

**COMSATS UNIVERSITY ISLAMABAD  
ATTOCK CAMPUS**

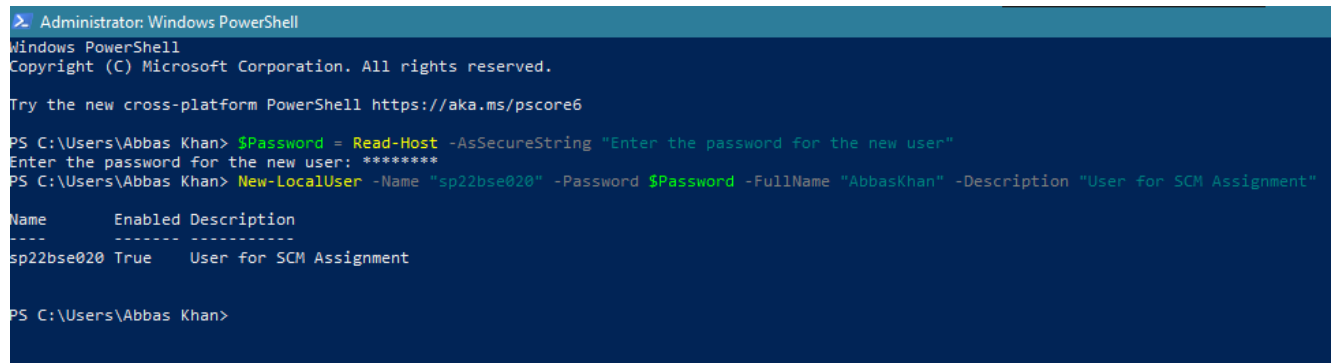


**ABBAS KHAN**

**SP22-BSE-020**

**DEVOPS FOR CLOUD COMPUTING**

## User Creation



```
Administrator: Windows PowerShell
Windows PowerShell
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Try the new cross-platform PowerShell https://aka.ms/pscore6

PS C:\Users\Abbas Khan> $Password = Read-Host -AsSecureString "Enter the password for the new user"
Enter the password for the new user: *****
PS C:\Users\Abbas Khan> New-LocalUser -Name "sp22bse020" -Password $Password -FullName "AbbasKhan" -Description "User for SCM Assignment"

Name      Enabled Description
-----
sp22bse020 True      User for SCM Assignment

PS C:\Users\Abbas Khan>
```

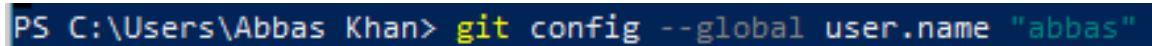
## Commands for basic Setup:

### 01. `git config --global user.name "Your Name"`

#### **Purpose:**

Sets the global Git username that will be associated with my commits.

#### **Screenshot:**



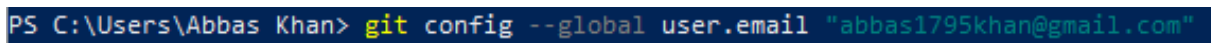
```
PS C:\Users\Abbas Khan> git config --global user.name "abbas"
```

### 02. `git config --global user.email "youremail@example.com"`

#### **Purpose:**

Sets the global email address to be associated with m commits.

#### **Screenshot:**



```
PS C:\Users\Abbas Khan> git config --global user.email "abbas1795khan@gmail.com"
```

### 03. git –version

**Purpose:**

Used to check the currently installed version of Git on the system. Also helps to verify Git is installed correctly and shows the exact version number.

**Screenshot:**

```
PS C:\Users\Abbas Khan> git version
git version 2.48.1.windows.1
```

### 04. Cd ~, mkdir, cd filename

**Purpose:**

Used to create the folder in the user named Muhammad Uzair.

**Screenshot:**

```
PS C:\Users\Abbas Khan> cd ~
PS C:\Users\Abbas Khan> mkdir git-assignment-020

Directory: C:\Users\Abbas Khan

Mode                LastWriteTime         Length Name
----                -
d-----          5/15/2025   9:39 AM                git-assignment-020
```

### Commands for Initialization:

#### 05. git init

**Purpose:**

This Command is used to Initialize a new Git repository in the current directory.

