



Repo Options: TFS and NPS GitHub

Git repositories can be created in Team Foundation Server and in [NPS GitHub](#) (see FAQ about FY2024 changes). If your team is primarily on the NPS network, choose TFS Git. If you have several outside collaborators on your team, NPS GitHub may be a better choice. In both cases, you can define your team however a repo on TFS is restricted to your team. Both NPS organization and non-NPS organization GitHub repos can be private or public.

	TFS (Denver)	NPS GitHub	GitHub
Connect	NPS Intranet	Open and NPS Intranet	Open and NPS Intranet
Visibility	Team	NPS org and Team or Public (by request)	Public or Private
Account	NPS AD	GitHub	GitHub
Backups	Nightly	None (self)	None (self)

To get an NPS GitHub repo, create GitHub accounts then access [NGP Support](#) and provide the desired repo name and GitHub accounts for the repo team. The IMD TFS repos are on a Denver Data Center server and are backed up nightly. To get a TFS Git repo for a network, submit a request to [NPR in IRMA](#). All others contact: [Lisa Nelson](#) or [Derrick Dardano](#). Either way, provide the repo name and NPS AD accounts for the repo team. Your repo will be prefixed by your network code (if applicable).

Basic how-to info:

[About Git](#)

Basic repo [creation](#) and [use](#)

Advanced use: [Branching](#)

Getting Started

After installing Git and Rtools from Software Center, establish local repositories then connect those repositories to the corresponding server repo in TFS or NPS GitHub. Git comes with a command line tool and a simple GUI client, GitGUI. To work with your repo, use a client like GitBash (command-line), GitGUI, or an IDE like RStudio, PyCharm, or Visual Studio (note Visual Studio is NOT required for working with TFS Git repos). Git clients help manage your local Git repo and communicate with the remote (server-side) repo in TFS or NPS GitHub.

If starting a new repository, decide on the folder structure to use. If possible, group data, documents, scripts/tools, and reports into separate folders.

Brand New Repo Example:

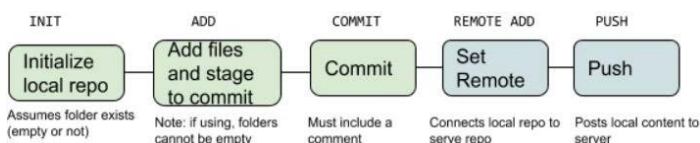
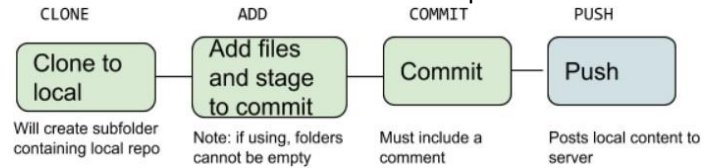


Diagram shows Git commands used for each step. GUIs and most Git-compatible IDEs will have options for each

command.

Cloning Example:

A server repo (even an empty one) can be cloned into a local folder. This will initialize the local repo and set the connection between it and the server repo.



Existing Repo Example:

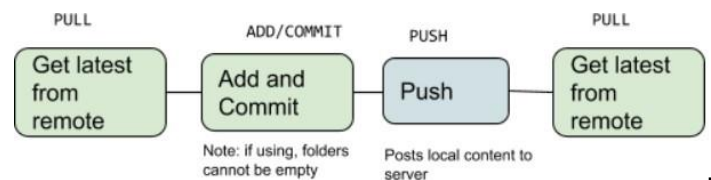
If you have an existing local repo without a remote, it can be linked to the remote using the `add remote` command.

If you have an existing repo with a remote, the remote can be updated using git command `git remote set-url`.

Usage/Best Practice Tips

As you work with your repo, the best process is to get in the habit of always pulling from the remote repo then making frequent commits and pushes. Ideally, the local repo always starts off in sync with the remote.

Repo Workflow:



Take care when posting content that contains passwords, PII, database connections, and other sensitive or potentially sensitive information. Do not post sensitive content to NPS GitHub repos. NPS GitHub may apply two-factor authentication – configure your preferences in your GitHub profile. When using NPS GitHub as the repository location, you may be prompted for a certificate. Try this workflow to add a certificate (and if it does not work, see details in FAQ entry below):

Download certificate ([DOIRootCA.crt](#)) and save to a folder that Git can access.

Unzip and double-click the certificate to install (requires elevated permission)

Open GitBash and run:

```
git config --global http.sslCAInfo "<your folder path>\DOIRootCA.crt"
```

In your Git client's settings, make sure the credential setting uses wincred – current Windows user

Restart your GitHub client (i.e. R Studio or other).

FAQs

- In FY2024, NPS GitHub will transition to NPS GitHub Enterprise – logistics and user workflows

are in process and existing repos will be migrated. Details will be shared as available.

- To ease the GitHub Enterprise transition, do not post any PII to a GitHub repo. And, limit data posting as much as possible.
- Any file can be added to a repo. Note differences between versioned binary files cannot be detected.
- Folders can be added to a repo as long as they contain files.
- TFS Git repos are accessible only on the NPS intranet and visible only to the team and the TFS admins.
- NPS GitHub repos exist on the GitHub.com architecture and are not backed up to NPS storage locations.
- NPS GitHub repos are either public or private but are visible to NPS GitHub organization admins.
- NPS GitHub repos are accessible both on the NPS intranet and via the open internet. *If an NPS GitHub repo is made public, anyone anywhere can see it.*
- Persistent certificate errors and NPS GitHub:
Some users have had success with this workflow:
 - 1) Navigate to <https://github.com>
 - 2) If using Chrome or IE, click the padlock icon in the URL for more details
 - a. Chrome: Click Details, and then 'View Certificate' in the sidebar that opens
 - b. IE: Click 'View Certificates'
 - 3) In the 'Certificate' window, navigate to the 'Certification Path' tab
 - 4) Double click the 'root' certificate at the top of the list
 - 5) On the new 'Certificate' window, navigate to the

'Details' tab

6) Click 'Copy to File'

a. Select Base-64 encoded X.509 (.CER), then click next

b. Save to desired location (i.e. Desktop/tempcert.cer), then click next

c. Click finish, and now the certificate should be saved at provided destination

d. Right click the newly saved cert and open with a text editor (Visual Code was used, so either 'Code' or a similar text editor may be required)

7) Navigate to the directory within 'Git' that contains 'ca-cert-bundle.crt'

8) Right click 'ca-cert-bundle.crt' and choose to edit

9) Copy ALL of the contents from the certificate you saved and opened earlier, everything between and including: '-----BEGIN TRUSTED CERTIFICATE-----' to '-----END TRUSTED CERTIFICATE-----'

10) Paste these contents to the end of the 'ca-cert-bundle.crt' file and save.

a. Saving to this location may be restricted, if so, choose to 'Save As' and save the file as 'ca-cert-bundle.new.crt' in any location that you have access to. If it is not restricted, skip to step 15

11) Navigate the location you just saved 'ca-cert-bundle.new.crt' to, and copy/cut the file

12) Paste the file in the Git directory containing 'ca-cert-bundle.crt'

a. You will be prompted for admin permission to paste this file here

13) Rename 'ca-cert-bundle.crt' to 'ca-cert-bundle.old.crt'

a. Provide admin permission if prompted

14) Rename 'ca-cert-bundle.new.crt' to 'ca-cert-bundle.crt'

a. Provide admin permission if prompted

15) Retry either cloning from the git repo or restoring browser dependencies.

September 21,
2023