310a5f905b4a5072563	Updated	2021-05-14 06:23:12
Commit API URL	https://api.github.com/repos/sarahfatima1298/azure-pipelines-python/commit/1942ba5b6c461310a5f905b4a5072563	Updated by	system
Committer	52224277sarahfatima1298@users.noreply.github.com	Merge	<input checked="" type="checkbox"/>
Committer email	52224277sarahfatima1298@users.noreply.github.com	Revert	<input type="checkbox"/>
Commit reverted			
Committed at	2021-05-14 06:23:09		
Additions	2	Total changes	2
Deletions	0	Total files	1
Message	STORY0000001 commit		

Update

Delete

Commit Details (1)

Branches (1)

Tags

Work Items (1)

Commit Details

Search

File

Search

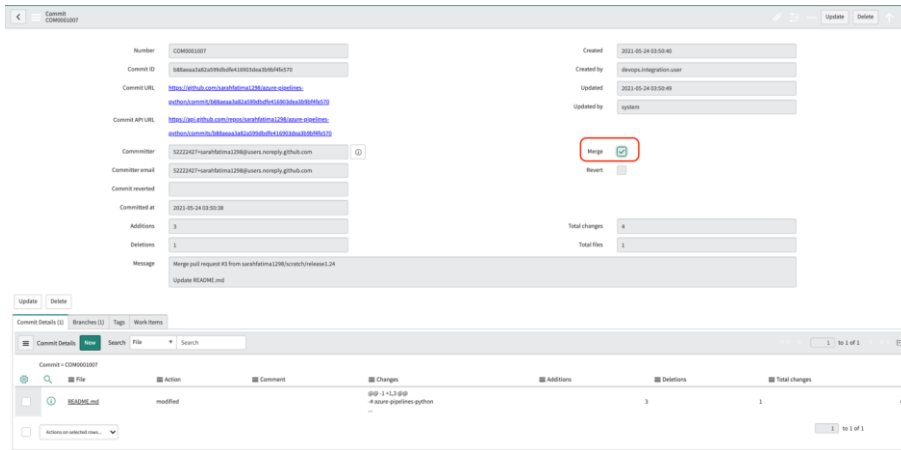
Commit = COM00000017

	File	Action	Comment	Changes	Additions	Deletions	Total changes
<input type="checkbox"/>	RELEASE.md	modified		@@ -1,3 +1,2 @@ # azure pipelines python...	2	0	2

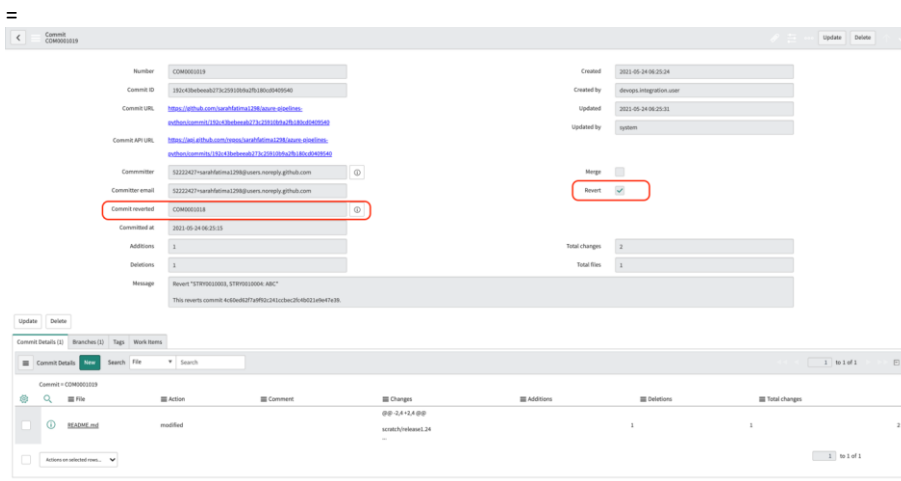
Actions on selected items...

