

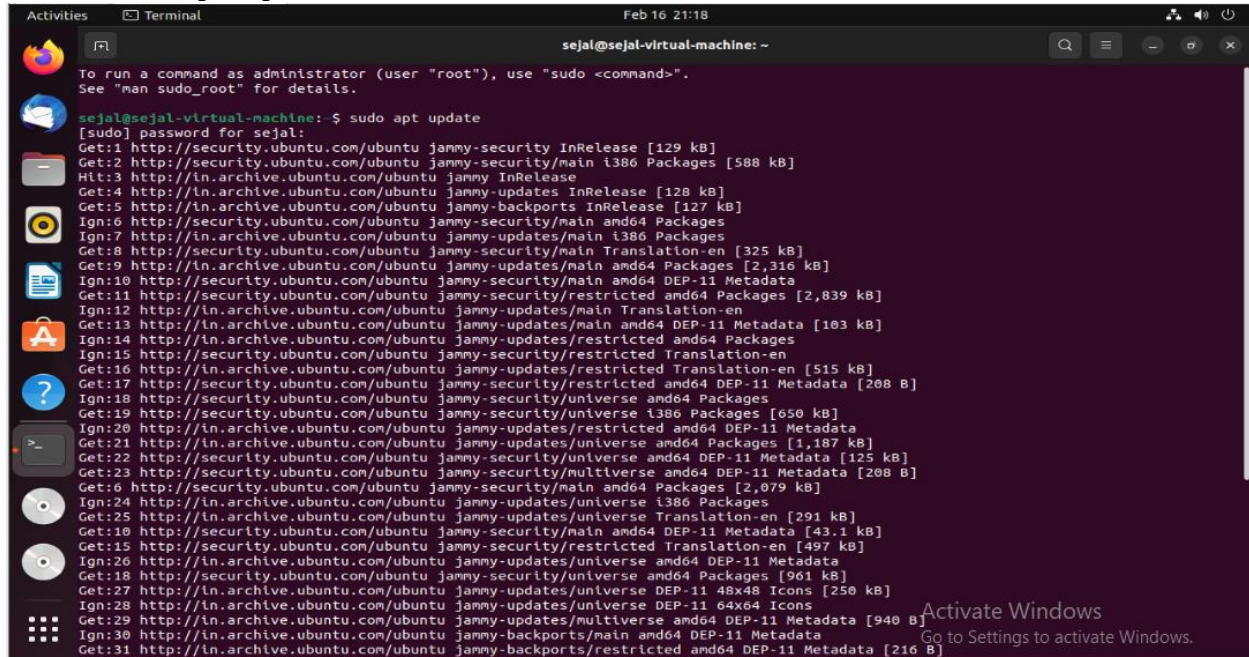
# Usage of Subversion and Mercurial

## Subversion (SVN) Commands and Usage

Subversion is a centralized version control system.

