

## **Designing and Deploying a Cloud-Driven Event Reservation System on AWS Infrastructure**

### **AIM :**

The aim is to build scalable, reliable, and cost-effective event reservation system on AWS Infrastructure.

### **Description:**

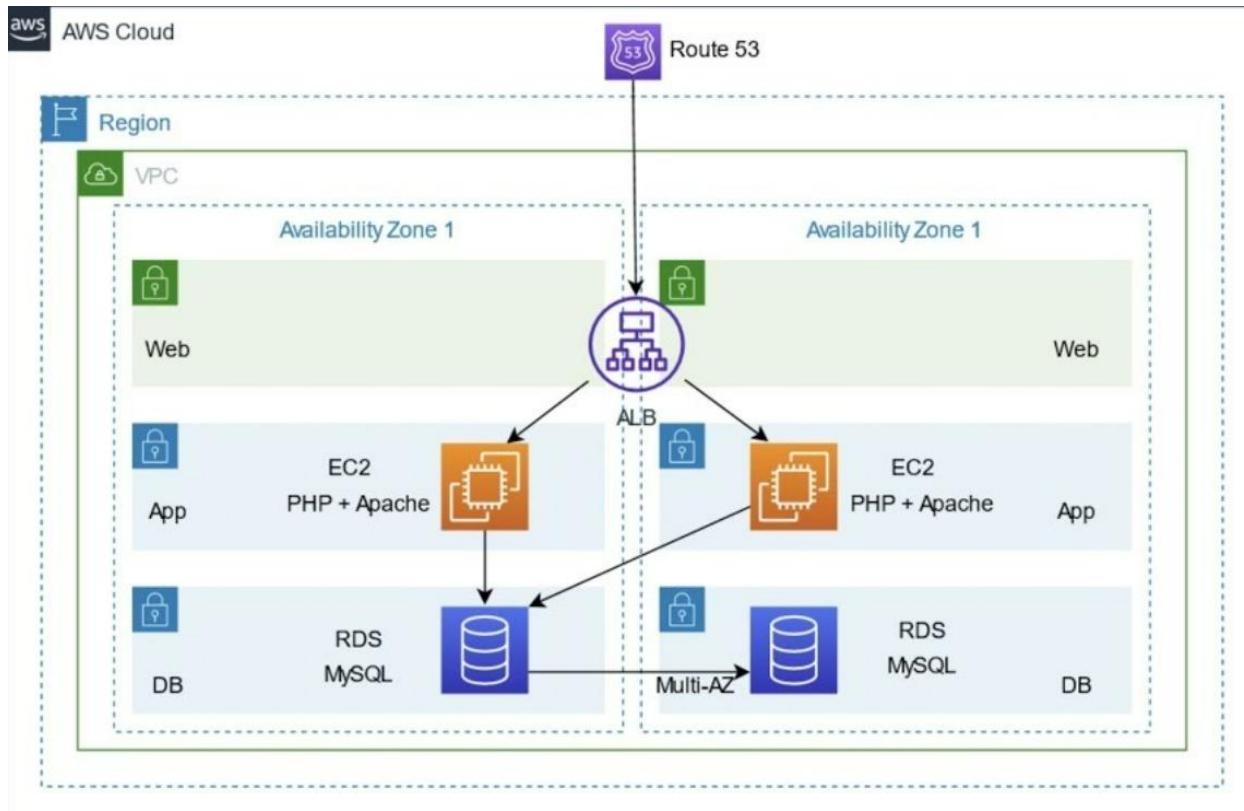
This project involves designing and developing an event reservation system on AWS infrastructure. It aims to streamline reservation processes while ensuring scalability and reliability. Leveraging AWS service like EC2, S3, Lambda, and DynamoDB, the system will provide a seamless user experience. High availability and security measures will be implemented to maintain system integrity. Ultimately, the goal is to create a cost-effective solution capable of handling varying levels of demand.

### **Services Used:**

- Amazon EC2
  - Providers resizable compute capacity in the cloud, enabling hosting of virtual servers for various computing needs.
    - . In EC2 we will create an instance
    - . the instance will be created with the name railway
    - . through this we will be generating password and the username
    - . this username and password will be used in the virtual desktop
- I have also used Virtual desktop for making my project complete.
  - . Virtual desktop plays a major role in this project
  - . In this virtual desktop firstly, we will be installing the xampp.

- . After installing the xampp give all the necessary permissions and allow all.
- . After fully completion of the installation, it will be automatically displaying a control panel of xampp.
- . At first there will be no access to the Admin.
- . We should upload the railway file which is in the c drive
- . the file should be uploaded or shifted into the htdocs.
- . to display the output of the project we will be using the database.

### **Architecture :**



## Procedure :

The screenshot shows the AWS sign-in process and a promotional banner for AWS Training and Certification.

**AWS Sign-in:**

- The URL is [signin.aws.amazon.com/signin?redirect\\_uri=https%3A%2F%2Fus-east-2.console.aws.amazon.com%2Fconsole%2Fhome%3FhashArgs%3D%2...](https://signin.aws.amazon.com/signin?redirect_uri=https%3A%2F%2Fus-east-2.console.aws.amazon.com%2Fconsole%2Fhome%3FhashArgs%3D%2...)
- The user has selected "Root user".
- The "Root user email address" is set to `2100032132cseh@gmail.com`.
- A "Next" button is visible.
- A note at the bottom states: "By continuing, you agree to the AWS Customer Agreement or other agreement for AWS services, and the Privacy Notice. This site uses essential cookies. See our Cookie Notice for more information."
- A "New to AWS?" link is present.

**AWS Training and Certification:**

The banner features the text "AWS Training and Certification" and "Propel your career. Get AWS certified". It includes a "LEARN MORE" button and a graphic of a gear and ribbon.

The screenshot shows the AWS EC2 Dashboard for the US East (Ohio) Region.

**EC2 Dashboard:**

- The URL is [us-east-2.console.aws.amazon.com/ec2/home?region=us-east-2#Home](https://us-east-2.console.aws.amazon.com/ec2/home?region=us-east-2#Home)
- The sidebar includes sections for EC2 Global View, Events, Instances, Images, and Elastic Block Store.
- The main "Resources" section lists Amazon EC2 resources: Instances (running), Auto Scaling Groups, Dedicated Hosts, Elastic IPs, Instances, Key pairs, Load balancers, Placement groups, Security groups, Snapshots, and Volumes.
- The "Launch instance" section allows starting a new instance.
- The "Service health" section links to the AWS Health Dashboard.
- The "Account attributes" section includes settings for Data protection and security, Zones, EC2 Serial Console, Default credit specification, and Console experiments.
- The "Explore AWS" section highlights Amazon GuardDuty Malware Protection and Save up to 90% on EC2 with Spot Instances.
- Footer links include Privacy, Terms, and Cookie preferences.

The screenshot shows the 'Launch an instance' wizard on the AWS EC2 console. The current step is 'Name and tags'. In the 'Name' field, the value 'railway' is entered. To the right, there is a 'Add additional tags' button. Below this section is a search bar for finding application and OS images.

**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.

Search our full catalog including 1000s of application and OS images

**Summary**

Number of instances Info

Software Image (AMI)  
Amazon Linux 2023 AMI 2023.4.2... read more  
ami-019fb3318b7155c5

Virtual server type (instance type)  
t2.micro

Firewall (security group)  
New security group

Storage (volumes)  
1 volume(s) - 8 GiB

Cancel Launch instance Review commands

© 2024, Amazon Web Services, Inc. or its affiliates. Privacy Terms Cookie preferences

The screenshot shows the 'Launch an instance' wizard on the AWS EC2 console. The current step is 'Application and OS Images (Amazon Machine Image)'. It displays a grid of quick start AMI icons: Amazon Linux, macOS, Ubuntu, Windows, Red Hat, and SUSE Linux. Below this is a search bar for finding AMIs.

**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.

Search our full catalog including 1000s of application and OS images

**Recents** **Quick Start**

Amazon Linux macOS Ubuntu Windows Red Hat SUSE Linux

Browse more AMIs  
Including AMIs from AWS, Marketplace and the Community

**Amazon Machine Image (AMI)**

Microsoft Windows Server 2022 Base  
ami-02db44a38cfb5d753 (64-bit (x86))  
Virtualization: hvm ENA enabled: true Root device type: ebs

Free tier eligible ▼

**Summary**

Number of instances Info

Software Image (AMI)  
Amazon Linux 2023 AMI 2023.4.2... read more  
ami-019fb3318b7155c5

Virtual server type (instance type)  
t2.micro

Firewall (security group)  
New security group

Storage (volumes)  
1 volume(s) - 8 GiB

Cancel Launch instance Review commands

© 2024, Amazon Web Services, Inc. or its affiliates. Privacy Terms Cookie preferences

# 2100032132\_K.Sruthi

The screenshot shows the 'Create key pair' step in the AWS EC2 'Launch instance' wizard. A modal window titled 'Create key pair' is open, prompting the user to enter a key pair name. The 'Key pair type' section shows two options: 'RSA' (selected) and 'ED25519'. The 'Private key file format' section shows two options: '.pem' (selected) and '.ppk'. A note at the bottom of the modal says, 'When prompted, store the private key in a secure and accessible location on [your computer]'. Below the modal, the main EC2 launch wizard shows the selected instance type 't2.micro' and other configuration options like 'Key pair (login)', 'Network settings', and 'Review commands'.

The screenshot shows the 'Summary' step in the AWS EC2 'Launch instance' wizard. It displays the following details:

- Number of instances:** 1
- Software Image (AMI):** Microsoft Windows Server 2022 ...read more  
ami-02db44a38cfb5d753
- Virtual server type (instance type):** t2.micro
- Firewall (security group):** New security group
- Storage (volumes):** 1 volume(s) - 30 GiB

A 'Launch instance' button is prominently displayed at the bottom right of the summary panel.

