

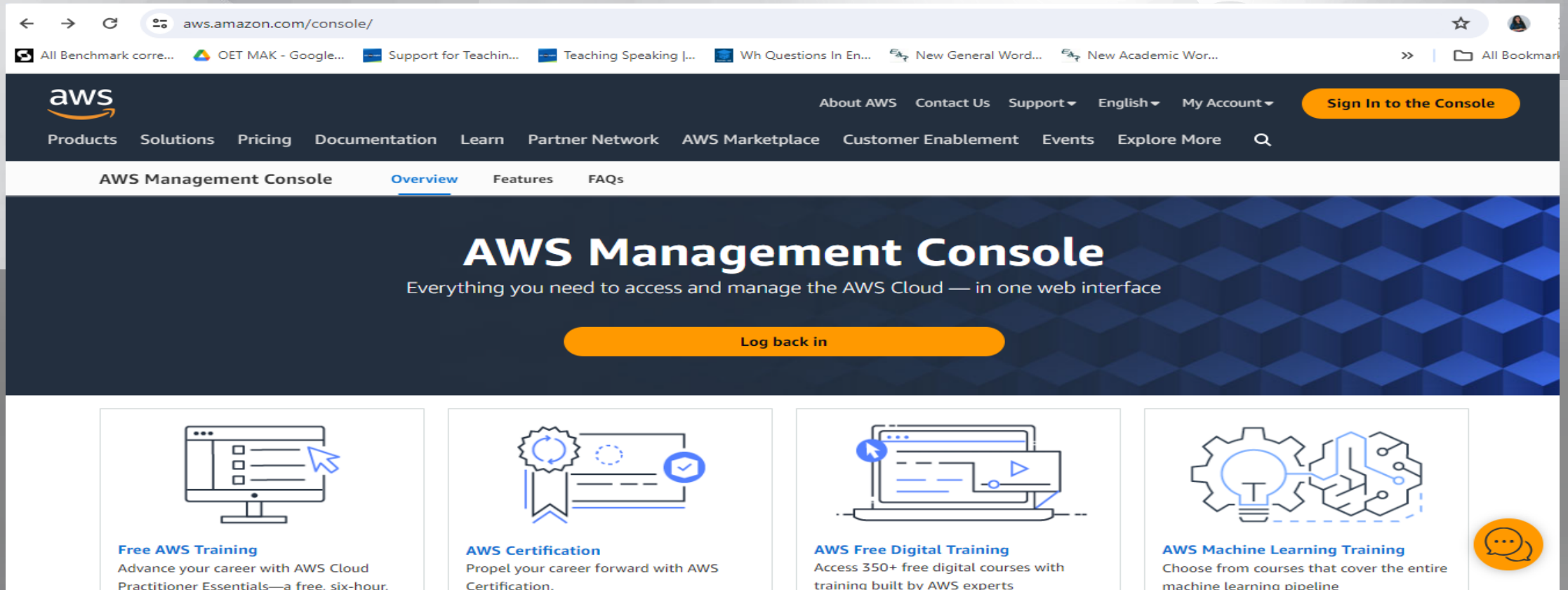
# Cloud (AWS) Week – 1 Task

Deploy an application in monolithic and microservices architecture using AWS



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# Deploy an application in monolithic architecture



1. Sign in to AWS Management Console.

The screenshot shows the AWS Management Console Home page. At the top, there's a navigation bar with the AWS logo, 'Services', a search bar, and user information. The main content area is divided into two columns. The left column, titled 'Console Home', contains a 'Recently visited' section with a list of services: EC2 (highlighted with a green circle), Directory Service, and EC2 Image Builder. The right column, titled 'Applications (0)', shows a 'Create application' button and a table with columns for Name, Description, Region, and Originating account. The table is empty, displaying 'No applications' and a message to 'Get started by creating an application.' with another 'Create application' button.

2. Sign in as root user and either search for EC2 in the 'Search' field or click on it directly from 'Recently visited'. Click on EC2 to view the EC2 dashboard.

**EC2 Dashboard** X

EC2 Global View

Events

▼ **Instances**

- Instances
- Instance Types
- Launch Templates
- Spot Requests
- Savings Plans
- Reserved Instances
- Dedicated Hosts
- Capacity
- Reservations [New](#)

▼ **Images**

- AMIs
- AMI Catalog

**Launch instance**

To get started, launch an Amazon EC2 instance, which is a virtual server in the cloud.