### 1. Update and Install SVN

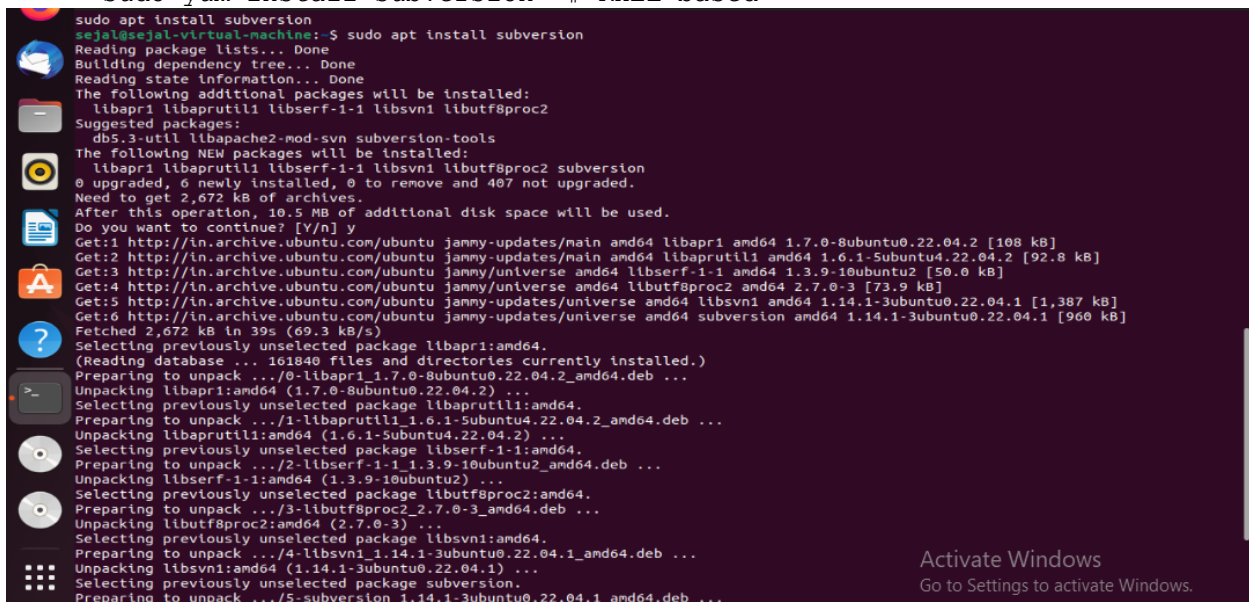
Sudo apt update

A terminal window titled 'sejal@sejal-virtual-machine: ~' showing the output of 'sudo apt update'. The output lists various package sources and their sizes, including security updates, main packages, and restricted packages. The terminal is running on a virtual machine with a date of Feb 16 21:18. An 'Activate Windows' watermark is visible in the bottom right corner.

```
sejal@sejal-virtual-machine: ~  
[sudo] password for sejal:  
Get:1 http://security.ubuntu.com/ubuntu jammy-security InRelease [129 kB]  
Get:2 http://security.ubuntu.com/ubuntu jammy-security/main i386 Packages [588 kB]  
Hit:3 http://in.archive.ubuntu.com/ubuntu jammy InRelease  
Get:4 http://in.archive.ubuntu.com/ubuntu jammy-updates InRelease [128 kB]  
Get:5 http://in.archive.ubuntu.com/ubuntu jammy-backports InRelease [127 kB]  
Ign:6 http://security.ubuntu.com/ubuntu jammy-security/main amd64 Packages  
Ign:7 http://in.archive.ubuntu.com/ubuntu jammy-updates/main i386 Packages  
Get:8 http://security.ubuntu.com/ubuntu jammy-security/main Translation-en [325 kB]  
Get:9 http://in.archive.ubuntu.com/ubuntu jammy-updates/main amd64 Packages [2,316 kB]  
Ign:10 http://security.ubuntu.com/ubuntu jammy-security/main amd64 DEP-11 Metadata  
Get:11 http://security.ubuntu.com/ubuntu jammy-security/restricted amd64 Packages [2,839 kB]  
Ign:12 http://in.archive.ubuntu.com/ubuntu jammy-updates/main Translation-en  
Get:13 http://in.archive.ubuntu.com/ubuntu jammy-updates/main amd64 DEP-11 Metadata [103 kB]  
Ign:14 http://in.archive.ubuntu.com/ubuntu jammy-updates/restricted amd64 Packages  
Ign:15 http://security.ubuntu.com/ubuntu jammy-security/restricted Translation-en  
Get:16 http://in.archive.ubuntu.com/ubuntu jammy-updates/restricted Translation-en [515 kB]  
Get:17 http://security.ubuntu.com/ubuntu jammy-security/restricted amd64 DEP-11 Metadata [208 B]  
Ign:18 http://security.ubuntu.com/ubuntu jammy-security/universe amd64 Packages  
Get:19 http://security.ubuntu.com/ubuntu jammy-security/universe i386 Packages [650 kB]  
Ign:20 http://in.archive.ubuntu.com/ubuntu jammy-updates/restricted amd64 DEP-11 Metadata  
Get:21 http://in.archive.ubuntu.com/ubuntu jammy-updates/universe amd64 Packages [1,187 kB]  
Get:22 http://security.ubuntu.com/ubuntu jammy-security/universe amd64 DEP-11 Metadata [125 kB]  
Get:23 http://security.ubuntu.com/ubuntu jammy-security/multiverse amd64 DEP-11 Metadata [208 B]  
Get:6 http://security.ubuntu.com/ubuntu jammy-security/main amd64 Packages [2,079 kB]  
Ign:24 http://in.archive.ubuntu.com/ubuntu jammy-updates/universe i386 Packages  
Get:25 http://in.archive.ubuntu.com/ubuntu jammy-updates/universe Translation-en [291 kB]  
Get:10 http://security.ubuntu.com/ubuntu jammy-security/main amd64 DEP-11 Metadata [43.1 kB]  
Get:15 http://security.ubuntu.com/ubuntu jammy-security/restricted Translation-en [497 kB]  
Ign:26 http://in.archive.ubuntu.com/ubuntu jammy-updates/universe amd64 DEP-11 Metadata  
Get:18 http://security.ubuntu.com/ubuntu jammy-security/universe amd64 Packages [961 kB]  
Get:27 http://in.archive.ubuntu.com/ubuntu jammy-updates/universe DEP-11 48x48 Icons [250 kB]  
Ign:28 http://in.archive.ubuntu.com/ubuntu jammy-updates/universe DEP-11 64x64 Icons  
Get:29 http://in.archive.ubuntu.com/ubuntu jammy-updates/multiverse amd64 DEP-11 Metadata [940 B]  
Get:30 http://in.archive.ubuntu.com/ubuntu jammy-backports/main amd64 DEP-11 Metadata  
Get:31 http://in.archive.ubuntu.com/ubuntu jammy-backports/restricted amd64 DEP-11 Metadata [216 B]
```