# 2100032132\_K.Sruthi

The screenshot shows the 'Configure storage' step of the EC2 launch wizard. It specifies 1x 30 GiB gp2 volume as the root volume (not encrypted). A note indicates that free-tier eligible customers can get up to 30 GB of EBS General Purpose (SSD) or Magnetic storage. An 'Add new volume' button is available. A warning message states that the selected AMI contains more instance store volumes than the instance allows, and only the first 0 instance store volumes from the AMI will be accessible from the instance. Another note suggests clicking refresh to view backup information. The summary panel on the right shows 1 instance, Microsoft Windows Server 2022 AMI, t2.micro instance type, and a New security group. The 'Launch instance' button is highlighted.

The screenshot shows the 'Firewall (security groups)' step of the EC2 launch wizard. It enables a new security group named 'launch-wizard-3'. It lists three rules: 'Allow RDP traffic from Anywhere (0.0.0.0/0)', 'Allow HTTPS traffic from the internet', and 'Allow HTTP traffic from the internet'. A note warns against allowing all IP addresses and recommends setting security group rules to allow access from known IP addresses only. The 'Summary' panel on the right remains the same as the previous step, showing 1 instance, Microsoft Windows Server 2022 AMI, t2.micro instance type, and a New security group. The 'Launch instance' button is highlighted.

**2100032132\_K.Sruthi**

The screenshot shows the AWS EC2 'Launch an instance' page. At the top, there is a green success banner stating 'Successfully initiated launch of instance (i-0c472bc58c0d67a7b)'. Below the banner, there is a link to 'Launch log'. Under the 'Next Steps' section, there are four cards: 'Create billing and free tier usage alerts', 'Connect to your instance', 'Connect an RDS database', and 'Create EBS snapshot policy'. Each card has a corresponding button: 'Create billing alerts', 'Connect to instance', 'Connect an RDS database', and 'Create EBS snapshot policy'. The bottom of the page includes standard AWS navigation links like CloudShell, Feedback, and a footer with copyright information.

The screenshot shows the AWS EC2 'Instances' page. The main table displays one instance: 'railway' (Instance ID: i-0c472bc58c0d67a7b, Instance state: Pending, Instance type: t2.micro). The left sidebar shows a navigation menu with categories like EC2 Dashboard, EC2 Global View, Events, Instances (selected), Instance Types, Launch Templates, Spot Requests, Savings Plans, Reserved Instances, Dedicated Hosts, Capacity Reservations, Images (AMIs, AMI Catalog), and Elastic Block Store. The bottom of the page includes standard AWS navigation links like CloudShell, Feedback, and a footer with copyright information.

2100032132\_K.Sruthi

The screenshot shows the AWS EC2 Instances page. On the left, a sidebar lists various EC2-related options like Dashboard, View, Events, Instances (selected), Instance Types, Launch Templates, etc. The main area displays a table titled 'Instances (1) Info' with one row. The instance is named 'railway', has an ID of 'i-0c472bc58c0d67a7b', is 'Running', is of type 't2.micro', and has 2/2 checks passed. The status check is 'OK'. The availability zone is 'us-east-2a'. Below the table, a modal window titled 'Select an instance' is open, showing the same information. At the bottom right of the main area, there's a note: '© 2024, Amazon Web Services, Inc. or its affiliates. Privacy Terms Cookie preferences'.

The screenshot shows the 'Connect to instance' page for the 'railway' instance. The top navigation bar is identical to the previous screenshot. The main content area is titled 'CONNECT TO INSTANCE' and shows the instance ID 'i-0c472bc58c0d67a7b (railway)'. It provides two connection options: 'RDP client' (selected) and 'EC2 serial console'. Under 'RDP client', it says 'Connect using RDP client' and provides a download link for the remote desktop file. An alternative method, 'Connect using Fleet Manager', is also shown with a note about the SSM Agent. A note at the bottom says 'You can connect to your Windows instance using a remote desktop client of your choice, and by downloading and running the RDP shortcut file below.' A download button for the RDP file is present. To the right, there's a section for entering a Public DNS (set to 'ec2-18-118-210-48.us-east-2.compute.amazonaws.com') and a Username (set to 'Administrator'). The footer contains the usual AWS copyright and links.

# 2100032132\_K.Sruthi

The screenshot shows the AWS CloudShell interface with the title bar "Get windows password | EC2". The main content area displays the URL "us-east-2.console.aws.amazon.com/ec2/home?region=us-east-2#GetWindowsPassword instanceId=i-0c472bc58c0d67a7b;previousPlace=Co...". Below the URL, the AWS navigation bar includes links for Gmail, YouTube, Maps, Mail - KOWDAGANI..., KL University ERP, Dashboard, Global NetAcad Inst..., Google Developer P..., Problems - LeetCode, All Bookmarks, AWS App Mesh, Services, and a search bar. The user's name "Sruthi" is visible in the top right corner.

The main content area shows the "Get Windows password" configuration page for instance **i-0c472bc58c0d67a7b (railway)**. It includes fields for "Key pair associated with this instance" (set to **railway**), "Private key" (with a note to upload a private key file or paste its contents), and a "Private key contents - optional" text area containing a long RSA PRIVATE KEY string. A "Decrypt password" button is present at the bottom right of this section.

Below this, the navigation bar shows the path: EC2 > Instances > i-0c472bc58c0d67a7b > Get Windows password. The title "Get Windows password" is displayed above a detailed configuration form. This form mirrors the fields from the previous screen, including the instance ID, key pair, and private key options.

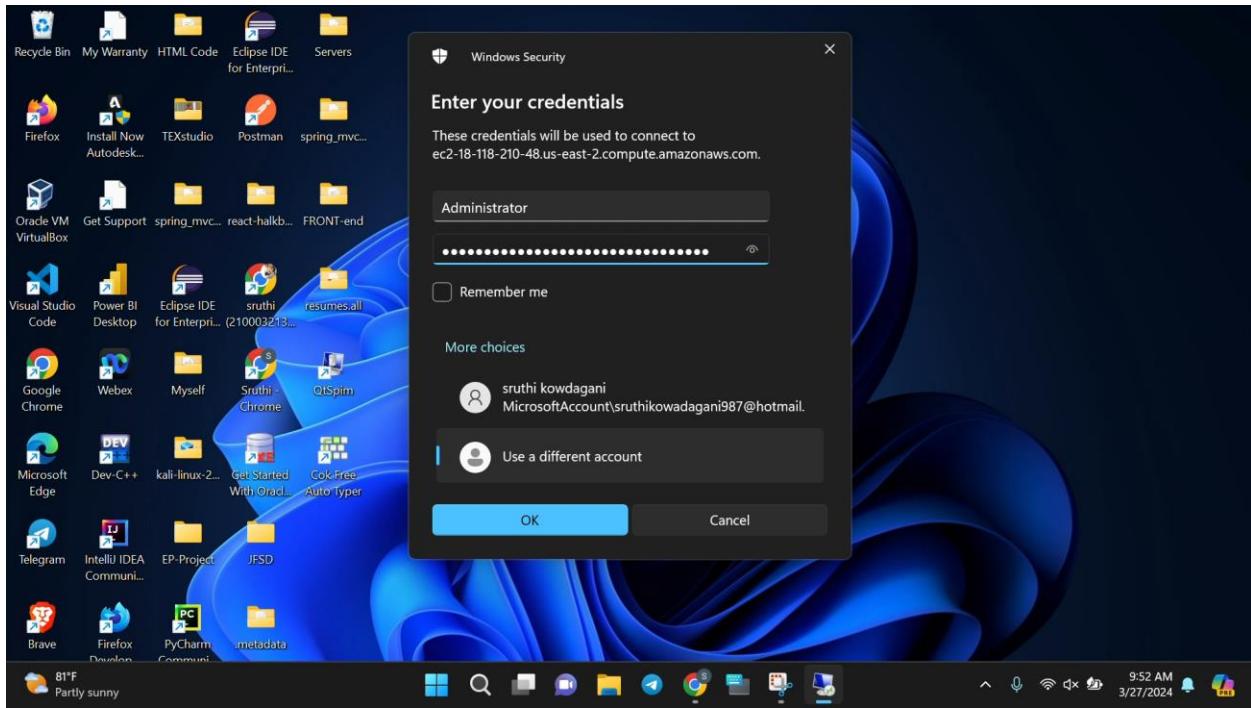
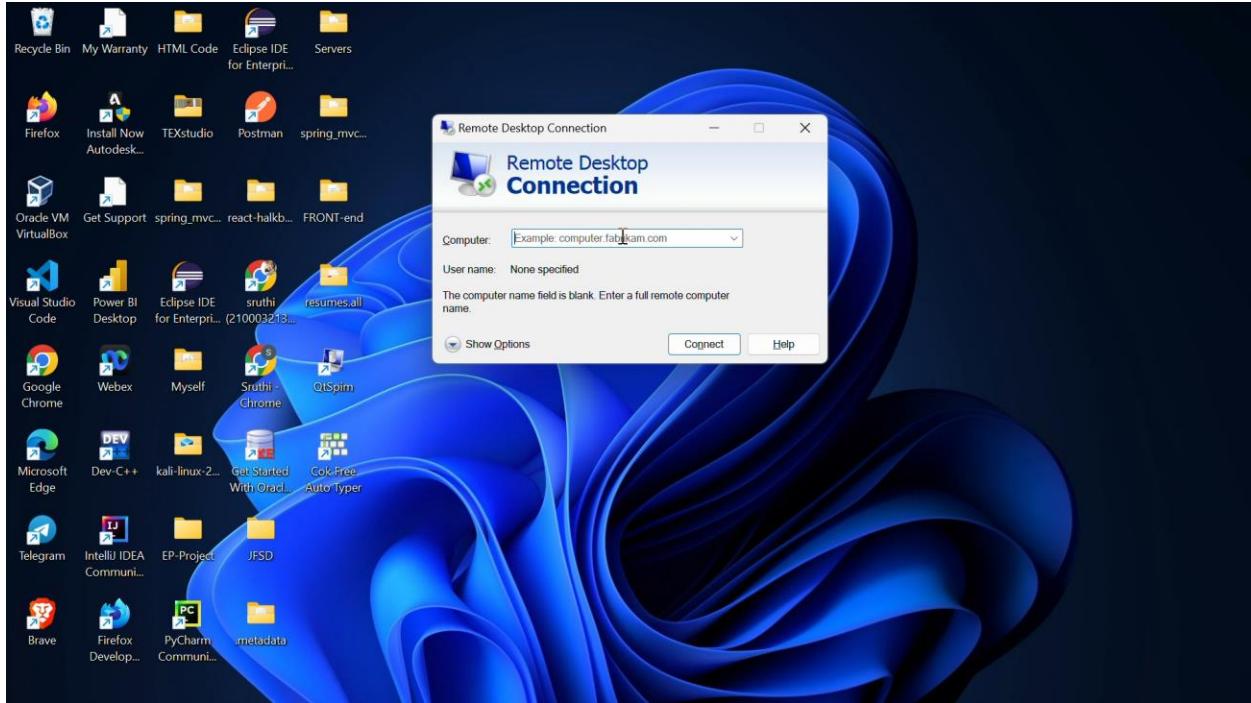
At the bottom of the CloudShell interface, there are links for CloudShell, Feedback, and the footer text "© 2024, Amazon Web Services, Inc. or its affiliates. Privacy Terms Cookie preferences".

