



# Innovar Channel History Plugin

Git v2

# Introduction

Welcome to the Channel History plugin documentation for Mirth Connect. This plugin is designed to allow you to utilize Git version control automatically with Mirth Connect interface development.

## Why channel history?

During the development of healthcare interfaces, the importance of version control can not be overemphasized. As more and more clients are on board with your team, it is challenging to track the progress of programming development on the Mirth Connect engine. Therefore, Innovar built this channel history plugin that not only provides the diff view of commits within the Mirth Connect administrator tool but automatically pushes the commits to your remote repository. With this powerful plugin, you will no longer lose track of your code and will be able to restore to the previous version quickly.

## Key Features

**History and Rollback:** The ability to view the history of changes and roll back to previous versions is crucial. If a new change introduces a bug or an issue, it can be reverted to a stable state quickly.

**Remote Repository:** Storing Mirth Connect channels and code templates on GitHub provides a remote backup. This is essential for disaster recovery, ensuring that configurations are not lost due to local hardware failures or other issues.

## Getting Started

Before you dive into the documentation, make sure to review the installation prerequisites and check compatibility with your existing Mirth Connect setup. The subsequent sections will guide you through the configuration and how to use the Channel History plugin.

Let's get started!

## Installation

If you are using Mirth Connect packaged by Innovar Healthcare from the AWS Marketplace, the extension should be pre-installed on "Advanced with SSL" and "Advanced with SSL Autoscaling" versions.

If, for some reason, you need to reinstall or update the plugin, you can do this from the Mirth Connect Administrator application. While logged into Mirth Connect Administrator, click on "Extensions", then at the bottom of the screen, click "Browse". A new window will pop up to allow you to browse for your plugin zip file on your local machine. Browse to the appropriate zip

file and click “Open”. Once back on the Extensions screen, your file path should be filled in. Click “Install” to upload the file. Once completed, you will need to restart the Mirth Connect Service on the remote server.

## Prerequisites

You will need to create a new repository on a version control platform (such as GitHub, Bitbucket, AWS CodeCommit, etc.) and attach your SSH public key to the remote repository

## SSH key configuration

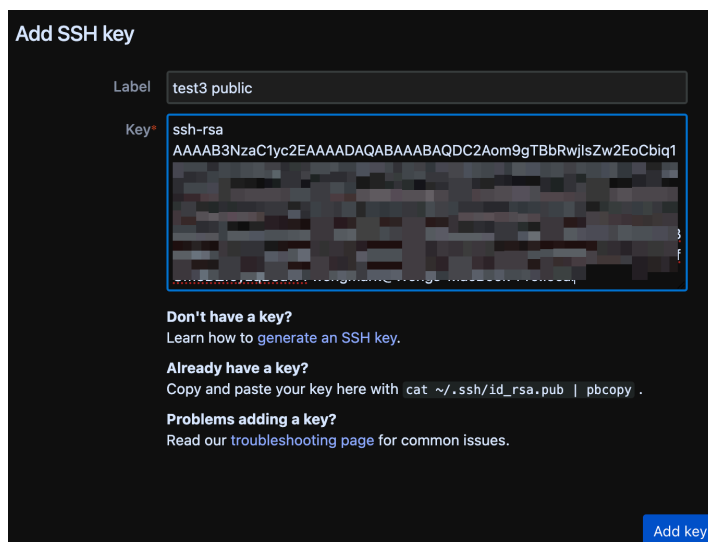
### Steps to Configure Your SSH Key in Bitbucket

**Step 1:** Use the following command to generate an SSH key pair. It will create a key pair named "test3", where "test3" is the private key and "test3.pub" is the public key.

```
ssh-keygen -t rsa -b 2048 -f test3
```

**Step 2:** Go to your version control tool and add the public key to your user account or target repository.

*Example for Bitbucket:*



Add SSH key

Label test3 public

Key ssh-rsa  
AAAAB3NzaC1yc2EAAAADAQABAAQDC2Aom9gTBbRwJlsZw2EoCbiq1  
[Redacted public key content]

**Don't have a key?**  
[Learn how to generate an SSH key.](#)

**Already have a key?**  
Copy and paste your key here with `cat ~/.ssh/id_rsa.pub | pbcopy`.

**Problems adding a key?**  
[Read our troubleshooting page for common issues.](#)

Add key

Step3: Please run the following command to **convert your ssh private key into PEM format**. Make sure you back up your private key first.

```
cp test3 test3_backup
```

```
ssh-keygen -p -f test3 -m PEM
```

Then you are good to upload the private key PEM file to the channel history plugin setting!

## Configure ssh key on GitHub

Step1: Please use the following command to generate the ssh key: It will create a key pair "test3". The "test3" file is the private key and "test3.pub" file is the public key.

```
ssh-keygen -t rsa -b 4096 -E sha256 -m PEM -f test3
```

Step2: Go to your GitHub repository. Select "Settings" > "Deploy keys" > "Add deploy keys". Paste your ssh public key and click "Add key".