sudo apt install subversion # Debian-based

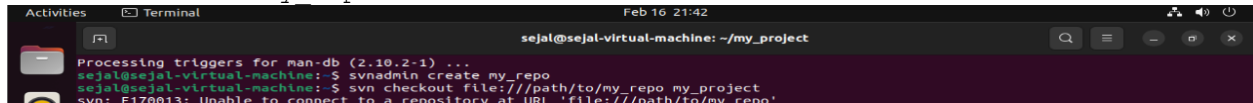
sudo yum install subversion # RHEL-based

A terminal window titled 'sejal@sejal-virtual-machine: ~' showing the output of 'sudo apt install subversion'. The output displays the package list, dependency tree, and the list of packages to be installed. It also shows the disk space requirements and the progress of the installation. An 'Activate Windows' watermark is visible in the bottom right corner.

```
sejal@sejal-virtual-machine: ~  
sudo apt install subversion  
Reading package lists... Done  
Building dependency tree... Done  
Reading state information... Done  
The following additional packages will be installed:  
  libapr1 libaprutil1 libserf-1-1 libsvn1 libutf8proc2  
Suggested packages:  
  db5.3-util libapache2-mod-svn subversion-tools  
The following NEW packages will be installed:  
  libapr1 libaprutil1 libserf-1-1 libsvn1 libutf8proc2 subversion  
0 upgraded, 6 newly installed, 0 to remove and 407 not upgraded.  
Need to get 2,672 kB of archives.  
After this operation, 10.5 MB of additional disk space will be used.  
Do you want to continue? [Y/n] y  
Get:1 http://in.archive.ubuntu.com/ubuntu jammy-updates/main amd64 libapr1 amd64 1.7.0-8ubuntu0.22.04.2 [108 kB]  
Get:2 http://in.archive.ubuntu.com/ubuntu jammy-updates/main amd64 libaprutil1 amd64 1.6.1-Subuntu4.22.04.2 [92.8 kB]  
Get:3 http://in.archive.ubuntu.com/ubuntu jammy/universe amd64 libserf-1-1 amd64 1.3.9-10ubuntu2 [50.0 kB]  
Get:4 http://in.archive.ubuntu.com/ubuntu jammy/universe amd64 libutf8proc2 amd64 2.7.0-3 [73.9 kB]  
Get:5 http://in.archive.ubuntu.com/ubuntu jammy-updates/universe amd64 libsvn1 amd64 1.14.1-3ubuntu0.22.04.1 [1,387 kB]  
Get:6 http://in.archive.ubuntu.com/ubuntu jammy-updates/universe amd64 subversion amd64 1.14.1-3ubuntu0.22.04.1 [960 kB]  
Fetched 2,672 kB in 39s (69.3 kB/s)  
Selecting previously unselected package libapr1:amd64.  
(Reading database ... 161840 files and directories currently installed.)  
Preparing to unpack .../0-libapr1_1.7.0-8ubuntu0.22.04.2_amd64.deb ...  
Unpacking libapr1:amd64 (1.7.0-8ubuntu0.22.04.2) ...  
Selecting previously unselected package libaprutil1:amd64.  
Preparing to unpack .../1-libaprutil1_1.6.1-Subuntu4.22.04.2_amd64.deb ...  
Unpacking libaprutil1:amd64 (1.6.1-Subuntu4.22.04.2) ...  
Selecting previously unselected package libserf-1-1:amd64.  
Preparing to unpack .../2-libserf-1-1_1.3.9-10ubuntu2_amd64.deb ...  
Unpacking libserf-1-1:amd64 (1.3.9-10ubuntu2) ...  
Selecting previously unselected package libutf8proc2:amd64.  
Preparing to unpack .../3-libutf8proc2_2.7.0-3_amd64.deb ...  
Unpacking libutf8proc2:amd64 (2.7.0-3) ...  
Selecting previously unselected package libsvn1:amd64.  
Preparing to unpack .../4-libsvn1_1.14.1-3ubuntu0.22.04.1_amd64.deb ...  
Unpacking libsvn1:amd64 (1.14.1-3ubuntu0.22.04.1) ...  
Selecting previously unselected package subversion.  
Preparing to unpack .../5-subversion_1.14.1-3ubuntu0.22.04.1_amd64.deb ...
```