**Launch instance** ▼

**Migrate a server** ↗

Note: Your instances will launch in the Europe (Stockholm) Region

**Service health**

**AWS Health Dashboard** ↗

↻

Region  
Europe (Stockholm)

Status  
✔ This service is operating normally.

**Instance alarms**

**View in CloudWatch** ↗

⚠ 0 in alarm ✔ 0 OK ⓘ 0 insufficient data

**Zones**

Zone name	Zone ID
eu-north-1a	eun1-az1
eu-north-1b	eun1-az2

**Account attributes** ↻

**Default VPC** ↗  
vpc-01266bf36b85d2da0

**Settings**

- [Data protection and security](#)
- [Zones](#)
- [EC2 Serial Console](#)
- [Default credit specification](#)
- [Console experiments](#)

**Explore AWS** X

**Amazon GuardDuty Malware Protection**

3. Click on the 'Launch instance' option to create an instance.

aws Services Search [Alt+S] Stockholm NeenaJohn

EC2 > Instances > Launch an instance

## Launch an instance [Info](#)

Amazon EC2 allows you to create virtual machines, or instances, that run on the AWS Cloud. Quickly get started by following the simple steps below.

### Name and tags [Info](#)

Name

 [Add additional tags](#)

### ▼ Application and OS Images (Amazon Machine Image) [Info](#)

An AMI is a template that contains the software configuration (operating system, application server, and applications) required to launch your instance. Search or Browse for AMIs if you don't see what you are looking for below

### ▼ Summary

Number of instances [Info](#)

Software Image (AMI)

Canonical, Ubuntu, 24.04 LTS, ...[read more](#)  
ami-0705384c0b33c194c

Virtual server type (instance type)

t3.micro

Firewall (security group)

New security group

Storage (volumes)

1 volume(s) - 8 GiB

Cancel [Launch instance](#)

4. Give your instance a name and then choose the AMI (Ubuntu as required).

## Create key pair



### Key pair name

Key pairs allow you to connect to your instance securely.

*Enter key pair name*

The name can include up to 255 ASCII characters. It can't include leading or trailing spaces.

### Key pair type



**RSA**

RSA encrypted private and public key pair



**ED25519**

ED25519 encrypted private and public key pair

### Private key file format



**.pem**

For use with OpenSSH



**.ppk**

For use with PuTTY

Cancel

Create key pair

5. Create a key pair and keep the file saved in a known path.

aws Services Search [Alt+S] Stockholm NeenaJohn

EC2 > Instances > Launch an instance

✓ Success  
Successfully initiated launch of instance ([i-07e014e850f520532](#))

► Launch log

**Next Steps**

What would you like to do next with this instance, for example "create alarm" or "create backup"

1 2 3 4 5 6

Create billing and free tier usage alerts  
To manage costs and avoid surprise bills, set up email notifications for billing and free tier usage thresholds.

Connect to your instance  
Once your instance is running, log into it from your local computer.  
[Connect to instance](#)

Connect an RDS database  
Configure the connection between an EC2 instance and a database to allow traffic flow between them.  
[Connect an RDS database](#)

Create EBS snapshot policy  
Create a policy that automates the creation, retention, and deletion of EBS snapshots.  
[Create EBS snapshot policy](#)

6. Once the key is created, keep the security group to default and click on Launch instance. This creates the instance successfully.



The screenshot displays the AWS Management Console interface for the EC2 service. The left-hand navigation pane lists various EC2-related options, with 'Instances' selected and highlighted. The main content area is titled 'Instances (1) Info' and features a search bar, a filter dropdown set to 'All states', and a table of instances. A single instance is listed with the name 'Wordpress\_m...', ID 'i-07e014e850f520532', and state 'Running'. The 'Instance state' column header and the 'Running' status for the instance are circled in green. Other columns include 'Instance type' (t3.micro), 'Status check' (2/2 checks passed), 'Alarm status' (View alarms), and 'Availability Zone' (eu-north-1b). Below the table, a 'Select an instance' dialog box is visible.

