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AWS Project.

Linux-Based Self-Hosted Cloud Storage (Nextcloud) .

Objective :

To design and deploy a secure, reliable, and scalable private cloud storage solution using **Nextcloud** on an Ubuntu server. The aim is to provide a feature-rich alternative to commercial platforms like Google Drive or Dropbox, while maintaining full data privacy and control through self-hosting.

Overview :

This project involves the **deployment and configuration of Nextcloud**, an open-source, self-hosted cloud platform, on an **Ubuntu Linux server**. The primary objective is to provide a **private, secure, and cost-effective cloud storage system** for individuals or organizations that prefer complete control over their data without relying on third-party services like Google Drive, Dropbox, or OneDrive.

What is Nextcloud?

Nextcloud is an open-source cloud platform that provides features like file storage, syncing, sharing, calendar, contacts, and integrated office tools (OnlyOffice/Collabora). It supports end-to-end encryption and user control. Self-hosting it ensures full data privacy, security, and customization.

- Key Components:**

1. **OS:** Ubuntu 20.04/22.04 LTS for stability and security.
2. **Installation:** Snap, Docker, or manual (Apache/Nginx + PHP + MariaDB/PostgreSQL).
3. **Access:** Web, mobile (Android/iOS), and desktop clients.
4. **Sharing:** Secure links with passwords, expiry dates, and user-specific access.
5. **Storage:** Local or external drives with quota and permission control.
6. **Security:** HTTPS (Let's Encrypt), 2FA, Fail2Ban, and optional encryption.
7. **Scalability:** Easily scales for individuals, teams, or enterprises.

- Use Cases:**

- Personal cloud
 - Education content sharing
 - Business file management
 - NGO data sharing
-

- **Benefits:**

- 100% data ownership
- No subscription costs
- Full control over privacy and security
- Remote access across devices
- Expandable with community apps

EC2 Setup for Nextcloud

- **Instance Name:** your custom name (e.g., server)
- **AMI:** Ubuntu 22.04 LTS
- **Instance Type:** t2.large (2 vCPU, 8 GB RAM)
- **Key Pair:** Create or use existing (for SSH access)
- **Storage:** 30 GB root volume (SSD)
- **Security Group (Inbound Ports):**
 - 22 (SSH)
 - 80 (HTTP)
 - 587 (SMTP)
 - 3000–11000 (Custom apps/monitoring)
 - 422 (Custom)

The screenshot shows the AWS EC2 'Launch an instance' wizard. The process is at Step 1: Set instance details.

Name and tags: The instance is named 'server'. There is a button to 'Add additional tags'.

Application and OS Images (Amazon Machine Image): A search bar is shown, and a grid of recent AMIs includes Amazon Linux, macOS, Ubuntu, Windows, Red Hat, and SUSE Linux. A 'Quick Start' tab is selected.

Summary: Shows 1 instance being launched. Configuration details include:

- Software Image (AMI)**: Amazon Linux 2023 AMI 2023.7.2... (read more)
- Virtual server type (instance type)**: t2.micro
- Firewall (security group)**: New security group
- Storage (volumes)**: 1 volume(s) - 8 GiB

At the bottom right are 'Cancel', 'Launch instance', and 'Preview code' buttons.

The browser address bar shows: us-east-2.console.aws.amazon.com/ec2/home?region=us-east-2#LaunchInstances:.

Create a Key Pair.

The screenshot shows the 'Create key pair' step in the 'Launch an instance' wizard. A modal window titled 'Create key pair' is open, prompting for a 'Key pair name' (drive-server-key) and a 'Key pair type' (RSA). It also specifies a 'Private key file format' (.pem). A warning message at the bottom of the modal advises storing the private key securely. The background shows the 'Summary' section with details like the AMI, instance type (t2.large), and security group.

Select instance type.

The screenshot shows the 'Select instance type' step in the 'Launch an instance' wizard. The 'Instance type' dropdown is set to 't2.large'. The 'Summary' section on the right shows the selected instance type as 't2.large', along with other configuration details like the AMI and storage.

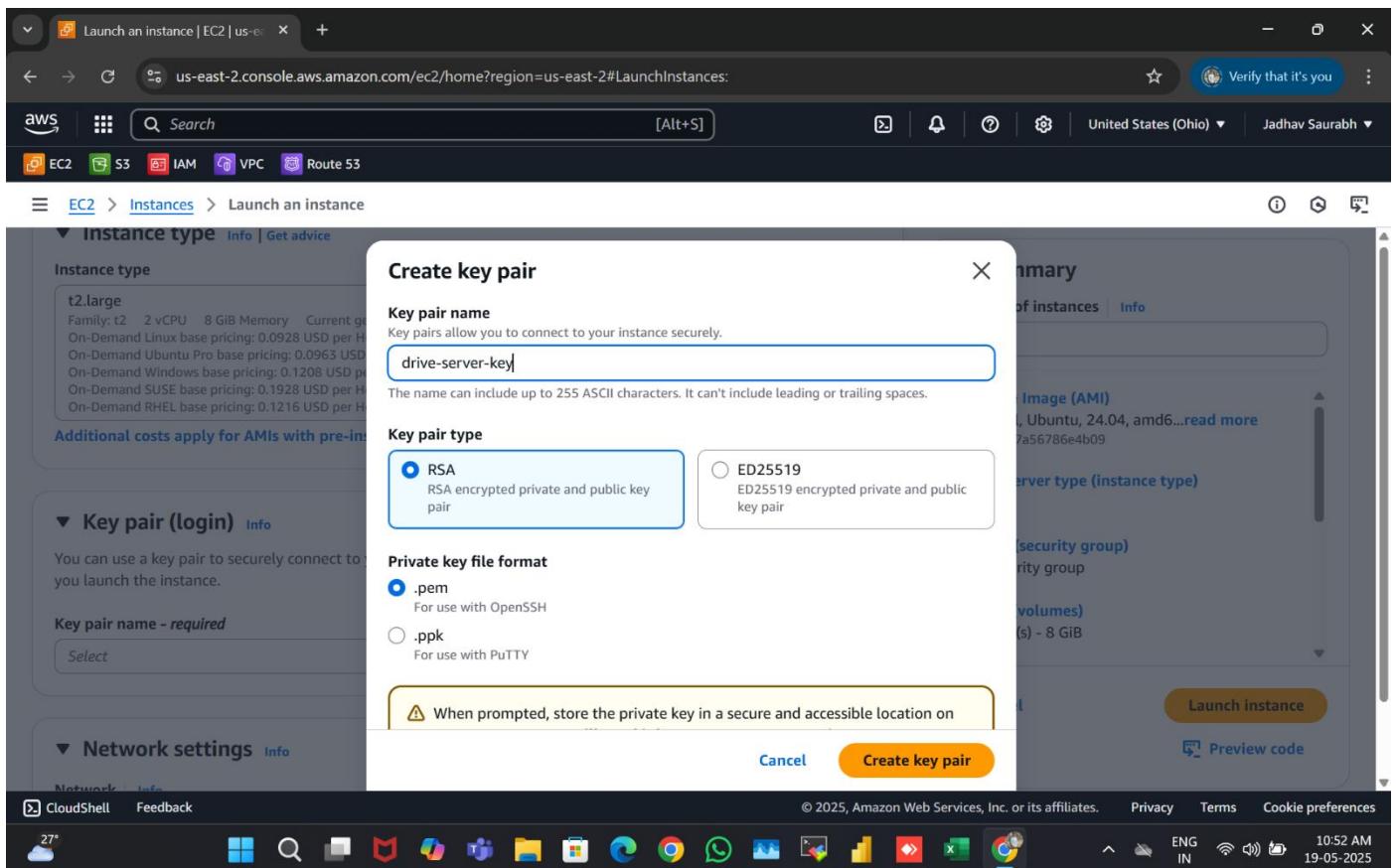
Select Security Group.

The screenshot shows the 'Launch an instance' wizard in the AWS EC2 console. The current step is 'Firewall (security groups)'. Under 'Common security groups', a dropdown menu is open, showing 'Primary-SG sg-0cf1ea1415240ff8 X'. A note below says: 'Security groups that you add or remove here will be added to or removed from all your network interfaces.' To the right, the 'Summary' section shows 'Number of instances' as 1, 'Software Image (AMI)' as Canonical, Ubuntu, 24.04, amd64..., 'Virtual server type (instance type)' as t2.large, and 'Firewall (security group)' as Primary-SG. At the bottom right are 'Cancel', 'Launch instance', and 'Preview code' buttons.

Successfully Launch instance and copy public ip.

The screenshot shows the 'Instances' page in the AWS EC2 console. On the left, the navigation pane is expanded to show 'EC2' selected. The main area displays 'Instances (1/1)' with a single instance listed: 'i-07cb8c68c71dc8a91 (server)'. The instance is shown as 'Running' with the status 't2.large'. Below the instance table, the 'Details' tab is selected for the instance 'i-07cb8c68c71dc8a91'. In the 'Instance summary' section, the 'Public IPv4 address' is listed as '3.144.106.163 | open address'. The 'Networking' tab also lists the public IP address. The bottom of the screen shows the Windows taskbar with various pinned icons and the date/time as 19-05-2025.

Connect to EC2 via SSH and Upload your Private Key.



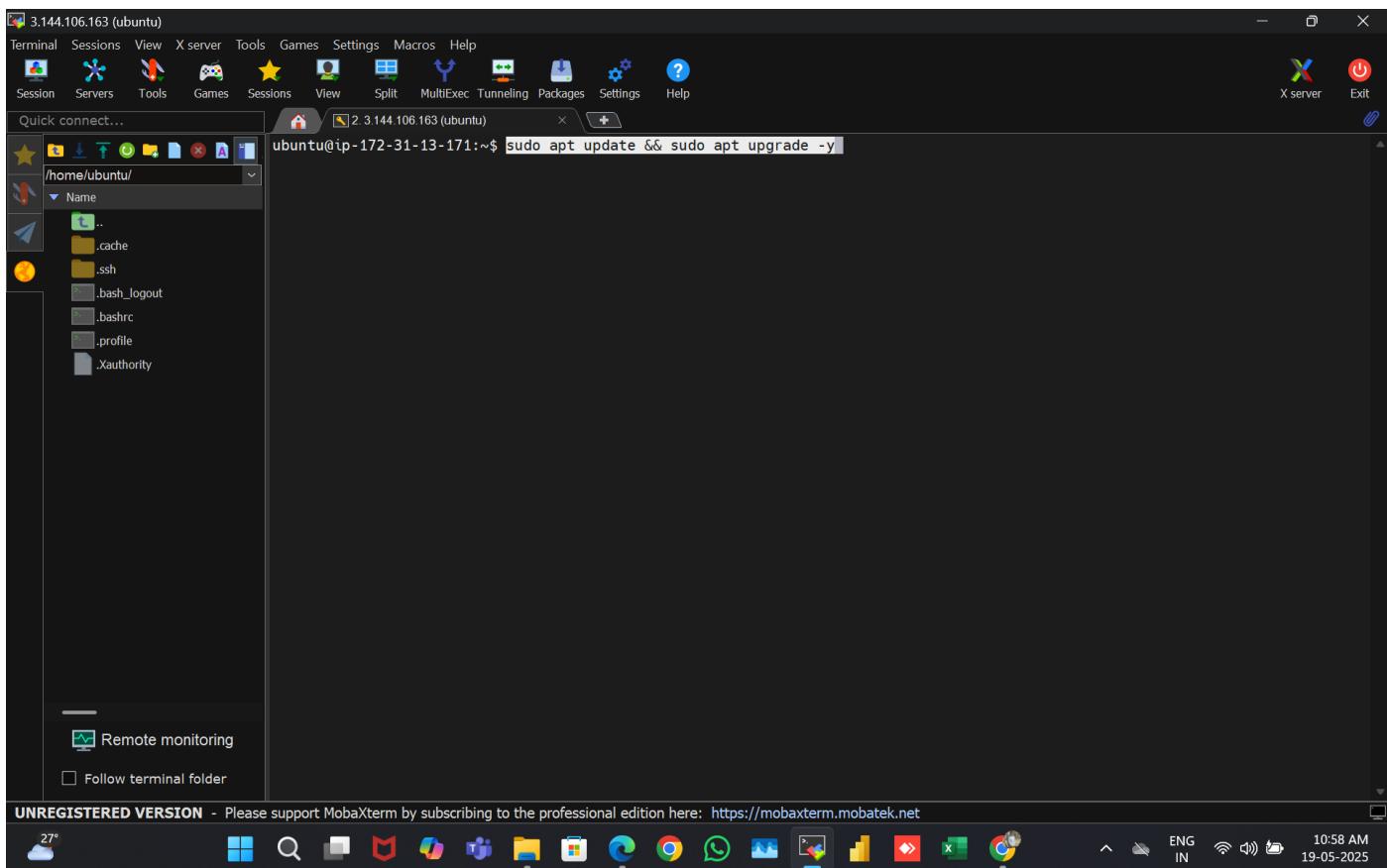
Step 1 : Install Ubuntu & Update System

Set up a clean, secure, and stable Ubuntu environment to host Nextcloud by updating all system packages and dependencies.