Deploy keys / Add new

Title  
test3

Key  
ssh-rsa  
-----BEGIN RSA PRIVATE KEY-----  
[Redacted key content]  
-----END RSA PRIVATE KEY-----  
Begins with 'ssh-rsa', 'ecdsa-sha2-nistp256', 'ecdsa-sha2-nistp384', 'ecdsa-sha2-nistp521', 'ssh-ed25519', 'sk-ecdsa-sha2-nistp256@openssh.com', or 'sk-ssh-ed25519@openssh.com'.

☒ Allow write access  
Can this key be used to push to this repository? Deploy keys always have pull access.

Add key

Then you are good to upload the private key PEM file to the channel history plugin setting!

Server Administrator Tags Configuration Map Database Tasks Resources OpenAI Setting Access Control Data Pruner Cognito Version History

Innovar Version History Plugin

☒ Enable Version Control

☐ Auto Commit To Repo

Git Remote Url: thaitran\_innovar@bitbucket.org:lbittle/dummyrepo.git

Git Remote Branch: main

SSH key: [Redacted key content]  
-----END RSA PRIVATE KEY-----

Upload ssh key

Validate Setting

# Plugin Configuration

In the Mirth Connect Administrator window, click on Settings. You will see a new tab for “Version History”.

1. Please check the “Enable Version Control” and enter the necessary information like the git remote url, remote branch name and ssh private key to your git repository.

**NOTE: Please make sure your key is PEM format and you must use the SSH clone URL. Check the [prerequisites](#)**

Server \ Administrator \ Tags \ Configuration Map \ Database Tasks \ Resources \ OpenAI Setting \ Access Control \ Data Pruner \ Cognito \ Version History \

**Innovar Version History Plugin**

☒ Enable Version Control

☐ Auto Commit To Repo

Git Remote Url:

Git Remote Branch:

SSH key:

-----END RSA PRIVATE KEY-----

2. You can enable the 'Auto Commit to Repo' option in the plugin settings to allow the application to automatically commit changes to the remote repository. If you prefer to commit manually, simply leave this feature disabled

Server \ Administrator \ Tags \ Configuration Map \ Database Tasks \ Resources \ OpenAI Setting \ Access Control \ Data Pruner \ Cognito \ Version History \

**Innovar Version History Plugin**

☒ Enable Version Control

☒ Auto Commit To Repo

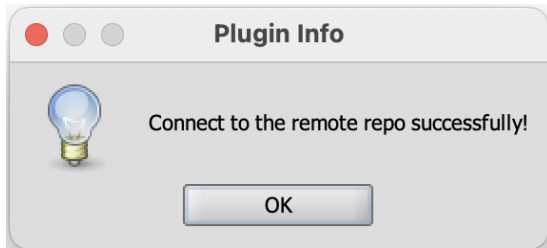
Git Remote Url:

Git Remote Branch:

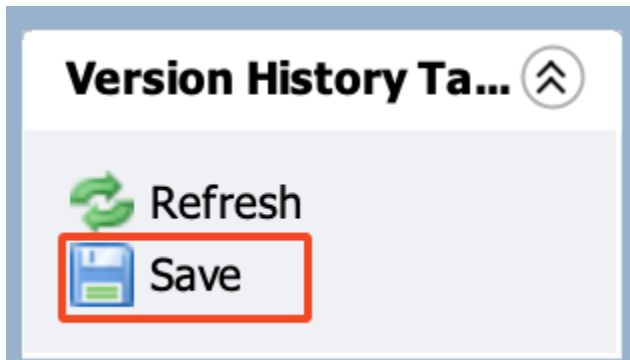
SSH key:

-----END RSA PRIVATE KEY-----

1. Users can click the “Validate Setting” button to validate the values entered. The server will use the key you provided to connect the git remote url.



2. Please click “save” on the task panel



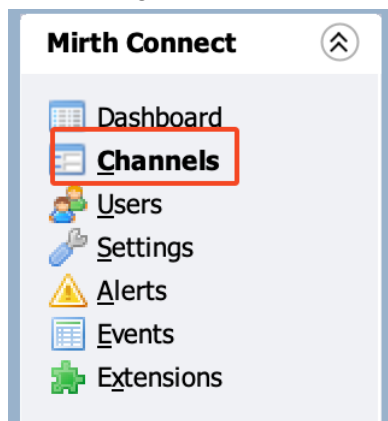
The channel history plugin will clone your remote repo to  
/opt/mirthconnect/apdata/InnovarHealthcare-version-control folder

## View the code history on Mirth

After configuring the settings, you can view the code history for channels. To do so, make a change to the target channel and save it.

