



## LAB FILE

### DevOps

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EXP : Demonstrate usage of Subversion, Mercurial with commands, explanation, and screenshots/screen recordings.

Subversion :

Step 1 : Install Subversion

```
somit123@DESKTOP-9V33BU7:~$ sudo apt update
[sudo] password for somit123:
Hit:1 http://archive.ubuntu.com/ubuntu noble InRelease
Hit:2 http://security.ubuntu.com/ubuntu noble-security InRelease
Hit:3 http://archive.ubuntu.com/ubuntu noble-updates InRelease
Hit:4 http://archive.ubuntu.com/ubuntu noble-backports InRelease
Reading package lists... Done
Building dependency tree... Done
Reading state information... Done
100 packages can be upgraded. Run 'apt list --upgradable' to see them.
```

```
somit123@DESKTOP-9V33BU7:~$ sudo apt install subversion -y
Reading package lists... Done
Building dependency tree... Done
Reading state information... Done
subversion is already the newest version (1.14.3-1build4).
0 upgraded, 0 newly installed, 0 to remove and 100 not upgraded.
```

Updates package lists and installs Subversion (SVN) on Ubuntu.

Step 2 : Demonstrating Operational usage of Subversion

```
somit123@DESKTOP-9V33BU7:~$ svnadmin create ~/new_svn_repo
somit123@DESKTOP-9V33BU7:~$ svnserve -d -r ~/new_svn_repo
```

Initializes a new SVN repository in ~/svn\_repo.

This is where SVN will store versioned files.

```
somit123@DESKTOP-9V33BU7:~$ svn checkout file:///home/$USER/new_svn_repo my_svn_project
Checked out revision 0.
somit123@DESKTOP-9V33BU7:~$ cd my_svn_project
```

Creates a working copy of the repository in my\_svn\_project.

Moves into the working directory.

```
somit123@DESKTOP-9V33BU7:~/my_svn_project$ echo "This is an SVN test file" > file1.txt
somit123@DESKTOP-9V33BU7:~/my_svn_project$ svn add file1.txt
A
    file1.txt
somit123@DESKTOP-9V33BU7:~/my_svn_project$ svn commit -m "Added file1.txt"
Adding          file1.txt
Transmitting file data .done
Committing transaction...
Committed revision 1.
```

Creates file1.txt with some content.

svn add file1.txt tells SVN to track this file.

svn commit -m "Added file1.txt" saves it to the repository.

```
somit123@DESKTOP-9V33BU7:~/my_svn_project$ svn log
-----
somit123@DESKTOP-9V33BU7:~/my_svn_project$ svn update
Updating '.':
At revision 1.
```

Shows the commit history (who changed what and when).

```
somit123@DESKTOP-9V33BU7:~/my_svn_project$ echo "Updated content" >> file1.txt
somit123@DESKTOP-9V33BU7:~/my_svn_project$ svn commit -m "Updated file1.txt"
Sending          file1.txt
Transmitting file data .done
Committing transaction...
Committed revision 2.
```

Appends "Updated content" to file1.txt.

Commits the updated file to the repository.

```
somit123@DESKTOP-9V33BU7:~/my_svn_project$ svn revert file1.txt
somit123@DESKTOP-9V33BU7:~/my_svn_project$ |
```

Discards any uncommitted changes to file1.txt, restoring the last committed version.

Mercurial :

Step 1 : Install Mercurial

```
C:\Users\Dell>ubuntu
somit123@DESKTOP-9V33BU7:~$ sudo apt install mercurial -y
[sudo] password for somit123:
Reading package lists... Done
Building dependency tree... Done
Reading state information... Done
mercurial is already the newest version (6.7.2-1ubuntu2.2).
0 upgraded, 0 newly installed, 0 to remove and 100 not upgraded.
```

## Step 2 : Demonstrating Operational usage of Mercurial

```
C:\Users\Dell>ubuntu
somit123@DESKTOP-9V33BU7:~$ ls ~/my_hg_project
file1.txt
somit123@DESKTOP-9V33BU7:~$ cd ~/my_hg_project
somit123@DESKTOP-9V33BU7:~/my_hg_project$ hg status
A file1.txt
```

Lists the contents of the my\_hg\_project directory.

Shows that file1.txt exists.

Navigates into the my\_hg\_project directory.

Displays the status of files in the repository.

A file1.txt means file1.txt has been added but not yet committed.

```
GNU nano 7.2 /home/somit123/.hgrc *
# example user config (see 'hg help config' for more info)
[ui]
# name and email, e.g.
# username = Jane Doe <jdoe@example.com>
username = Somit123 <somityadav10@gmail.com>

# We recommend enabling tweakdefaults to get slight improvements to
# the UI over time. Make sure to set HGPLAIN in the environment when
# writing scripts!
# tweakdefaults = True

# uncomment to disable color in command output
# (see 'hg help color' for details)
# color = never

# uncomment to disable command output pagination
# (see 'hg help pager' for details)
# paginate = never

[extensions]
# uncomment the lines below to enable some popular extensions
# (see 'hg help extensions' for more info)
#
# histedit =
# rebase =
# uncommit =

^G Help      ^O Write Out  ^W Where Is   ^K Cut        ^T Execute    ^C Location   M-U Undo     M-A Set Mark
^X Exit      ^R Read File  ^\ Replace    ^U Paste      ^J Justify    ^/ Go To Line M-E Redo     M-G Copy
```

This is the Mercurial configuration file (.hgrc) opened in the Nano editor and we are making changes in it.

```
somit123@DESKTOP-9V33BU7:~/my_hg_project$ nano ~/.hgrc
somit123@DESKTOP-9V33BU7:~/my_hg_project$ hg commit -m "Added file1.txt"
somit123@DESKTOP-9V33BU7:~/my_hg_project$ hg log
changeset: 0:3ea485c34f41
tag: tip
user: Somit123 <somityadav10@gmail.com>
date: Sun Feb 16 19:08:09 2025 +0000
summary: Added file1.txt
```

The commit was successfully recorded with a unique changeset ID, user details, timestamp, and message.

```
somit123@DESKTOP-9V33BU7:~/my_hg_project$ echo "New content" >> file1.txt
somit123@DESKTOP-9V33BU7:~/my_hg_project$ touch file2.txt
somit123@DESKTOP-9V33BU7:~/my_hg_project$ echo "This is file2" > file2.txt
somit123@DESKTOP-9V33BU7:~/my_hg_project$ hg status
M file1.txt
? file2.txt
```

shows file modifications in a Mercurial repository

```
somit123@DESKTOP-9V33BU7:~/my_hg_project$ hg add file2.txt
somit123@DESKTOP-9V33BU7:~/my_hg_project$ hg commit -m "Added file2.txt and updated file1.txt"
somit123@DESKTOP-9V33BU7:~/my_hg_project$ hg diff
somit123@DESKTOP-9V33BU7:~/my_hg_project$ hg revert file1.txt
no changes needed to file1.txt
somit123@DESKTOP-9V33BU7:~/my_hg_project$ hg rollback
repository tip rolled back to revision 0 (undo commit)
working directory now based on revision 0
somit123@DESKTOP-9V33BU7:~/my_hg_project$ hg branch new-feature
marked working directory as branch new-feature
(branches are permanent and global, did you want a bookmark?)
somit123@DESKTOP-9V33BU7:~/my_hg_project$ hg commit -m "Started new-feature branch"
somit123@DESKTOP-9V33BU7:~/my_hg_project$ hg update default
1 files updated, 0 files merged, 1 files removed, 0 files unresolved
somit123@DESKTOP-9V33BU7:~/my_hg_project$ hg update default
0 files updated, 0 files merged, 0 files removed, 0 files unresolved
somit123@DESKTOP-9V33BU7:~/my_hg_project$ hg merge new-feature
2 files updated, 0 files merged, 0 files removed, 0 files unresolved
(branch merge, don't forget to commit)
somit123@DESKTOP-9V33BU7:~/my_hg_project$ hg commit -m "Merged new-feature into default"
somit123@DESKTOP-9V33BU7:~/my_hg_project$ hg summary
parent: 2:02129c834e36 tip
Merged new-feature into default
branch: default
commit: (clean)
update: (current)
phases: 3 draft
somit123@DESKTOP-9V33BU7:~/my_hg_project$ hg clone ~/my_hg_project ~/my_hg_project_clone
updating to branch default
2 files updated, 0 files merged, 0 files removed, 0 files unresolved
somit123@DESKTOP-9V33BU7:~/my_hg_project$ |
```

shows a sequence of Mercurial commands, and finally cloning the repository.