Ensure your Ubuntu system is up to date :

```
sudo apt update && sudo apt upgrade -y
```

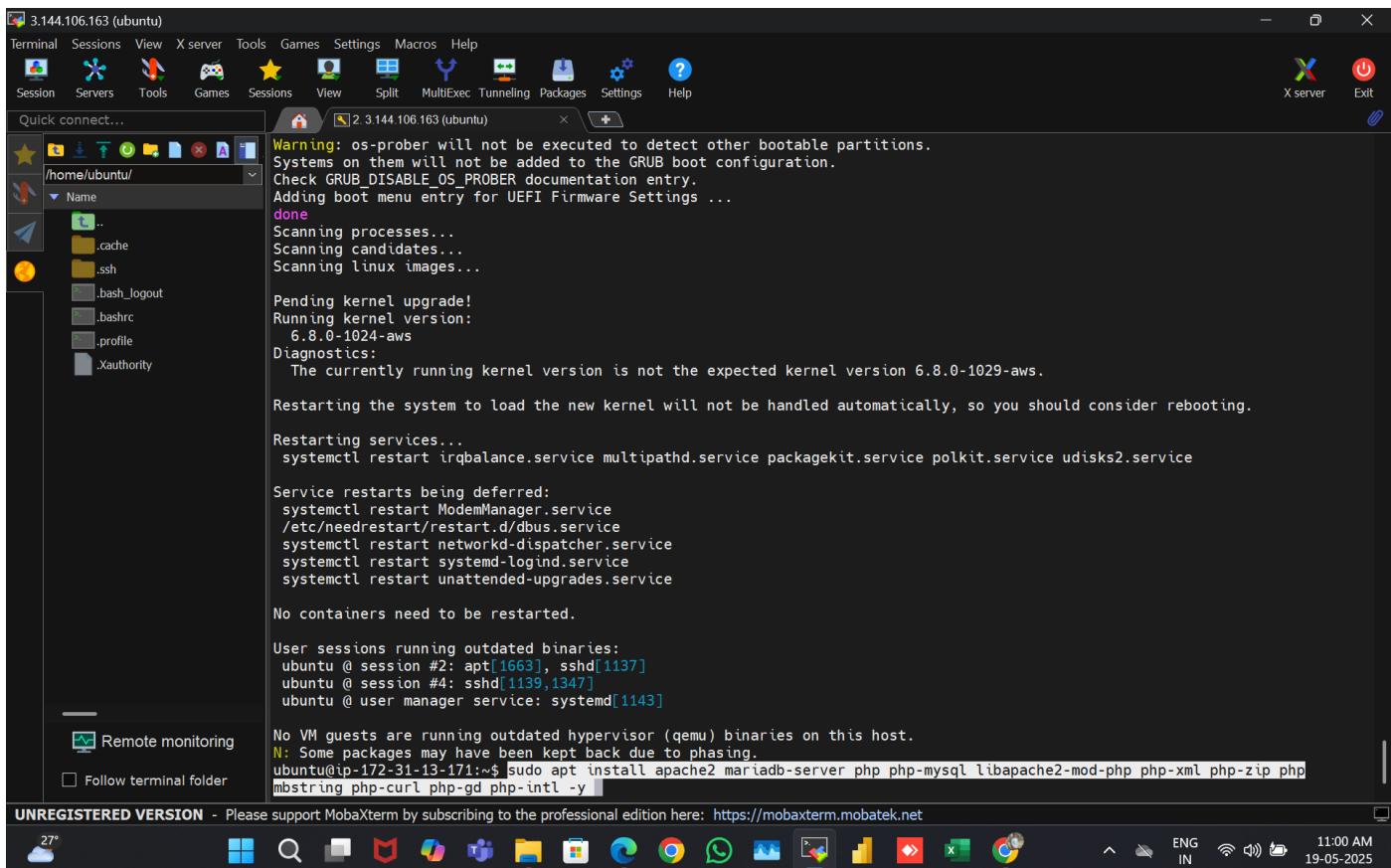
- Fetches the latest list of available packages and their versions from Ubuntu repositories. It doesn't install or upgrade anything.
- Installs the latest versions of all installed packages and applies system updates. The `-y` flag automatically confirms the upgrades.



2. Install Required Packages

Install Apache, PHP, and MariaDB:

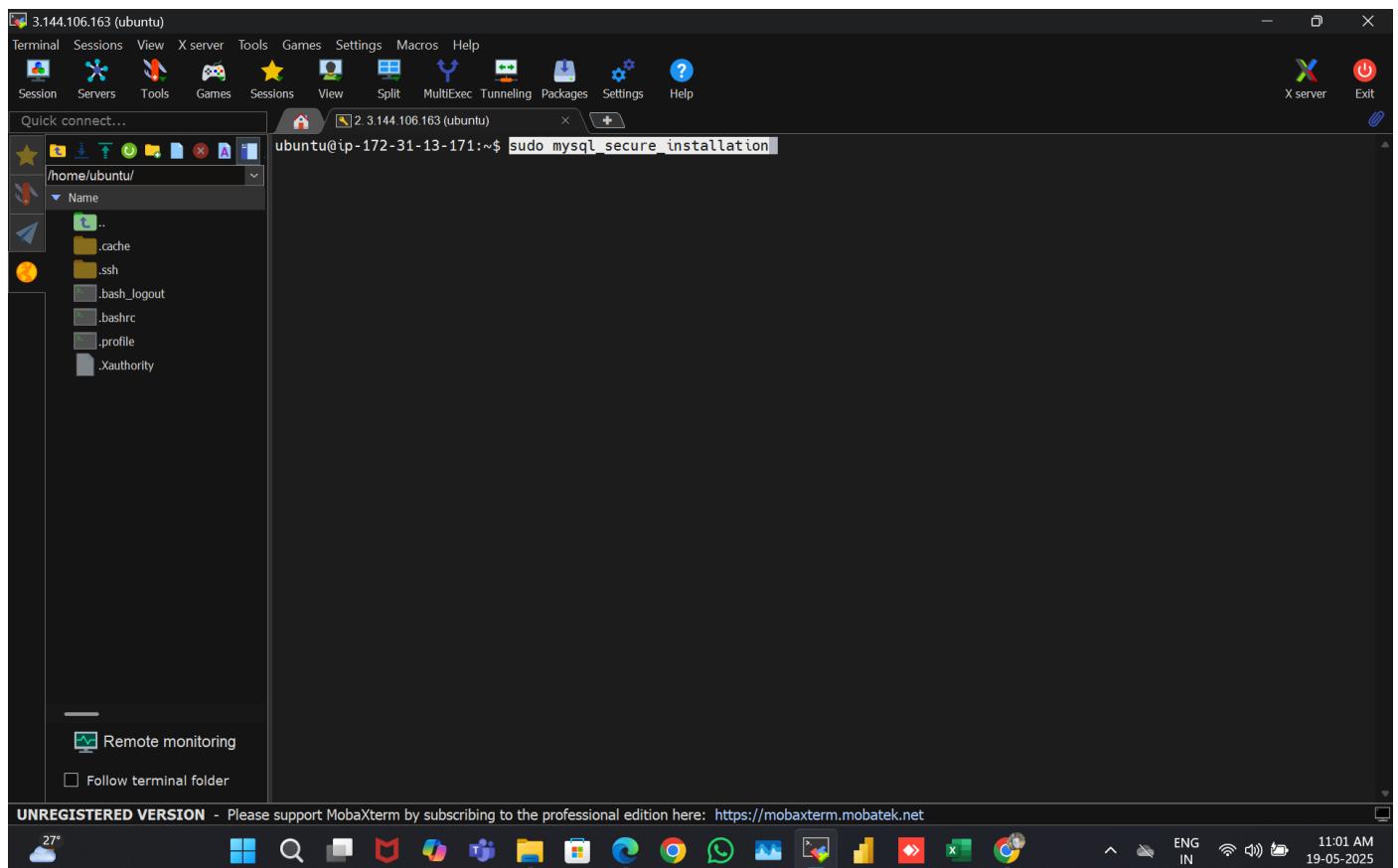
```
sudo apt install apache2 mariadb-server php php-mysql libapache2-mod-php php-xml php-zip  
php mbstring php-curl php-gd php-intl -y
```



3 . Secure MariaDB Database

sudo mysql_secure_installation

- Set a strong root password.
- Remove anonymous users.
- Disable remote root login.



4. Create Nextcloud Database & User

sudo mysql -u root -p

CREATE DATABASE nextcloud;

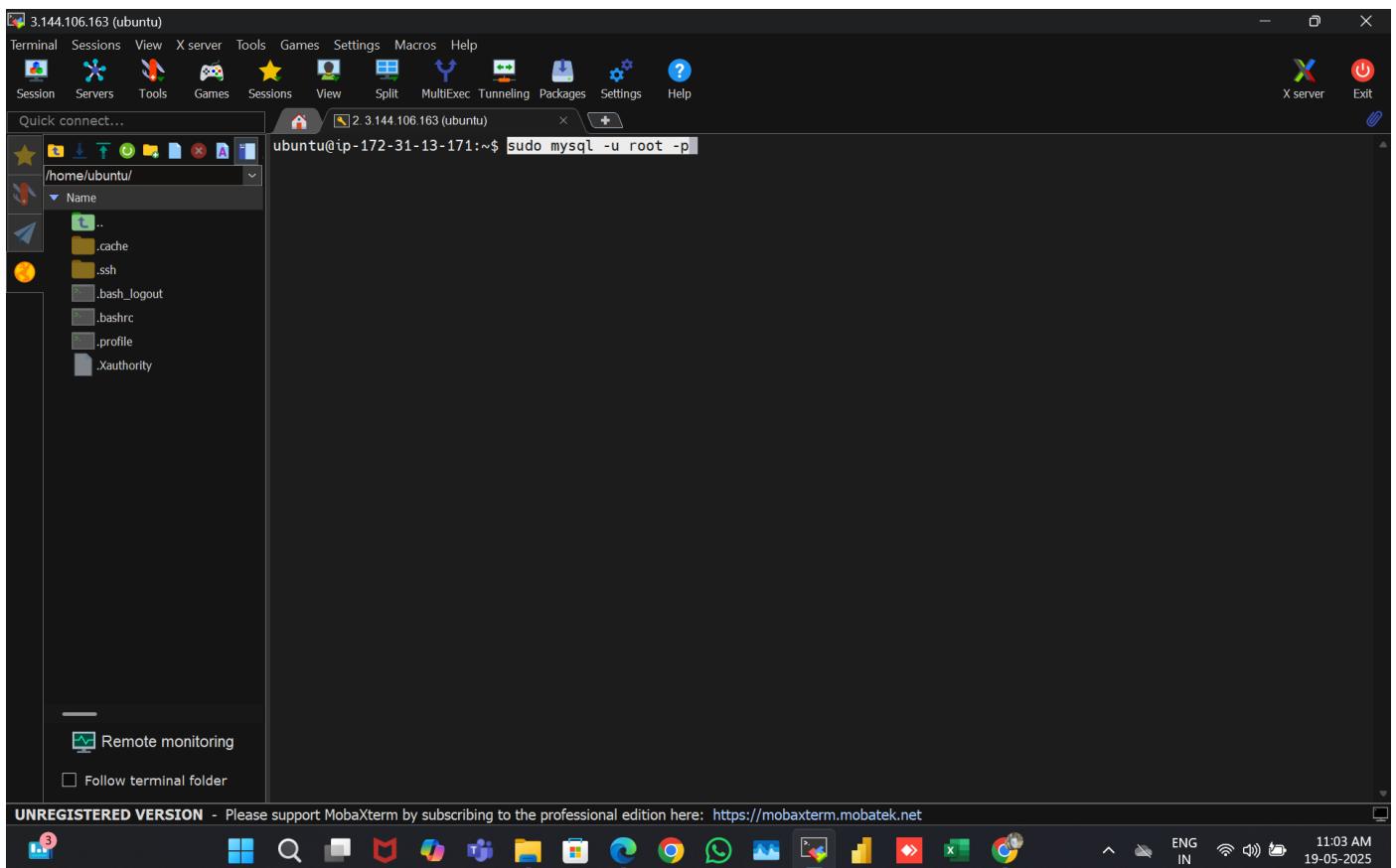
CREATE USER 'nextclouduser'@'localhost' IDENTIFIED BY 'YourStrongPassword';