**Screenshot:**

```
PS C:\Users\Abbas Khan> cd git-assignment-020
PS C:\Users\Abbas Khan\git-assignment-020> git init
Initialized empty Git repository in C:/Users/Abbas Khan/git-assignment-020/.git/
PS C:\Users\Abbas Khan\git-assignment-020>
```

## 06. *git init -M main*

### **Purpose:**

*This command renames the current Git branch to main, even if a branch with that name already exists.*

### **Screenshot:**

```
PS C:\Users\Abbas Khan\git-assignment-020> git branch -M main
```

## **Commands for Staging and Committing**

## 07. *git add filename.txt*

### **Purpose:**

*This command is used to stage a specific file (filename.txt) so that it will be included in the next commit.*

### **Screenshot:**

```
PS C:\Users\Abbas Khan\git-assignment-020> echo "<h2> salam from Abbas Khan</h2>" > testfile.html
PS C:\Users\Abbas Khan\git-assignment-020> git add testfile.html
```

## 08. *git commit -m "your message"*

### **Purpose:**

*Command used to Commits staged changes with a descriptive message.*

### **Screenshot:**

```
PS C:\Users\Abbas Khan\git-assignment-020> git commit -m "first edition of repository upload"
[main (root-commit) a665120] first edition of repository upload
1 file changed, 0 insertions(+), 0 deletions(-)
create mode 100644 testfile.html
```

## 09. *git commit -a -m "your message"*

**Purpose:**

*It is used to automatically stage and commit all modified files in one step with a commit message.*

**Screenshot:**

```
PS C:\Users\Abbas Khan\git-assignment-020> git commit -a -m "hello!"
On branch main
nothing to commit, working tree clean
```

## **Commands for Status and Logs**

### **10. git status**

**Purpose:**

*This Command is used to show the current state of the working directory and staging area.*

**Screenshot:**

```
PS C:\Users\Abbas Khan\git-assignment-020> git status
On branch main
nothing to commit, working tree clean
```

### **11. git log**

**Purpose:**

*This command is used to display the commit history of the repository.*

**Screenshot:**

```
PS C:\Users\Abbas Khan\git-assignment-020> git log
commit a6651203f74cd444381ebae73634f3238bd89585 (HEAD -> main)
Author: abbas <abbas1795khan@gmail.com>
Date: Thu May 15 09:46:27 2025 +0500

    first edition of repository upload
```

### **12. git diff**

**Purpose:**

*This command is used to show that which lines have been added or removed.*

**Screenshot:**

```
PS C:\Users\Abbas Khan\git-assignment-020> git diff
```

### **13. git diff --staged**

**Purpose:**

*This command is used to show the changes between the staging area and the last commit.*

**Screenshot:**

```
PS C:\Users\Abbas Khan\git-assignment-020> git diff --staged
```

## **Commands on Branching**

### **14. Git branch**

**Purpose:**

*This command is used to list, create, or delete branches in a Git repository.*

**Screenshot:**

```
PS C:\Users\Abbas Khan\git-assignment-020> git branch
* main
```

### **15. Git branch -a**

**Purpose:**

*This command is used to list all branches, including:*

- Local branches (on computer)
- Remote branches (on GitHub)

**Screenshot:**

```
PS C:\Users\Abbas Khan\git-assignment-020> git branch -a
* main
```

## 16. *Git switch -c branch\_name*

### **Purpose:**

*This command is used to create a new branch and switch to it immediately.*

### **Screenshot:**

```
PS C:\Users\Abbas Khan\git-assignment-020> git switch -c sec_branch
Switched to a new branch 'sec_branch'
```

## 17. *Git switch branch\_name*

### **Purpose:**

*It is used to switch from your current branch to another existing branch in the Git repository.*

### **Screenshot:**

```
PS C:\Users\Abbas Khan\git-assignment-020> git switch main
Switched to branch 'main'
PS C:\Users\Abbas Khan\git-assignment-020> git switch sec_branch
Switched to branch 'sec_branch'
PS C:\Users\Abbas Khan\git-assignment-020> git switch main
Switched to branch 'main'
```

## 18. *Git branch -d branch\_name*

### **Purpose:**

*This command is used to delete the branch using the name of the branch.*

### **Screenshot:**

```
PS C:\Users\Abbas Khan\git-assignment-020> git branch -d sec_branch
Deleted branch sec_branch (was a665120).
```

