



DevOps

Version Control Assignment 1

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1. Introduction

This document demonstrates the usage of Subversion (SVN) and Mercurial (HG) with commands, explanations, and screenshots. Additionally, it details the process of creating a Git repository, uploading a presentation/report, and hosting it on GitHub Pages.

2. Installing Subversion and Mercurial

Before using SVN and Mercurial, you need to install them on your system.

```
aaradhy - ruby -W1 --disable=gems,rubyopt /opt/homebrew/Library/Homebrew/brew.rb install subversion mercurial - curl — 130x36
Last login: Fri Feb 7 18:48:23 on ttys011
aaradhy@Aaradhyas-MacBook-Air ~ % brew install subversion mercurial

==> Auto-updating Homebrew...
Adjust how often this is run with HOMEBREW_AUTO_UPDATE_SECS or disable with
HOMEBREW_NO_AUTO_UPDATE. Hide these hints with HOMEBREW_NO_ENV_HINTS (see `man brew`).
==> Auto-updated Homebrew!
Updated 3 taps (homebrew/services, homebrew/core and homebrew/cask).
==> New Formulae
ad gdtoolkit libpostal scryer-prolog
aqtinstall ggh mac sql-formatter
bacon-ls gnome-builder nummer text-embeddings-inference
bagels go@1.23 pgbackrest threatcl
cfnctl gomi postgresql-hll yices2
cloud-provider-kind hcledit ramalama yor
comzak identme reuse zimfw
dud jupytext rink
evil-helix lazyjj rustywind
gauth libcdio-paranoia sby
==> New Casks
autogram cherry-studio pinwheel ui-tars
browser-actions open-eid structuredlogviewer vernier-spectral-analysis
chatwise oracle-jdk-javadoc021 thumbhost3mf

You have 36 outdated formulae and 1 outdated cask installed.

subversion 1.14.5 is already installed but outdated (so it will be upgraded).
==> Downloading https://ghcr.io/v2/homebrew/core/subversion/manifests/1.14.5_1
#####
==> Fetching subversion
==> Downloading https://ghcr.io/v2/homebrew/core/subversion/blobs/sha256:1d749bdae7926fb1c47ef3900bd57559cfb883f581449023df6c5164a
#####
==> Downloading https://ghcr.io/v2/homebrew/core/mercurial/manifests/6.9.1
#####
==> Fetching dependencies for mercurial: mpdecimal, sqlite, expat and python@3.13
==> Downloading https://ghcr.io/v2/homebrew/core/mpdecimal/manifests/4.0.0-1
#####

aaradhy - -zsh - 130x36
```

```
Running `brew cleanup php`...
Removing: /opt/homebrew/Cellar/php/8.3.13... (524 files, 88.8MB)
Removing: /Users/aaradhy/Library/Caches/Homebrew/php_bottle_manifest--8.3.13... (50.2KB)
Removing: /Users/aaradhy/Library/Caches/Homebrew/php_bottle_manifest--8.4.3... (50KB)
Removing: /Users/aaradhy/Library/Caches/Homebrew/php--8.4.3... (25.3MB)
==> Checking for dependents of upgraded formulae...
==> No broken dependents found!
==> Caveats
==> subversion
svntools have been installed to:
/opt/homebrew/opt/subversion/libexec

The perl bindings are located in various subdirectories of:
/opt/homebrew/opt/subversion/lib/perl5
==> mercurial
zsh completions have been installed to:
/opt/homebrew/share/zsh/site-functions
==> php
To enable PHP in Apache add the following to httpd.conf and restart Apache:
LoadModule php_module /opt/homebrew/opt/php/lib/httpd/modules/libphp.so

<FilesMatch \.php$>
    SetHandler application/x-httpd-php
</FilesMatch>

Finally, check DirectoryIndex includes index.php
DirectoryIndex index.php index.html

The php.ini and php-fpm.ini file can be found in:
/opt/homebrew/etc/php/8.4/

To start php now and restart at login:
brew services start php
Or, if you don't want/need a background service you can just run:
/opt/homebrew/opt/php/sbin/php-fpm --nodaemonize
aaradhy@Aaradhyas-MacBook-Air ~ %
```