1 to 1 of 1

- Merge Commits: (The merge flag will be checked)
 - Data related to files modified and additions and deletions can we viewed in *Commit Details*



3. Revert commit: (The revert flag will be checked)
 - a. Data related to files modified and additions and deletions can we viewed in *Commit Details*



Multiple work items association to commits:

Prerequisites:

2. Coding tool in *connected* state and repository with *track* and *track file changes* enabled and *configured*
3. Planning tool with plans discovered and *track* enabled

Note: For the guide purpose we will use GitHub Coding tool and Agile Development 2.0 (by ServiceNow) as our planning tool

Steps:

1. Once the prerequisites are met, the repository and plan record will look something like this:
 - a. Repository:

- b. Plan:

Note: Agile Development 2.0 to ServiceNow mapping

Agile Development 2.0	DevOps
Product	Plan
Release	Plan Versions
Epics	Features
Story	Work Items
Defects	Work Items

Work Items (3)	Plan Versions (1)	Features (1)	Apps (2)	Import Requests (2)																																				
<table border="1"> <thead> <tr> <th>Number</th> <th>Name</th> <th>Assignee</th> <th>Native ID</th> <th>State</th> <th>Domain</th> <th>Type</th> <th>Updated</th> <th>TRM record</th> </tr> </thead> <tbody> <tr> <td>8800000001</td> <td>KT testing story 1</td> <td>(empty)</td> <td>STW00000001</td> <td>Planned</td> <td>global</td> <td>Story</td> <td>2021-05-24 08:08:30</td> <td>STW00000001</td> </tr> <tr> <td>8800000002</td> <td>KT 3</td> <td>(empty)</td> <td>STW00000004</td> <td>Planned</td> <td>global</td> <td>Story</td> <td>2021-05-24 08:02:40</td> <td>STW00000004</td> </tr> <tr> <td>8800000003</td> <td>KT 4</td> <td>(empty)</td> <td>STW00000005</td> <td>Complete</td> <td>global</td> <td>Story</td> <td>2021-05-24 08:05:40</td> <td>STW00000005</td> </tr> </tbody> </table>	Number	Name	Assignee	Native ID	State	Domain	Type	Updated	TRM record	8800000001	KT testing story 1	(empty)	STW00000001	Planned	global	Story	2021-05-24 08:08:30	STW00000001	8800000002	KT 3	(empty)	STW00000004	Planned	global	Story	2021-05-24 08:02:40	STW00000004	8800000003	KT 4	(empty)	STW00000005	Complete	global	Story	2021-05-24 08:05:40	STW00000005				
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8800000003	KT 4	(empty)	STW00000005	Complete	global	Story	2021-05-24 08:05:40	STW00000005																																

2. Navigate to DevOps > Apps & Pipeline > Apps
 - a. Create a New App as below

- b. In Plans and Repositories related list click on *Edit* and add Plans and Repositories to associate with one another

The top screenshot shows the 'Plans' tab of the 'App - XT Testing App' configuration page. It displays a table with one entry: 'XT Testing' with a 'Test' track. The bottom screenshot shows the 'Repositories' tab of the same page. It displays a table with four entries, each with a 'Test' track. The columns include Name, Tool, Configure status, Track, External created date, Repository URL, Average files per commit, Average time per commit, and Average number of commits.

3. To map Commits to work items the commit message be of format:
Work Item 1 Native ID, Work Item 2 Native ID,...: Commit Message

Commented [AR1]: @Sarah Fatima can we also include the script name that they can extend for custom formatting

The screenshot shows the 'Work Item - XT Testing Story 2' configuration page. It includes fields for Number (W0000003), Native ID (STRY0010003), Name (XT Testing Story 2), Assignee, State (Planned), and Type (Story). There are also buttons for 'Update' and 'Delete'.

4. In this case commit message will be:
 - a. To map single work item to commit

The screenshot shows the 'Commit changes' dialog box. It has a text input field containing 'STRY0010003: Initial Commit'. Below the input field, there is a label 'Add an optional extended description...'. At the bottom, there are two radio buttons: 'Commit directly to the main branch.' (which is selected) and 'Create a new branch for this commit and start a pull request. Learn more about pull requests.' There are also 'Commit changes' and 'Cancel' buttons at the bottom.