## 2. Create a Repository

```
svnadmin create my_repo
```

A terminal window titled 'Terminal' with the date 'Feb 16 21:42'. The prompt is 'sejal@sejal-virtual-machine: ~/my\_project'. The command 'svnadmin create my\_repo' has been executed. The output shows 'Processing triggers for man-db (2.10.2-1) ...' followed by 'sejal@sejal-virtual-machine: \$ svnadmin create my\_repo'. Then, 'sejal@sejal-virtual-machine: \$ svn checkout file:///path/to/my\_repo my\_project' is entered. The output shows 'svn: E170013: Unable to connect to a repository at URL 'file:///path/to/my\_repo''.

## 3. Checkout a Repository

```
svn checkout file:///path/to/my_repo my_project  
cd my_project
```

A terminal window showing the checkout process. The prompt is 'sejal@sejal-virtual-machine: ~/my\_project'. The command 'svn checkout file:///home/sejal/my\_repo my\_project' is entered. The output shows 'Checked out revision 1.' followed by 'sejal@sejal-virtual-machine: \$ cd my\_project'.

This creates a **working copy** of the repository in `my_project`.

## 4. Add and Commit Files

```
svn add file1.txt  
svn commit -m "Added file1.txt"
```

A terminal window showing the addition and commit of a file. The prompt is 'sejal@sejal-virtual-machine: ~/my\_project'. The command 'touch file1.txt' is entered. Then, 'svn add file1.txt' is entered. The output shows 'A file1.txt'. Then, 'svn commit -m "Added file1.txt"' is entered. The output shows 'Adding file1.txt', 'Transmitting file data .done', 'Committing transaction...', and 'Committed revision 2.'.

`svn add` marks the file for addition.  
`Svn commit` saves changes to the repository.

## 5. Update Repository

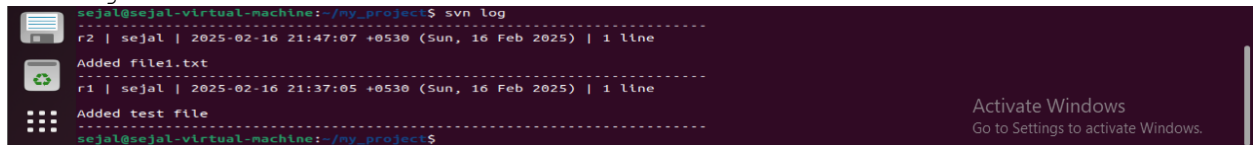
```
svn update
```

A terminal window showing the update process. The prompt is 'sejal@sejal-virtual-machine: ~/my\_project'. The command 'svn update' is entered. The output shows 'Committed revision 2.', 'Updating '.':', 'At revision 2.', and 'sejal@sejal-virtual-machine: ~/my\_project \$ svn status'.

Fetches the latest changes from the repository.

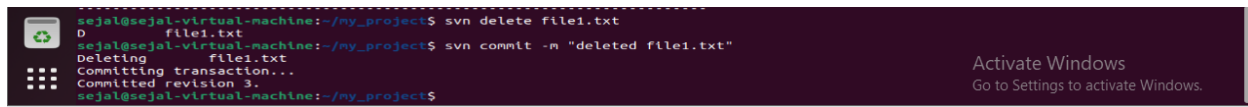
## 6. View Logs

```
svn log
```

A terminal window showing the view of commit history. The prompt is 'sejal@sejal-virtual-machine: ~/my\_project'. The command 'svn log' is entered. The output shows a list of commits: 'r2 | sejal | 2025-02-16 21:47:07 +0530 (Sun, 16 Feb 2025) | 1 line', 'Added file1.txt', 'r1 | sejal | 2025-02-16 21:37:05 +0530 (Sun, 16 Feb 2025) | 1 line', and 'Added test file'. The prompt is 'sejal@sejal-virtual-machine: ~/my\_project\$'.

Displays commit history.

## 7. Remove Files



```
sejal@sejal-virtual-machine:~/my_project$ svn delete file1.txt
D
file1.txt
sejal@sejal-virtual-machine:~/my_project$ svn commit -m "deleted file1.txt"
Deleting      file1.txt
Committing transaction...
Committed revision 3.
sejal@sejal-virtual-machine:~/my_project$
```

Activate Windows  
Go to Settings to activate Windows.

Removes the file.

---

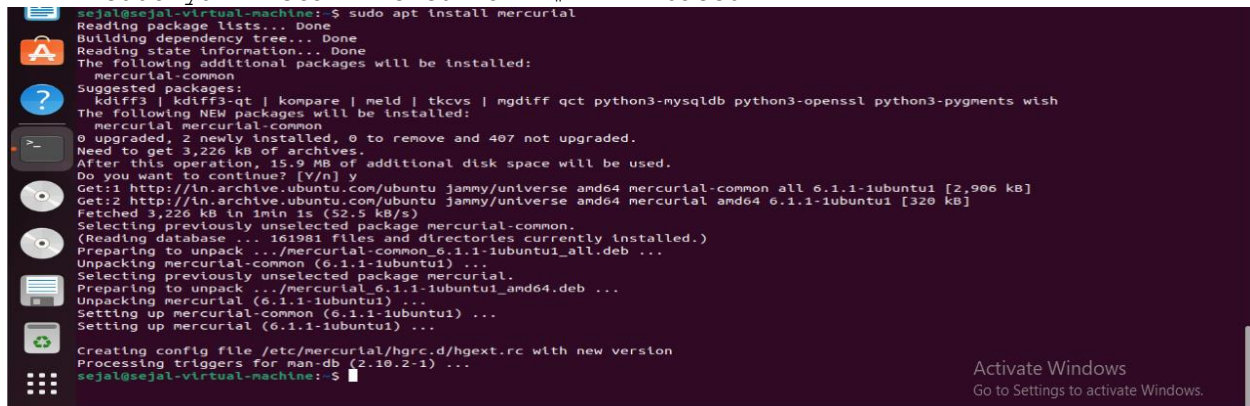
# Mercurial (Hg) Commands and Usage

Mercurial is a distributed version control system.

## 1. Install Mercurial

- **Windows:** Install TortoiseHg
- **Linux/macOS:**

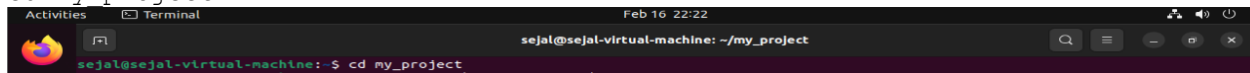
```
sudo apt install mercurial # Debian-based
sudo yum install mercurial # RHEL-based
```



```
sejal@sejal-virtual-machine:~$ sudo apt install mercurial
Reading package lists... Done
Building dependency tree... Done
Reading state information... Done
The following additional packages will be installed:
  mercurial-common
Suggested packages:
  kdiff3 | kdiff3-qt | kompare | meld | tkcvs | ngdiff qct python3-mysqldb python3-openssl python3-pygments wish
The following NEW packages will be installed:
  mercurial mercurial-common
0 upgraded, 2 newly installed, 0 to remove and 407 not upgraded.
Need to get 3,220 kB of archives.
After this operation, 15.9 MB of additional disk space will be used.
Do you want to continue? [Y/n] y
Get:1 http://in.archive.ubuntu.com/ubuntu jammy/universe amd64 mercurial-common all 6.1.1-1ubuntu1 [2,906 kB]
Get:2 http://in.archive.ubuntu.com/ubuntu jammy/universe amd64 mercurial amd64 6.1.1-1ubuntu1 [320 kB]
Fetched 3,220 kB in 1s (52.5 kB/s)
Selecting previously unselected package mercurial-common.
(Reading database ... 161981 files and directories currently installed.)
Preparing to unpack .../mercurial-common_6.1.1-1ubuntu1_all.deb ...
Unpacking mercurial-common (6.1.1-1ubuntu1) ...
Selecting previously unselected package mercurial.
Preparing to unpack .../mercurial_6.1.1-1ubuntu1_amd64.deb ...
Unpacking mercurial (6.1.1-1ubuntu1) ...
Setting up mercurial-common (6.1.1-1ubuntu1) ...
Setting up mercurial (6.1.1-1ubuntu1) ...
Creating config file /etc/mercurial/hgrc.d/hgext.rc with new version
Processing triggers for man-db (2.10.2-1) ...
sejal@sejal-virtual-machine:~$
```

## 2. Create a Repository

```
hg init my_project
cd my_project
```

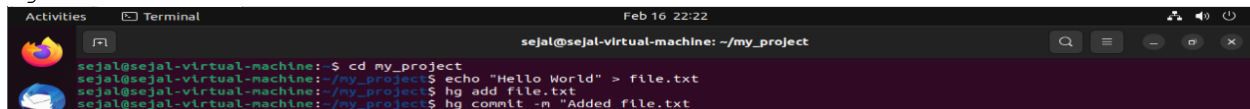


```
sejal@sejal-virtual-machine:~$ hg init my_project
sejal@sejal-virtual-machine:~/my_project$
```

Initializes an empty Mercurial repository.

## 3. Add and Commit Files

```
echo "Hello World" > file.txt
hg add file.txt
hg commit -m "Added file.txt"
```



```
sejal@sejal-virtual-machine:~$ cd my_project
sejal@sejal-virtual-machine:~/my_project$ echo "Hello World" > file.txt
sejal@sejal-virtual-machine:~/my_project$ hg add file.txt
sejal@sejal-virtual-machine:~/my_project$ hg commit -m "Added file.txt"
```

hg add marks the file for addition.

hg commit saves the changes.

## 4. View Repository Status

hg status

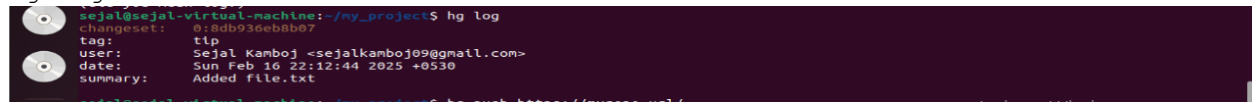
A terminal window with a dark background. The prompt is 'sejal@sejal-virtual-machine:~/my\_project\$'. The command 'hg status' has been executed. The output lists several files with their status: '.svn/entries' (A), '.svn/format' (A), '.svn/pristine/93/93850a368f971743e7b606a76b1b0a264363bea.svn-base' (A), '.svn/pristine/da/da39a3ee5e6b4b0d3255bfe995661890afd80709.svn-base' (A), '.svn/wc.db' (A), '.svn/wc-journal' (A), and 'test.txt' (M). The letter 'A' indicates files that are added to the repository, and 'M' indicates a modified file. An 'Activate Windows' watermark is visible in the bottom right corner.

```
sejal@sejal-virtual-machine:~/my_project$ hg status
A .svn/entries
A .svn/format
A .svn/pristine/93/93850a368f971743e7b606a76b1b0a264363bea.svn-base
A .svn/pristine/da/da39a3ee5e6b4b0d3255bfe995661890afd80709.svn-base
A .svn/wc.db
A .svn/wc-journal
M test.txt
```

Shows uncommitted changes.

## 5. View Logs

hg log

A terminal window with a dark background. The prompt is 'sejal@sejal-virtual-machine:~/my\_project\$'. The command 'hg log' has been executed. The output shows the commit history: 'changeset: 0:8db936ebb807', 'tag: tip', 'user: Sejal Kamboj <sejalkamboj09@gmail.com>', 'date: Sun Feb 16 22:12:44 2025 +0530', and 'summary: Added file.txt'. Below this, a list of changes is shown, including the addition of 'test.txt'. An 'Activate Windows' watermark is visible in the bottom right corner.

```
sejal@sejal-virtual-machine:~/my_project$ hg log
changeset: 0:8db936ebb807
tag: tip
user: Sejal Kamboj <sejalkamboj09@gmail.com>
date: Sun Feb 16 22:12:44 2025 +0530
summary: Added file.txt

add: test.txt
add: .svn/entries
add: .svn/format
add: .svn/pristine/93/93850a368f971743e7b606a76b1b0a264363bea.svn-base
add: .svn/pristine/da/da39a3ee5e6b4b0d3255bfe995661890afd80709.svn-base
add: .svn/wc.db
add: .svn/wc-journal
```

Displays the commit history.