## **Command for Merging**

### **19. Git merge branch\_name Purpose:**

*It is used to combine the changes from the specified branch into the current branch you're on.*

#### **Screenshot:**

```
PS C:\Users\Abbas Khan\git-assignment-020> git switch -c sec_branch
Switched to a new branch 'sec_branch'
PS C:\Users\Abbas Khan\git-assignment-020> git merge main
Already up to date.
PS C:\Users\Abbas Khan\git-assignment-020> git merge sec_branch
Already up to date.
```

## **Commands for Remote Repository**

### **20. git remote add origin <https://github.com/flickShot555/Planning-App.git>**

#### **Purpose:**

*This command adds a remote repository (on GitHub) and names it origin.*

#### **Screenshot:**

```
PS C:\Users\Abbas Khan\git-assignment-020> git remote add origin https://github.com/flickShot555/Planning-App.git
```

## **Commands for SSH setup**

### **21. Ssh-keygen -o**

#### **Purpose:**

*This command is used to generate a new SSH key pair (public and private keys) for secure authentication with GitHub or other services.*

#### **Screenshot:**



```

PS C:\Users\Abbas Khan\git-assignment-020> ssh-keygen -o
Generating public/private ed25519 key pair.
Enter file in which to save the key (C:\Users\Abbas Khan\.ssh/id_ed25519): main
Enter passphrase (empty for no passphrase):
Enter same passphrase again:
Your identification has been saved in main
Your public key has been saved in main.pub
The key fingerprint is:
SHA256:VTKl6WLl/vorScZndziT32belu4DHnY97ZiPub4HyUk abbas_khan@Abbas-Khan-s
The key's randomart image is:
+--[ED25519 256]--+
|
|   o+.
|   .=.
|   .+ .
|   .o o E
|   S. + o =o
|       =+%o=
|      oo=+X=
|      o.=+X
|      .=@&=
+-----[SHA256]-----+

```

## Commands for tags

### 22. Git tag -a v1.0 -m "version 1.0"

#### Purpose:

This command creates an annotated tag in Git with the name v1.0 and the message "version 1.0".

#### Screenshot:

```

PS C:\Users\Abbas Khan\git-assignment-020> git tag -a v1.0 -m "version 1.0"

```

### 23. Git show v1.0

#### Purpose:

This command is used to display detailed information about the tag v1.0 — including the commit it points to. **Screenshot:**

```

PS C:\Users\Abbas Khan\git-assignment-020> git show v1.0
tag v1.0
Tagger: abbas <abbas1795khan@gmail.com>
Date: Thu May 15 10:06:24 2025 +0500

version 1.0

commit a6651203f74cd444381ebae73634f3238bd89585 (HEAD -> sec_branch, tag: v1.0, main)
Author: abbas <abbas1795khan@gmail.com>
Date: Thu May 15 09:46:27 2025 +0500

    first edition of repository upload

diff --git a/testfile.html b/testfile.html
new file mode 100644
index 0000000..5d0de63
Binary files /dev/null and b/testfile.html differ

```

## 24. Git push origin v1.0

### **Purpose:**

*This command is used to push the tag v1.0 from your local repository to the remote repository.*

### **Screenshot:**

```
PS C:\Users\Abbas Khan\git-assignment-020> git push origin v1.0
Enumerating objects: 4, done.
Counting objects: 100% (4/4), done.
Delta compression using up to 4 threads
Compressing objects: 100% (3/3), done.
Writing objects: 100% (4/4), 410 bytes | 205.00 KiB/s, done.
Total 4 (delta 0), reused 0 (delta 0), pack-reused 0 (from 0)
To https://github.com/flickShot555/Planning-App.git
 * [new tag]          v1.0 -> v1.0
```

## 25. Git clone repository\_link

### **Purpose:**

*This command is used to create a full copy of a remote Git repository on your local machine.*

### **Screenshot:**

```
PS C:\Users\Abbas Khan\git-assignment-020> git clone https://github.com/flickShot555/Planning-App.git
Cloning into 'Planning-App'...
remote: Enumerating objects: 7, done.
remote: Counting objects: 100% (7/7), done.
remote: Compressing objects: 100% (5/5), done.
remote: Total 7 (delta 0), reused 7 (delta 0), pack-reused 0 (from 0)
Receiving objects: 100% (7/7), 29.96 KiB | 322.00 KiB/s, done.
```