- b. To map multiple work items to commit

Commit changes
ProTip! Great commit summaries contain fewer than 50 characters. Place extra information in the extended description.

STRY0010003, STRY0010004, STRY0010005: Initial Commit

Add an optional extended description...

☒ Commit directly to the **main** branch.
☐ Create a new branch for this commit and start a pull request. [Learn more about pull requests.](#)

Commit changes **Cancel**

Expected Results:

1. The commits will be mapped to work items which can be viewed under the Work Items related list for commit

Commit Details | **Branches** (2) | **Tags** | **Work Items** (8)

Work Items

Work Item	Number	Name	Assignee	Native ID	State	Domain	Type	Updated	GitLab record
<input type="checkbox"/>	STRY0010003	KT testing story 2	(empty)	STRY0010003	Planned	global	Story	2021-05-24 06:08:30	STRY0010003
<input type="checkbox"/>	STRY0010004	KT 3	(empty)	STRY0010004	Planned	global	Story	2021-05-24 06:12:45	STRY0010004
<input type="checkbox"/>	STRY0010005	KT 4	(empty)	STRY0010005	Complete	global	Story	2021-05-24 06:16:40	STRY0010005

Bulk processing of commits:

Pre-requisites:

1. Gitlab Project, with a repository in it. The following gitlab instance can be used:

URL : <http://gitlab2.sndevops.xyz>

Credentials: root/DevOps1!

Personal Access Token : B957zKxr_yuv2p1shJck

Commented [AR2]: @Sarah Fatima lets not use ADO. Its a pain to just get new folks going on ADO. Can this be tested with GitHub? If not, we can remove Bulk Commit

2. **ServiceNow DevOps Tool** - created to integrate with the above project. Below are the steps to achieve it:

a. **Navigate to DevOps > Tools > Create New and create a record.**

b. **Enter the following Details:**

Tool Name – <Any Desired Name>

Tool Integration - GitLab

Tool URL - <http://gitlab2.sndevops.xyz>

Personal Access Token – Created with DevOps Defined Scopes to Authorize.

Create DevOps Tool

* Tool Name

gitlab7ool

* Tool Integration

GitLab

* Tool Url

http://gitlab2.sndevops.xyz

* Tool Password / Access Token

SHOW

☐ Use Mid Server

Note

Tool creation can take up to a minute.

Submit

- Once the Tool is connected, click on 'Discover' to import the plans, repositories, and pipelines owned by you. (This can be selected in the Filter popup that comes up after clicking on Discover.)

DevOps Tool
gitlabTool

Update | Configure | Delete | Discover | Enter Manual Configuration Mode

Successfully created the DevOps Tool

Successfully connected the DevOps Tool

* Name: gitlabTool

* Tool: GitLab

Connection alias: sn_devops.DevOpsAlias8

Tool URL: <http://gitlab2.andevops.vyt>

Webhook URL: https://DevOps.integration.user.ID~integration.user.nasword-Pdevopsctesteamtesting.service-now.com/api/sn_devops.v1/devops/tool/codes|plan|artifact|orchestration|test?filter=GitLab.Repositories&id=1bdf8106478ade3604bc42

Connection state: Connected

Last discovery:

Update | Configure | Delete | Discover | Enter Manual Configuration Mode

Tool Connections (1) | Import Requests | Repositories | Orchestration Tasks | Pipelines

Tool Connections | New | Search | Name | Search

Connections

	Name	Connection type	Active	Connection alias	Credential	Domain
<input type="checkbox"/>	gitlabTool	HTTP(s) Connection	true	sn_devops.DevOpsAlias8	gitlabTool	global

Actions on selected rows...