## View history on channels

1. Please go to channels



2. Select the target channel and go to the “Innovar Channel History” tab

## Edit Channel - XMLTest

Summary Source Destinations Scripts **Innovar Channel History**

---

**Channel Properties**

Name:  ☒ Enabled

Data Types:  ☒ Clear global channel map on

Dependencies:

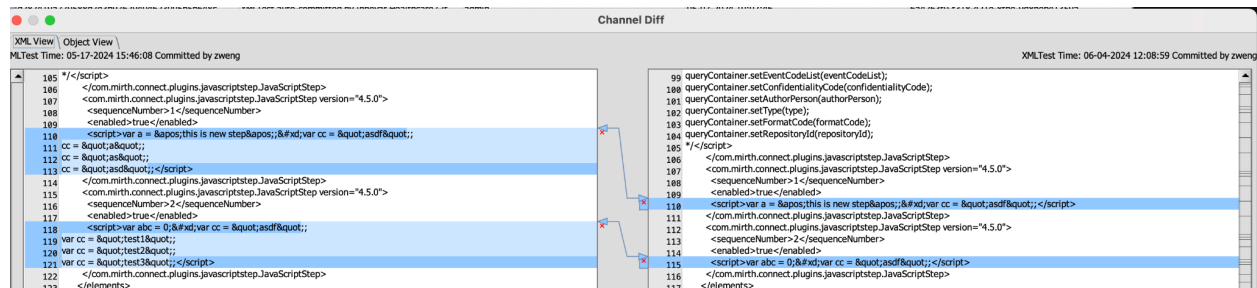
4. Press Control and click on two commits, then right-click and select 'Show Diff'

## Edit Channel - XMLTest

Summary Source Destinations Scripts **Innovar Channel History**

| Commit Id                                | Message  |
|--|--|
| d322b033cadbb991f5105c1639e9f35b1386cd28 | XMLTest auto-committed by Innovar Healthcare Git ..  |
| de4f592e0bc92df19e15202e7b513b75d4b7eeaf | itted by Innovar Healthcare Git ..                   |
| 2675fea11b16b404d01db31fbe0e26b2af3072fa | itted by Innovar Healthcare Git ..                   |
| d297410a770f99d7e2b07620404622005b5b48e  | XML Test auto-committed by Innovar Healthcare Git .. |

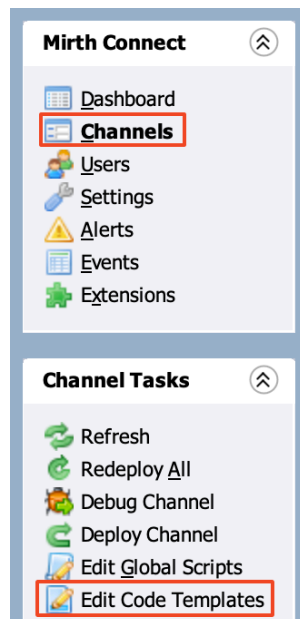
## 5. The Diff window shows the difference between 2 commits.



## View history on Code templates

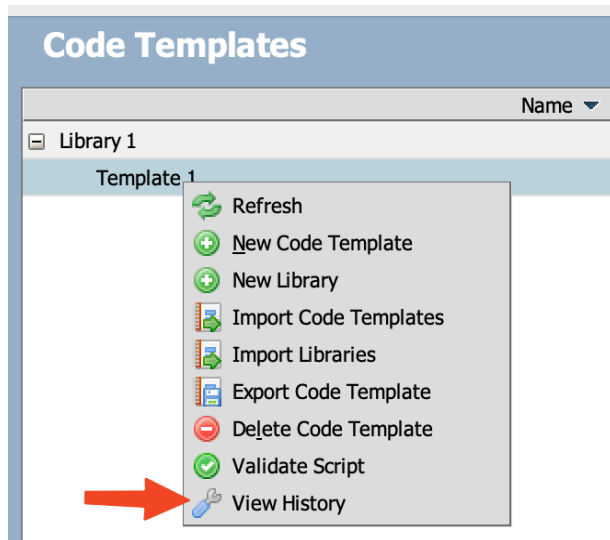
We can also review the code template history. Start by modifying the target code template and saving it.

Next, click on 'Channels' and select 'Edit Code Templates' in the Channel Tasks.

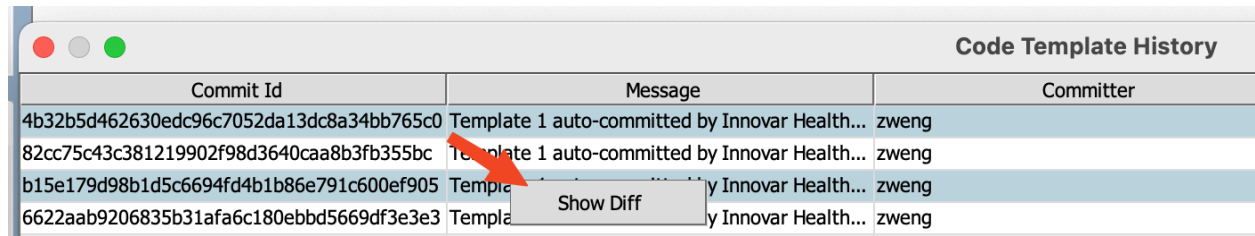




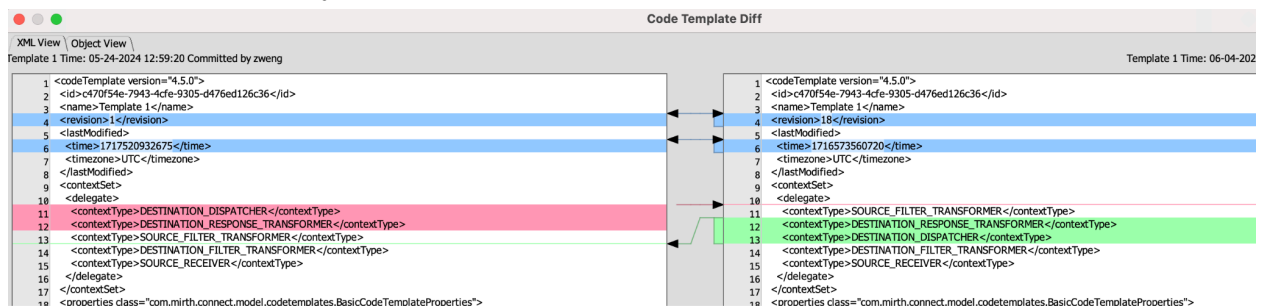
1.Highlight the target code template, right-click, and select 'View History'