GRANT ALL PRIVILEGES ON nextcloud.* TO 'nextclouduser'@'localhost';

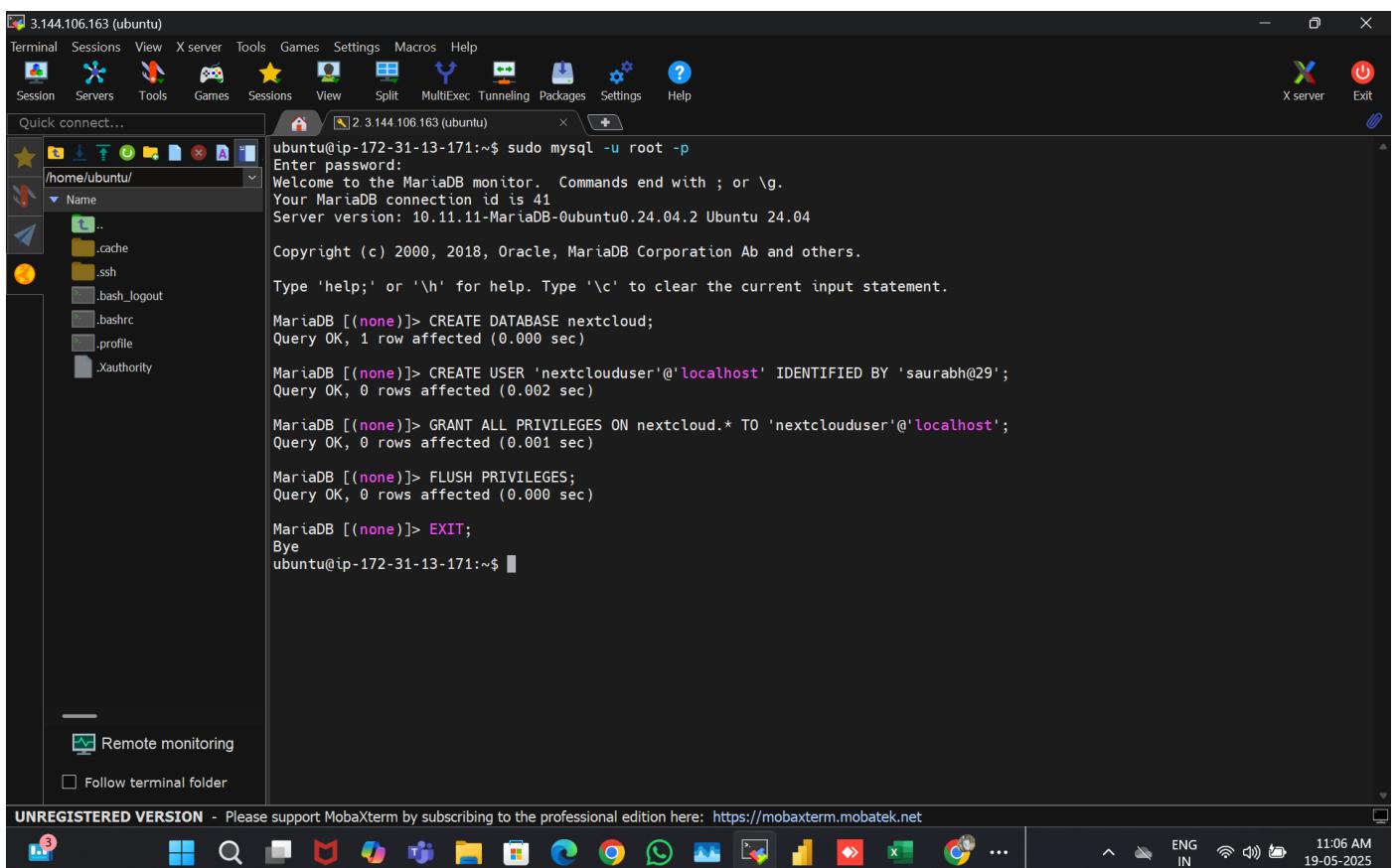
FLUSH PRIVILEGES;

EXIT;

Set up a dedicated database and user in **MariaDB/MySQL** for Nextcloud to store its application data (users, files metadata, settings, etc.).



Run this query .



5 . Download & Install Nextcloud

```
cd /var/www/
```

```
sudo wget https://download.nextcloud.com/server/releases/latest.tar.bz2
```

Download the latest stable version of Nextcloud and prepare it for web server deployment.

The screenshot shows the MobaXterm interface. On the left, there's a file browser window showing the contents of the `/home/ubuntu/` directory. In the main terminal window, the user is connected to a MySQL database as root. They run several commands to create a database named `nextcloud`, a user `nextclouduser` with password `saaurabh@29`, and grant all privileges to the user. After exiting MySQL, they change directory to `/var/www/` and download the latest Nextcloud tar archive from the official website using `wget`. The download progress is shown as 100% complete at 216.23M with a speed of 15.3MB/s. The terminal prompt ends with `ubuntu@ip-172-31-13-171:/var/www\$`.

```
ubuntu@ip-172-31-13-171:~$ sudo mysql -u root -p
Enter password:
Welcome to the MariaDB monitor.  Commands end with ; or \g.
Your MariaDB connection id is 41
Server version: 10.11.11-MariaDB-0ubuntu0.24.04.2 Ubuntu 24.04

Copyright (c) 2000, 2018, Oracle, MariaDB Corporation Ab and others.

Type 'help;' or '\h' for help. Type '\c' to clear the current input statement.

MariaDB [(none)]> CREATE DATABASE nextcloud;
Query OK, 1 row affected (0.000 sec)

MariaDB [(none)]> CREATE USER 'nextclouduser'@'localhost' IDENTIFIED BY 'saaurabh@29';
Query OK, 0 rows affected (0.002 sec)

MariaDB [(none)]> GRANT ALL PRIVILEGES ON nextcloud.* TO 'nextclouduser'@'localhost';
Query OK, 0 rows affected (0.001 sec)

MariaDB [(none)]> FLUSH PRIVILEGES;
Query OK, 0 rows affected (0.000 sec)

MariaDB [(none)]> EXIT;
Bye
ubuntu@ip-172-31-13-171:~$ cd /var/www/
sudo wget https://download.nextcloud.com/server/releases/latest.tar.bz2
--2025-05-19 05:37:57-  https://download.nextcloud.com/server/releases/latest.tar.bz2
Resolving download.nextcloud.com (download.nextcloud.com)... 5.9.202.145, 2a01:4f8:210:21c8::145
Connecting to download.nextcloud.com (download.nextcloud.com)|5.9.202.145|:443... connected.
HTTP request sent, awaiting response... 200 OK
Length: 226737152 (216M) [application/x-bzip2]
Saving to: 'latest.tar.bz2'

latest.tar.bz2          100%[=====] 216.23M  15.3MB/s   in 35s
2025-05-19 05:38:32 (6.23 MB/s) - 'latest.tar.bz2' saved [226737152/226737152]
ubuntu@ip-172-31-13-171:/var/www$
```

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Ensure the bzip2 compression tool is available to extract the .tar.bz2 Nextcloud archive.

```
sudo apt update
```

```
sudo apt install bzip2 -y
```

The screenshot shows the MobaXterm interface again. This time, a modal dialog box is overlaid on the terminal window, asking if the user wants to paste the following lines into the terminal. The lines are `sudo apt update` and `sudo apt install bzip2 -y`. Below the dialog, the terminal shows the MySQL session and the download of the Nextcloud tar archive. The dialog has an 'OK' button and a 'Cancel' button. At the bottom of the screen, a taskbar shows various application icons.

```
ubuntu@ip-172-31-13-171:~$ sudo mysql -u root -p
Enter password:
Welcome to the MariaDB monitor.  Commands end with ; or \g.
Your MariaDB connection id is 41
Server MobaXterm paste confirmation

Copyright (c) 2000, 2018, Oracle, MariaDB Corporation Ab and others.

Type 'help;' or '\h' for help. Type '\c' to clear the current input statement.

MariaDB [(none)]> You are about to paste the following lines:
Type 'I' to ignore them, 'O' to paste them into the terminal, or 'C' to cancel.
      sudo apt update
      sudo apt install bzip2 -y
      Query OK
      MariaDB [(none)]> Query OK
      MariaDB [(none)]> Query OK
      MariaDB [(none)]> Each line will be pasted into the terminal and may be executed if you are inside an interactive shell.
      Query OK
      Are you sure you want to continue?
      MariaDB [(none)]> Bye
      Ubuntu
      sudo w
      --2025
      Resolv  □ Do not show this message again
      Connecting to download.nextcloud.com (download.nextcloud.com)|5.9.202.145|:443... connected.
      HTTP request sent, awaiting response... 200 OK
      Length: 226737152 (216M) [application/x-bzip2]
      Saving to: 'latest.tar.bz2'

      latest.tar.bz2          100%[=====] 216.23M  15.3MB/s   in 35s
      2025-05-19 05:38:32 (6.23 MB/s) - 'latest.tar.bz2' saved [226737152/226737152]
      ubuntu@ip-172-31-13-171:/var/www$
```

