

## Step 1 ;- Launch a Ubuntu machine with EC2 Instance

- Using Ubuntu AMI with t2.micro instance type
- Create key pair to securely connect to your instance
- Create A security group set firewall rules that control the traffic for your instance

The screenshot displays the AWS Management Console interface for the 'Instances' page in the 'ap-south-1' region. The console shows a single EC2 instance named 'git-demo-server' with the ID 'i-099d5f276165710f1'. The instance is in the 'Running' state and is of the 't2.micro' type. The status check shows '2/2 checks passed'. The instance is located in the 'ap-south-1a' availability zone. The console also displays the instance's public IPv4 address (13.232.233.109) and private IPv4 address (172.31.36.172). The instance's public IPv4 DNS is 'ec2-13-232-233-109.ap-south-1.compute.amazonaws.com' and its private IP DNS name is 'ip-172-31-36-172.ap-south-1.compute.internal'. The instance's IP name is 'ip-172-31-36-172.ap-south-1.compute.internal'.

Name	Instance ID	Instance state	Instance type	Status check	Alarm status	Availability Zone
git-demo-server	i-099d5f276165710f1	Running	t2.micro	2/2 checks passed	No alarms	ap-south-1a

**Instance: i-099d5f276165710f1 (git-demo-server)**

**Instance summary**

Instance ID	Public IPv4 address	Private IPv4 addresses
i-099d5f276165710f1 (git-demo-server)	13.232.233.109   <a href="#">open address</a>	172.31.36.172

IPv6 address	Instance state	Public IPv4 DNS
-	Running	ec2-13-232-233-109.ap-south-1.compute.amazonaws.com   <a href="#">open address</a>

Hostname type	Private IP DNS name (IPv4 only)
-	ip-172-31-36-172.ap-south-1.compute.internal

## Step 2;- Select the EC2 instance and click on Connect button

- Ubuntu terminals are ready to use

```
Welcome to Ubuntu 22.04.2 LTS (GNU/Linux 5.19.0-1025-aws x86_64)

* Documentation:  https://help.ubuntu.com
* Management:    https://landscape.canonical.com
* Support:       https://ubuntu.com/advantage

System information as of Fri Jul 21 15:55:22 UTC 2023

System load:  0.0029296875   Processes:            96
Usage of /:   20.6% of 7.57GB Users logged in:      0
Memory usage: 24%          IPv4 address for eth0: 172.31.36.172
Swap usage:   0%

Expanded Security Maintenance for Applications is not enabled.

0 updates can be applied immediately.

Enable ESM Apps to receive additional future security updates.
See https://ubuntu.com/esm or run: sudo pro status

The list of available updates is more than a week old.
To check for new updates run: sudo apt update

i-099d5f276165710f1 (git-demo-server)

PublicIPs: 13.232.233.109 PrivateIPs: 172.31.36.172
```

## Step 4;- Perform common git commands

- Create Program workspace(project directory) and add file in this.
- Echo is the command which is use to display the argument we passed.
- git init use to convert project directory into working directory.
- git init created a local repository.
- Add our files into staging area (i.e 1.txt & 2.txt)
- git add (1.txt 2.txt)to add file in local repository

Connect to instance | EC2 Manag x EC2 Instance Connect x +

ap-south-1.console.aws.amazon.com/ec2-instance-connect/ssh?connType=standard&instanceId=i-099d5f276165710f1&osUser=ubuntu&region=ap-south-1... Q