2.Select two commits in the Code Template History window, right-click, and choose 'Show Diff.'



3.The Diff window displays the differences between the two selected commits



# Disabling the Channel History Plugin in Mirth Connect

Sometimes, committing and pushing every change to the remote repository might not be necessary. This section explains how to disable the Channel History plugin

1. Navigate to the settings and click on the 'Version History' tab.

Server \ Administrator \ Tags \ Configuration Map \ Database Tasks \ Resources \ OpenAI Setting \ Access Control \ Data Pruner \ Cognito \ Version History \

**Innovar Version History Plugin**

☒ Enable Version Control

☐ Auto Commit To Repo

Git Remote Url:

Git Remote Branch:

SSH key: 

-----END RSA PRIVATE KEY-----

2. Click 'Save' on the task panel to disable the plugin.

**Version History Ta...**

## Retrieving channel revision from repo

Retrieving channel revision from repo refers to the process of fetching the latest version or specific revision of a channel stored in the remote repository

1. Within your channel, right-click on the commit you wish to revert to and select 'Revert to revision.'

Summary \ Source \ Destinations \ Scripts \ Innovar Channel History \

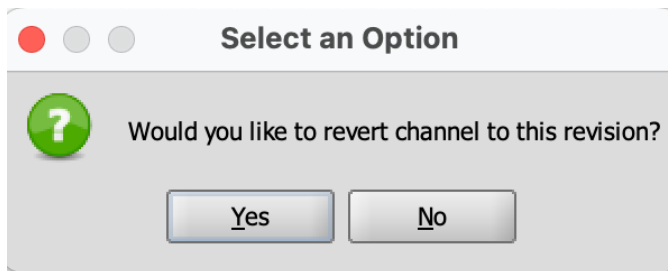
Action

Diff Commit & Push Pull

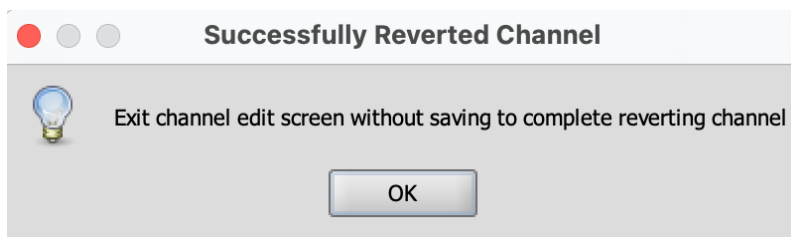
History

| Commit Id                       | Message                             | Committer          | Date                | Server Id                       |
|---------------------------------|-------------------------------------|--------------------|---------------------|---------------------------------|
| 9b54339476c95b21e853f9e6f6f9... | Channel name: channel history t...  | admin              | 12-09-2024 11:33:57 | 3366512a-e188-4a9b-a321-8af3... |
| e9e10c3eaf0c0377d97dbd09f8...   | channel history tes                 | Revert to revision | 05-03-2024 10:57:14 | 8eba274d-bf87-462a-a6d4-7709... |
| 43c26c352ea1b435023369d5ac9...  | channel history test auto-commit... | zweng              | 05-03-2024 10:02:07 | 8eba274d-bf87-462a-a6d4-7709... |
| 1974b3831434492f27f080d028c...  | channel history test auto-commit... | admin              | 05-02-2024 16:56:01 | 8eba274d-bf87-462a-a6d4-7709... |
| c04282d26cb135372b9b6ea056f...  | channel history test auto-commit... | admin              | 05-02-2024 16:55:33 | 8eba274d-bf87-462a-a6d4-7709... |