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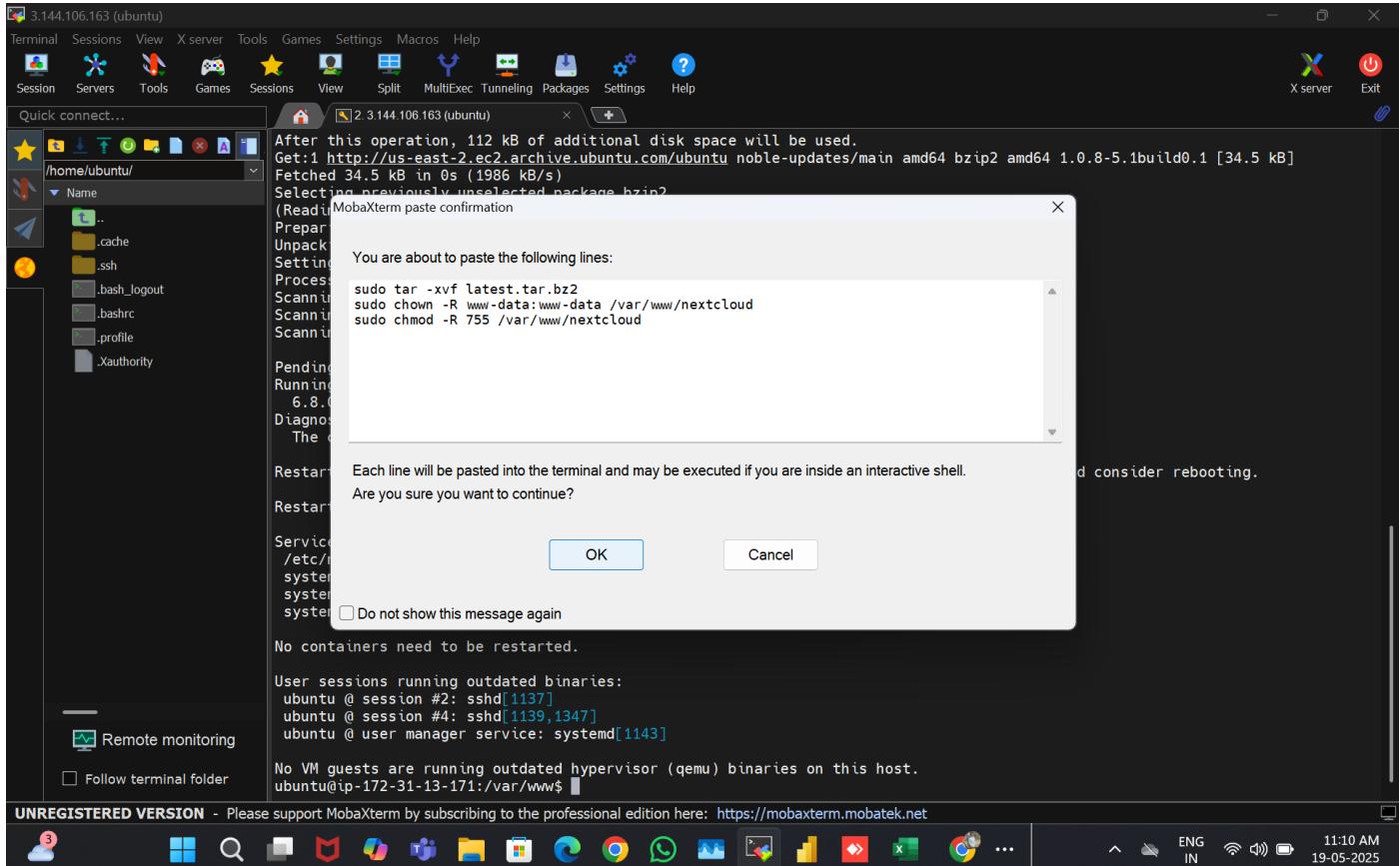
Extract & Set Permissions for Nextcloud

Unpack the Nextcloud archive and configure proper ownership and permissions so the web server (Apache/Nginx) can access and manage the files securely.

```
sudo tar -xvf latest.tar.bz2
```

```
sudo chown -R www-data:www-data /var/www/nextcloud
```

```
sudo chmod -R 755 /var/www/nextcloud
```



6. Configure Apache for Nextcloud

Create a new Apache configuration file :

Set up Apache web server to serve the Nextcloud application by creating a dedicated virtual host configuration.

```
sudo vi /etc/apache2/sites-available/nextcloud.conf
```

Add the following:

```
<VirtualHost *:80>
```

```
ServerAdmin 567adddi.jais@gmail.com
```

```
DocumentRoot /var/www/nextcloud
```

```
ServerName skjptpp.in
```

```
<Directory /var/www/nextcloud/>
```

Require all granted

AllowOverride All

Options FollowSymLinks MultiViews

</Directory>

ErrorLog \${APACHE_LOG_DIR}/nextcloud_error.log

CustomLog \${APACHE_LOG_DIR}/nextcloud_access.log combined

</VirtualHost>

The screenshot shows the MobaXterm interface on a Windows host. A terminal window titled 'ubuntu' is open, displaying the Apache configuration file for NextCloud. The configuration includes directives for the root directory, such as 'Require all granted', 'AllowOverride All', 'Options FollowSymLinks MultiViews', and specific log settings for error and access logs.

```
<VirtualHost *:80>
ServerAdmin ssjadhav292001@gmail.com
DocumentRoot /var/www/nextcloud
ServerName saurabhcloud.fun
<Directory /var/www/nextcloud/>
    Require all granted
    AllowOverride All
    Options FollowSymLinks MultiViews
</Directory>
ErrorLog ${APACHE_LOG_DIR}/nextcloud_error.log
CustomLog ${APACHE_LOG_DIR}/nextcloud_access.log combined
</VirtualHost>
```

This screenshot is similar to the one above, but the terminal window is taller, showing more of the Apache configuration file. The configuration remains the same, defining a virtual host for port 80 with specific directives for the NextCloud directory.

```
<VirtualHost *:80>
ServerAdmin ssjadhav292001@gmail.com
DocumentRoot /var/www/nextcloud
ServerName saurabhcloud.fun
<Directory /var/www/nextcloud/>
    Require all granted
    AllowOverride All
    Options FollowSymLinks MultiViews
</Directory>
ErrorLog ${APACHE_LOG_DIR}/nextcloud_error.log
CustomLog ${APACHE_LOG_DIR}/nextcloud_access.log combined
</VirtualHost>
```

Save and exit.

Point Your Domain to Your EC2 Instance

To make (saurabhcloud.fun) point to your EC2 instance:

Step-by-step:

1. Log in to your domain registrar's website
(e.g., GoDaddy, Namecheap, Hostinger, etc.)
2. Go to DNS Management or DNS Zone Editor
3. Create or edit an “A” Record:
 - o Host/Name: (or @ if you're pointing the root domain like saurabhcloud.fun)
 - o Type: A
 - o Value: Your EC2 Public IPv4 Address
 - o TTL: 300 or default
4. Save the record .

The screenshot shows the 'DNS / Nameservers' section of the hpanel.hostinger.com interface. The left sidebar has 'Main menu', 'Domain Overview', 'DNS / Nameservers' (which is selected and highlighted in purple), and 'Domain Ownership'. The right panel title is 'ns2.dns-parking.com'. It features a 'Change Nameservers' button and a 'Manage DNS records' section. Below it is a table for managing DNS records, with a single entry for a CNAME record named 'www' pointing to 'saurabhcloud.fun' with a TTL of 300. The bottom status bar shows various icons and the date/time '19-05-2025 11:16 AM'.

Type	Name	Content	TTL
CNAME	www	saurabhcloud.fun	300

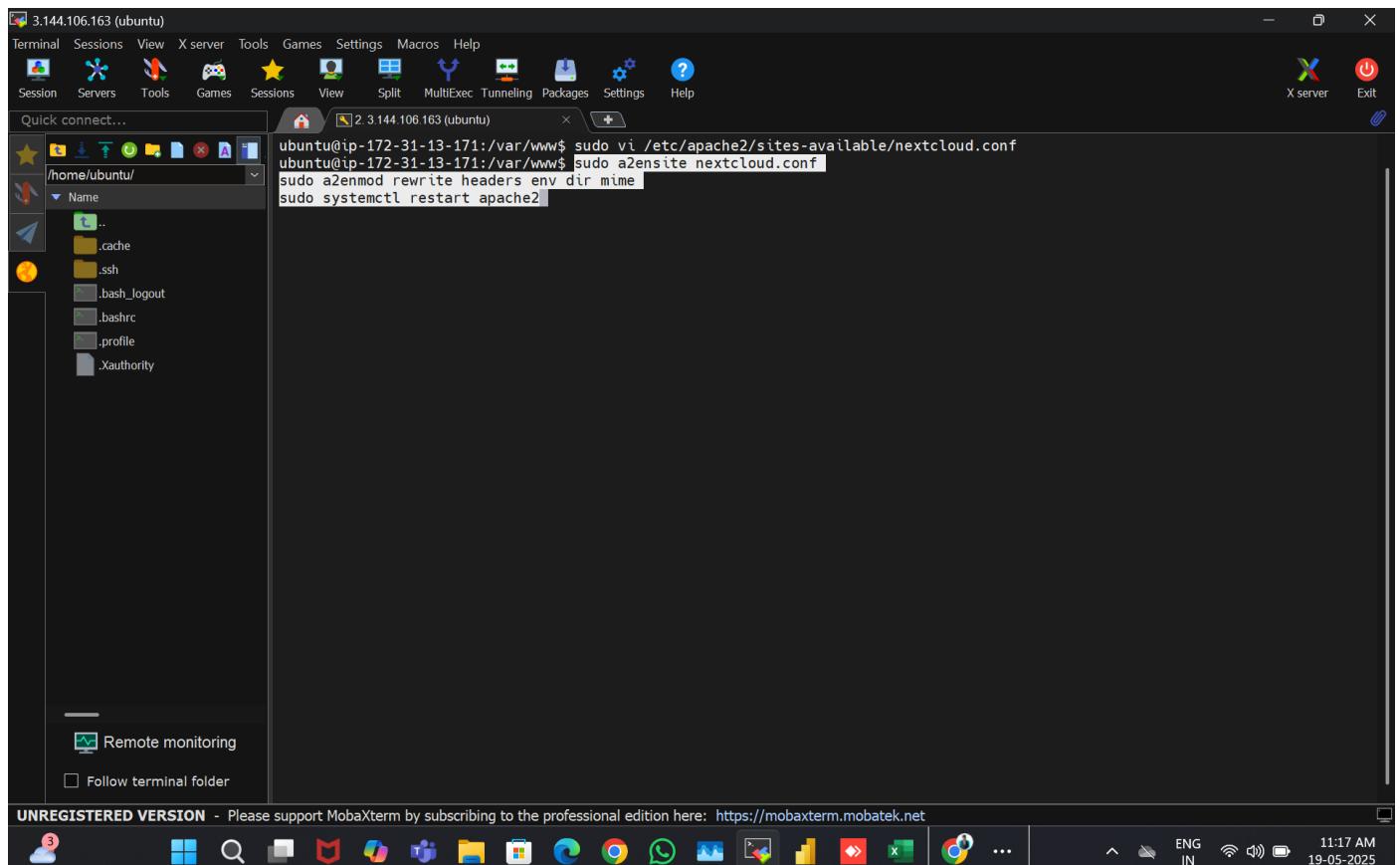
Enable the site and restart Apache:

Activate the Nextcloud Apache site, enable necessary modules, and apply changes by restarting Apache.

```
sudo a2ensite nextcloud.conf
```

```
sudo a2enmod rewrite headers env dir mime
```

