



SRI LANKA INSTITUTE OF INFORMATION TECHNOLOGY

Enterprise Standards and Best Practices for IT Infrastructure

4th Year 2nd Semester 2014

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Group Number:

Practical Session: WD Friday

Practical Number: Lab 1

Date of Submission:

Date of Evaluation : _____

Evaluators Signature : _____

Getting started with Amazon Windows instance

1. Create a EC2 windows instance in Amazon Web Services.

The screenshot shows the AWS Management Console homepage. The top navigation bar includes links for AWS Management Console, Mastering Markdown, Getting started with writing, and TT: Malobe Academic Time. The main content area is titled "Amazon Web Services" and lists several service categories:

- Compute**: EC2 (Virtual Servers in the Cloud), EC2 Container Service, Elastic Beanstalk, Lambda.
- Storage & Content Delivery**: S3 (Scalable Storage in the Cloud), CloudFront, Global Content Delivery Network, Elastic File System, Glacier, Archive Storage in the Cloud, Snowball, Large Scale Data Transport, Storage Gateway, Hybrid Storage Integration.
- Database**: RDS (Managed Relational Database Service), DynamoDB (Managed NoSQL Database).
- Developer Tools**: CodeCommit (Store Code in Private Git Repositories), CodeDeploy (Automate Code Deployments), CodePipeline (Release Software using Continuous Delivery).
- Management Tools**: CloudWatch (Monitor Resources and Applications), CloudFormation (Create and Manage Resources with Templates), CloudTrail (Track User Activity and API Usage), Config (Track Resource Inventory and Changes), OpsWorks (Automate Operations with Chef), Service Catalog (Create and Use Standardized Products), Trusted Advisor (Optimize Performance and Security).
- Internet of Things**: AWS IoT (Connect Devices to the Cloud).
- Game Development**: GameLift (Deploy and Scale Session-based Multiplayer Games).
- Mobile Services**: Mobile Hub (Build, Test, and Monitor Mobile Apps), Cognito (User Identity and App Data Synchronization), Device Farm (Test Android, iOS, and Web Apps on Real Devices in the Cloud), Mobile Analytics (Collect, View, and Export App Analytics), SNS (Push Notification Service).
- Application Services**: API Gateway (Build, Deploy and Manage APIs), AppStream (Low Latency Application Streaming), CloudSearch (Managed Search Service), Elastic Transcoder (Easy-to-Use Scalable Media Transcoding), SES.
- Resource Groups**: A resource group is a collection of resources that share one or more tags. Create a group for each project, application, or environment in your account.
- Additional Resources**: Getting Started, AWS Console Mobile App, AWS Marketplace, AWS re:Invent Announcements.
- Service Health**: Shows the status of various AWS services.

The bottom of the page includes a toolbar with icons for various services and a footer with copyright information.

2. Click on Launch instance button.

The screenshot shows the EC2 Management Console. The top navigation bar includes links for EC2 Management Console, Mastering Markdown, SLUIT CourseWeb: Faculty, and TT: Malobe Academic Time. The main content area is titled "Resources" and displays the following information:

- You are using the following Amazon EC2 resources in the US West (Oregon) region:
 - 0 Running Instances
 - 0 Dedicated Hosts
 - 0 Volumes
 - 5 Key Pairs
 - 0 Placement Groups
 - 0 Elastic IPs
 - 0 Snapshots
 - 0 Load Balancers
 - 4 Security Groups
- A callout box for Amazon Simple Workflow Service.
- Create Instance**: To start using Amazon EC2 you will want to launch a virtual server, known as an Amazon EC2 instance. A prominent "Launch Instance" button.
- Note: Your instances will launch in the US West (Oregon) region.
- Service Health**: Service Status: US West (Oregon): This service is operating normally.
- Scheduled Events**: US West (Oregon): No events.
- Account Attributes**: Supported Platforms: VPC, Default VPC: vpc-24522f40, Resource ID length management.
- Additional Information**: Getting Started Guide, Documentation, All EC2 Resources, Forums, Pricing, Contact Us.
- AWS Marketplace**: Find free software trial products in the AWS Marketplace from the EC2 Launch Wizard. Or try these popular AMIs: Tableau Server (10 users).