2. Select yes to revert channel to the selected revision

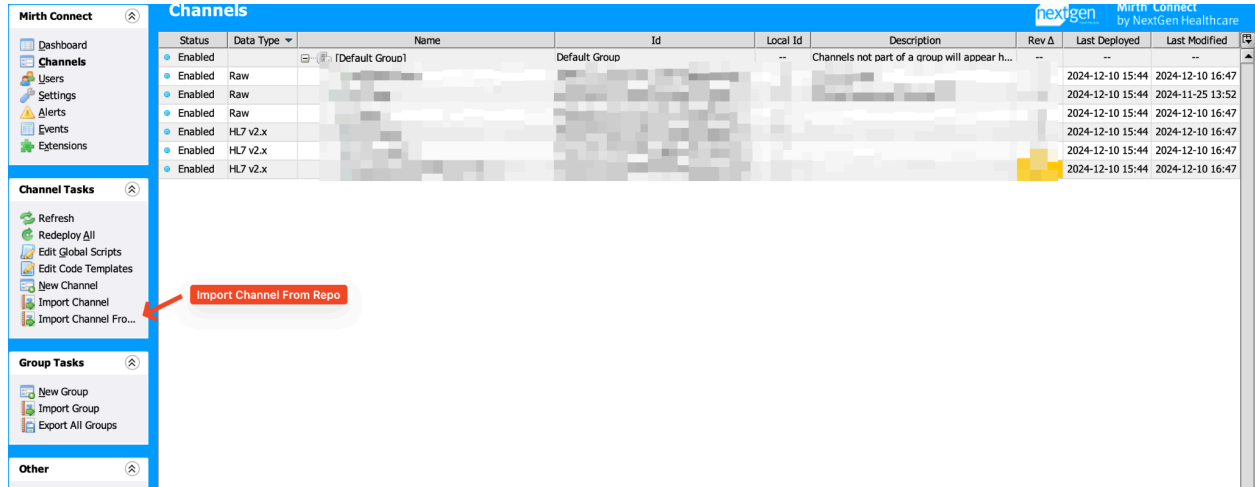


3. Press OK to exit the channel edit screen



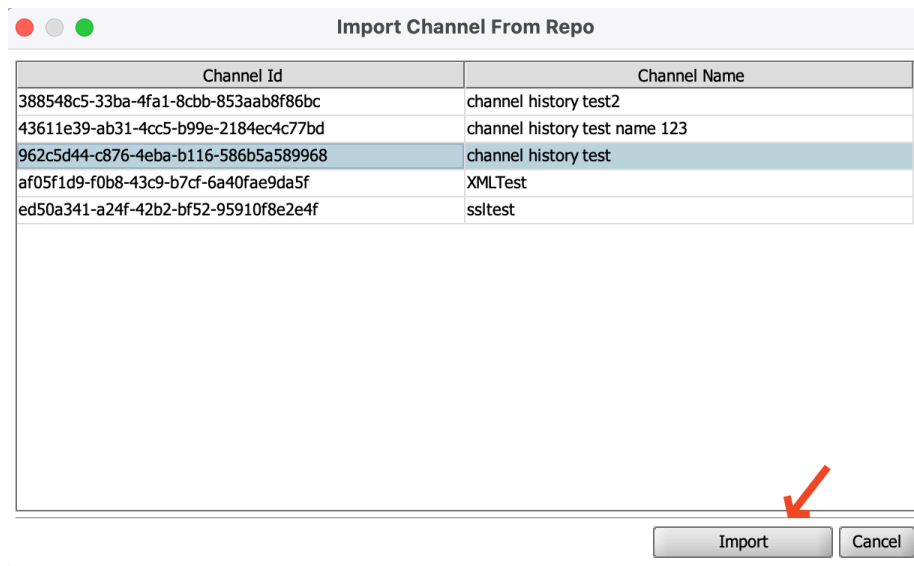
# Retrieve Channel from Remote Repository Not on Mirth Box

You can import channels into Mirth Connect directly from the repository.



The screenshot shows the Mirth Connect interface. On the left sidebar, under the 'Channel Tasks' section, there is a button labeled 'Import Channel From Repo'. A red arrow points to this button. The main area displays a table of channels.

| Status  | Data Type | Name      | Id            | Local Id  | Description                                   | Rev Δ     | Last Deployed    | Last Modified    |
|---------|-----------|-----------|---------------|-----------|---|-----------|------------------|------------------|
| Enabled | Raw       | [blurred] | Default Group | --        | Channels not part of a group will appear h... | --        | 2024-12-10 15:44 | 2024-12-10 16:47 |
| Enabled | Raw       | [blurred] | [blurred]     | [blurred] | [blurred]                                     | [blurred] | 2024-12-10 15:44 | 2024-11-25 13:52 |
| Enabled | Raw       | [blurred] | [blurred]     | [blurred] | [blurred]                                     | [blurred] | 2024-12-10 15:44 | 2024-12-10 16:47 |
| Enabled | HL7 v2.x  | [blurred] | [blurred]     | [blurred] | [blurred]                                     | [blurred] | 2024-12-10 15:44 | 2024-12-10 16:47 |
| Enabled | HL7 v2.x  | [blurred] | [blurred]     | [blurred] | [blurred]                                     | [blurred] | 2024-12-10 15:44 | 2024-12-10 16:47 |
| Enabled | HL7 v2.x  | [blurred] | [blurred]     | [blurred] | [blurred]                                     | [blurred] | 2024-12-10 15:44 | 2024-12-10 16:47 |



The screenshot shows the 'Import Channel From Repo' dialog box. It contains a table with two columns: 'Channel Id' and 'Channel Name'. The third row is highlighted. At the bottom right, there are 'Import' and 'Cancel' buttons, with a red arrow pointing to the 'Import' button.