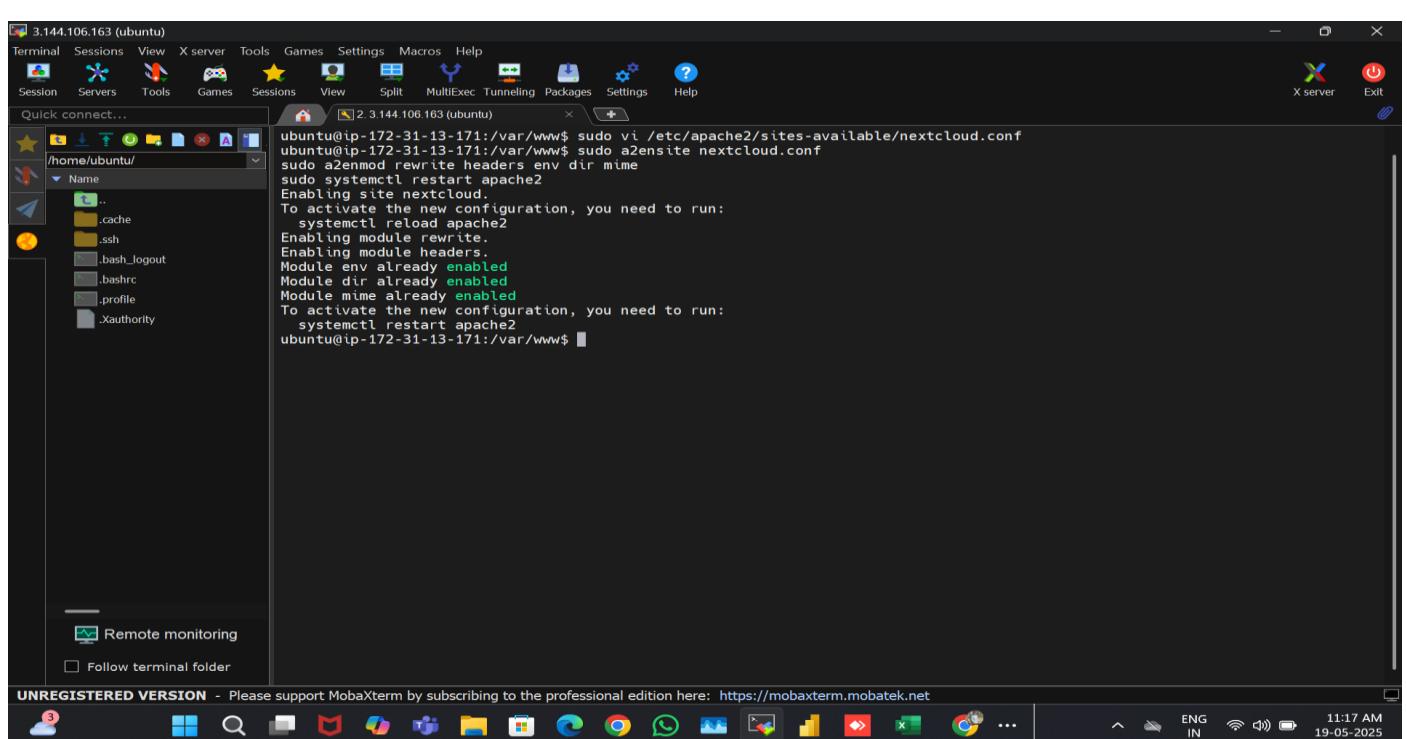
```
sudo systemctl restart apache2
```



The screenshot shows a MobaXterm window titled "3.144.106.163 (ubuntu)". The terminal pane displays the following commands being run:

```
ubuntu@ip-172-31-13-171:/var/www$ sudo vi /etc/apache2/sites-available/nextcloud.conf
ubuntu@ip-172-31-13-171:/var/www$ sudo a2ensite nextcloud.conf
sudo a2enmod rewrite headers env dir mime
sudo systemctl restart apache2
```

The session pane shows the current directory is "/home/ubuntu". The taskbar at the bottom includes icons for various applications like File Explorer, Task View, Start, and Edge.



The screenshot shows a MobaXterm window titled "3.144.106.163 (ubuntu)". The terminal pane displays the following commands and configuration details:

```
ubuntu@ip-172-31-13-171:/var/www$ sudo vi /etc/apache2/sites-available/nextcloud.conf
ubuntu@ip-172-31-13-171:/var/www$ sudo a2ensite nextcloud.conf
sudo a2enmod rewrite headers env dir mime
sudo systemctl restart apache2
Enabling site nextcloud.
To activate the new configuration, you need to run:
    systemctl reload apache2
Enabling module rewrite.
Enabling module headers.
Module env already enabled
Module dir already enabled
Module mime already enabled
To activate the new configuration, you need to run:
    systemctl restart apache2
ubuntu@ip-172-31-13-171:/var/www$
```

The session pane shows the current directory is "/home/ubuntu". The taskbar at the bottom includes icons for various applications like File Explorer, Task View, Start, and Edge.

7 : Secure Nextcloud with SSL (Let's Encrypt)

Encrypt all data transmission between the user and server using a free SSL certificate from Let's Encrypt, enhancing security.

Install Certbot and get a free SSL certificate :

```
sudo apt install certbot python3-certbot-apache -y
```

The screenshot shows a terminal window in MobaXterm. The title bar says "3.144.106.163 (ubuntu)". The menu bar includes "Terminal", "Sessions", "View", "X server", "Tools", "Games", "Settings", "Macros", and "Help". The toolbar has icons for Session, Servers, Tools, Games, Sessions, View, Split, MultiExec, Tunneling, Packages, Settings, and Help. The status bar at the bottom shows "UNREGISTERED VERSION - Please support MobaXterm by subscribing to the professional edition here: https://mobaxterm.mobatek.net". The terminal content is as follows:

```
ubuntu@ip-172-31-13-171:/var/www$ sudo vi /etc/apache2/sites-available/nextcloud.conf
ubuntu@ip-172-31-13-171:/var/www$ sudo a2ensite nextcloud.conf
sudo a2enmod rewrite headers env dir mime
sudo systemctl restart apache2
Enabling site nextcloud.
To activate the new configuration, you need to run:
    systemctl reload apache2
Enabling module rewrite.
Enabling module headers.
Module env already enabled
Module dir already enabled
Module mime already enabled
To activate the new configuration, you need to run:
    systemctl restart apache2
ubuntu@ip-172-31-13-171:/var/www$ sudo apt install certbot python3-certbot-apache -y
```

This command uses Certbot with the Apache plugin to:

- Automatically request a free SSL certificate from Let's Encrypt for your domain **saurabhcloud.fun**.
- Configure your Apache site to use HTTPS.
- Set up HTTP-to-HTTPS redirection.

```
sudo certbot --apache -d saurabhcloud.fun
```

```

3.144.106.163 (ubuntu)
Terminal Sessions View X server Tools Games Settings Macros Help
Session Servers Tools Games Sessions View Split MultiExec Tunneling Packages Settings Help
Quick connect... 2.3.144.106.163 (ubuntu) +
Setting up python3-augeas (0.5.0-1.1) ...
Setting up python3-rfc3339 (1.1-4) ...
Setting up python3-acme (2.9.0-1) ...
Setting up python3-certbot (2.9.0-1) ...
Setting up certbot (2.9.0-1) ...
Created symlink /etc/systemd/system/timers.target.wants/certbot.timer → /usr/lib/systemd/system/certbot.timer.
Setting up python3-certbot-apache (2.9.0-1) ...
Processing triggers for man-db (2.12.0-4build2) ...
Processing triggers for libc-bin (2.39-0Ubuntu8.4) ...
Scanning processes...
Scanning candidates...
Scanning linux images...
Pending kernel upgrade!
Running kernel version:
 6.8.0-1024-aws
Diagnostics:
  The currently running kernel version is not the expected kernel version 6.8.0-1029-aws.

Restarting the system to load the new kernel will not be handled automatically, so you should consider rebooting.

Restarting services...

Service restarts being deferred:
/etc/needrestart/restart.d/dbus.service
systemctl restart networkd-dispatcher.service
systemctl restart systemd-logind.service
systemctl restart unattended-upgrades.service

No containers need to be restarted.

User sessions running outdated binaries:
ubuntu @ session #2: sshd[1137]
ubuntu @ session #4: sshd[1139,1347]
ubuntu @ user manager service: systemd[1143]

No VM guests are running outdated hypervisor (qemu) binaries on this host.
ubuntu@ip-172-31-13-171:/var/www$ sudo certbot --apache -d saurabhcloud.fun

```

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If successful:

- Your site will now be accessible securely at:
<https://saurabhcloud.fun>
- The SSL cert will auto-renew every 90 days via a background service (certbot.timer)

```

3.144.106.163 (ubuntu)
Terminal Sessions View X server Tools Games Settings Macros Help
Session Servers Tools Games Sessions View Split MultiExec Tunneling Packages Settings Help
Quick connect... 2.3.144.106.163 (ubuntu) +
Hint: The Certificate Authority failed to verify the temporary Apache configuration changes made by Certbot. Ensure that the listed domains point to this Apache server and that it is accessible from the internet.

Some challenges have failed.
Ask for help or search for solutions at https://community.letsencrypt.org. See the logfile /var/log/letsencrypt/letsencrypt.log or re-run Certbot with -v for more details.
ubuntu@ip-172-31-13-171:/var/www$ 
ubuntu@ip-172-31-13-171:/var/www$ nslookup saurabhcloud.fun
Server: 127.0.0.53
Address: 127.0.0.53#53

Non-authoritative answer:
Name: saurabhcloud.fun
Address: 84.32.84.32
Name: saurabhcloud.fun
Address: 3.144.106.163

ubuntu@ip-172-31-13-171:/var/www$ sudo certbot --apache -d saurabhcloud.fun
Saving debug log to /var/log/letsencrypt/letsencrypt.log
Requesting a certificate for saurabhcloud.fun

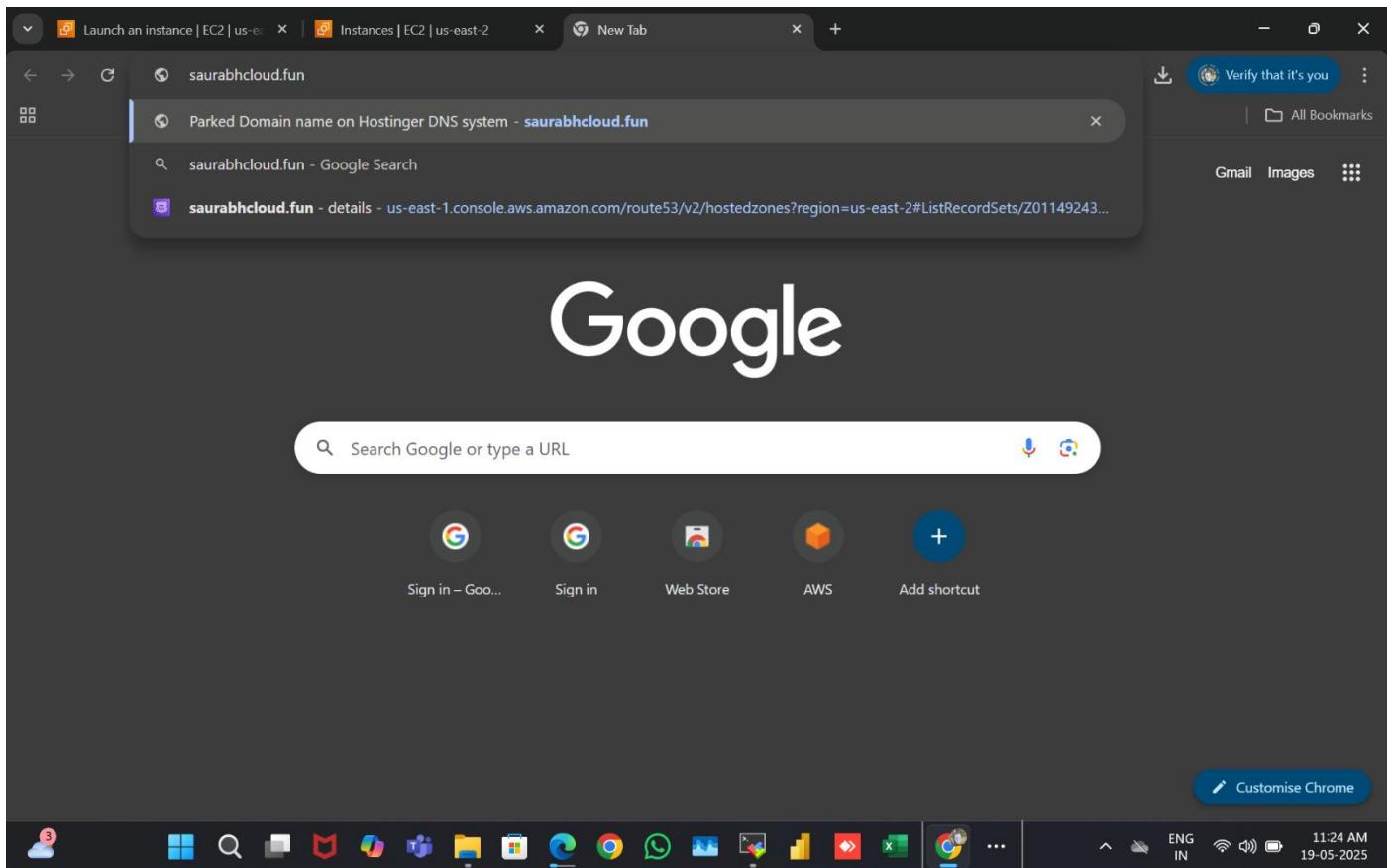
Successfully received certificate.
Certificate is saved at: /etc/letsencrypt/live/saurabhcloud.fun/fullchain.pem
Key is saved at: /etc/letsencrypt/live/saurabhcloud.fun/privkey.pem
This certificate expires on 2025-08-17.
These files will be updated when the certificate renews.
Certbot has set up a scheduled task to automatically renew this certificate in the background.

Deploying certificate
Successfully deployed certificate for saurabhcloud.fun to /etc/apache2/sites-available/nextcloud-le-ssl.conf
Congratulations! You have successfully enabled HTTPS on https://saurabhcloud.fun

If you like Certbot, please consider supporting our work by:
* Donating to ISRG / Let's Encrypt: https://letsencrypt.org/donate
* Donating to EFF: https://eff.org/donate-le
ubuntu@ip-172-31-13-171:/var/www$ 

```

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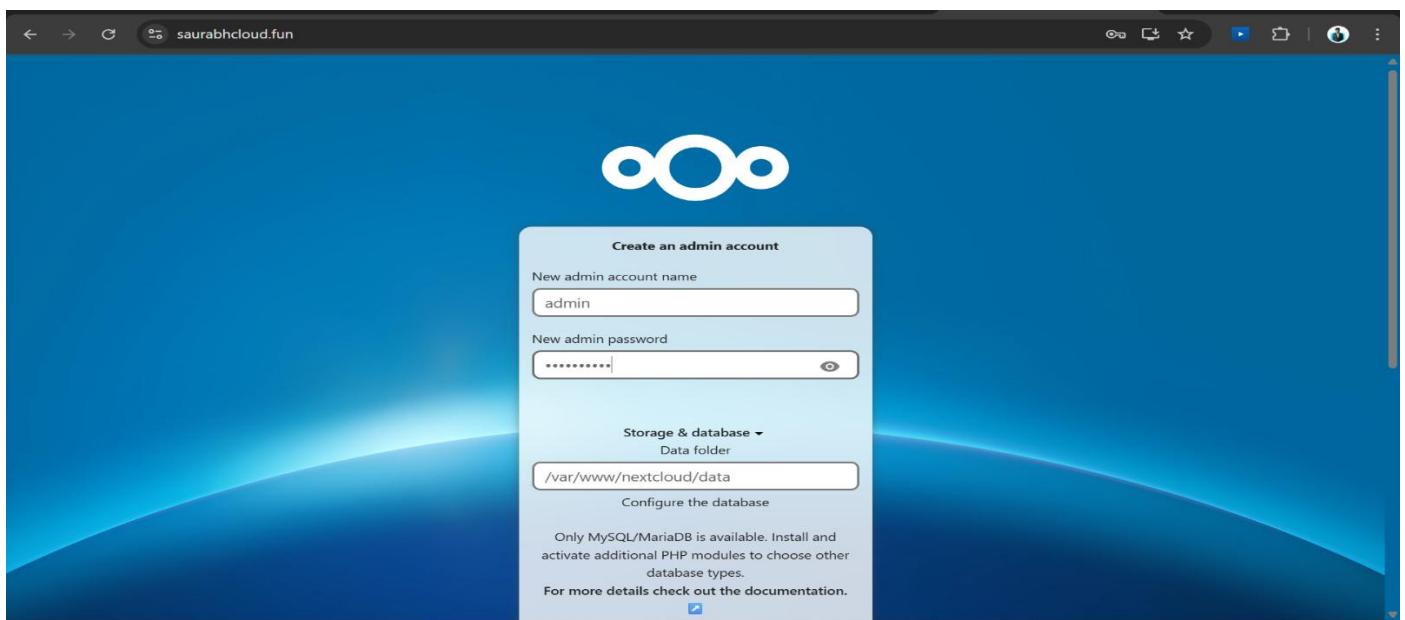
After hit site then if show some error then use this .

- But if not working this site then use one step to setup the project
(Run this cmd on terminal.) inside this path cd /var/www/

sudo apt ins Access & Configure Nextcloud .

Now, open a browser and navigate to:

- Follow the setup wizard.
- Use nextclouduser and YourStrongPassword for the database.tall php-mbstring php-gd php-curl php-xml php-zip php-intl php-mysql -y



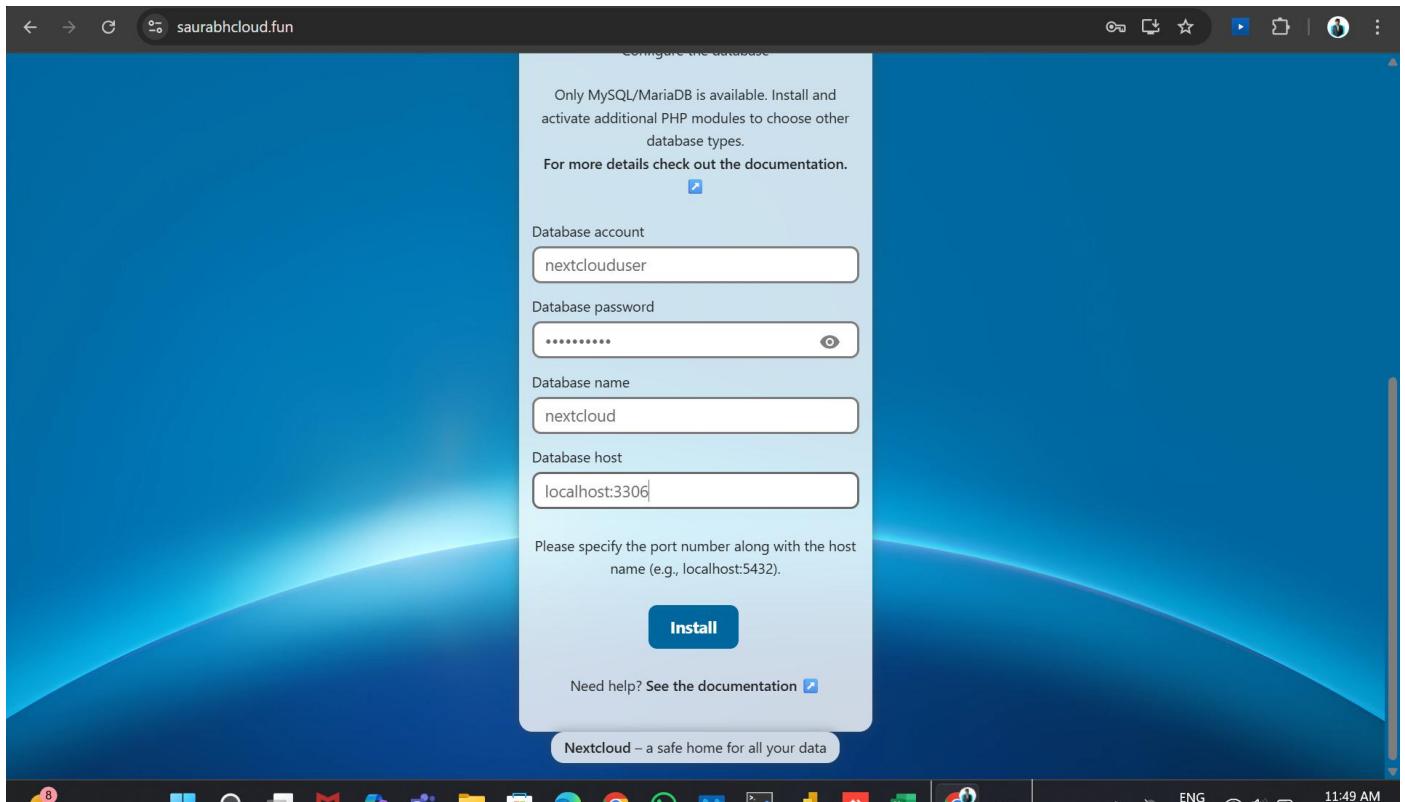
SELECT User, Host FROM mysql.user;

SHOW DATABASES;

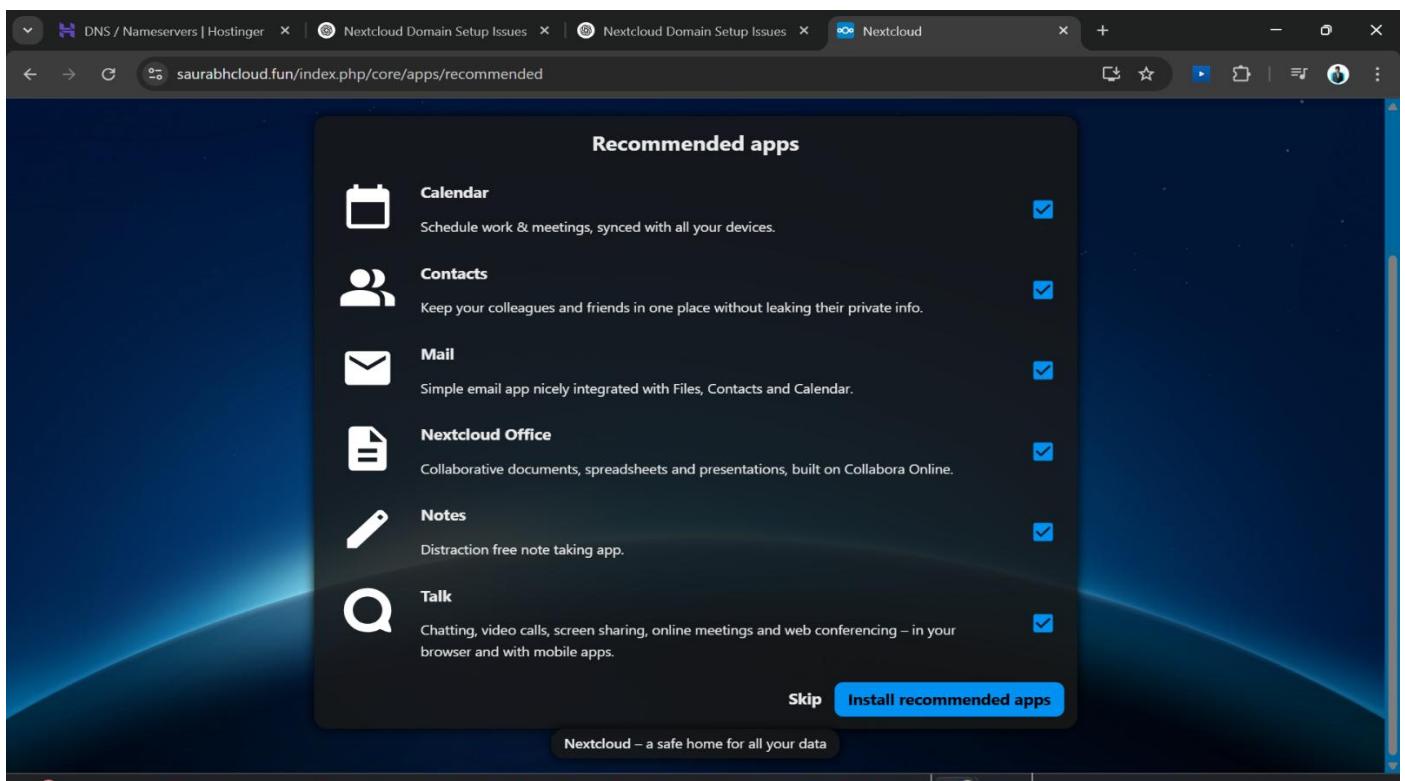
nextcloud

nextclouduser

YourStrongPassword (after entering password then Click on Install.)



For Now Skip this .



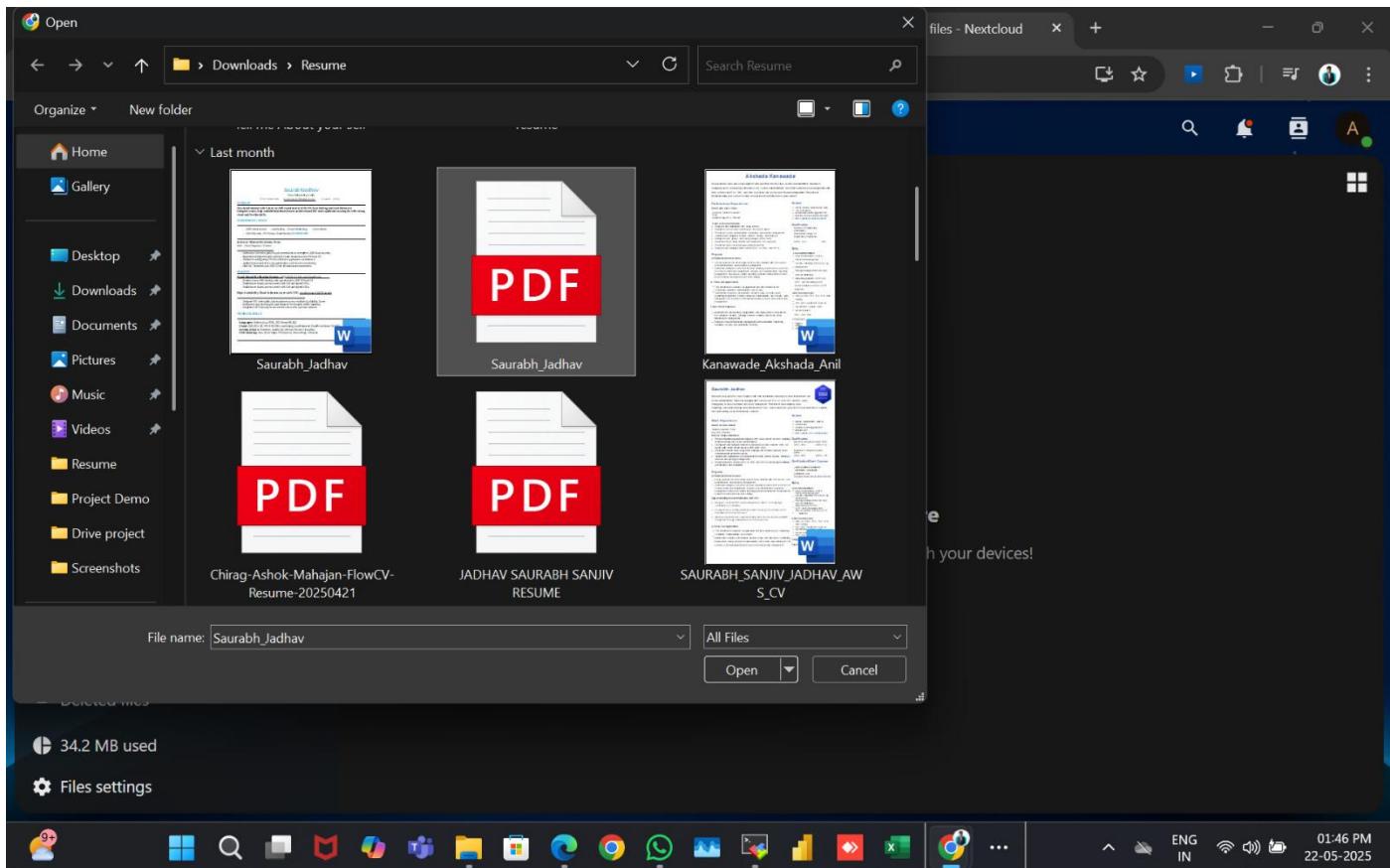
Now its Working Successfully.

The screenshot shows the Nextcloud web interface with a dark theme. The top navigation bar has tabs for 'DNS / Nameservers | Hostinger', 'Nextcloud Domain Setup Issues', 'Nextcloud Domain Setup Issues', and 'All files - Nextcloud'. The address bar shows the URL 'saurabhcloud.fun/index.php/apps/files/files'. On the left, a sidebar lists 'All files' (selected), 'Personal files', 'Recent', 'Favorites', 'Shares', 'Tags', and 'All folders'. Below the sidebar, there's a message: 'Welcome to Nextcloud! 🌐 Here you can add a description or any other info relevant for the folder. It will show as a "Readme.md" and in the web interface also embedded nicely up at the top.' A file list displays three items: 'Nextcloud flyer.pdf' (Recently edited), 'Readme.md' (Recently edited), and 'Welcome to Nextcloud Hub.docx' (Recently edited). At the bottom, there are filters for 'Type', 'Modified', and 'People', and a table header for 'Name', 'Size', and 'Modified'. The table lists 'Deleted files', 'Documents', 'Photos', and 'Templates'. The status bar at the bottom shows the URL 'https://saurabhcloud.fun/index.php/apps/files/files', system icons, and the time '01:36 PM'.

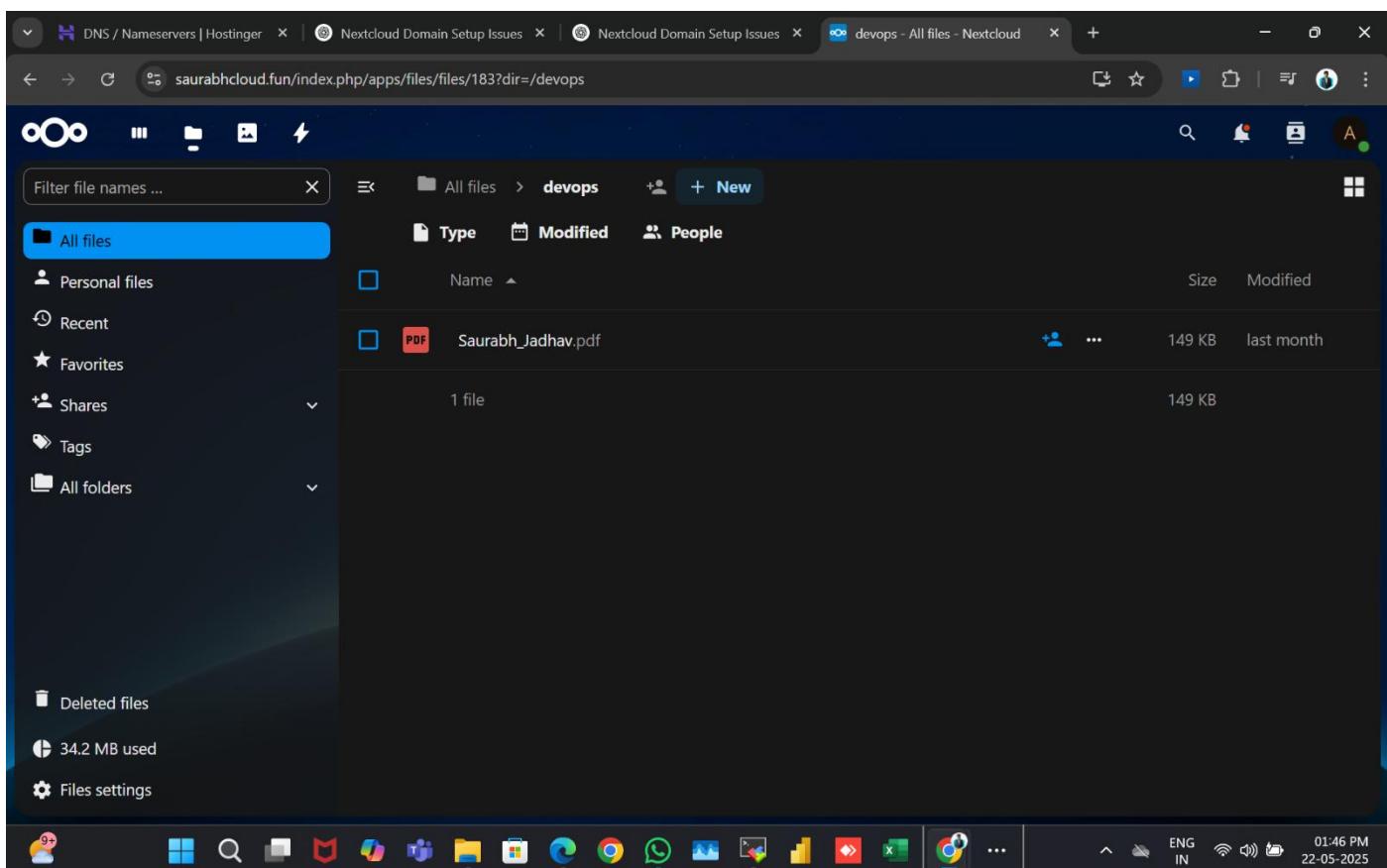
Create a folder.

The screenshot shows the Nextcloud web interface with a dark theme. The top navigation bar has tabs for 'DNS / Nameservers | Hostinger', 'Nextcloud Domain Setup Issues', 'Nextcloud Domain Setup Issues', and 'All files - Nextcloud'. The address bar shows the URL 'saurabhcloud.fun/index.php/apps/files/files'. On the left, a sidebar lists 'All files' (selected), 'Personal files', 'Recent', 'Favorites', 'Shares', 'Tags', and 'All folders'. Below the sidebar, there's a 'Create new folder' dialog box with a 'Folder name' input field containing 'devops' and a 'Create' button. A file list displays several files and folders: 'Photos' (5.4 MB, 4 minutes ago), 'Templates' (10.4 MB, 4 minutes ago), 'Nextcloud Manual.pdf' (12.6 MB, 4 minutes ago), 'Readme.md' (< 1 KB, 4 minutes ago), 'Reasons to use Nextcloud.pdf' (954 KB, 4 minutes ago), and 'Templates credits.md' (2 KB, 4 minutes ago). The status bar at the bottom shows the URL 'https://saurabhcloud.fun/index.php/apps/files/files', system icons, and the time '01:36 PM'.

Upload your files.



Now its Successfully upload your files.



Exploring the features of nextcloud.

The screenshot shows the Nextcloud Dashboard with a dark theme. A modal window titled "Edit widgets" is open, displaying various widget options. The "Status" widget is selected and highlighted with a blue border. Other visible widgets include "Weather", "Recommended files", "Favorite files", "Recent activity", "On This Day", and "Recent statuses". Below the widgets, there is a link to "Get more widgets from the App Store".

Edit widgets

- Status
- Weather
- Recommended files
- Favorite files
- Recent activity
- On This Day
- Recent statuses

[Get more widgets from the App Store](#)

Weather service

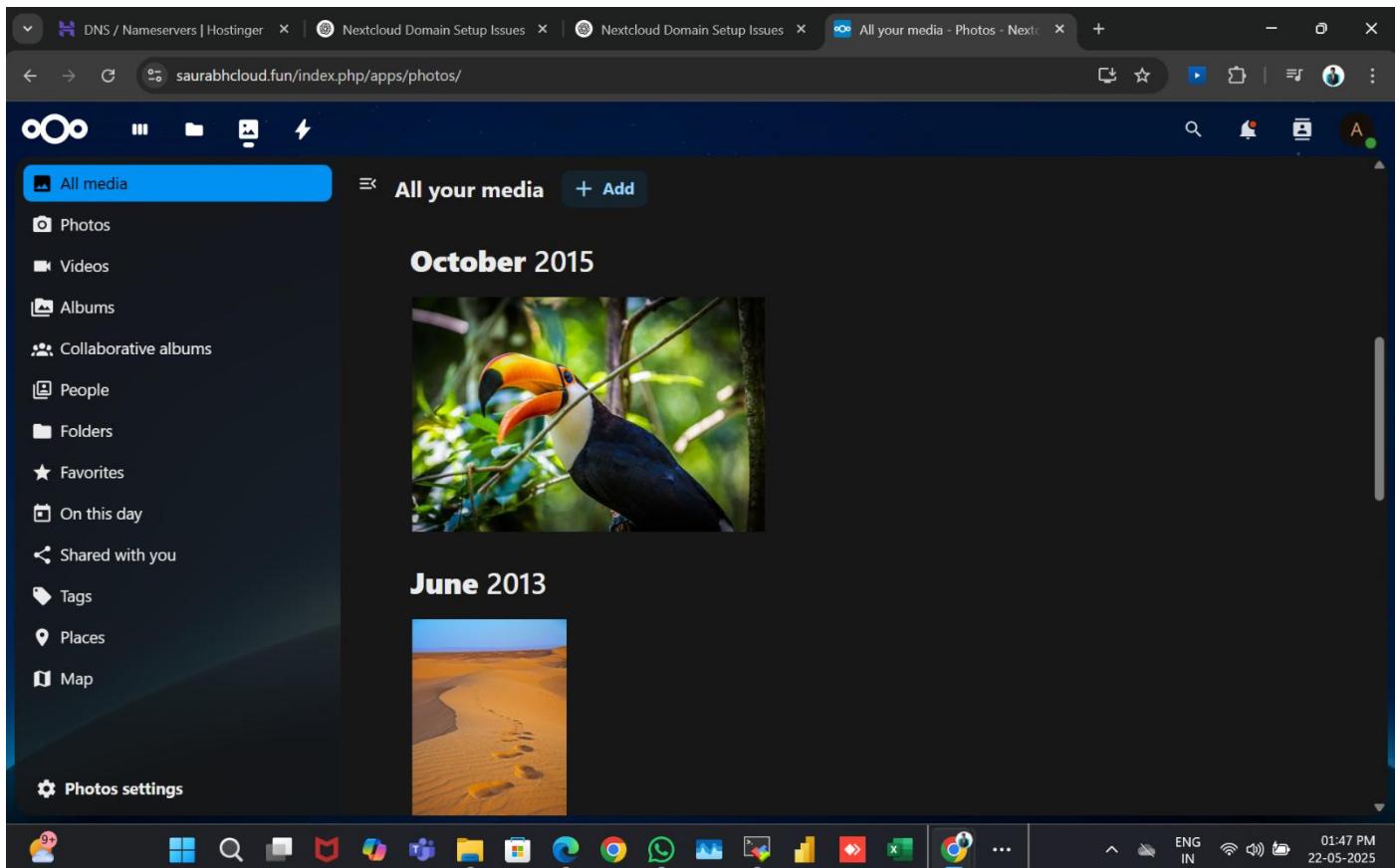
For your privacy, the weather data is requested by your Nextcloud server on your behalf so the [Customize](#)

Windows taskbar at the bottom showing various application icons and system status.

The screenshot shows the Nextcloud Dashboard with a dark theme. A modal window titled "Good afternoon" is open, featuring two buttons: "Set status" and "Set location for weather". Below the greeting, a "Recommended files" section displays a list of documents:

- PDF Nextcloud flyer.pdf
- Readme.md
- Welcome to Nextcloud Hub.docx
- Example.md
- Elegant.odp

Windows taskbar at the bottom showing various application icons and system status.



Now check in your terminal and show your dada.

Cd nextcloud/

```
3.143.23.169 (ubuntu)
Terminal Sessions View X server Tools Games Settings Macros Help
Session Servers Tools Games Sessions View Split MultiExec Tunneling Packages Settings Help
Quick connect... 2.3.143.23.169 (ubuntu) + X server Exit
Some challenges have failed.
Ask for help or search for solutions at https://community.letsencrypt.org. See the logfile /var/log/letsencrypt/letsencrypt.log or re-run Certbot with -v for more details.
ubuntu@ip-172-31-8-112:/var/www$ sudo certbot --apache -d saurabhcloud.fun
Saving debug log to /var/log/letsencrypt/letsencrypt.log
Requesting a certificate for saurabhcloud.fun

Successfully received certificate.
Certificate is saved at: /etc/letsencrypt/live/saurabhcloud.fun/fullchain.pem
Key is saved at: /etc/letsencrypt/live/saurabhcloud.fun/privkey.pem
This certificate expires on 2025-08-20.
These files will be updated when the certificate renews.
Certbot has set up a scheduled task to automatically renew this certificate in the background.

Deploying certificate
Successfully deployed certificate for saurabhcloud.fun to /etc/apache2/sites-available/nextcloud-le-ssl.conf
Congratulations! You have successfully enabled HTTPS on https://saurabhcloud.fun

-----
If you like Certbot, please consider supporting our work by:
* Donating to ISRG / Let's Encrypt: https://letsencrypt.org/donate
* Donating to EFF: https://eff.org/donate-le
-----
ubuntu@ip-172-31-8-112:/var/www$ sudo a2ensite nextcloud.conf
sudo a2enmod rewrite headers env dir mime
sudo systemctl restart apache2
Site nextcloud already enabled
Module rewrite already enabled
Module headers already enabled
Module env already enabled
Module dir already enabled
Module mime already enabled
ubuntu@ip-172-31-8-112:/var/www$ cd nextcloud/
ubuntu@ip-172-31-8-112:/var/www/nextcloud$ ls
3rdparty LICENSES composer.lock core dist lib ocs-provider public.php robots.txt updater
AUTHORS apps config cron.php index.html occ package-lock.json remote.php status.php version.php
COPYING composer.json console.php data index.php ocs package.json resources themes
ubuntu@ip-172-31-8-112:/var/www/nextcloud$ 

UNREGISTERED VERSION - Please support MobaXterm by subscribing to the professional edition here: https://mobaxterm.mobatek.net
```

Sudo su (for permission)

```
3.143.23.169 (ubuntu)
Terminal Sessions View X server Tools Games Settings Macros Help
Session Servers Tools Games Sessions View Split MultiExec Tunneling Packages Settings Help
X server Exit
Quick connect...
[ 2.3.143.23.169 (ubuntu) ] + [ 2.3.143.23.169 (ubuntu) ]
g or re-run Certbot with -v for more details.
ubuntu@ip-172-31-8-112:/var/www$ sudo certbot --apache -d saurabhcloud.fun
Saving debug log to /var/log/letsencrypt/letsencrypt.log
Requesting a certificate for saurabhcloud.fun

Successfully received certificate.
Certificate is saved at: /etc/letsencrypt/live/saurabhcloud.fun/fullchain.pem
Key is saved at: /etc/letsencrypt/live/saurabhcloud.fun/privkey.pem
This certificate expires on 2025-08-20.
These files will be updated when the certificate renews.
Certbot has set up a scheduled task to automatically renew this certificate in the background.

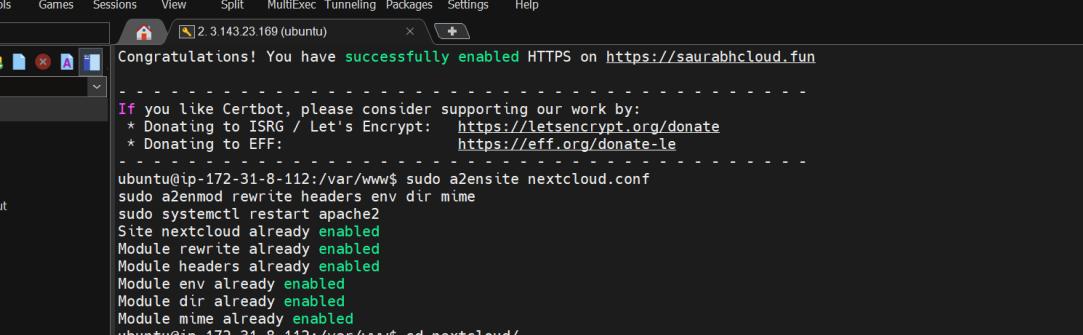
Deploying certificate
Successfully deployed certificate for saurabhcloud.fun to /etc/apache2/sites-available/nextcloud-le-ssl.conf
Congratulations! You have successfully enabled HTTPS on https://saurabhcloud.fun

-----
If you like Certbot, please consider supporting our work by:
* Donating to ISRG / Let's Encrypt: https://letsencrypt.org/donate
* Donating to EFF: https://eff.org/donate-le

ubuntu@ip-172-31-8-112:/var/www$ sudo a2ensite nextcloud.conf
sudo a2enmod rewrite headers env dir mime
sudo systemctl restart apache2
Site nextcloud already enabled
Module rewrite already enabled
Module headers already enabled
Module env already enabled
Module dir already enabled
Module mime already enabled
ubuntu@ip-172-31-8-112:/var/www$ cd nextcloud/
ubuntu@ip-172-31-8-112:/var/www/nextcloud$ ls
3rdparty LICENSES composer.lock core dist lib ocs-provider public.php robots.txt updater
AUTHORS apps config cron.php index.html occ package-lock.json remote.php status.php version.php
COPYING composer.json console.php data index.php ocs package.json resources themes
ubuntu@ip-172-31-8-112:/var/www/nextcloud$ cd data/
-bash: cd: data/: Permission denied
ubuntu@ip-172-31-8-112:/var/www/nextcloud$ sudo su
```

Cd files/

Cd devops/ (your folder name)



Congratulations! You have successfully enabled HTTPS on https://saurabhcloud.fun

```
If you like Certbot, please consider supporting our work by:
 * Donating to ISRG / Let's Encrypt: https://letsencrypt.org/donate
 * Donating to EFF: https://eff.org/donate-le
-----
ubuntu@ip-172-31-8-112:/var/www$ sudo a2ensite nextcloud.conf
sudo a2enmod rewrite headers env dir mime
sudo systemctl restart apache2
Site nextcloud already enabled
Module rewrite already enabled
Module headers already enabled
Module env already enabled
Module dir already enabled
Module mime already enabled
ubuntu@ip-172-31-8-112:/var/www$ cd nextcloud/
ubuntu@ip-172-31-8-112:/var/www/nextcloud$ ls
3rdparty LICENSES composer.lock core dist lib ocs-provider public.php robots.txt updater
AUTHORS apps config cron.php index.html occ package-lock.json remote.php status.php version.php
COPYING composer.json console.php data index.php ocs package.json resources themes
ubuntu@ip-172-31-8-112:/var/www/nextcloud$ cd data/
-bash: cd: data/: Permission denied
ubuntu@ip-172-31-8-112:/var/www/nextcloud$ sudo su
root@ip-172-31-8-112:/var/www/nextcloud# cd data/
root@ip-172-31-8-112:/var/www/nextcloud/data# ls
admin appdata_ocmaxud7t5vg index.html nextcloud.log
root@ip-172-31-8-112:/var/www/nextcloud/data# cd admin
root@ip-172-31-8-112:/var/www/nextcloud/data/admin# ls
files
root@ip-172-31-8-112:/var/www/nextcloud/data/admin# cd files
root@ip-172-31-8-112:/var/www/nextcloud/data/admin/files# ls
Documents 'Nextcloud intro.mp4' Photos 'Reasons to use Nextcloud.pdf' 'Templates credits.md'
'Nextcloud Manual.pdf' Nextcloud.png Readme.md Templates devops
root@ip-172-31-8-112:/var/www/nextcloud/data/admin/files# cd devops
root@ip-172-31-8-112:/var/www/nextcloud/data/admin/files/devops# ls
Saurabh_Jadhav.pdf
root@ip-172-31-8-112:/var/www/nextcloud/data/admin/files/devops#
```

If ADD more Security then use this way.

Set up automatic SSL renewal:

```
sudo crontab -e
```

Add:

```
0 3 * * * certbot renew --quiet
```

8 . Configure Firewall & Security

Enable UFW (Uncomplicated Firewall):

```
sudo ufw allow 80,443/tcp
```

```
sudo ufw enable
```

Install Fail2Ban to prevent brute-force attacks:

```
sudo apt install fail2ban -y
```

9. Configure Automatic Backups

Set up daily backups using rsync:

```
sudo crontab -e
```

Add:

```
0 2 * * * rsync -a /var/www/nextcloud /backup/nextcloud_$(date +\%F)
```

Thank you.