After installation, verify them by running:

```
● ● ● aaradhyas@Aaradhyas-MacBook-Air ~ % svn --version
Or, if you don't want/need a background service you can just run:
/opt/homebrew/opt/php/sbin/php-fpm --nodaemonize
aaradhyas@Aaradhyas-MacBook-Air ~ % svn --version
hg --version

svn, version 1.14.5 (r1922182)
compiled Nov 27 2024, 21:22:28 on arm-apple-darwin23.6.0

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see the NOTICE file for more information.
Subversion is open source software, see http://subversion.apache.org/

The following repository access (RA) modules are available:

* ra_svn : Module for accessing a repository using the svn network protocol.
  - with Cyrus SASL authentication
  - handles 'svn' scheme
* ra_local : Module for accessing a repository on local disk.
  - handles 'file' scheme
* ra_serf : Module for accessing a repository via WebDAV protocol using serf.
  - using serf 1.3.10 (compiled with 1.3.10)
  - handles 'http' scheme
  - handles 'https' scheme

The following authentication credential caches are available:

* Mac OS X Keychain

Mercurial Distributed SCM (version 6.9.1)
(see https://mercurial-scm.org for more information)

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This is free software; see the source for copying conditions. There is NO
warranty; not even for MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE.
aaradhyas@Aaradhyas-MacBook-Air ~ %
```

3. Using Subversion (SVN)

SVN is a centralized version control system, meaning all files are stored on a central server.

Step 3.1: Create an SVN Repository

```
● ● ● aaradhyas@Aaradhyas-MacBook-Air ~ % svn --version
hg --version

svn, version 1.14.5 (r1922182)
compiled Nov 27 2024, 21:22:28 on arm-apple-darwin23.6.0

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This software consists of contributions made by many people;
see the NOTICE file for more information.
Subversion is open source software, see http://subversion.apache.org/

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warranty; not even for MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE.
aaradhyas@Aaradhyas-MacBook-Air ~ % svnadmin create my_svn_repo
aaradhyas@Aaradhyas-MacBook-Air ~ %
```

Step 3.3: Check Out a Working Copy

```
aaradhy@Aaradhyas-MacBook-Air ~ % svn checkout file:///path/to/my_svn_repo my_working_copy
svn: E170013: Unable to connect to a repository at URL 'file:///path/to/my_svn_repo'
svn: E180001: Unable to open repository 'file:///path/to/my_svn_repo'
aaradhy@Aaradhyas-MacBook-Air ~ % pwd
ls ~/my_svn_repo

/Users/aaradhy
README.txt      conf          db          format      hooks      locks
aaradhy@Aaradhyas-MacBook-Air ~ % svn checkout file:///Users/aaradhy/my_svn_repo my_working_copy
Checked out revision 0.
aaradhy@Aaradhyas-MacBook-Air ~ %
```

Step 3.3: Add and Commit Files

Move into the working copy directory: `cd my_working_copy`

Create a file and add content: `echo "Hello SVN" > file.txt`

Add the file to version control: `svn add file.txt`

Commit the changes with a message: `svn commit -m "Initial commit"`

```
aaradhy@Aaradhyas-MacBook-Air ~ % cd my_working_copy
aaradhy@Aaradhyas-MacBook-Air my_working_copy % echo "Hello SVN" > file.txt
aaradhy@Aaradhyas-MacBook-Air my_working_copy % svn add file.txt
A           file.txt
aaradhy@Aaradhyas-MacBook-Air my_working_copy % svn commit -m "Initial commit"
Adding       file.txt
Transmitting file data .done
Committing transaction...
Committed revision 1.
aaradhy@Aaradhyas-MacBook-Air my_working_copy %
```