| Channel Id                           | Channel Name                  |
|--------------------------------------|-------------------------------|
| 388548c5-33ba-4fa1-8cbb-853aab8f86bc | channel history test2         |
| 43611e39-ab31-4cc5-b99e-2184ec4c77bd | channel history test name 123 |
| 962c5d44-c876-4eba-b116-586b5a589968 | channel history test          |
| af05f1d9-f0b8-43c9-b7cf-6a40fae9da5f | XMLTest                       |
| ed50a341-a24f-42b2-bf52-95910f8e2e4f | ssltest                       |

# Manual/Auto Commit to Repo

In settings there is an option 'Auto Commit To Repo'

## Innovar Version History Plugin

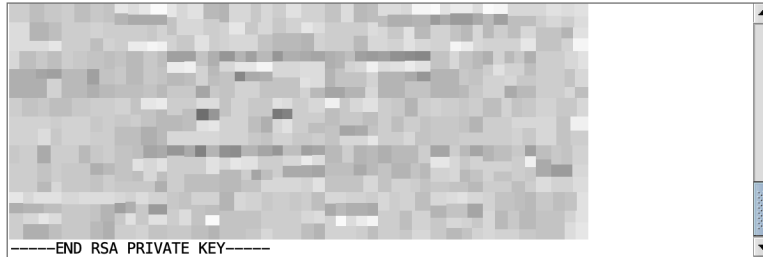
☒ Enable Version Control

☐ Auto Commit To Repo

Git Remote Url:

Git Remote Branch:

SSH key:



Upload ssh key

Validate Setting

When 'auto commit to repo' is **disabled**, there will be three action options Diff, Commit & Push, and Pull

Edit Channel - channel history test name

Summary | Source | Destinations | Scripts | Innovar Channel History

Action

DiffCommit & PushPull

History

| Commit Id                       | Message                            | Committer | Date                | Server Id                       |
|---------------------------------|------------------------------------|-----------|---------------------|---------------------------------|
| 05a13fa6d3af01da231c71e4b55...  | Channel name: channel history t... | admin     | 12-03-2024 11:25:51 | 3366512a-e188-4a9b-a321-8af3... |
| 47671d24ddf574df65d26cececf...  | Channel name: channel history t... | admin     | 12-03-2024 11:14:42 | 3366512a-e188-4a9b-a321-8af3... |
| a053b6e06ad03142aba946eabe...   | Channel name: channel history t... | admin     | 12-03-2024 11:11:00 | 3366512a-e188-4a9b-a321-8af3... |
| e76bc32da8c8fa13a2b1ee7ccddc... | Channel name: channel history t... | admin     | 11-22-2024 16:21:35 | 3366512a-e188-4a9b-a321-8af3... |
| 614cef2da33ddb40a1ad5bfaafc9... | Channel name: channel history t... | admin     | 11-20-2024 14:20:56 | 3366512a-e188-4a9b-a321-8af3... |
| ba189bb57df4252d7485909746f...  | Channel name: channel history t... | admin     | 11-11-2024 20:48:23 | 3366512a-e188-4a9b-a321-8af3... |
| 21691b61a81f1f01a48d7b759da...  | Channel name: channel history t... | admin     | 11-11-2024 20:47:26 | 3366512a-e188-4a9b-a321-8af3... |
| r721a7d4d09237cabe13c6efc867    | Channel name: channel history t... | admin     | 11-11-2024 18:47:07 | 3366512a-e188-4a9b-a321-8af3... |

When 'auto commit to repo' is **enabled**, the 'Commit & Push' action will not be visible

Edit Channel - channel history test name

Summary | Source | Destinations | Scripts | Innovar Channel History

Action

DiffPull

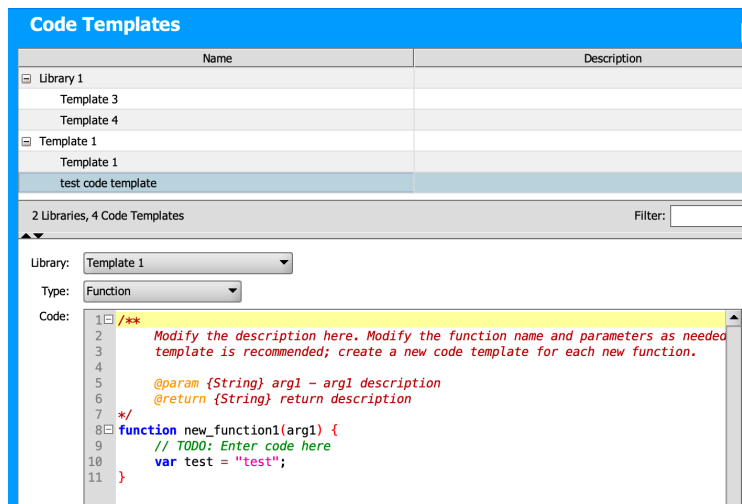
History

| Commit Id                       | Message                            | Committer | Date                | Server Id                       |
|---------------------------------|------------------------------------|-----------|---------------------|---------------------------------|
| 05a13fa6d3af01da231c71e4b55...  | Channel name: channel history t... | admin     | 12-03-2024 11:25:51 | 3366512a-e188-4a9b-a321-8af3... |
| 47671d24ddf574df65d26cececf...  | Channel name: channel history t... | admin     | 12-03-2024 11:14:42 | 3366512a-e188-4a9b-a321-8af3... |
| a053b6e06ad03142aba946eabe...   | Channel name: channel history t... | admin     | 12-03-2024 11:11:00 | 3366512a-e188-4a9b-a321-8af3... |
| e76bc32da8c8fa13a2b1ee7ccddc... | Channel name: channel history t... | admin     | 11-22-2024 16:21:35 | 3366512a-e188-4a9b-a321-8af3... |
| 614cef2da33ddb40a1ad5bfaafc9... | Channel name: channel history t... | admin     | 11-20-2024 14:20:56 | 3366512a-e188-4a9b-a321-8af3... |