# 2100032132\_K.Sruthi

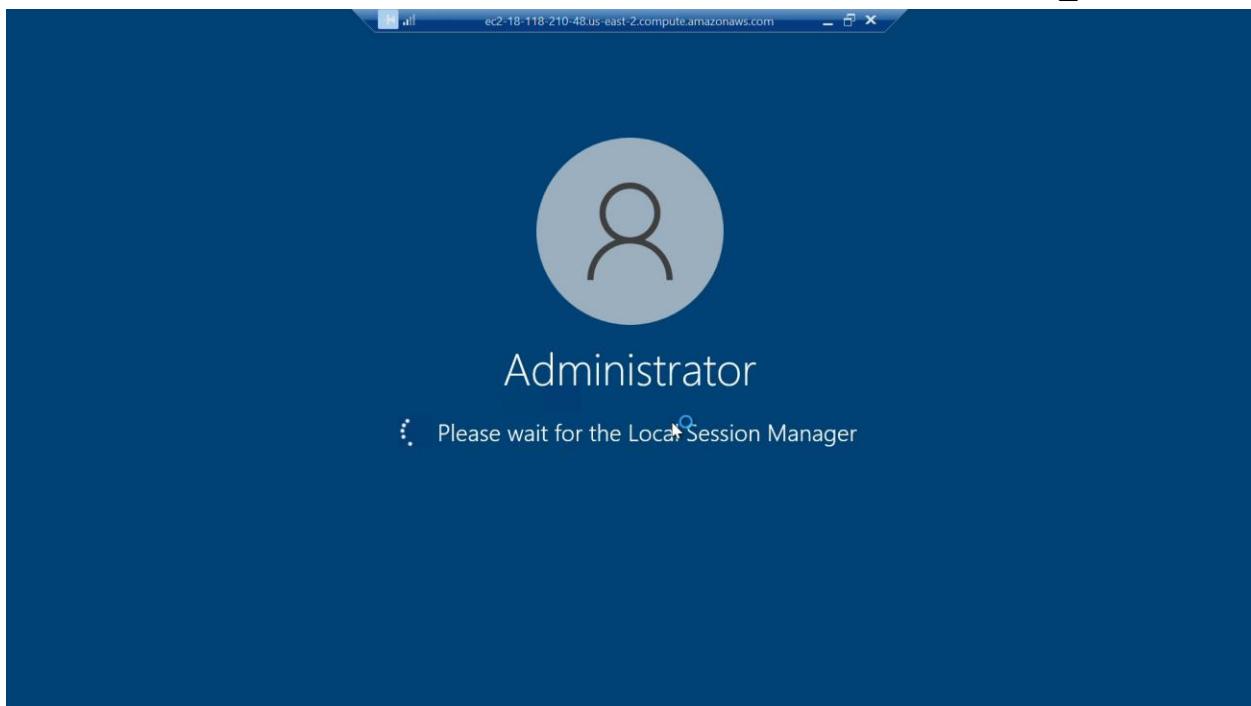
The screenshot shows the AWS EC2 Connect to instance page. At the top, it displays the instance ID: i-0c472bc58c0d67a7b (railway). Below this, there are three connection options: Session Manager, RDP client (selected), and EC2 serial console. The RDP client section shows the instance ID and provides two methods for connection: "Connect using RDP client" (selected) and "Connect using Fleet Manager". A note states that the SSM Agent must be installed and running on the instance. A "Download remote desktop file" button is available. Below this, instructions for connecting using a remote desktop client or the RDP shortcut file are provided.

The screenshot shows the AWS EC2 Connect to instance page for a different instance. The Public DNS is listed as ec2-18-118-210-48.us-east-2.compute.amazonaws.com. The Username dropdown is set to Administrator. A note indicates that the SSM Agent must be installed and running on the instance. A "Download remote desktop file" button is available. Below this, instructions for connecting using a remote desktop client or the RDP shortcut file are provided. A note at the bottom left says: "If you've joined your instance to a directory, you can use your directory credentials to connect to your instance." A "Cancel" button is visible at the bottom right.

2100032132\_K.Sruthi

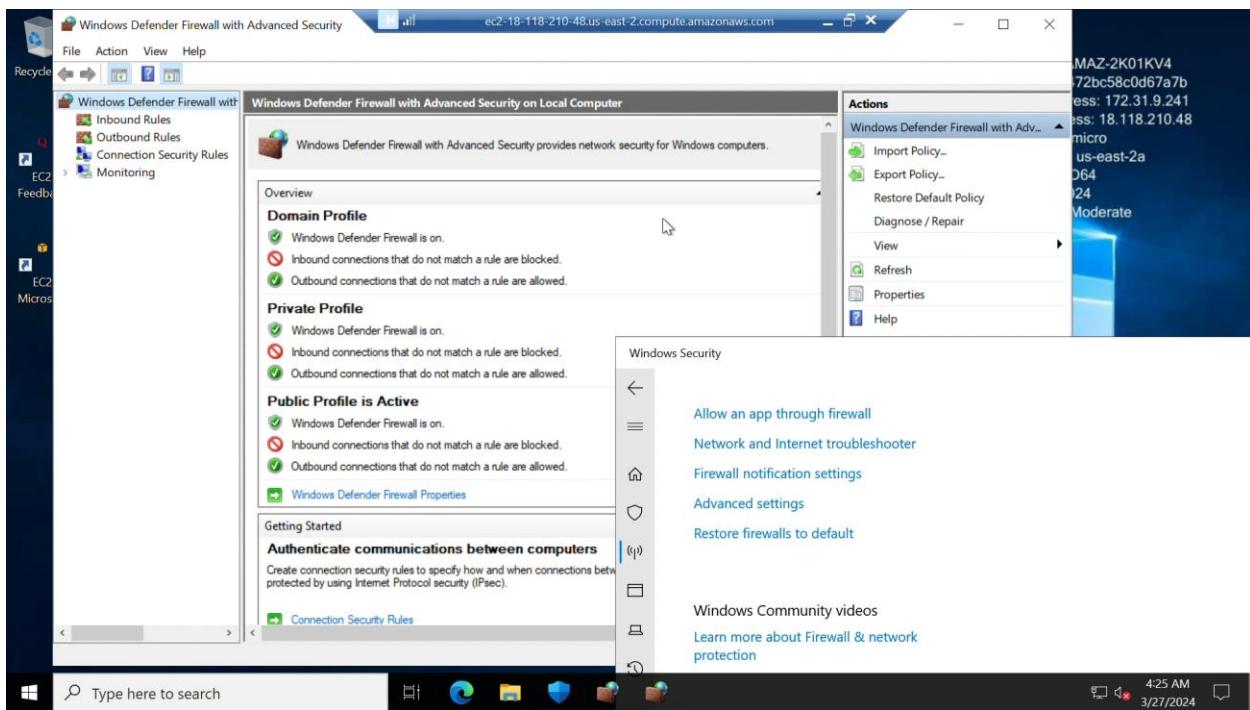
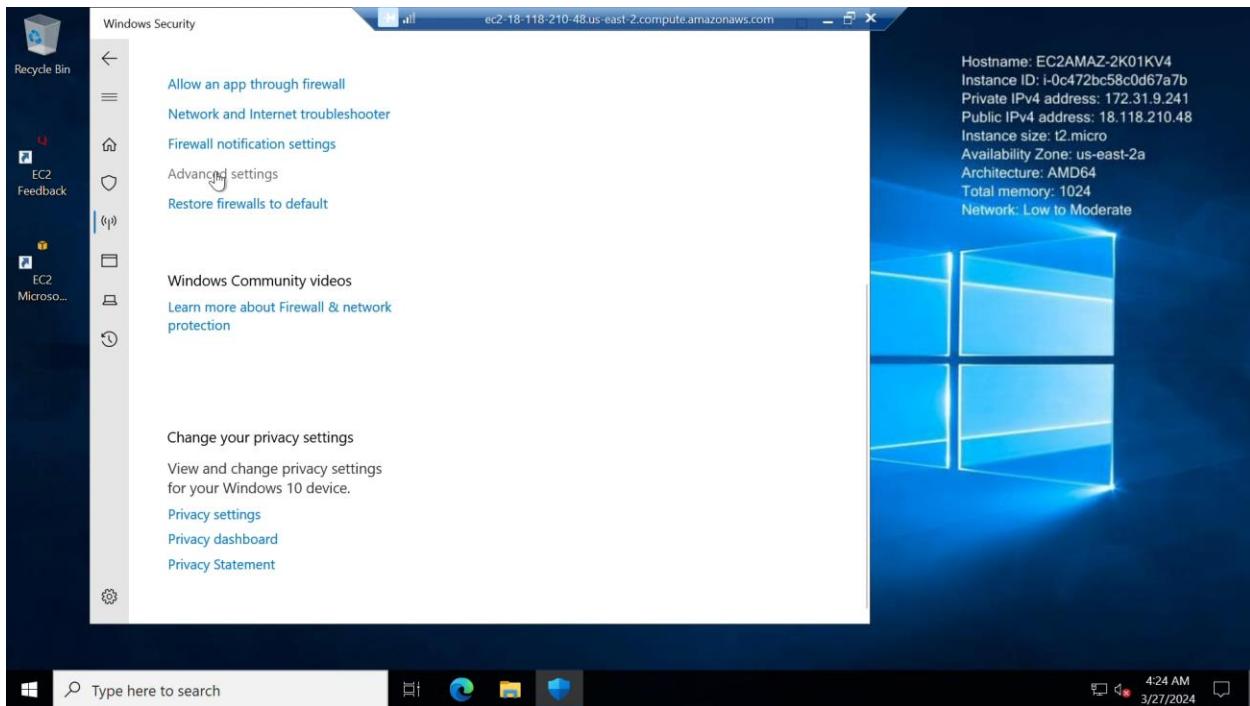


2100032132\_K.Sruthi

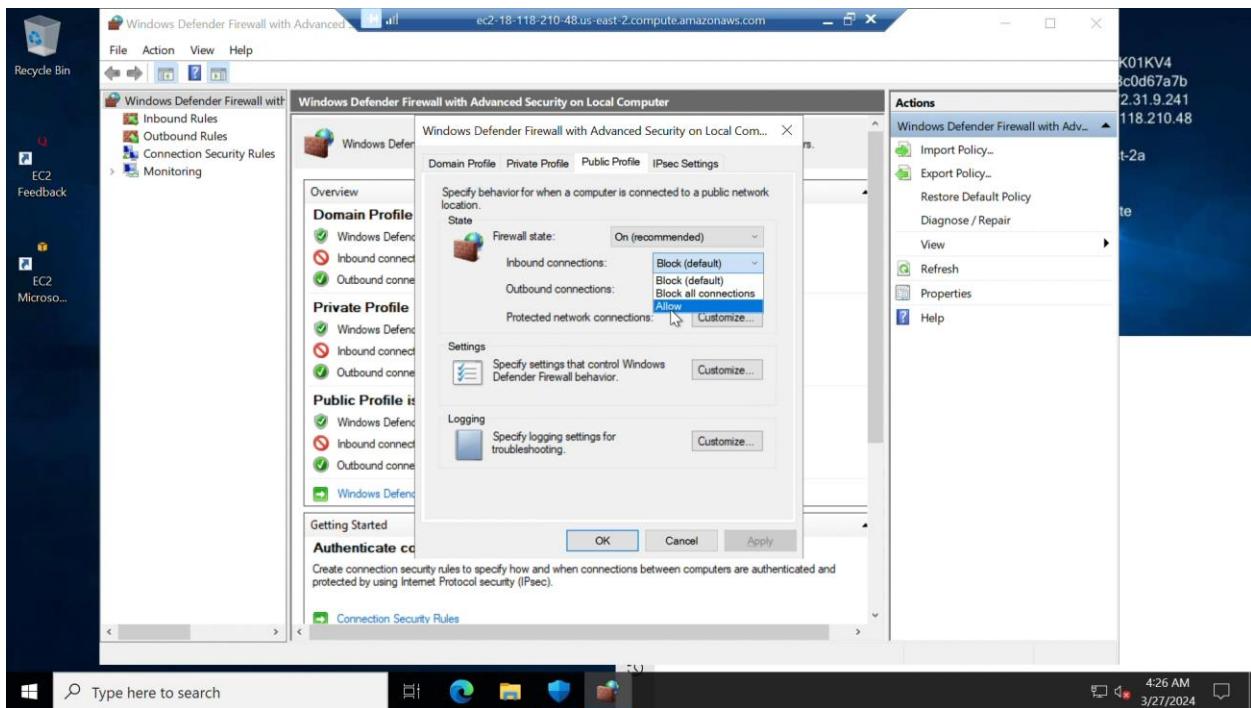
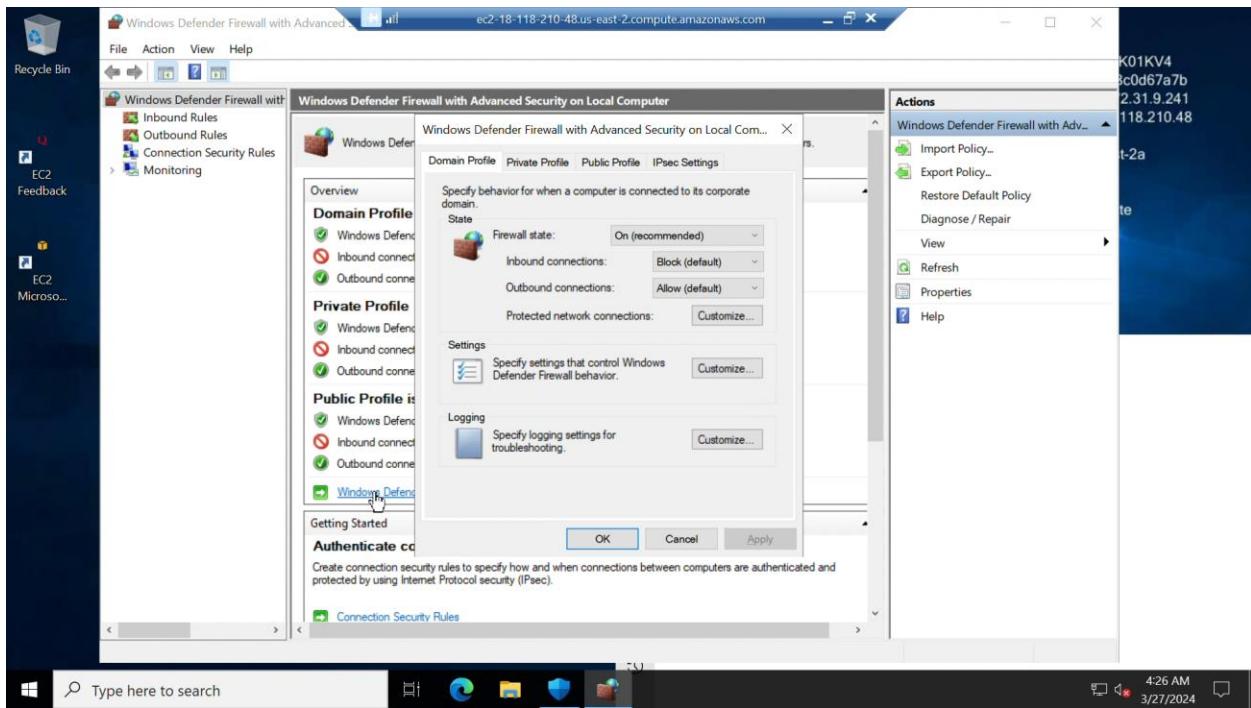


The image shows the Windows Security dashboard. On the left, there's a sidebar with icons for Recycle Bin, EC2 Feedback, and EC2 Microsoft... The main area has a title "Security at a glance" and a subtitle "See what's happening with the security and health of your device and take any actions needed." It displays four cards: "Virus & threat protection" (No action needed), "Firewall & network protection" (No action needed), "App & browser control" (No action needed), and "Device security" (View status and manage hardware security features). To the right, there's a large blue window showing system details: Hostname: EC2AMAZ-2K01KV4, Instance ID: i-0c472bc58cd67a7b, Private IPv4 address: 172.31.9.241, Public IPv4 address: 18.118.210.48, Instance size: t2.micro, Availability Zone: us-east-2a, Architecture: AMD64, Total memory: 1024, and Network: Low to Moderate. The bottom of the screen shows the Windows taskbar with a search bar, the Start button, and several pinned icons.

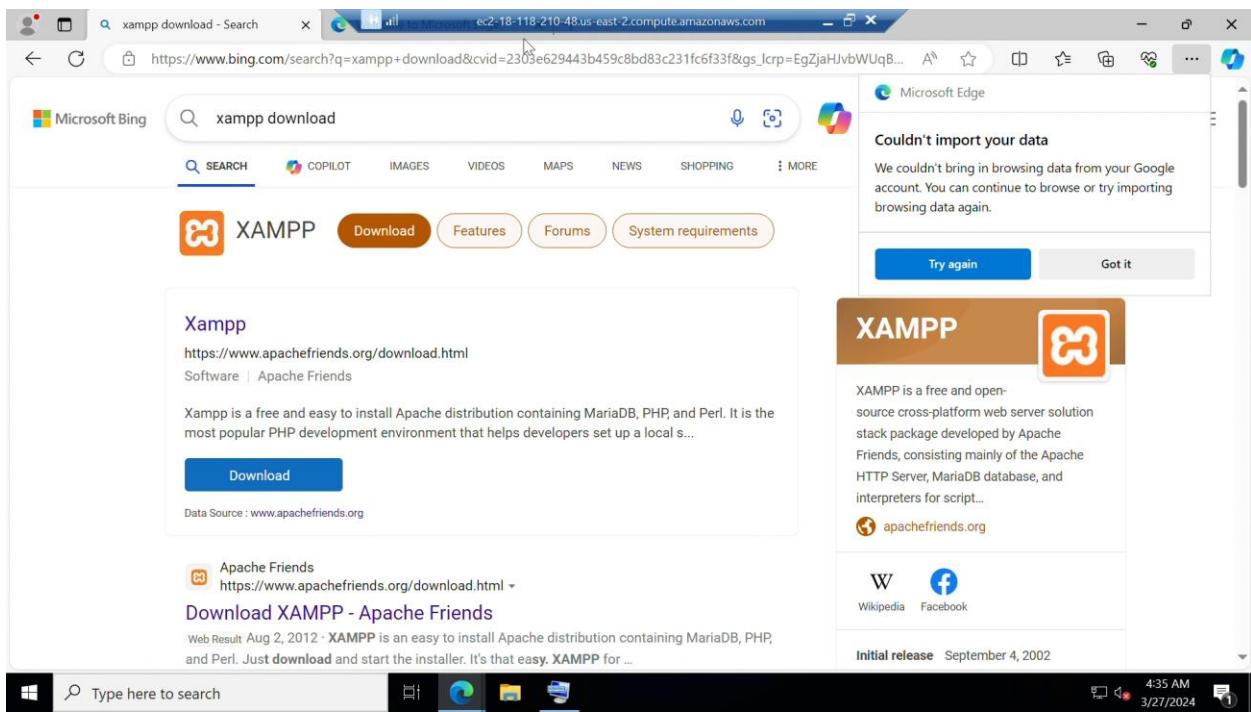
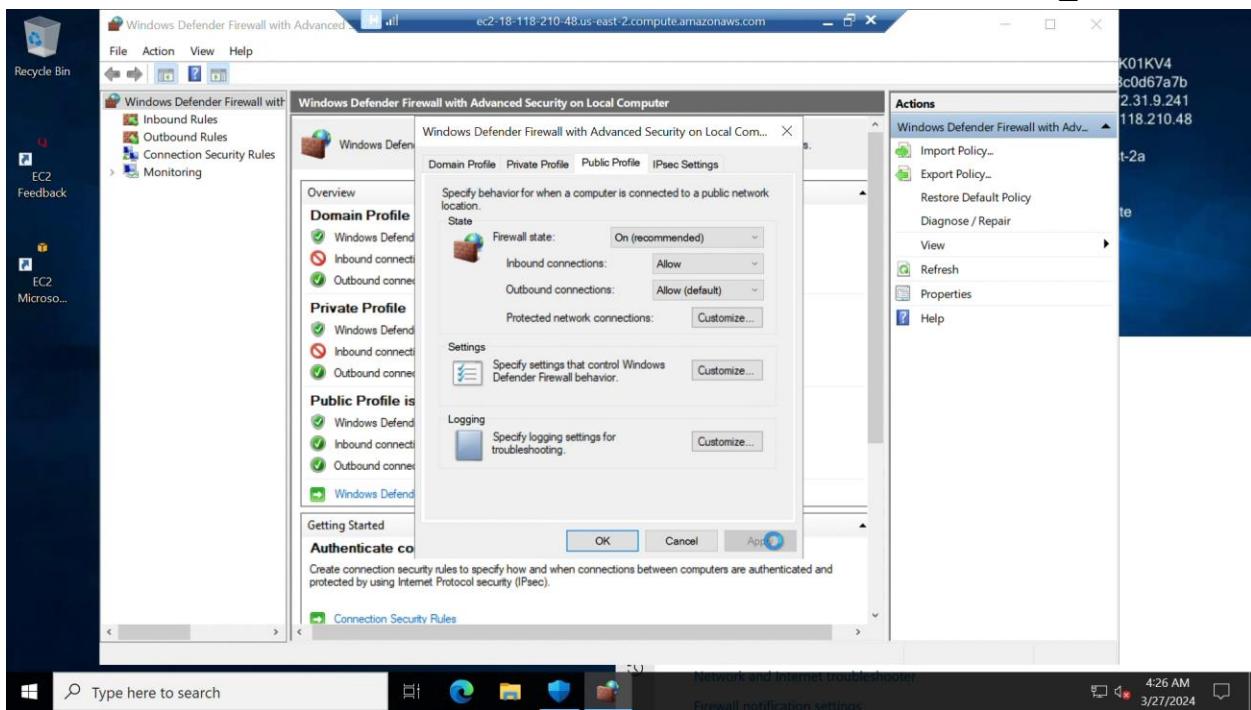
2100032132\_K.Sruthi



2100032132\_K.Sruthi



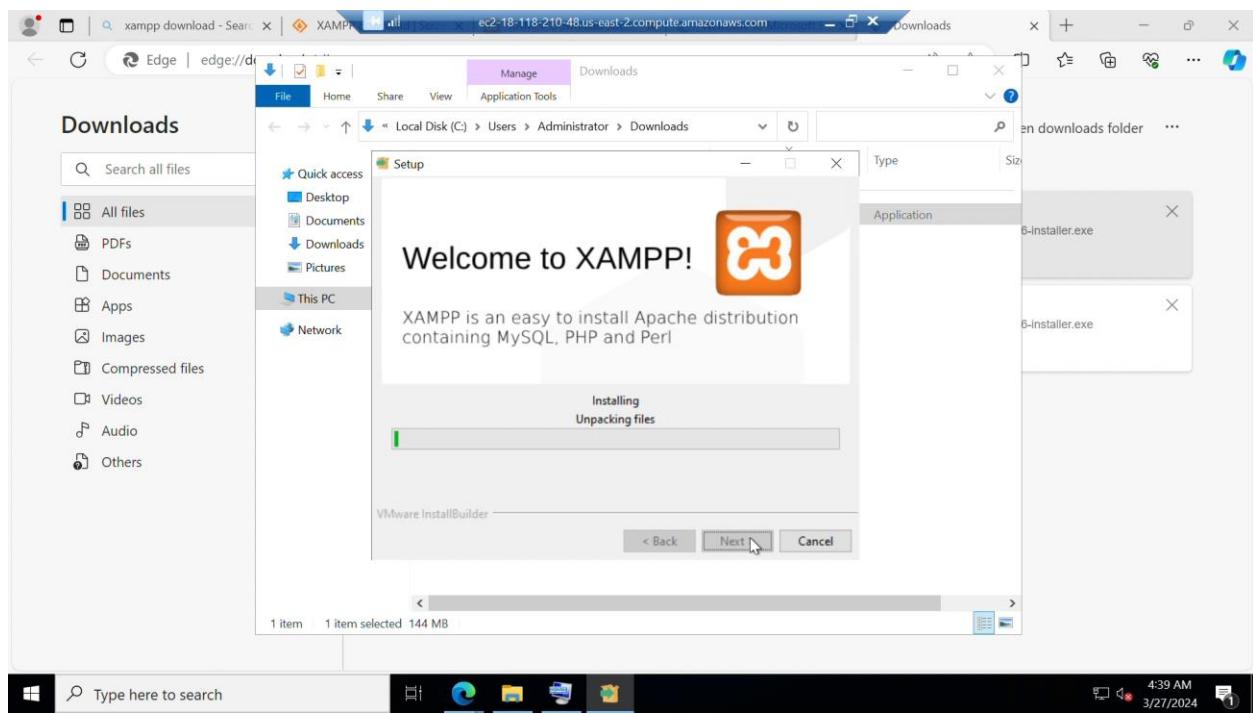
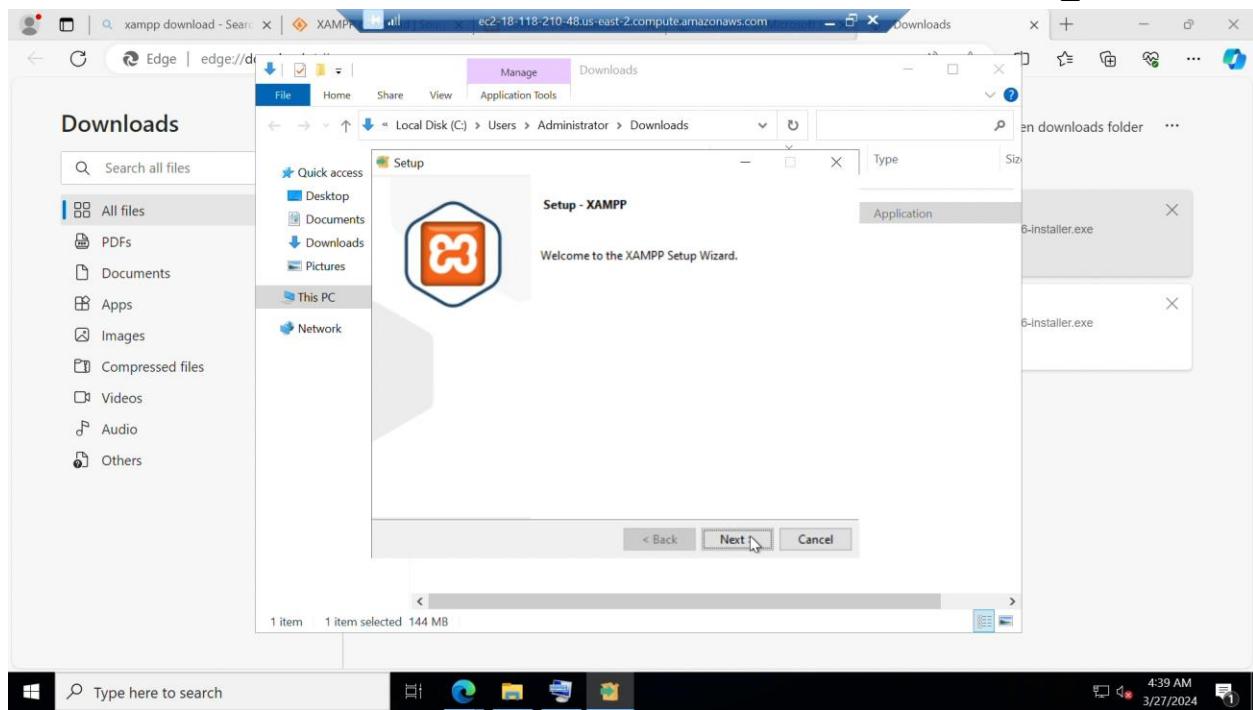
2100032132\_K.Sruthi



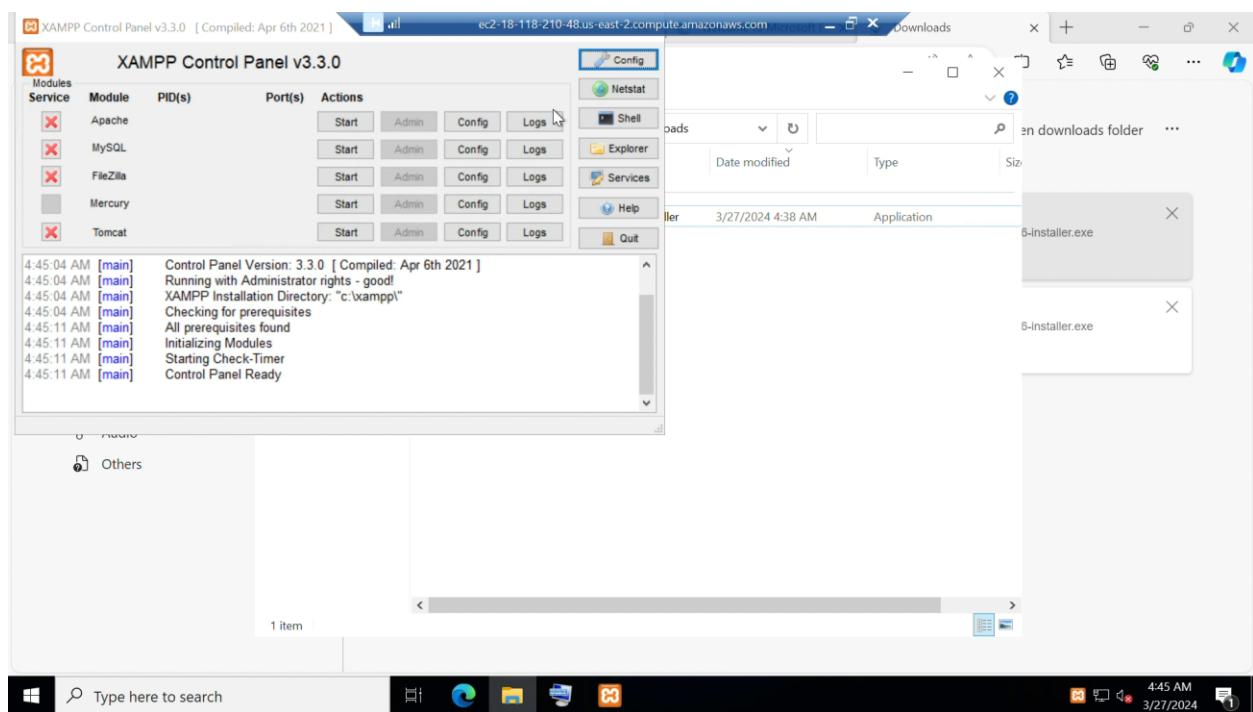
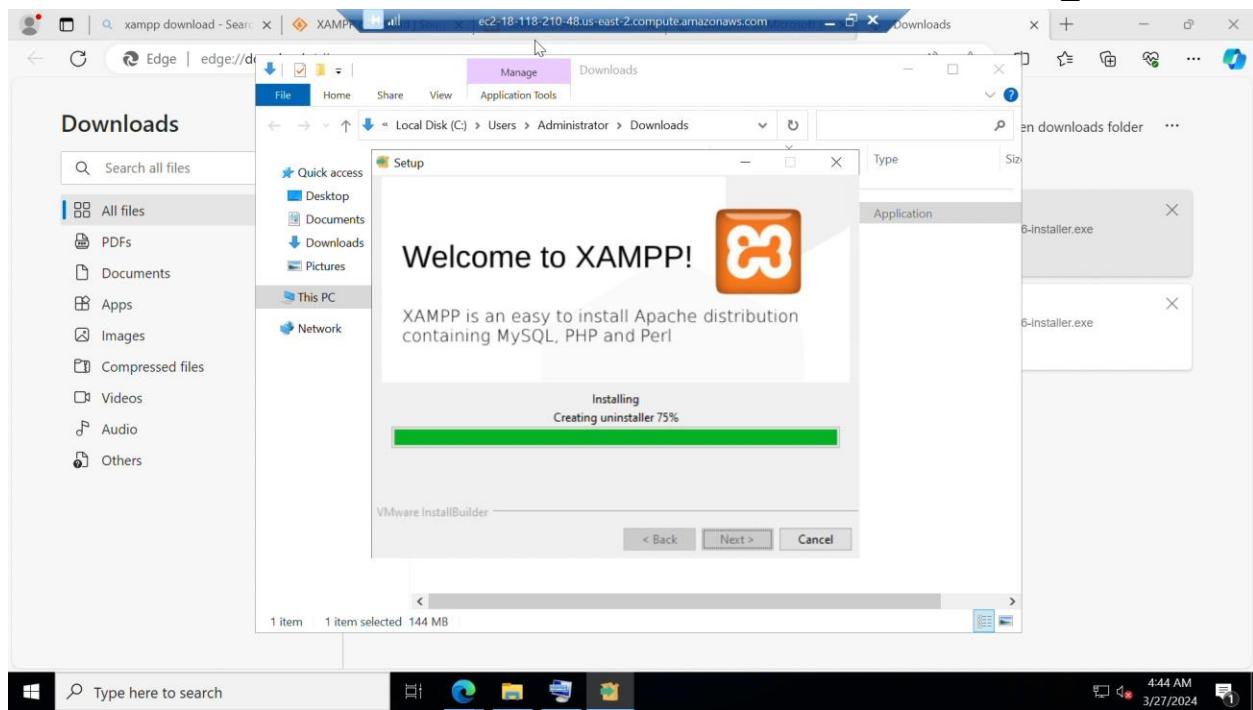
The screenshot shows a Microsoft Edge browser window. The address bar displays "xampp download - Search" and the URL "https://www.apachefriends.org/download\_success.html". The main content area shows a large "Awesome!" message and a progress bar for the download of "xampp-windows-x64-8.0.30-0-VS16-installer.exe" at 10.0 MB/s, 137 MB of 145 MB, with 0 secs left. Below this, there's a section titled "Tell Your Friends about XAMPP" with a "Tweet!" button and social sharing links for Twitter and Facebook. A sidebar on the left contains sections for "Reading" (with links to Linux, Windows, and OS X FAQs) and "Community" (with links to forums, Facebook, and Twitter). The taskbar at the bottom shows the Windows Start button, a search bar, and several pinned icons.

This screenshot is similar to the one above but includes a "Warning" dialog box in the foreground. The dialog says: "Important! Because an activated User Account Control (UAC) on your system some functions of XAMPP are possibly restricted. With UAC please avoid to install XAMPP to C:\Program Files (missing write permissions). Or deactivate UAC with msconfig after this setup." There is an "OK" button at the bottom right of the dialog. The rest of the interface is identical to the first screenshot, showing the download progress in the Microsoft Edge interface.

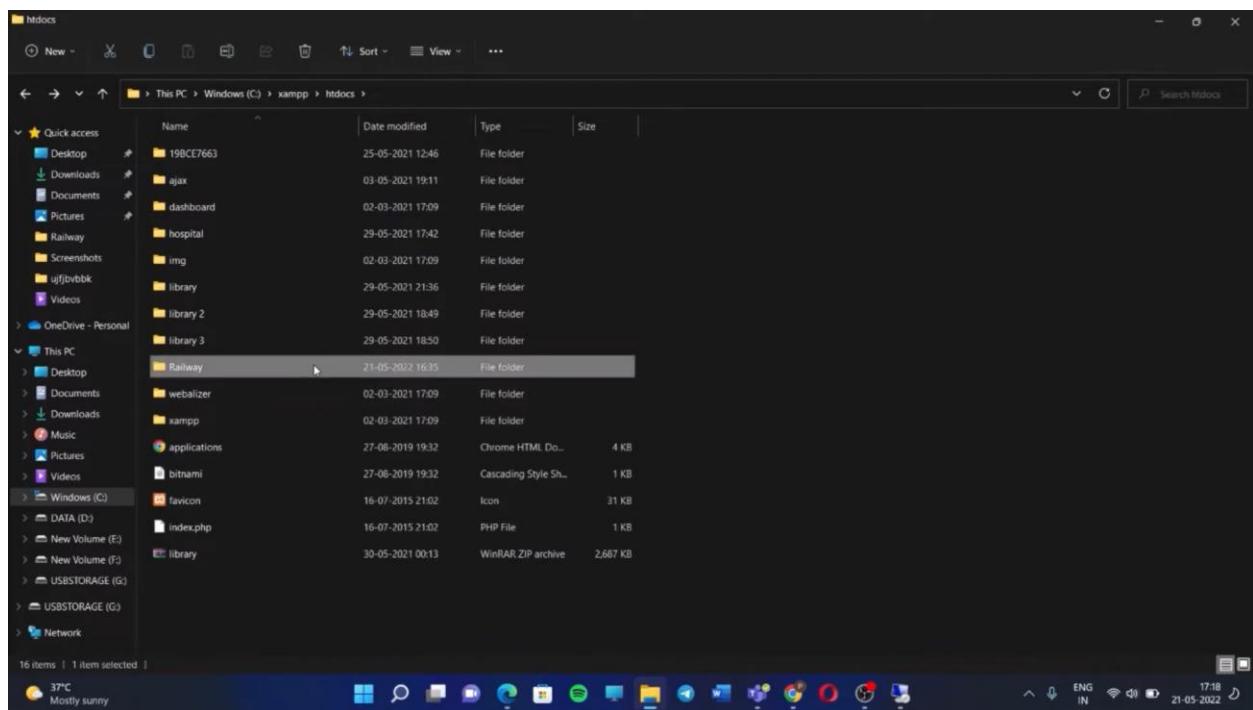
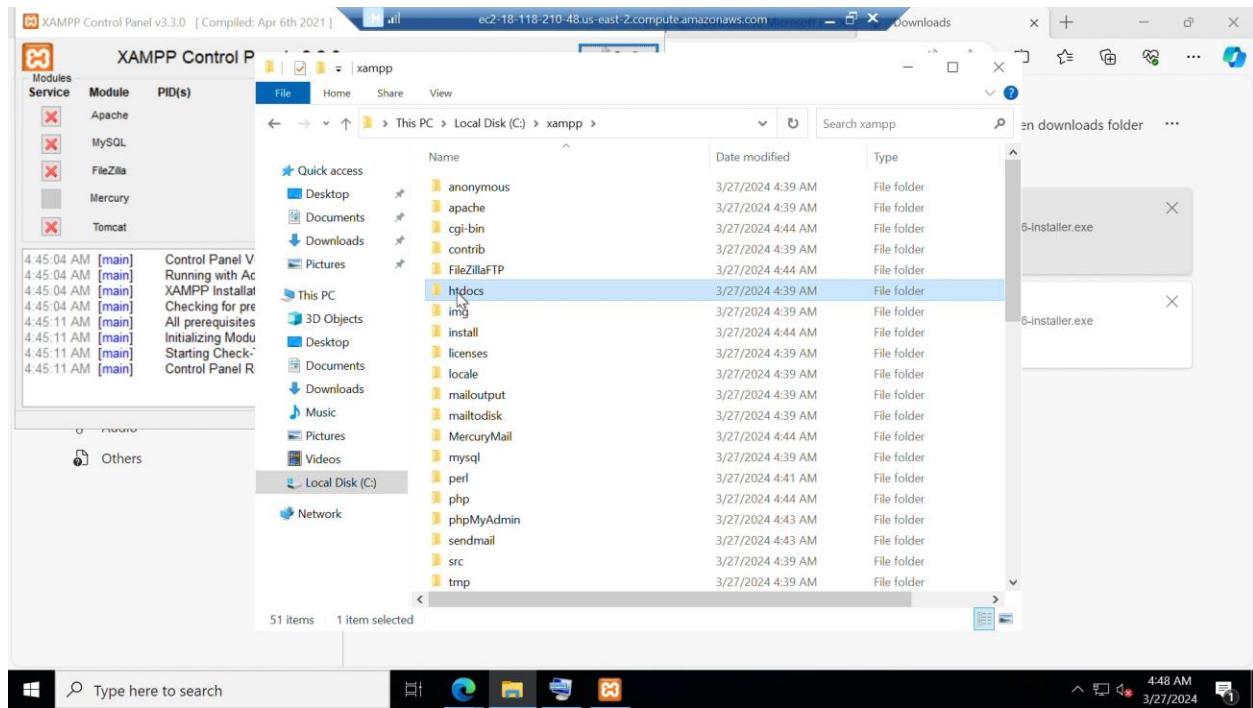
**2100032132\_K.Sruthi**



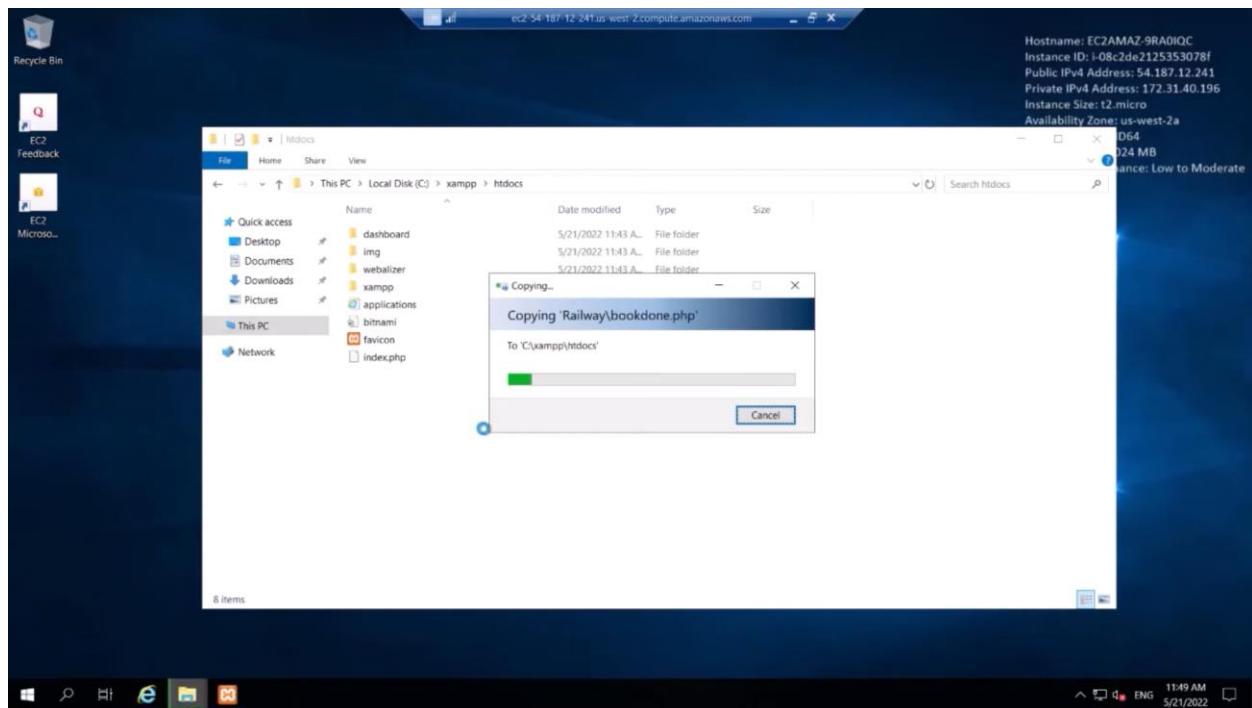
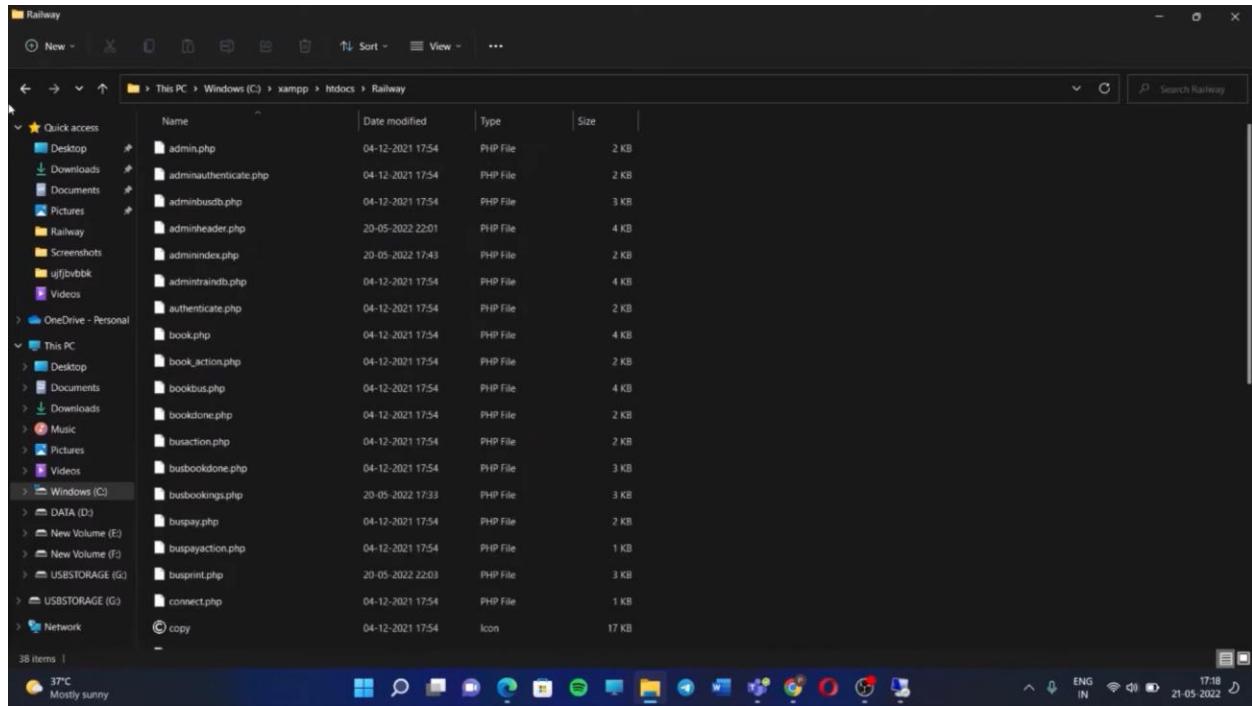
2100032132\_K.Sruthi