Step 3.4: View Repository Log

To confirm everything is working:

```
my_working_copy -- zsh - 130x36
(see https://mercurial-scm.org for more information)

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warranty; not even for MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE.
aaradhyaa@Aaradhyas-MacBook-Air ~ % svndadmin create my_svn_repo

aaradhyaa@Aaradhyas-MacBook-Air ~ % svn checkout file:///path/to/my_svn_repo my_working_copy

svn: E170013: Unable to connect to a repository at URL 'file:///path/to/my_svn_repo'
svn: E180001: Unable to open repository 'file:///path/to/my_svn_repo'
aaradhyaa@Aaradhyas-MacBook-Air ~ % pwd
ls ~/my_svn_repo

/Users/aaradhyaa
README.txt      conf        db          format       hooks       locks
aaradhyaa@Aaradhyas-MacBook-Air ~ % svn checkout file:///Users/aaradhyaa/my_svn_repo my_working_copy

Checked out revision 0.
aaradhyaa@Aaradhyas-MacBook-Air ~ % cd my_working_copy

aaradhyaa@Aaradhyas-MacBook-Air my_working_copy % echo "Hello SVN" > file.txt

aaradhyaa@Aaradhyas-MacBook-Air my_working_copy % svn add file.txt

A           file.txt
aaradhyaa@Aaradhyas-MacBook-Air my_working_copy % svn commit -m "Initial commit"

Adding      file.txt
Transmitting file data .done
Committing transaction...
Committed revision 1.
aaradhyaa@Aaradhyas-MacBook-Air my_working_copy % svn log

-----
aaradhyaa@Aaradhyas-MacBook-Air my_working_copy %
```

4. Using Mercurial (HG)

Step 4.1: Create a Mercurial Repository

Step 4.2: Add a File and Commit

Command:

```
echo "Hello Mercurial" > file.txt  
hg add file.txt  
hg commit -m "Initial commit"
```

Step 4.3: View Repository Status and Logs

5. Creating a Git Repository and Hosting on GitHub Pages

Now, we'll use GitHub to store our project and documentation.

Step 5.1: Initialize Git

```
aaradhya@Aaradhyas-MacBook-Air my_hg_repo % hg commit -m "Initial commit"
abort: no username supplied
(use 'hg config --edit' to set your username)
aaradhya@Aaradhyas-MacBook-Air my_hg_repo % nano ~/.hgrc

aaradhya@Aaradhyas-MacBook-Air my_hg_repo % hg config ui.username
Aaradhyा Agrawal <007aaradhya@gmail.com>
aaradhya@Aaradhyas-MacBook-Air my_hg_repo % hg commit -m "Initial commit"

aaradhya@Aaradhyas-MacBook-Air my_hg_repo % hg status
hg log

changeset:  0:9fd7576c216d
tag:        tip
user:       Aaradhyा Agrawal <007aaradhya@gmail.com>
date:       Fri Feb 14 16:19:15 2025 +0530
summary:    Initial commit

aaradhya@Aaradhyas-MacBook-Air my_hg_repo %
aaradhya@Aaradhyas-MacBook-Air my_hg_repo % git init devops_project
lcd devops_project
hint: Using 'master' as the name for the initial branch. This default branch name
hint: is subject to change. To configure the initial branch name to use in all
hint: of your new repositories, which will suppress this warning, call:
hint:
hint:   git config --global init.defaultBranch <name>
hint:
hint: Names commonly chosen instead of 'master' are 'main', 'trunk' and
hint: 'development'. The just-created branch can be renamed via this command:
hint:
hint:   git branch -m <name>
Initialized empty Git repository in /Users/aaradhya/my_working_copy/my_hg_repo/devops_project/.git/
aaradhya@Aaradhyas-MacBook-Air devops_project %
```