The bottom of the page includes a toolbar with icons for Feedback, English, and various AWS services, along with a footer with copyright information.

3. Select Microsoft Windows Server 2012 R2 Base (free tier eligible one) as the AMI.

The screenshot shows the AWS EC2 Management Console Launch Instance Wizard. The current step is "Step 1: Choose an Amazon Machine Image (AMI)". The Microsoft Windows Server 2012 R2 Base AMI (ami-8d0acf6) is selected, indicated by a blue border around its row. Other options shown include Ubuntu Server 14.04 LTS (HVM, SSD Volume Type - ami-9abea4fb) and Microsoft Windows Server 2012 R2 with SQL Server Express (ami-4817d228). A callout box for Amazon RDS is visible, suggesting it's a good choice for database instances. The status for the selected Windows AMI is "Free tier eligible".

4. Choose t2.micro as the instance type. And click on the configure instance details button.

The screenshot shows the AWS EC2 Management Console Launch Instance Wizard. The current step is "Step 2: Choose an Instance Type". The t2.micro instance type is selected, indicated by a blue border around its row. Other general-purpose instance types listed include t2.nano, t2.small, t2.medium, and t2.large. The status for the selected t2.micro instance is "Free tier eligible".



5. Click on Next: Add storage.

Step 3: Configure Instance Details

Configure the instance to suit your requirements. You can launch multiple instances from the same AMI, request Spot instances to take advantage of the lower pricing, assign an access management role to the instance, and more.

Number of instances: 1

Purchasing option: Request Spot instances

Network: vpc-24522f40 (172.31.0.0/16) (default)

Subnet: No preference (default subnet in any Availability Zone)

Auto-assign Public IP: Use subnet setting (Enable)

Domain join directory: None

IAM role: None

Shutdown behavior: Stop

Enable termination protection: Protect against accidental termination

6. Keep the storage size as it is. (30 GiB). And then select Next: Tag instance button.

Step 4: Add Storage

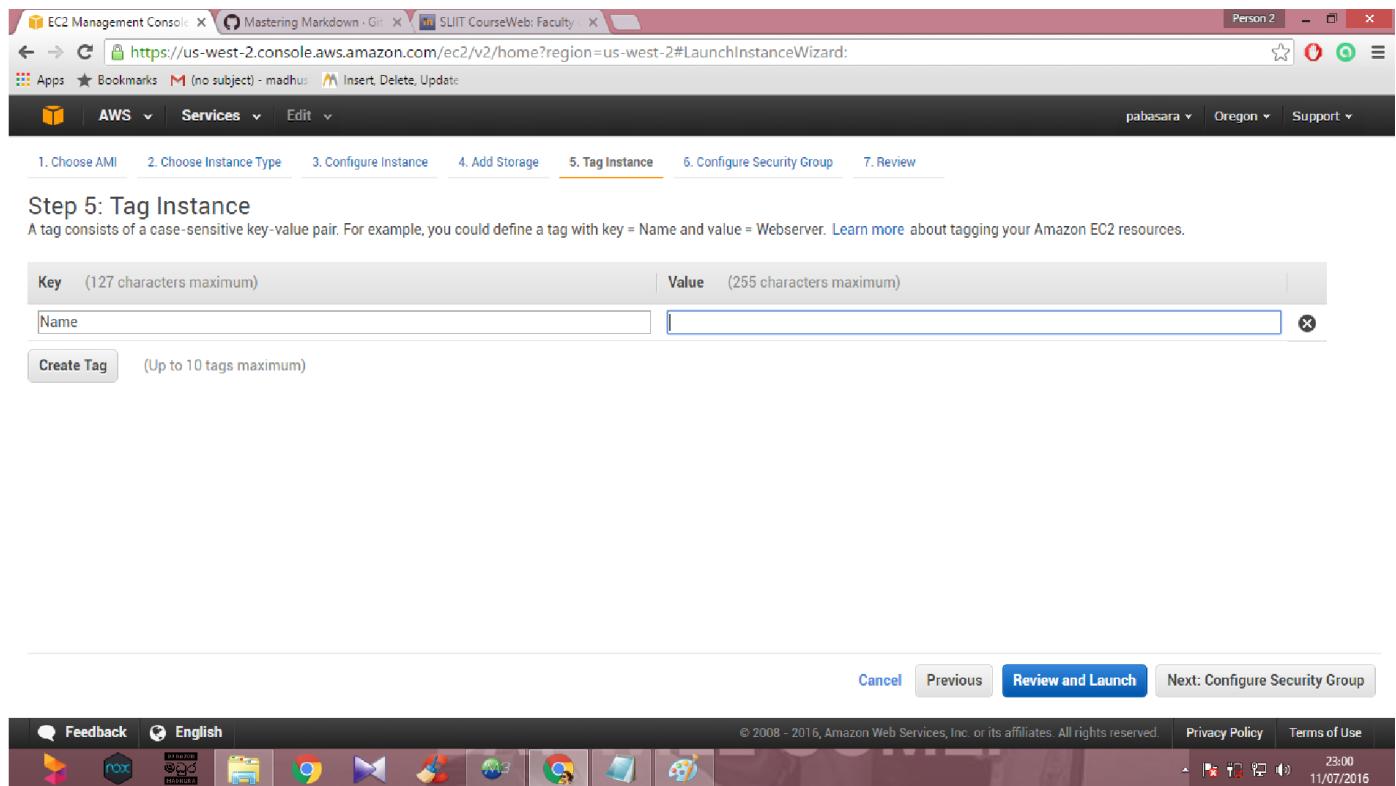
Your instance will be launched with the following storage device settings. You can attach additional EBS volumes and instance store volumes to your instance, or edit the settings of the root volume. You can also attach additional EBS volumes after launching an instance, but not instance store volumes. [Learn more](#) about storage options in Amazon EC2.

Volume Type	Device	Snapshot	Size (GiB)	Volume Type	IOPS	Throughput (MB/s)	Delete on Termination	Encrypted
Root	/dev/sda1	snap-1baab85d	30	General Purpose SSD (GP2)	100 / 3000	N/A	<input checked="" type="checkbox"/>	Not Encrypted

Add New Volume

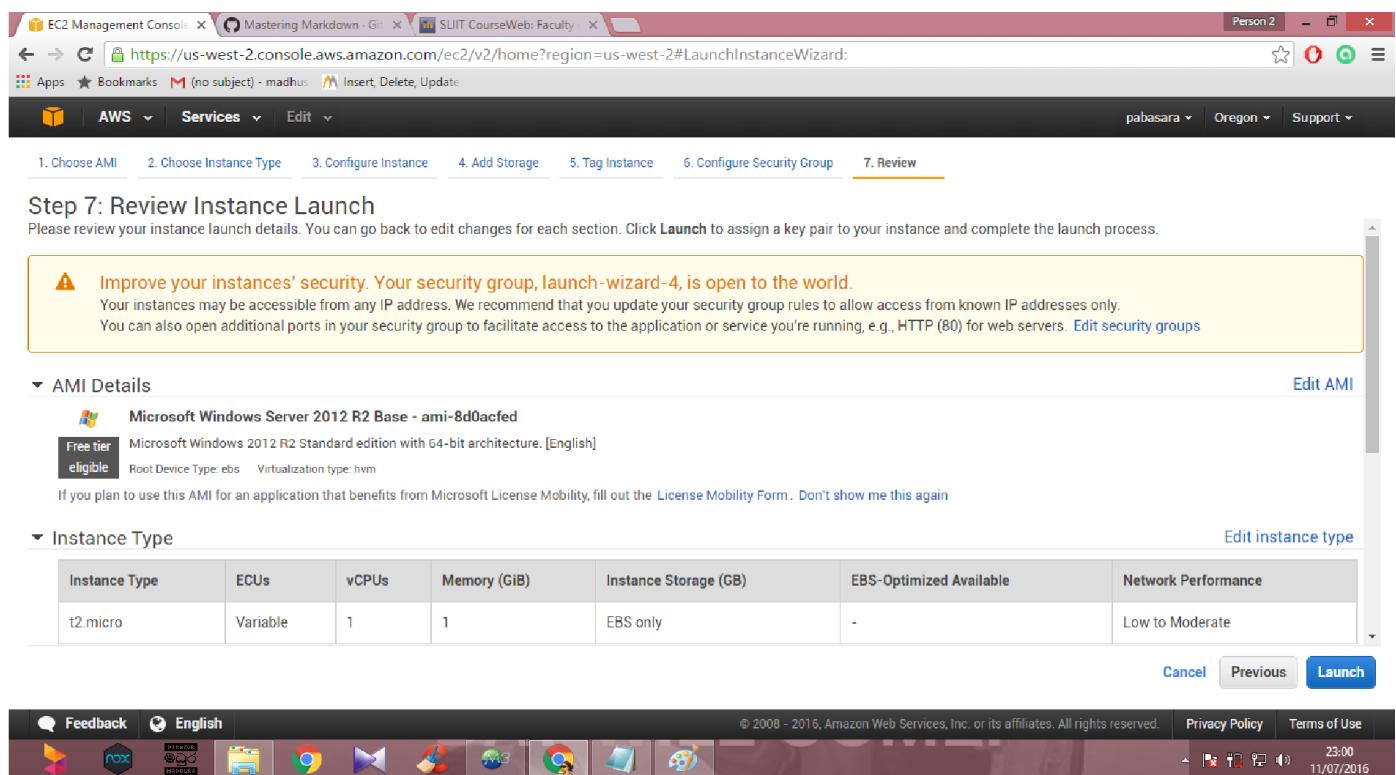
Free tier eligible customers can get up to 30 GB of EBS General Purpose (SSD) or Magnetic storage. [Learn more](#) about free usage tier eligibility and usage restrictions.

7. Click on Review and Launch button.



The screenshot shows the AWS EC2 Management Console. The URL is <https://us-west-2.console.aws.amazon.com/ec2/v2/home?region=us-west-2#LaunchInstanceWizard>. The top navigation bar includes 'Person 2', 'AWS Services', and 'Edit'. Below it, a progress bar shows steps 1 through 7. Step 5, 'Tag Instance', is currently selected. A 'Create Tag' button is visible, and a text input field for 'Name' is empty. At the bottom, there are 'Cancel', 'Previous', 'Review and Launch' (which is blue and bold), and 'Next: Configure Security Group' buttons.

8. Click on the Launch button.



The screenshot shows the AWS EC2 Management Console. The URL is <https://us-west-2.console.aws.amazon.com/ec2/v2/home?region=us-west-2#LaunchInstanceWizard>. The top navigation bar includes 'Person 2', 'AWS Services', and 'Edit'. Below it, a progress bar shows steps 1 through 7. Step 7, 'Review', is currently selected. A callout box highlights a warning about security groups. The 'AMI Details' section shows 'Microsoft Windows Server 2012 R2 Base - ami-8d0acfed' with 'Free tier eligible' status. The 'Instance Type' section shows 't2.micro' with its details. At the bottom, there are 'Cancel', 'Previous', and 'Launch' (which is blue and bold) buttons.

9. Create a new key pair and download the key pair. Then launch the instance.

The screenshot shows the AWS EC2 Management Console. A modal dialog box is open, titled "Select an existing key pair or create a new key pair". It contains a note about key pairs and a dropdown menu set to "Create a new key pair". A text input field has "key1" typed into it. Below the input field is a message: "You have to download the **private key file** (*.pem file) before you can continue. Store it in a secure and accessible location. You will not be able to download the file again after it's created." At the bottom of the dialog are "Cancel" and "Launch Instances" buttons. In the background, the "Step 7: Review Instance Launch" wizard is visible, showing "AMI Details" (Microsoft Windows Server 2012 R2 Standard) and "Instance Type" (t2.micro). The status bar at the bottom right shows the date as 11/07/2016.

10. Then the launch status will appear.

The screenshot shows the AWS EC2 Management Console on the "Launch Status" page. A green success message box says "Your instances are now launching" with a link to "View launch log". Below it is a blue info message box with "Get notified of estimated charges" and a note about creating billing alerts. The main content area has a section titled "How to connect to your instances" with a note about instances launching and becoming ready for use. It also includes a "Here are some helpful resources to get you started" section with links to the "Amazon EC2 User Guide" and "Amazon EC2: Microsoft Windows Guide". The status bar at the bottom right shows the date as 11/07/2016.

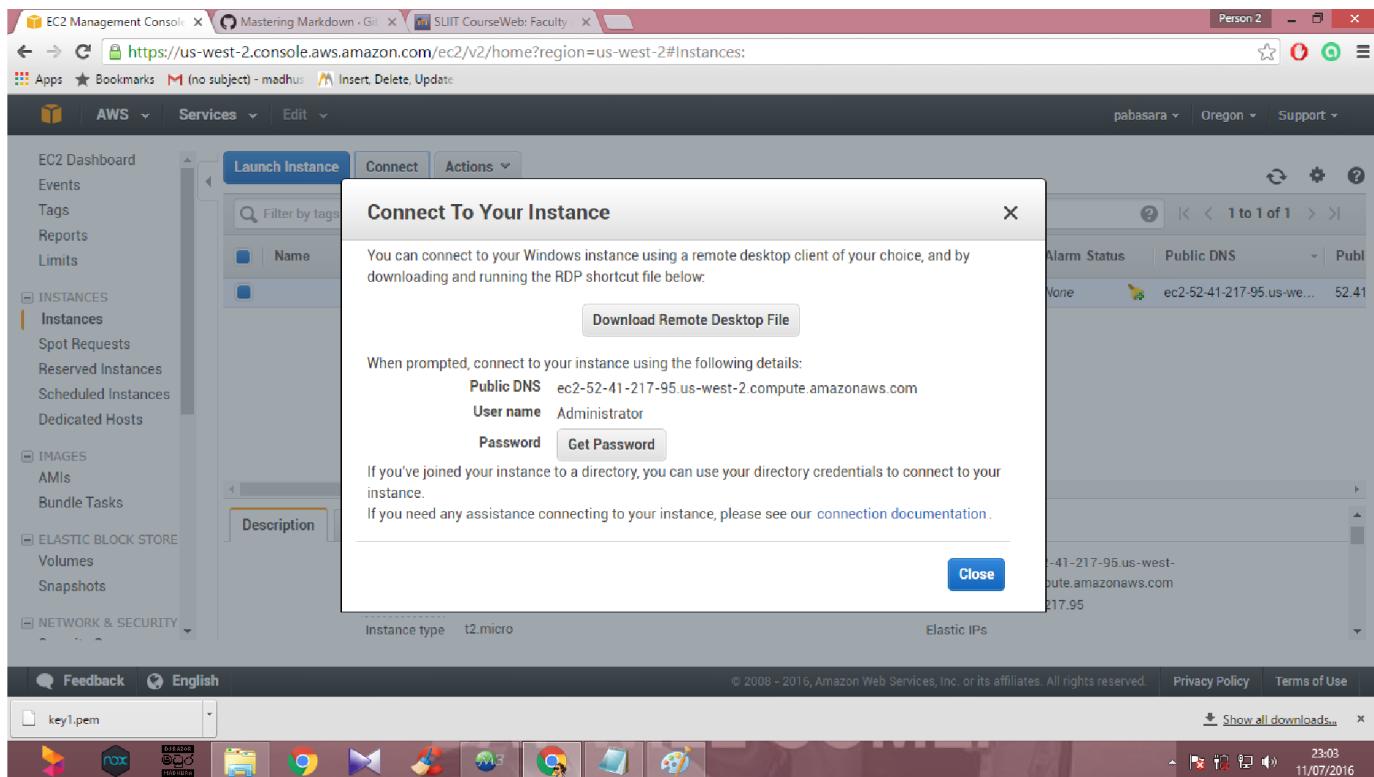
11. Click on the View Instances button.

The screenshot shows the EC2 Management Console with the URL <https://us-west-2.console.aws.amazon.com/ec2/v2/home?region=us-west-2#LaunchInstanceWizard>. The page is titled "Launch Status". It contains instructions for launching instances, a list of helpful resources (Amazon EC2 User Guide, How to connect to your Windows instance, Learn about AWS Free Usage Tier, Amazon EC2: Microsoft Windows Guide, Amazon EC2: Discussion Forum), and links for creating status check alarms, attaching EBS volumes, and managing security groups. A prominent blue "View Instances" button is located at the bottom right.

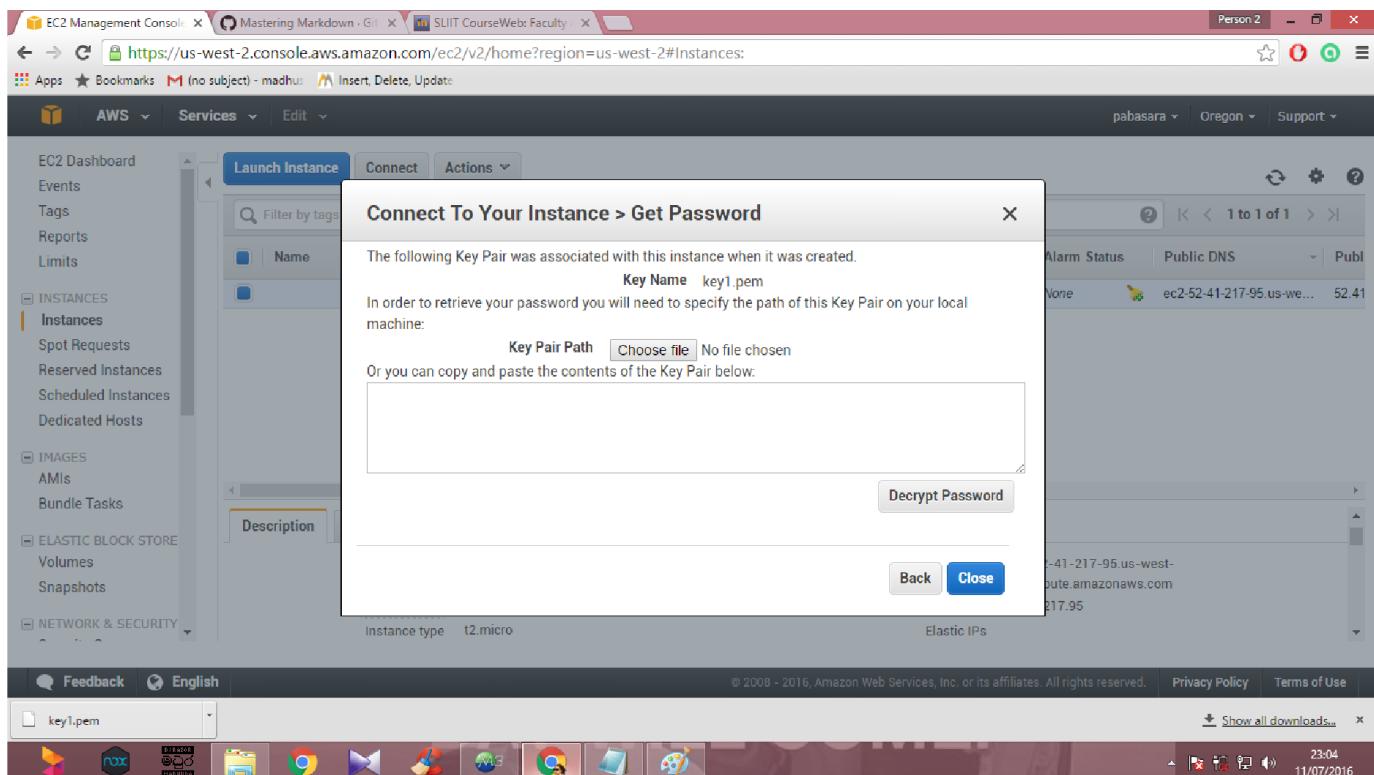
12. Then the instance details appear. Now the instance is running.