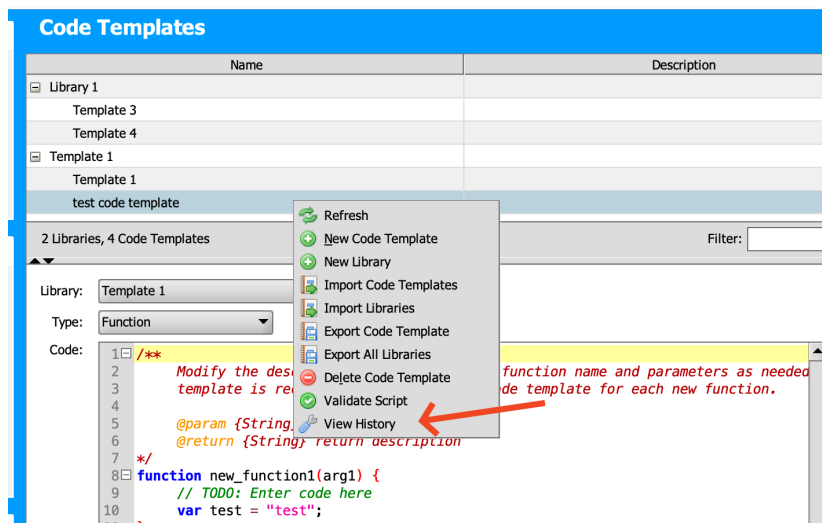
# Import/Revert Code Template

## To revert the code template

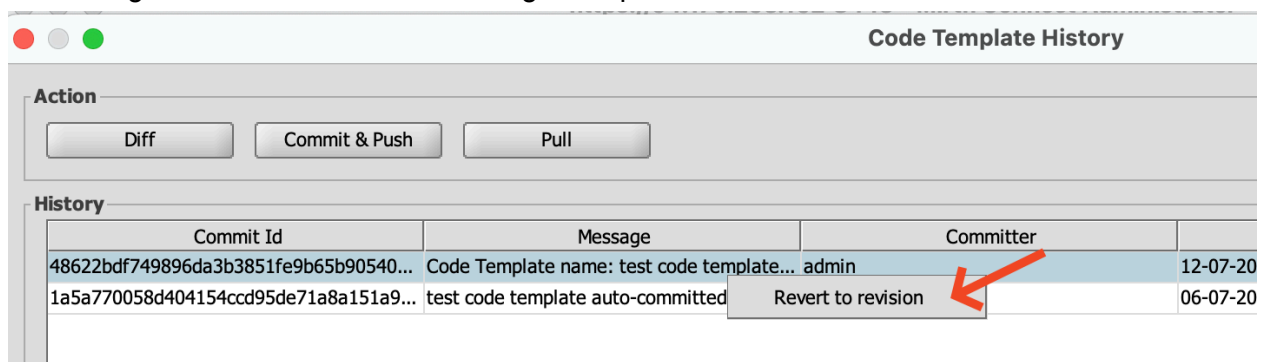
1. Right click on the template



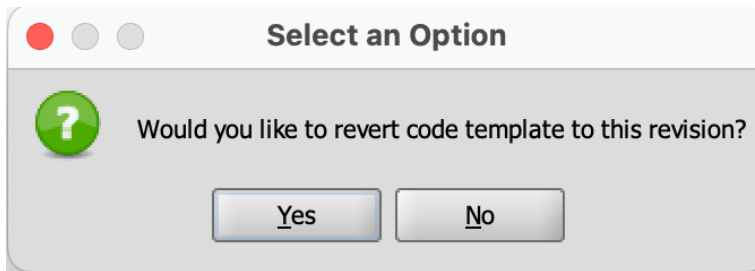
2. Press 'View History'



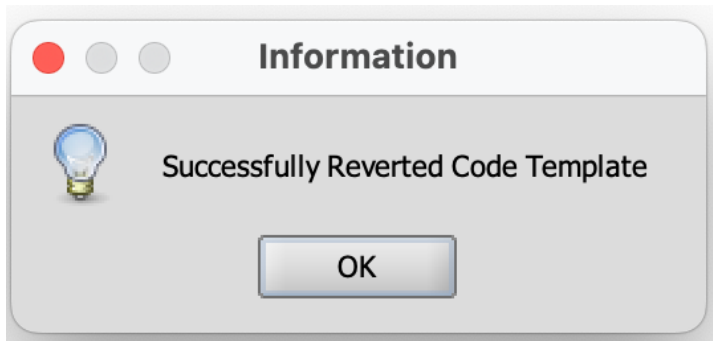
3. Right click on the desired message and press 'Revert to revision'