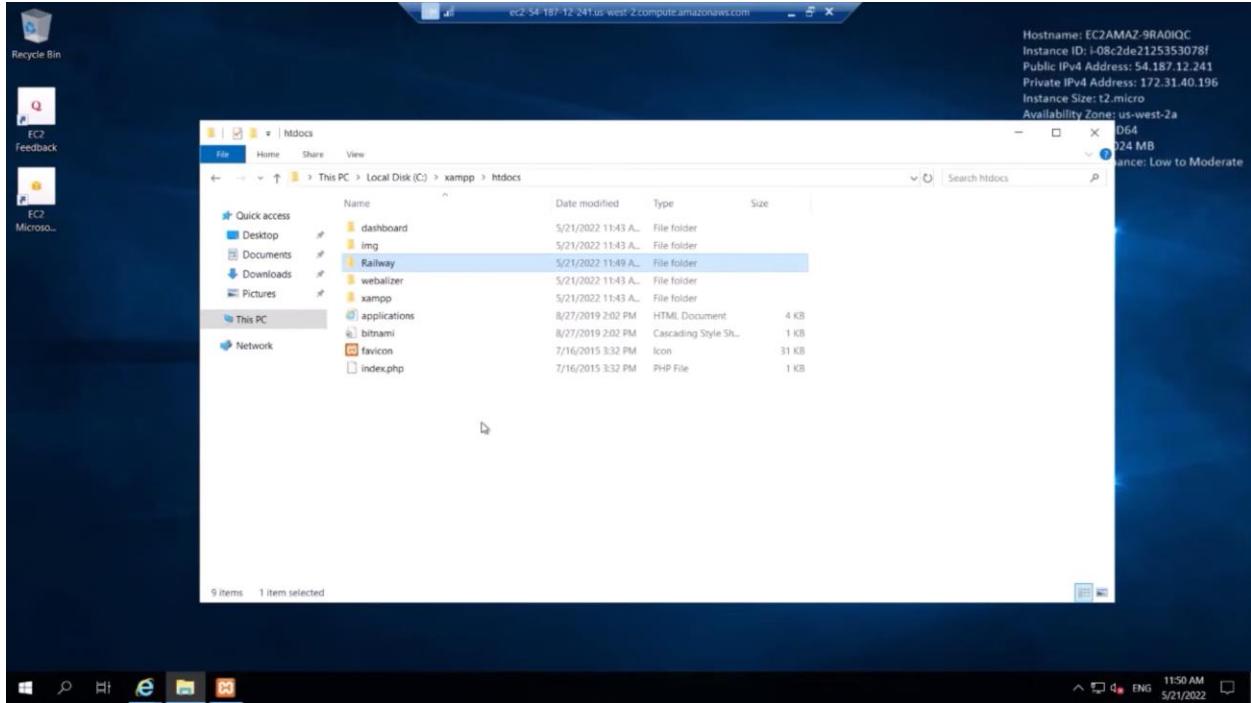
# 2100032132\_K.Sruthi



**2100032132\_K.Sruthi**



2100032132\_K.Sruthi

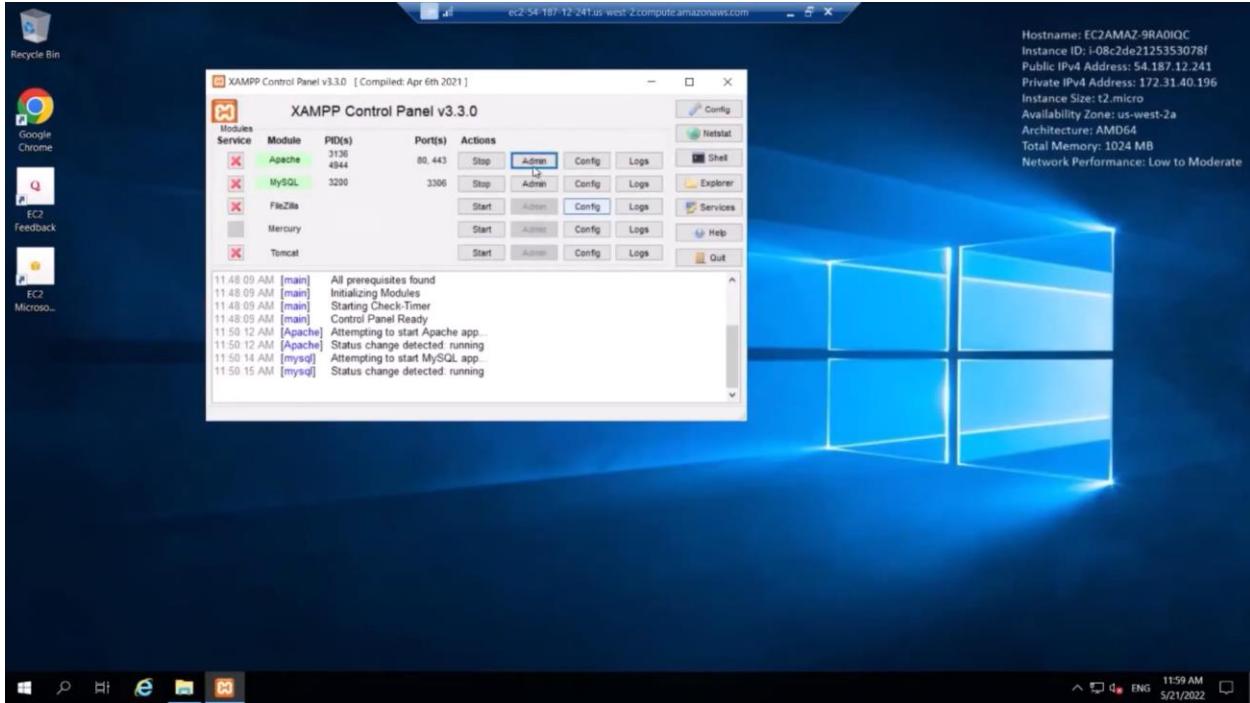


A screenshot of the phpMyAdmin interface running on a local host. The left sidebar shows databases: New, information\_schema, mysql, performance\_schema, phpmyadmin, and test. The main content area is divided into several sections:

- General settings:** Server connection collation: utf8mb4\_unicode\_ci
- Database server:** Server: 127.0.0.1 via TCP/IP, Server type: MariaDB, Server connection: SSL is not being used, Server version: 10.4.24-MariaDB - mariadb.org binary distribution, Protocol version: 10, User root@localhost, Server charset: UTF-8 Unicode (utf8mb4)
- Appearance settings:** Language: English, Theme: pmahomme
- Web server:** Apache/2.4.53 (Win64) OpenSSL/1.1.1n PHP/7.4.29, Database client version: libmysql - mysqld 7.4.29, PHP extension: mysql curl mbstring, PHP version: 7.4.29
- phpMyAdmin:** Version information: 5.2.0, Documentation, Official Homepage, Contribute, Get support, List of changes, License

The taskbar at the bottom shows the same icons as the previous screenshot, and the system tray shows the date and time as '11:59 AM 5/21/2022'.

# 2100032132\_K.Sruthi



The screenshot shows the phpMyAdmin interface in a web browser. The URL is localhost / 127.0.0.1 | phpMyAdmin. The main menu bar includes Databases, SQL, Status, User accounts, Export, Import, Settings, Replication, Variables, Charsets, Engines, and Plugins. The left sidebar shows the current server (127.0.0.1) and lists databases: information\_schema, mysql, performance\_schema, phpmyadmin, and test. The main content area is titled "Databases" and shows a table of existing databases. A "Create database" button is visible. The table has columns: Database, Collation, and Action. The "action" column contains links labeled "Check privileges". A note at the bottom of the table says: "Note: Enabling the database statistics here might cause heavy traffic between the web server and the MySQL server". The bottom of the screen shows the Windows taskbar with the same icons as the previous screenshot.

**2100032132\_K.Sruthi**

The screenshot shows the phpMyAdmin interface for MySQL version 8.0.11. The main window displays the 'Databases' section. A 'Create database' dialog is open, with the name 'train' entered in the input field and the character set 'utf8mb4\_general\_ci' selected. A 'Create' button is visible. Below the dialog, a table lists existing databases: information\_schema, mysql, performance\_schema, phpmyadmin, and test. Each database entry includes its name, collation, and a 'Check privileges' link. A note at the bottom of the table states: 'Note: Enabling the database statistics here might cause heavy traffic between the web server and the MySQL server.' A 'Enable statistics' link is present. The bottom of the screen shows a Windows taskbar with icons for File Explorer, Task View, Start, Search, and a browser. The system tray shows the date and time as 11:59 AM on 5/21/2022.

**2100032132\_K.Sruthi**

The screenshot shows the phpMyAdmin interface for importing data into the 'train' database. The left sidebar lists databases: New, information\_schema, mysql, performance\_schema, phpmyadmin, test, and train. The main area is titled "Importing into the database 'train'". A "File to import:" section contains a file input field labeled "Choose File" with "No file chosen". Below it is a note about compressed files and a "Browse your computer" link. A "Character set of the file" dropdown is set to "utf-8". A "Partial import:" section includes a checked checkbox for "Allow the interruption of an import in case the script detects it is close to the PHP timeout limit" with a note about it potentially breaking transactions. A "Skip this number of queries (for SQL) starting from the first one:" input field is set to "0". An "Other options" section has a checked checkbox for "Enable foreign key checks". The bottom status bar shows the date and time as 12:00 PM 5/21/2022.

The screenshot shows a Windows File Explorer window with the title "Administrator >". The left pane shows "This PC" and "Network" sections, while the right pane is empty. A file selection dialog box is overlaid on the screen, prompting for a file to open. The dialog has fields for "File name:" and "All Files", and buttons for "Open" and "Cancel". The status bar at the bottom shows the date and time as 12:00 PM 5/21/2022.

**2100032132\_K.Sruthi**