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```
ubuntu@ip-172-31-36-172:~$ mkdir dev-git-demo
ubuntu@ip-172-31-36-172:~$ cd dev-git-demo
ubuntu@ip-172-31-36-172:~/dev-git-demo$ echo "This is first file">1.txt
ubuntu@ip-172-31-36-172:~/dev-git-demo$ echo "This is second file">2.txt
ubuntu@ip-172-31-36-172:~/dev-git-demo$ ls
1.txt 2.txt
ubuntu@ip-172-31-36-172:~/dev-git-demo$ git init
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 /home/ubuntu/dev-git-demo/.git/
ubuntu@ip-172-31-36-172:~/dev-git-demo$
```

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Connect to instance | EC2 Manag x EC2 Instance Connect x +

ap-south-1.console.aws.amazon.com/ec2-instance-connect/ssh?connType=standard&instanceId=i-099d5f276165710f1&osUser=ubuntu&region=ap-south-1... Q

Gmail YouTube Maps Youtube Video Dow...

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```
ubuntu@ip-172-31-36-172:~/dev-git-demo$ git status
On branch master

No commits yet

Untracked files:
  (use "git add <file>..." to include in what will be committed)
    1.txt
    2.txt

nothing added to commit but untracked files present (use "git add" to track)
ubuntu@ip-172-31-36-172:~/dev-git-demo$
```

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Top Events Event Brief Search ENG IN 10:08 PM 7/21/2023

The screenshot shows a web browser window with two tabs: "Connect to instance | EC2 Manag..." and "EC2 Instance Connect". The address bar shows the URL: "ap-south-1.console.aws.amazon.com/ec2-instance-connect/ssh?connType=standard&instanceId=i-099d5f276165710f1&osUser=ubuntu&region=ap-south-1&ssh...". Below the browser window is the AWS CloudShell interface. The top bar includes the AWS logo, "Services", a search bar, and the user's name "arvind\_pandey". The terminal window shows the following commands and output:

```
ubuntu@ip-172-31-36-172:~/dev-git-demo$ git status
On branch master

No commits yet

Untracked files:
  (use "git add <file>..." to include in what will be committed)
        1.txt
        2.txt

nothing added to commit but untracked files present (use "git add" to track)
ubuntu@ip-172-31-36-172:~/dev-git-demo$ git add .
ubuntu@ip-172-31-36-172:~/dev-git-demo$ ls
1.txt  2.txt
ubuntu@ip-172-31-36-172:~/dev-git-demo$ git status
On branch master

No commits yet

Changes to be committed:
  (use "git rm --cached <file>..." to unstage)
        new file:   1.txt
        new file:   2.txt

ubuntu@ip-172-31-36-172:~/dev-git-demo$
```

The bottom bar of the CloudShell interface includes "CloudShell", "Feedback", "Language", and a copyright notice: "© 2023, Amazon Web Services India Private Limited or its affiliates." It also has links for "Privacy", "Terms", and "Cookie preferences". The system tray at the bottom shows the date and time: "10:14 PM 7/21/2023".

## Step 5;- Move Staging Area to Commit

- git commit save the file in local repository
- It's a temporary storage area (unstage)

Connect to instance | EC2 Manag x EC2 Instance Connect x +

ap-south-1.console.aws.amazon.com/ec2-instance-connect/ssh?connType=standard&instanceId=i-099d5f276165710f1&osUser=ubuntu&region=ap-south-1&ssh...

Gmail YouTube Maps Youtube Video Dow...

aws Services Search [Alt+S] Mumbai arvind\_pandey

```
ubuntu@ip-172-31-36-172:~/dev-git-demo$ git commit -m "Added 1.txt and 2.txt"
[master (root-commit) 8c6dadab] Added 1.txt and 2.txt
Committer: Ubuntu <ubuntu@ip-172-31-36-172.ap-south-1.compute.internal>
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. Run the
following command and follow the instructions in your editor to edit
your configuration file:

    git config --global --edit

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

    git commit --amend --reset-author

2 files changed, 2 insertions(+)
create mode 100644 1.txt
create mode 100644 2.txt
ubuntu@ip-172-31-36-172:~/dev-git-demo$
```

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## Step 6;- git log

- git log will give entire content of commit
- msg of an Author (who did this commit) and commit ID
- date and time along with commit msg or what user has done
- master is the Branch that we are using (default branch is Master)
- pointer to the latest commit is called as Head (it will refer to the latest commit)

Connect to instance | EC2 Manag x EC2 Instance Connect x +

ap-south-1.console.aws.amazon.com/ec2-instance-connect/ssh?connType=standard&instanceId=i-099d5f276165710f1&osUser=ubuntu&region=ap-south-1&ssh...