Step 5.2: Add Files

```
devops_project --zsh - 130x36

abort: no username supplied
(use 'hg config --edit' to set your username)
aaradhyaa@Aaradhyas-MacBook-Air my_hg_repo % nano ~/.hgrc

aaradhyaa@Aaradhyas-MacBook-Air my_hg_repo % hg config ui.username

Aaradhyaa Agrawal <007aaradhyaa@gmail.com>
aaradhyaa@Aaradhyas-MacBook-Air my_hg_repo % hg commit -m "Initial commit"

aaradhyaa@Aaradhyas-MacBook-Air my_hg_repo % hg status
hg log

changeset: 0:9fd7576c216d
tag: tip
user: Aaradhyaa Agrawal <007aaradhyaa@gmail.com>
date: Fri Feb 14 16:19:15 2025 +0530
summary: Initial commit

aaradhyaa@Aaradhyas-MacBook-Air my_hg_repo %
aaradhyaa@Aaradhyas-MacBook-Air my_hg_repo % git init devops_project
cd devops_project
hint: Using 'master' as the name for the initial branch. This default branch name
hint: is subject to change. To configure the initial branch name to use in all
hint: of your new repositories, which will suppress this warning, call:
hint:
hint: git config --global init.defaultBranch <name>
hint:
hint: Names commonly chosen instead of 'master' are 'main', 'trunk' and
hint: 'development'. The just-created branch can be renamed via this command:
hint:
hint: git branch -m <name>
Initialized empty Git repository in /Users/aaradhyaa/my_working_copy/my_hg_repo/devops_project/.git/
aaradhyaa@Aaradhyas-MacBook-Air devops_project % echo "DevOps Assignment" > README.md
git add README.md
aaradhyaa@Aaradhyas-MacBook-Air devops_project %
```

Step 5.3: Commit Changes

```
devops_project --zsh - 130x36

date: Fri Feb 14 16:19:15 2025 +0530
summary: Initial commit

aaradhyaa@Aaradhyas-MacBook-Air my_hg_repo %
aaradhyaa@Aaradhyas-MacBook-Air my_hg_repo % git init devops_project
cd devops_project
hint: Using 'master' as the name for the initial branch. This default branch name
hint: is subject to change. To configure the initial branch name to use in all
hint: of your new repositories, which will suppress this warning, call:
hint:
hint: git config --global init.defaultBranch <name>
hint:
hint: Names commonly chosen instead of 'master' are 'main', 'trunk' and
hint: 'development'. The just-created branch can be renamed via this command:
hint:
hint: git branch -m <name>
Initialized empty Git repository in /Users/aaradhyaa/my_working_copy/my_hg_repo/devops_project/.git/
aaradhyaa@Aaradhyas-MacBook-Air devops_project % echo "DevOps Assignment" > README.md
git add README.md
aaradhyaa@Aaradhyas-MacBook-Air devops_project % git commit -m "Initial commit"
[master (root-commit) ecd3301] Initial commit
Committer: Aaradhyaa Agrawal <aaradhyaa@Aaradhyas-MacBook-Air.local>
Your name and email address were configured automatically based
on your username and hostname. Please check that they are accurate.
You can suppress this message by setting them explicitly:

    git config --global user.name "Your Name"
    git config --global user.email you@example.com

After doing this, you may fix the identity used for this commit with:

    git commit --amend --reset-author

1 file changed, 1 insertion(+)
create mode 100644 README.md
aaradhyaa@Aaradhyas-MacBook-Air devops_project %
```

Step 5.4: Create and Push to GitHub Repository

Go to GitHub and create a new repository :