Name	Instance ID	Instance state	Instance type	Status check	Alarm status	Availability Zone
Wordpress_m...	i-07e014e850f520532	Running	t3.micro	2/2 checks passed	View alarms	eu-north-1b

7. Return to Instances and view the status of the instance which changes from PENDING to RUNNING. The status check also shows that 2 checks have been passed.



The screenshot shows the AWS Management Console interface for the EC2 service. The top navigation bar includes the AWS logo, 'Services', a search bar, and user information. The left sidebar lists various EC2-related services, with 'Instances' selected. The main content area displays a table of instances. The first instance, 'Wordpress...', is highlighted with a green circle. Above the table, the 'Connect' button is also highlighted with a green circle. Below the table, the details for the selected instance 'i-07e014e850f520532 (Wordpress\_mono)' are shown, including tabs for Details, Status and alarms, Monitoring, Security, Networking, Storage, and Tags.

<input checked="" type="checkbox"/>	Name	Instance ID	Instance state	Instance type	Status check	Alarm status	Availability Zone
<input checked="" type="checkbox"/>	Wordpress...	i-07e014e850f520532	Running	t3.micro	2/2 checks passed	View alarms +	eu-north-1b






**i-07e014e850f520532 (Wordpress\_mono)**


[Details](#) | [Status and alarms New](#) | [Monitoring](#) | [Security](#) | [Networking](#) | [Storage](#) | [Tags](#)


▼ Instance summary Info


Instance ID	Public IPv4 address	Private IPv4 addresses
-------------	---------------------	------------------------

8. Select the instance and click on Connect.

 Services  [Alt+S]     Stockholm ▾ NeenaJohn




 **Port 22 (SSH) is open to all IP addresses**  
Port 22 (SSH) is currently open to all IP addresses, indicated by 0.0.0.0/0 in the inbound rule in [your security group](#). For increased security, consider restricting access to only the EC2 Instance Connect service IP addresses for your Region: 13.48.4.200/30. [Learn more](#).

Instance ID  
 i-07e014e850f520532 (Wordpress\_mono)


Connection Type

☒ **Connect using EC2 Instance Connect**  
Connect using the EC2 Instance Connect browser-based client, with a public IPv4 address.

☐ **Connect using EC2 Instance Connect Endpoint**  
Connect using the EC2 Instance Connect browser-based client, with a private IPv4 address and a VPC endpoint.

Public IP address  
 13.51.160.173

Username  
Enter the username defined in the AMI used to launch the instance. If you didn't define a custom username, use the default username, ubuntu.



9. Continue to connect using EC2 Instance connect

```
Get:21 http://eu-north-1.ec2.archive.ubuntu.com/ubuntu noble-updates/multiverse amd64 c-n-f Metadata [116 B]
Get:22 http://eu-north-1.ec2.archive.ubuntu.com/ubuntu noble-backports/main amd64 c-n-f Metadata [112 B]
Get:23 http://eu-north-1.ec2.archive.ubuntu.com/ubuntu noble-backports/universe amd64 Packages [3936 B]
Get:24 http://eu-north-1.ec2.archive.ubuntu.com/ubuntu noble-backports/universe Translation-en [1392 B]
Get:25 http://eu-north-1.ec2.archive.ubuntu.com/ubuntu noble-updates/multiverse amd64 c-n-f Metadata [116 B]
Get:26 http://eu-north-1.ec2.archive.ubuntu.com/ubuntu noble-backports/main amd64 c-n-f Metadata [112 B]
Get:27 http://eu-north-1.ec2.archive.ubuntu.com/ubuntu noble-backports/universe amd64 Packages [3936 B]
Get:28 http://eu-north-1.ec2.archive.ubuntu.com/ubuntu noble-backports/universe Translation-en [1392 B]
Get:29 http://eu-north-1.ec2.archive.ubuntu.com/ubuntu noble-backports/universe amd64 c-n-f Metadata [116 B]
Get:30 http://eu-north-1.ec2.archive.ubuntu.com/ubuntu noble-backports/restricted amd64 c-n-f Metadata [116 B]
Get:31 http://eu-north-1.ec2.archive.ubuntu.com/ubuntu noble-backports/multiverse amd64 c-n-f Metadata [116 B]
Get:32 http://security.ubuntu.com/ubuntu noble-security InRelease [89.7 kB]
Get:33 http://security.ubuntu.com/ubuntu noble-security/main amd64 Packages [22.5 kB]
Get:34 http://security.ubuntu.com/ubuntu noble-security/main Translation-en [6880 B]
Get:35 http://security.ubuntu.com/ubuntu noble-security/universe amd64 Packages [9256 B]
Get:36 http://security.ubuntu.com/ubuntu noble-security/universe Translation-en [4060 B]
Get:37 http://security.ubuntu.com/ubuntu noble-security/universe amd64 c-n-f Metadata [112 B]
Get:38 http://security.ubuntu.com/ubuntu noble-security/multiverse amd64 c-n-f Metadata [116 B]
Fetched 28.3 MB in 6s (4638 kB/s)
Reading package lists... Done
Building dependency tree... Done
Reading state information... Done
13 packages can be upgraded. Run 'apt list --upgradable' to see them.
```

10. Then use the 'sudo apt update' command to get the updated list of available packages and their versions stored in the system's package index.

```
update-alternatives: using /var/lib/mecab/dic/ipadic-utf8 to provide /var/lib/mecab/dic/debian
Setting up libhtml-parser-perl:amd64 (3.81-1build3) ...
Setting up libhttp-message-perl (6.45-1ubuntu1) ...
Setting up mysql-server (8.0.36-2ubuntu3) ...
Setting up libcgi-pm-perl (4.63-1) ...
Setting up libhtml-template-perl (2.97-2) ...
Setting up libcgi-fast-perl (1:2.17-1) ...
Processing triggers for man-db (2.12.0-4build2) ...
Processing triggers for libc-bin (2.39-0ubuntu8) ...
Scanning processes...
Scanning linux images...

Running kernel seems to be up-to-date.

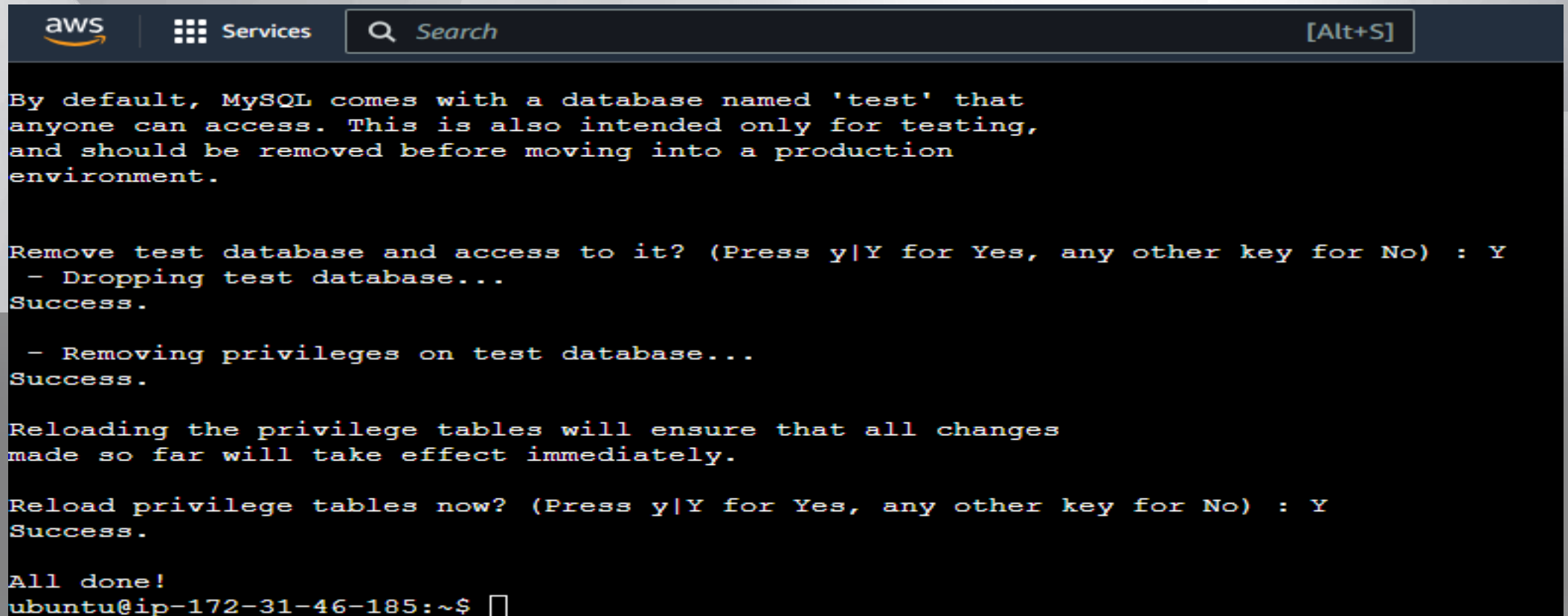
No services need to be restarted.

No containers need to be restarted.

No user sessions are running outdated binaries.

No VM guests are running outdated hypervisor (qemu) binaries on this host.
ubuntu@ip-172-31-46-185:~$
```

10. Then run the 'sudo apt install mysql-server' command to install mysql server.



The screenshot shows an AWS console window with a dark theme. The top bar includes the AWS logo, a 'Services' menu, a search bar, and a keyboard shortcut '[Alt+S]'. The main area displays a terminal window with the following text:

```
By default, MySQL comes with a database named 'test' that
anyone can access. This is also intended only for testing,
and should be removed before moving into a production
environment.

Remove test database and access to it? (Press y|Y for Yes, any other key for No) : Y
- Dropping test database...
Success.

- Removing privileges on test database...
Success.

Reloading the privilege tables will ensure that all changes
made so far will take effect immediately.


Reload privilege tables now? (Press y|Y for Yes, any other key for No) : Y
Success.

All done!
ubuntu@ip-172-31-46-185:~$
```



**11. Set a root password for MySQL and secure the database.**





```
Running kernel seems to be up-to-date.

Restarting services...

Service restarts being deferred:
/etc/needrestart/restart.d/dbus.service
systemctl restart getty@tty1.service
systemctl restart networkd-dispatcher.service
systemctl restart serial-getty@ttyS0.service
systemctl restart systemd-logind.service
systemctl restart unattended-upgrades.service

No containers need to be restarted.

No user sessions are running outdated binaries.

No VM guests are running outdated hypervisor (qemu) binaries on this host.
ubuntu@ip-172-31-46-185:~$
```

```
aws Services Search [Alt+S]
Scanning processes...
Scanning candidates...
Scanning linux images...

Running kernel seems to be up-to-date.

Restarting services...

Service restarts being deferred:
/etc/needrestart/restart.d/dbus.service
systemctl restart getty@tty1.service
systemctl restart networkd-dispatcher.service
systemctl restart serial-getty@ttyS0.service
systemctl restart systemd-logind.service
systemctl restart unattended-upgrades.service

No containers need to be restarted.

No user sessions are running outdated binaries.

No VM guests are running outdated hypervisor (qemu) binaries on this host.
```



12. Install Apache server by running the command ‘sudo apt install apache2’ and required PHP module via ‘sudo apt install php libapache2-mod-php php-mysql’ command Restart Apache server by running the command and ‘sudo systemctl restart apache2’ .

```
wordpress/wp-admin/js/auth-app.js
wordpress/wp-admin/js/code-editor.js
wordpress/wp-admin/js/common.js
wordpress/wp-admin/js/set-post-thumbnail.min.js
wordpress/wp-admin/js/postbox.min.js
wordpress/wp-admin/js/color-picker.js
wordpress/wp-admin/js/password-strength-meter.js
wordpress/wp-admin/js/customize-nav-menus.js
wordpress/wp-admin/js/editor-expand.js
wordpress/wp-admin/js/code-editor.min.js
wordpress/wp-admin/js/set-post-thumbnail.js
wordpress/wp-admin/options-permalink.php
wordpress/wp-admin/widgets.php
wordpress/wp-admin/setup-config.php
wordpress/wp-admin/install.php
wordpress/wp-admin/admin-header.php
wordpress/wp-admin/post-new.php
wordpress/wp-admin/themes.php
wordpress/wp-admin/options-reading.php
wordpress/wp-trackback.php
wordpress/wp-comments-post.php
```

### 13. Install wordpress by first going to its directory

cd /var/www/html and then download the latest wordpress version via 'sudo wget https://wordpress.org/latest.tar.gz' command and then downloading its archive and finally, set permissions.





Not secure

16.171.2.217/wp-admin/setup-config.php?step=1



chmark corre...

OET MAK - Google...

Support for Teachin...

Teaching Speaking |...

Wh Questions In En...

New General Word...

New Academic Wor...



Below you should enter your database connection details. If you are not sure about these, contact your host.

Database Name

The name of the database you want to use with WordPress.

Username

Your database username.

Password

 Hide

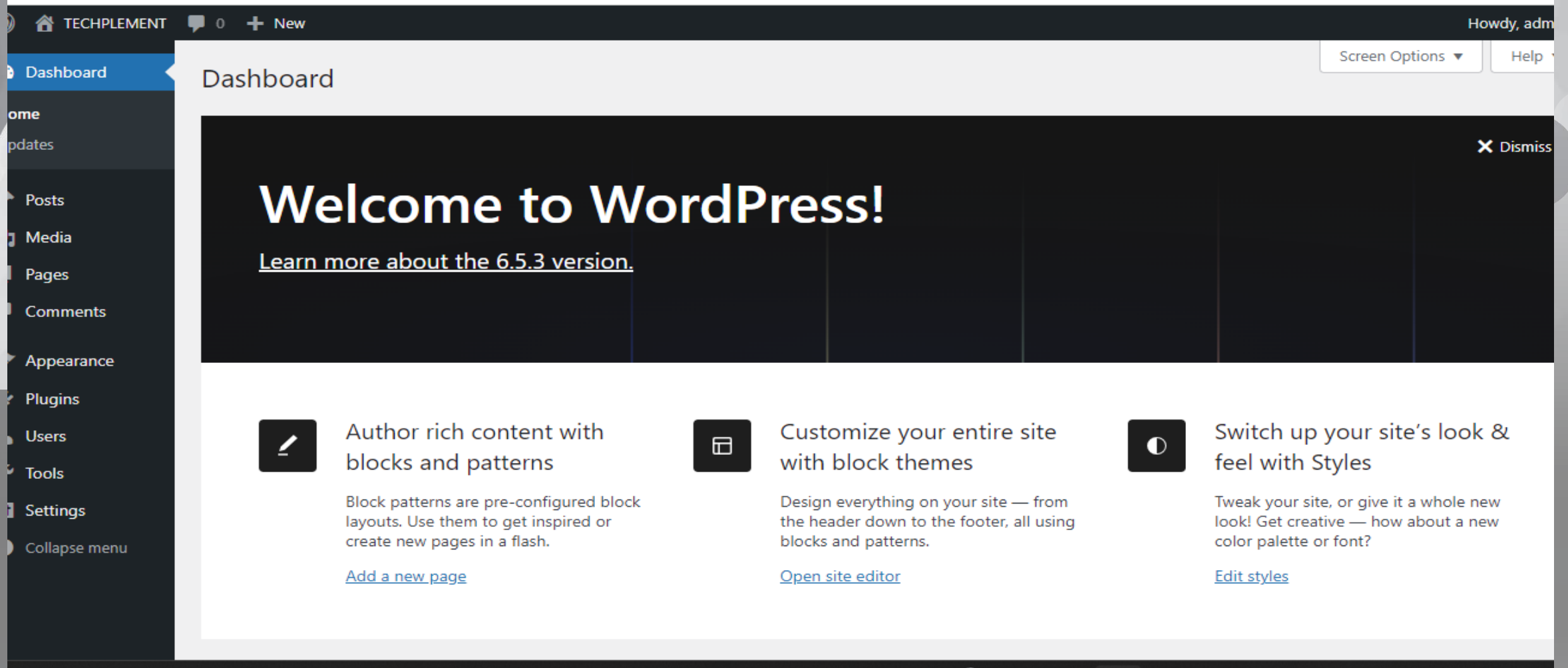
Your database password.

Database Host

You should be able to get this info from your web host, if localhost does not work.

Table Prefix

If you want to run multiple WordPress installations in a single database, change this.



Final output

2. <https://ubuntu.com/server/docs/install-all-and-configure-a-mysql-server>

3. <https://www.youtube.com/watch?v=5rICUXjVaHE>



Final output