Search Filter

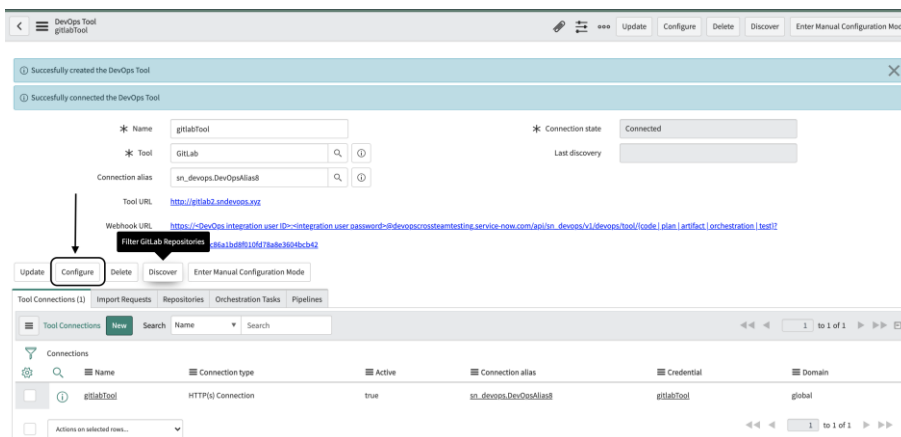
Owned by me (recommended) ☒

Currently member of ☐

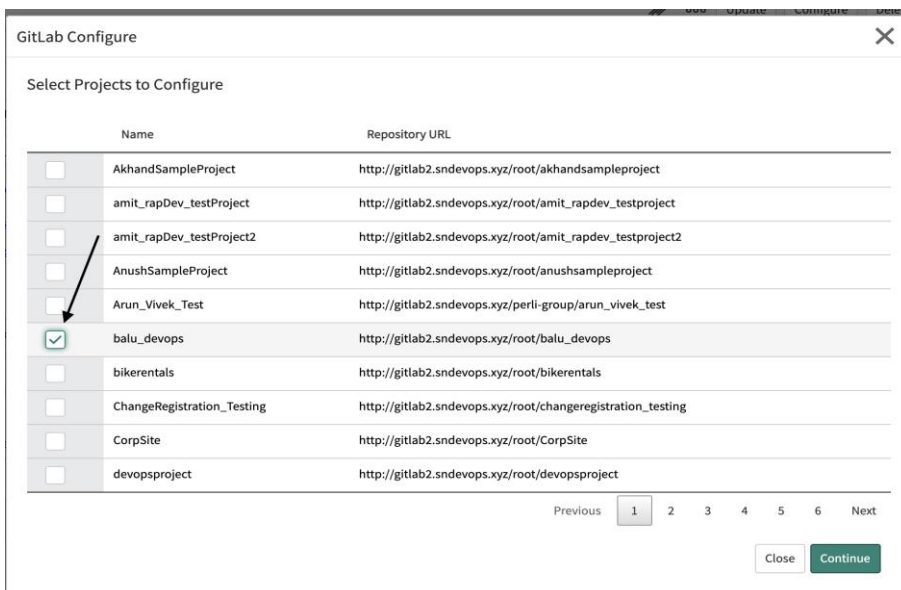
Search

Close Submit

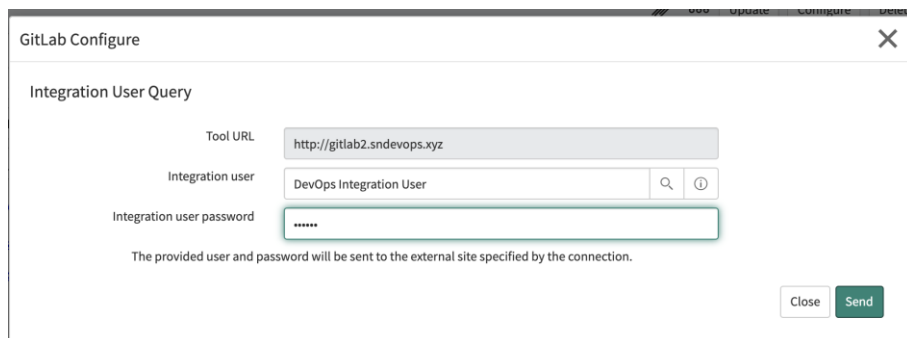
4. **Configure** – To create a Webhook. Once the tool is connected and Discover Action is successful click on 'Configure'.
(Username: *devops.integration.user* and it's password)



Now, select the repository to be configured in the popup that looks as below:



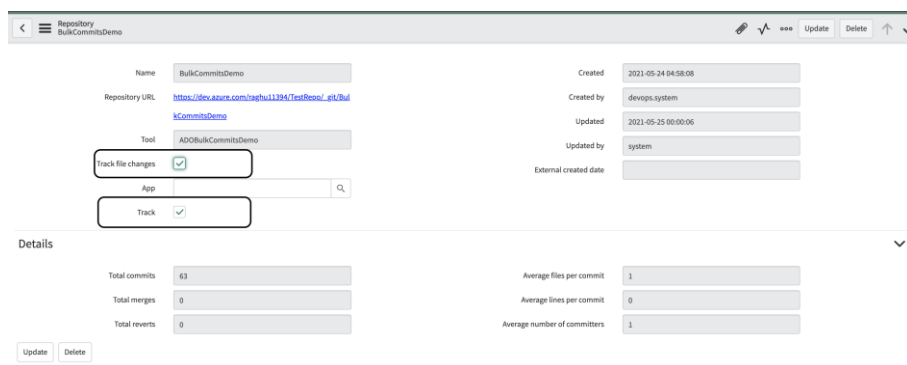
In the next screen, after clicking on Continue, enter the credentials of DevOps Integration User to Configure the repository selected.



The dialog box is titled "GitLab Configure" and contains the "Integration User Query" section. It has three input fields: "Tool URL" with the value "http://gitlab2.sndevops.xyz", "Integration user" with the value "DevOps Integration User", and "Integration user password" with masked characters "*****". Below these fields is a note: "The provided user and password will be sent to the external site specified by the connection." At the bottom right are "Close" and "Send" buttons.

Field	Value
Tool URL	http://gitlab2.sndevops.xyz
Integration user	DevOps Integration User
Integration user password	*****

5. Enable tracking for the repository by checking the *Track* and *Track file changes* checkboxes for real-time tracking of the repository where Bulk Commits are to be created.



The page shows the configuration for a repository named "BulkCommitsDemo". It includes fields for Name, Repository URL, Tool (ADOBulkCommitsDemo), and checkboxes for "Track file changes" and "Track". Below these are "App" and "Track" dropdown menus. On the right, there is a metadata section with fields for Created, Created by, Updated, Updated by, and External created date. At the bottom, a "Details" section shows statistics: Total commits (63), Total merges (0), Total reverts (0), Average files per commit (1), Average lines per commit (0), and Average number of committers (1). "Update" and "Delete" buttons are at the bottom left.

Field	Value
Name	BulkCommitsDemo
Repository URL	https://dev.azure.com/raghu11294/TestRepo/_git/BulkCommitsDemo
Tool	ADOBulkCommitsDemo
Track file changes	<input checked="" type="checkbox"/>
Track	<input checked="" type="checkbox"/>
App	
Created	2021-05-24 04:58:08
Created by	devops.system
Updated	2021-05-25 00:00:06
Updated by	system
External created date	

Field	Value
Total commits	63
Total merges	0
Total reverts	0
Average files per commit	1
Average lines per commit	0
Average number of committers	1

Creating Bulk Commits:

1. The following script can be executed in the terminal to create Bulk Commits in the ADO Repository:

a. `string=""`
`x=1`
`j=00`
`while [$x -le <CommitCount>]`
`do`
`string="touch randfile$((j+x)) && git add . && git commit -m`
`'$((j+x)):randfile_$(j+x)'"`
`echo $string`
`eval "$string"`
`x=$((x+1))`
`done`
b. `git push`

2. Once the Commits are Processed, they will be processed and will be persisted in ServiceNow instance.

Repository
BulkCommitsDemo

Update

Delete

Details

Total commits63

Total merges0

Total reverts0

Average files per commit1

Average lines per commit0

Average number of committers1

Update

Delete

Branches (1)

Commits (63)

Commits

Search

Number

Search

1 to 20 of 63

Commits

Number

Commit ID

Committer email

Committed at

Additions

Message

Deletions

Commit reverted

Commit URL

1

COM0001112

9972c5df6f6ce8eb40b9421a01bdf706d575a4

raghavendr.ranjolkar@servicenow.com

2021-05-24 05:17:46

0

104:randfile_104

0

(empty)

https://dev.azure.com/raghu11

1

COM0001118

97b6a779c2942ec8c1574c3ec05ec0d65373a4b4

raghavendr.ranjolkar@servicenow.com

2021-05-24 05:17:47

0

113:randfile_113

0

(empty)

https://dev.azure.com/raghu11

1

COM0001117

9731a023790ebef9c96a04751d78f23a37b767c7

raghavendr.ranjolkar@servicenow.com

2021-05-24 05:17:47

0

127:randfile_127

0

(empty)

https://dev.azure.com/raghu11

1

COM0001116

9497799a70b31881c712ac957af9dc9beabaf4e7

raghavendr.ranjolkar@servicenow.com

2021-05-24 05:17:47

0

121:randfile_121

0

(empty)

https://dev.azure.com/raghu11

1

COM0001115

8af9b76702e060ea44735f2ae325e74392175b

raghavendr.ranjolkar@servicenow.com

2021-05-24 05:17:47

0

114:randfile_114

0

(empty)

https://dev.azure.com/raghu11

1

COM0001114

84a60f774ee4e9e951dea55d593777e0925957b

raghavendr.ranjolkar@servicenow.com

2021-05-24 05:17:46

0

105:randfile_105

0

(empty)

https://dev.azure.com/raghu11

1

COM0001113

7838d4f16f0518d5acc6fa26dd452ae9845cde

raghavendr.ranjolkar@servicenow.com

2021-05-24 05:17:47

0

125:randfile_125

0

(empty)

https://dev.azure.com/raghu11

1

COM0001112

74af42f41ac1cd29bae51c9463ee12b0e5857d5

raghavendr.ranjolkar@servicenow.com

2021-05-24 05:17:46

0

108:randfile_108

0

(empty)

https://dev.azure.com/raghu11

1

COM0001111

6622e483742a7de3797d056b27607b03561b192

raghavendr.ranjolkar@servicenow.com

2021-05-24 05:17:46

0

106:randfile_106

0

(empty)

https://dev.azure.com/raghu11

1

COM0001110

61cca2a7b6d8b19cd2213218f49836ff667d1f

raghavendr.ranjolkar@servicenow.com

2021-05-24 05:17:46

0

107:randfile_107

0

(empty)

https://dev.azure.com/raghu11

1

COM0001109

5ae08383d394b128146b315588b9ccdec9e87cf1

raghavendr.ranjolkar@servicenow.com

2021-05-24 05:17:47

0

118:randfile_118

0

(empty)

https://dev.azure.com/raghu11

Tags:

Prerequisites:

1. Coding tool in *connected* state and repository with *track* and *track file changes* enabled and *configured*.

Note: For the guide purpose we will use **GitHub** Repository created in initially

Commented [AR3]: @Sarah Fatima pls change to gitlab

2. Basic Understanding of Tags in git.
[Basics Of Tagging in git](#)

Creation of Tags :

a. Creation of Lightweight Tags:

git tag Tag-1

git push origin Tag-1

- b. The above step creates a lightweight tag and maps it to the last commit made in the **GitHub Repository**.
- c. The same gets reflected in the servicenow instance as a related list in the Commit to which the tag is mapped to.

Commented [AR4]: @Sarah Fatima change references from ADO to GitHub

The screenshot displays the GitHub web interface for a specific commit. The top section shows the commit URL, API URL, and the committer's information. Below this, the commit message and statistics (Additions, Deletions, Total changes, Total files) are visible. At the bottom, the 'Tags' tab is active, showing a table with one entry: 'Tag 1' pointing to the repository 'BulkCommitsDemo'.

Tag	Repository
Tag 1	BulkCommitsDemo

Different Tag Use Cases:

a. Lightweight Tags (Can be created as above)

b. Annotated Tags

```
git tag -a <TagName> -m "Tag-3 annotated"  
git push origin <TagName>
```

c. Tags to map to a past commit

```
git tag -a <TagName> <commit id for C6> -m "Tag-4 for past commit"  
git push origin <TagName>
```