Gmail YouTube Maps Youtube Video Dow...

aws Services Search [Alt+S] Mumbai arvind\_pandey

```
ubuntu@ip-172-31-36-172:~/dev-git-demo$ git log
commit 8c6dadbf6c4c43eaaa07ebe001ff4302aab203ca (HEAD -> master)
Author: Ubuntu <ubuntu@ip-172-31-36-172.ap-south-1.compute.internal>
Date: Fri Jul 21 16:50:18 2023 +0000

    Added 1.txt and 2.txt
ubuntu@ip-172-31-36-172:~/dev-git-demo$
```

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## Step 7:-

- Add a Third file

Connect to instance | EC2 Manag x EC2 Instance Connect x +

ap-south-1.console.aws.amazon.com/ec2-instance-connect/ssh?connType=standard&instanceId=i-099d5f276165710f1&osUser=ubuntu&region=ap-south-1&ssh...

Gmail YouTube Maps Youtube Video Dow...

aws Services Search [Alt+S] Mumbai arvind\_pandey

```
Added 1.txt and 2.txt
ubuntu@ip-172-31-36-172:~/dev-git-demo$ echo "This is the Third file"> 3.txt
ubuntu@ip-172-31-36-172:~/dev-git-demo$ ls
1.txt 2.txt 3.txt
ubuntu@ip-172-31-36-172:~/dev-git-demo$ git add 3.txt
ubuntu@ip-172-31-36-172:~/dev-git-demo$ git status
On branch master
Changes to be committed:
  (use "git restore --staged <file>..." to unstage)
        new file:   3.txt

ubuntu@ip-172-31-36-172:~/dev-git-demo$ git commit -m "Added 3.txt"
[master a6a15f8] Added 3.txt
Committer: Ubuntu <ubuntu@ip-172-31-36-172.ap-south-1.compute.internal>
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. Run the
following command and follow the instructions in your editor to edit
your configuration file:

    git config --global --edit

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

    git commit --amend --reset-author
```

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Connect to instance | EC2 Manag x EC2 Instance Connect x +

ap-south-1.console.aws.amazon.com/ec2-instance-connect/ssh?connType=standard&instanceId=i-099d5f276165710f1&osUser=ubuntu&region=ap-south-1&ssh...

Gmail YouTube Maps Youtube Video Dow...