Version_Control_Assignment_1_DevOps

The screenshot shows a GitHub repository page for 'Version_Control_Assignment_1_DevOps'. The repository is public. On the left, there's a section for 'Set up GitHub Copilot' with a button to 'Get started with GitHub Copilot'. To the right, there's a section for 'Add collaborators to this repository' with a 'Invite collaborators' button. Below these, a 'Quick setup' section provides instructions for creating a new repository on the command line:

```
echo "# Version_Control_Assignment_1_DevOps" >> README.md
git init
git add README.md
git commit -m "first commit"
git branch -M main
git remote add origin https://github.com/007Aaradhyaa/Version_Control_Assignment_1_DevOps.git
git push -u origin main
```

It also shows how to push an existing repository from the command line:

```
git remote add origin https://github.com/007Aaradhyaa/Version_Control_Assignment_1_DevOps.git
```

Step 5.5: Link Local Repository to GitHub

```
devops_project -- zsh -- 130x36
hint:
hint: Names commonly chosen instead of 'master' are 'main', 'trunk' and
hint: 'development'. The just-created branch can be renamed via this command:
hint:
hint:   git branch -m <name>
Initialized empty Git repository in /Users/aaradhyaa/my_working_copy/my_hg_repo/devops_project/.git/
aaradhyaa@Aaradhyas-MacBook-Air devops_project % echo "DevOps Assignment" > README.md
git add README.md
aaradhyaa@Aaradhyas-MacBook-Air devops_project % git commit -m "Initial commit"
[master (root-commit) ecd3301] Initial commit
Committer: Aaradhyaa Agrawal <aaradhyaa@Aaradhyas-MacBook-Air.local>
Your name and email address were configured automatically based
on your username and hostname. Please check that they are accurate.
You can suppress this message by setting them explicitly:

  git config --global user.name "Your Name"
  git config --global user.email you@example.com

After doing this, you may fix the identity used for this commit with:

  git commit --amend --reset-author

  1 file changed, 1 insertion(+)
  create mode 100644 README.md
aaradhyaa@Aaradhyas-MacBook-Air devops_project % git remote add origin https://github.com/007Aaradhyaa/Version_Control_Assignment_1_DevOps.git
aaradhyaa@Aaradhyas-MacBook-Air devops_project % git branch -M main
aaradhyaa@Aaradhyas-MacBook-Air devops_project % git push -u origin main
Enumerating objects: 3, done.
Counting objects: 100% (3/3), done.
Writing objects: 100% (3/3), 247 bytes | 247.00 KiB/s, done.
Total 3 (delta 0), reused 0 (delta 0), pack-reused 0 (from 0)
To https://github.com/007Aaradhyaa/Version_Control_Assignment_1_DevOps.git
 * [new branch]    main -> main
branch 'main' set up to track 'origin/main'.
aaradhyaa@Aaradhyas-MacBook-Air devops_project %
```

Step 5.6: Hosting on GitHub Pages

1. Go to GitHub Repo → Settings → Pages
2. Under Source, select main branch
3. Save and wait for the deployment

The screenshot shows the GitHub Pages settings page for a repository named '007Aaradhyा / Version_Control_Assignment_1_DevOps'. The left sidebar has 'Pages' selected. The main area is titled 'GitHub Pages' and contains sections for 'Access', 'Build and deployment', and 'Visibility'. In the 'Build and deployment' section, the 'Source' dropdown is set to 'Deploy from a branch', and the 'Branch' dropdown is set to 'main'. A note states that GitHub Pages is currently disabled and provides a link to learn more about configuring the publishing source.

The screenshot shows the GitHub Actions build log for a workflow named 'pages build and deployment #1'. The summary indicates the job was triggered via dynamic 2 minutes ago, status is Success, total duration is 45s, and there is 1 artifact. The workflow steps are: build (25s), report-build-status (3s), and deploy (8s). The deploy step successfully deployed to the URL <https://007aaradhyा.github.io/Version...>. The artifacts section shows a single artifact named 'github-pages' with a size of 12.5 KB.

Copy the URL shown there.

i.e.: https://007aaradhya.github.io/Version_Control_Assignment_1_DevOps/

Your GitHub Pages site will be available at:

