Day: 6

Date: 13-08-2024

Source Code Management GIT

What is Shell?

A shell is a special user program that provides an interface for the user to use operating system services. Shell accepts human-readable commands from users and converts them into something which the kernel can understand.

Why we need Shell Scripting?

shell script can be used to automate various tasks in a Linux environment. Shell scripts are sequences of commands that can be executed by the shell. They are especially useful for repetitive tasks, allowing you to save time and increase efficiency.

Shell scripts are essential in Linux for several reasons:

1. **Automation:** Shell scripts are used to automate repetitive tasks.

2. **Efficiency:** Shell scripts can be used to perform complex tasks quickly.

3. **Portability:** Shell scripts are highly portable. They can run on any UNIX-like system with minimal modifications.

4. **Debugging:** Shell scripts support interactive debugging, which can make it easier to identify and fix problems.

5. **Ease of Use:** Shell scripts are relatively easy to use and learn.

What is Batch Scripting?

A batch file is a type of script file commonly used in Windows operating systems that stores commands to be executed in a serial order

It allows you to automate tasks by running multiple commands without manual intervention.

What is #! /Bin/Bash in shell Script?

The line "#! /bin/bash" is called a shebang or hash bang. It indicates the path to the interpreter that should be used to execute the script, in this case, "/bin/bash" for the Bash shell.

This is known as shebang in Unix. Shebang is a collection of characters or letters that consist of a number sign and exclamation mark, that is (#!) at the beginning of a script.

Basic Linux Terminal Commands:

1. ls command in Linux: Displays information about files in the current directory.

The ls command is commonly used to identify the files and directories in the working directory.

2. pwd command in Linux: Displays the current working directory.

The **pwd command** is mostly used to print the current working directory on your terminal.

3. mkdir command in Linux: Creates a directory.

This mkdir command allows you to create fresh directories in the terminal itself. The default syntax is **mkdir <directory name>** and the new directory will be created.

4. cd command in Linux: To navigate between different folders.

The **cd command** is used to navigate between directories. It requires either the full path or the directory name, depending on your current working directory.

5. cat command in Linux: Display file contents on terminal

The **cat command** is the simplest command to use when you want to see the contents of a particular file.

6. clear command in Linux: Clear terminal

The **clear command** is a standard command to clear the terminal screen

7. rm command in Linux: Deletes a file

Use the rm command to permanently delete files within a directory.

Difference Between Vi and Vim?

Vi (Visual Editor)

Vi, short for “Visual Editor,” is a widely used text editor in Unix-like operating systems.

Original text editor with a minimalistic design

Does not support syntax highlighting

Vim (Vi Improved)

Vim, short for “Vi Improved,” is an enhanced, improved, and extended version of the Vi text editor.

Enhanced version of Vi with additional features.

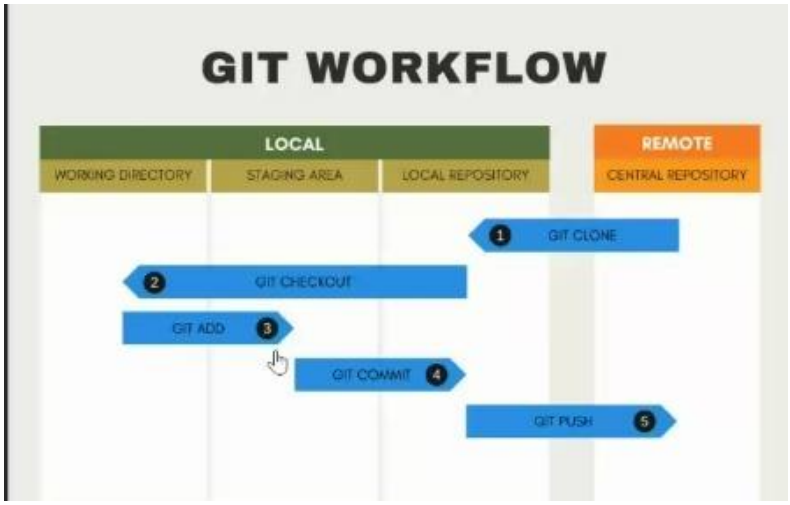
Supports syntax highlighting.

Git Introduction:

Git is a popular version control system. It was created by Linus Torvalds in 2005, and has been maintained by Junio Hamano since then.

It is used for:

- Tracking code changes
- Tracking who made changes
- Coding collaboration



Git is a version control system.

Git helps you keep track of code changes.

Git is used to collaborate on code.

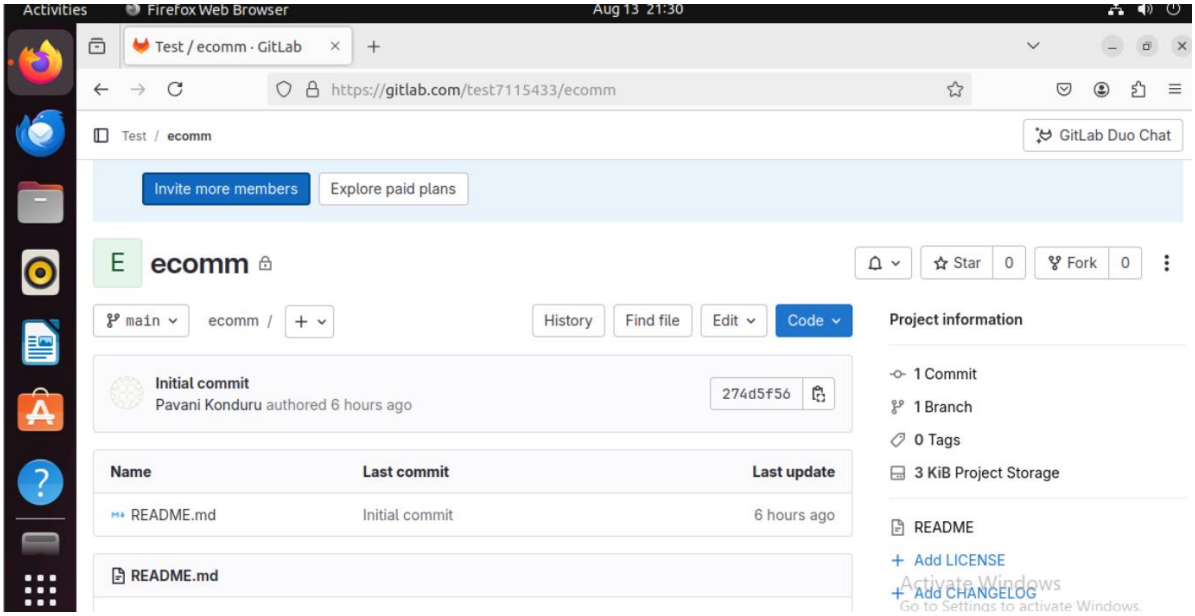


Fig-1: Create a Project in Gitlab

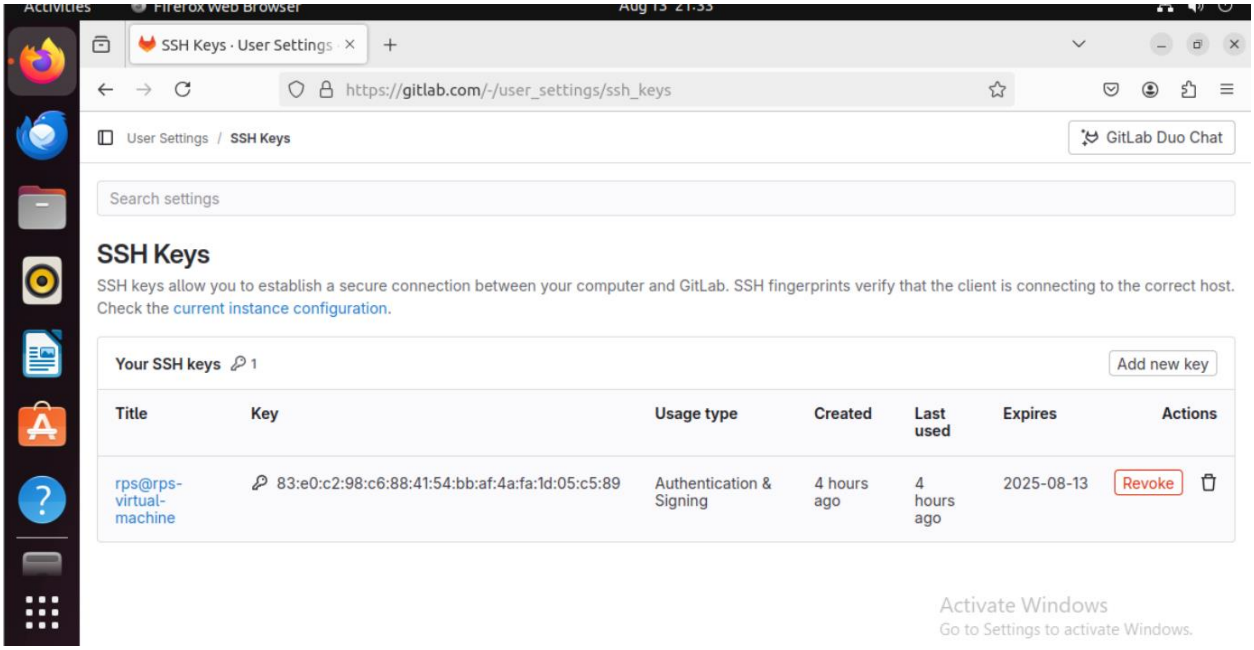
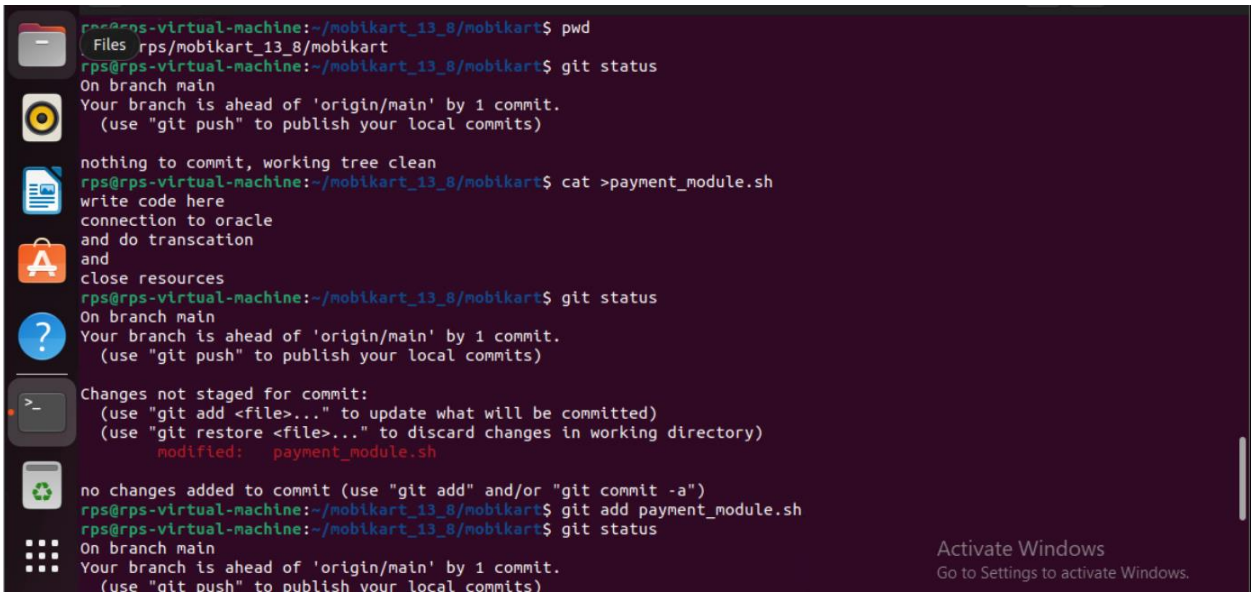


Fig-2: Create a SSH key

Assignment-2:

Create a Repository and Add a files into it by using commands

Fig-1: Initialize a new git Repository



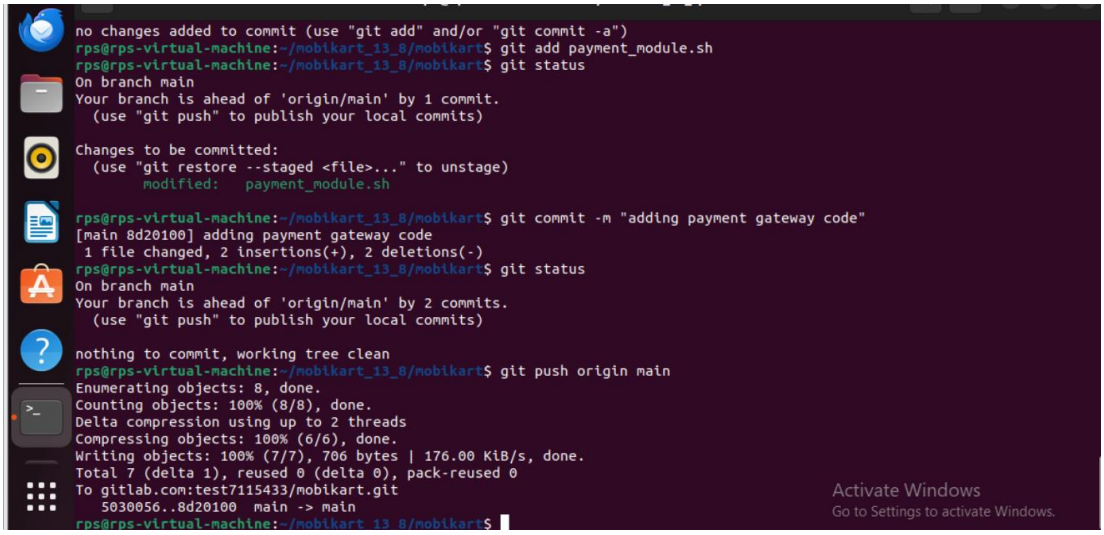


Fig-2: Adding a simple text file to the Repository