aws Services Search [Alt+S] Mumbai arvind\_pandey

```
git config --global --edit
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 3.txt
ubuntu@ip-172-31-36-172:~/dev-git-demo$ git log
commit a6a15f87fe2400743b918946be77ad538ba00c47 (HEAD -> master)
Author: Ubuntu <ubuntu@ip-172-31-36-172.ap-south-1.compute.internal>
Date:   Fri Jul 21 17:08:56 2023 +0000

    Added 3.txt

commit 8c6dadbf6c4c43eaaa07ebe001ff4302aab203ca
Author: Ubuntu <ubuntu@ip-172-31-36-172.ap-south-1.compute.internal>
Date:   Fri Jul 21 16:50:18 2023 +0000

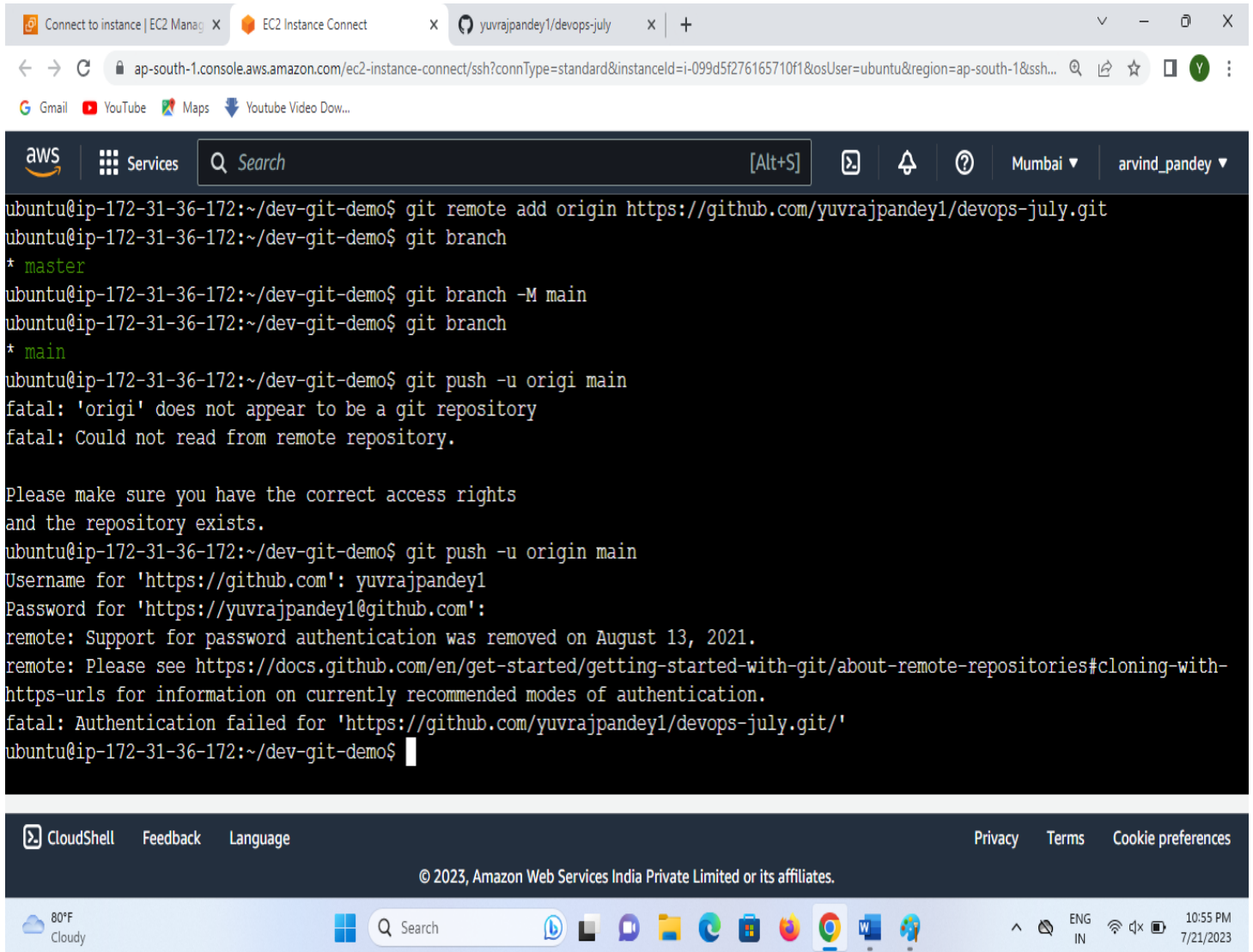
    Added 1.txt and 2.txt
ubuntu@ip-172-31-36-172:~/dev-git-demo$
```

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## Step 8 ;- Push all changes into GitHub account

- Create a repository in GitHub
- Copy remote repository command
- Change branch name master to main



The screenshot shows a terminal window within the AWS CloudShell interface. The terminal output is as follows:

```
ubuntu@ip-172-31-36-172:~/dev-git-demo$ git remote add origin https://github.com/yuvrajpandey1/devops-july.git
ubuntu@ip-172-31-36-172:~/dev-git-demo$ git branch
* master
ubuntu@ip-172-31-36-172:~/dev-git-demo$ git branch -M main
ubuntu@ip-172-31-36-172:~/dev-git-demo$ git branch
* main
ubuntu@ip-172-31-36-172:~/dev-git-demo$ git push -u origi main
fatal: 'origi' does not appear to be a git repository
fatal: Could not read from remote repository.

Please make sure you have the correct access rights
and the repository exists.
ubuntu@ip-172-31-36-172:~/dev-git-demo$ git push -u origin main
Username for 'https://github.com': yuvrajpandey1
Password for 'https://yuvrajpandey1@github.com':
remote: Support for password authentication was removed on August 13, 2021.
remote: Please see https://docs.github.com/en/get-started/getting-started-with-git/about-remote-repositories#cloning-with-https-urls for information on currently recommended modes of authentication.
fatal: Authentication failed for 'https://github.com/yuvrajpandey1/devops-july.git/'
ubuntu@ip-172-31-36-172:~/dev-git-demo$
```

The CloudShell interface includes a top navigation bar with the AWS logo, 'Services' link, a search bar, and the user's location 'Mumbai' and name 'arvind\_pandey'. The bottom status bar shows the weather as '80°F Cloudy', a Windows taskbar with various application icons, and system information including 'ENG IN', signal strength, and the time '10:55 PM 7/21/2023'.



## Step 9;- Generate PAT (Personal Access Token) to overcome this error

### ➤ Steps to create Personal Access Token

1. Go to the GitHub profile to settings
2. From settings go to Developer settings
3. <https://github.com/settings/apps>
4. Personal access tokens->Tokens(classic)
5. Generate new token

```
aws
Services
Search [Alt+S]
Mumbai arvind_pandey

ubuntu@ip-172-31-36-172:~/dev-git-demo$ git push -u origin main
Username for 'https://github.com': yuvrajpandey1
Password for 'https://yuvrajpandey1@github.com':
Enumerating objects: 7, done.
Counting objects: 100% (7/7), done.
Compressing objects: 100% (4/4), done.
Writing objects: 100% (7/7), 504 bytes | 504.00 KiB/s, done.
Total 7 (delta 2), reused 0 (delta 0), pack-reused 0
remote: Resolving deltas: 100% (2/2), done.
To https://github.com/yuvrajpandey1/devops-july.git
 * [new branch]      main -> main
Branch 'main' set up to track remote branch 'main' from 'origin'.
ubuntu@ip-172-31-36-172:~/dev-git-demo$
```

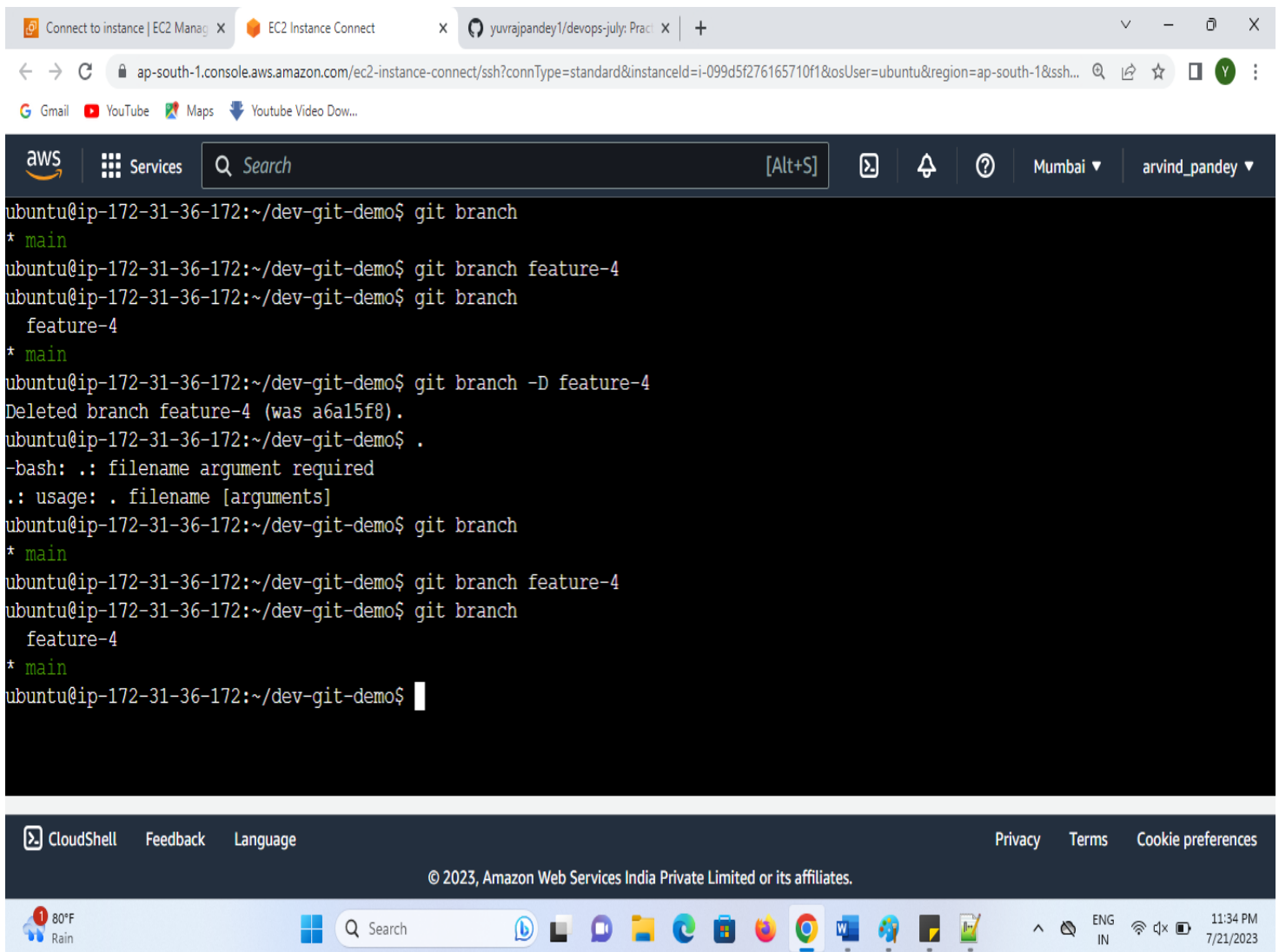
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80°F Rain to stop Search ENG IN 11:15 PM 7/21/2023

## Step 10;- What are the need of the Branch

- If you want to add new file we should not directly push to Master Branch
- Create a new Branch under Master Branch and then push new file
- Master/Main branch will contain only the finalized code
- Only Main code will be their in Master/Main Branch
- If any error or defect is their in Branch it will Not effect the Master/Main Branch
- After doing changes at last we can merge in Master/Main Branch
- Created new branch feature-4 (git branch feature-4)



```
ubuntu@ip-172-31-36-172:~/dev-git-demo$ git branch
* main
ubuntu@ip-172-31-36-172:~/dev-git-demo$ git branch feature-4
ubuntu@ip-172-31-36-172:~/dev-git-demo$ git branch
feature-4
* main
ubuntu@ip-172-31-36-172:~/dev-git-demo$ git branch -D feature-4
Deleted branch feature-4 (was a6a15f8).
ubuntu@ip-172-31-36-172:~/dev-git-demo$ .
-bash: .: filename argument required
.: usage: . filename [arguments]
ubuntu@ip-172-31-36-172:~/dev-git-demo$ git branch
* main
ubuntu@ip-172-31-36-172:~/dev-git-demo$ git branch feature-4
ubuntu@ip-172-31-36-172:~/dev-git-demo$ git branch
feature-4
* main
ubuntu@ip-172-31-36-172:~/dev-git-demo$
```