4. Press 'Yes'

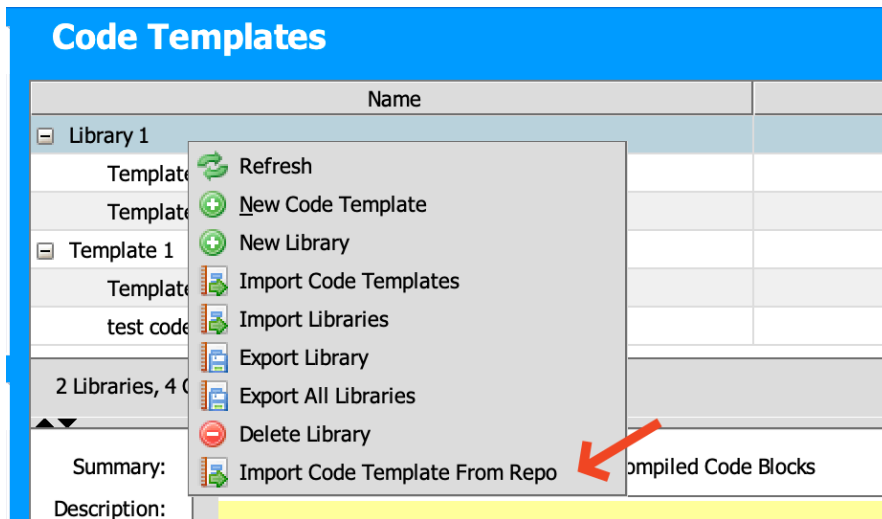


5. The Code Template will be reverted to the chosen selection

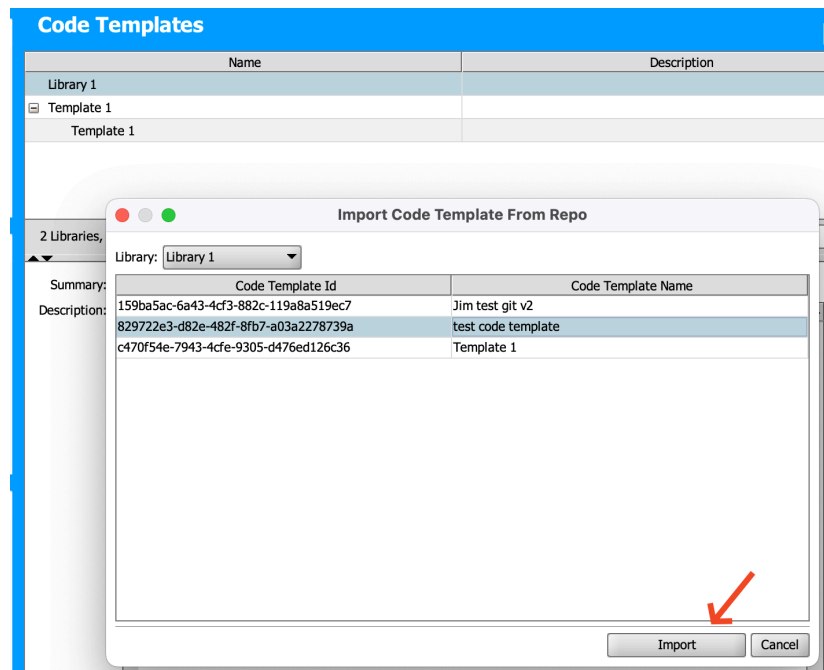


## To import the code template

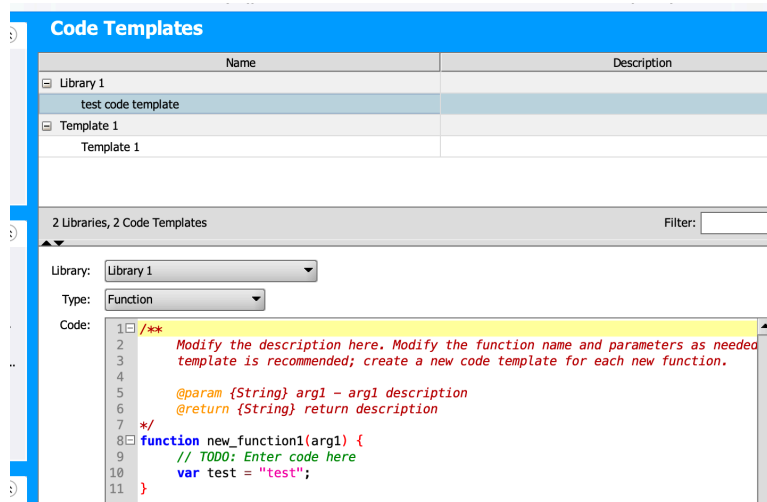
Right click on a library and select 'Import Code Template From Repo'



Choose the code template you want to import and click 'Import'.



The imported Code Template will appear under the selected library.





# View the code history on remote repository

The Channel History plugin pushes every new commit to your remote repository. The XML files for channels and code templates are stored in their respective folders, with the XML file names corresponding to either the channel ID or the code template ID