The screenshot shows the EC2 Management Console with the URL <https://us-west-2.console.aws.amazon.com/ec2/v2/home?region=us-west-2#Instances>. The left sidebar shows navigation options like EC2 Dashboard, Events, Tags, Reports, Limits, Instances (which is selected), Spot Requests, Reserved Instances, Scheduled Instances, Dedicated Hosts, Images, AMIs, Bundle Tasks, Elastic Block Store, Volumes, Snapshots, and Network & Security. The main area displays a table of instances. One instance is listed: i-0851d555c94335776, t2.micro, us-west-2a, running, Initializing, None, ec2-52-41-217-95.us-west-2.compute.amazonaws.com, 52.41.217.96. Below the table, detailed information for the instance is shown: Instance ID (i-0851d555c94335776), Instance state (running), Instance type (t2.micro), Public DNS (ec2-52-41-217-95.us-west-2.compute.amazonaws.com), Public IP (52.41.217.96), and Elastic IPs. A blue "Launch Instance" button is visible at the top left of the main content area.

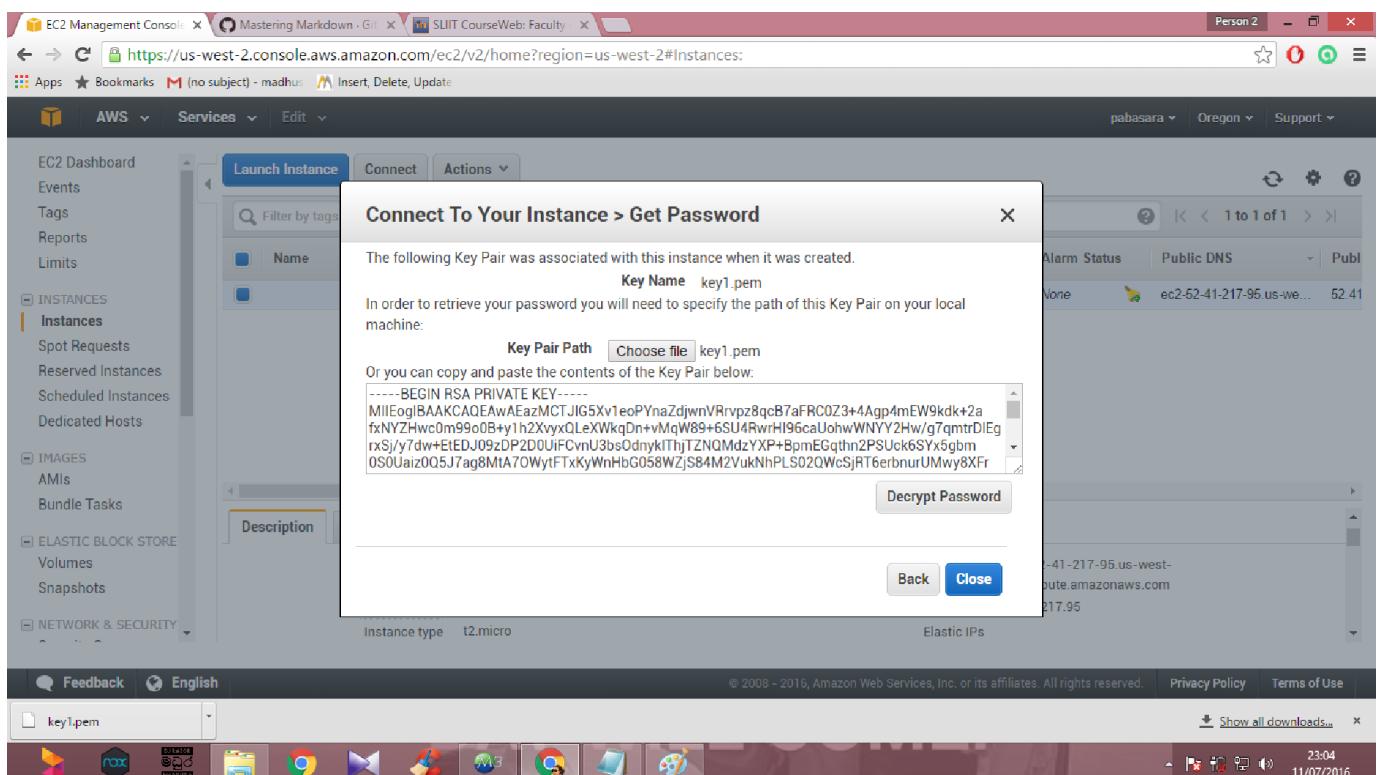
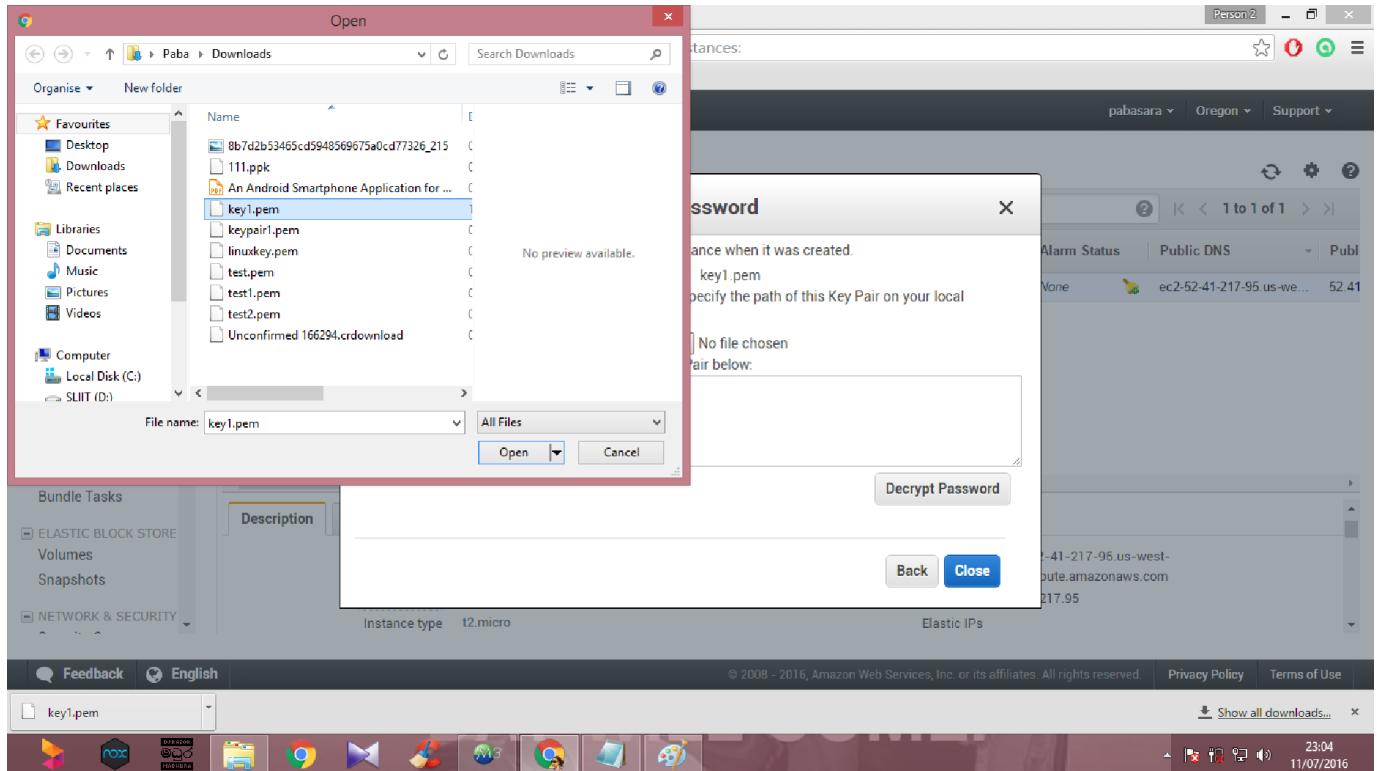
13. Click on the Connect button to connect to the instance.



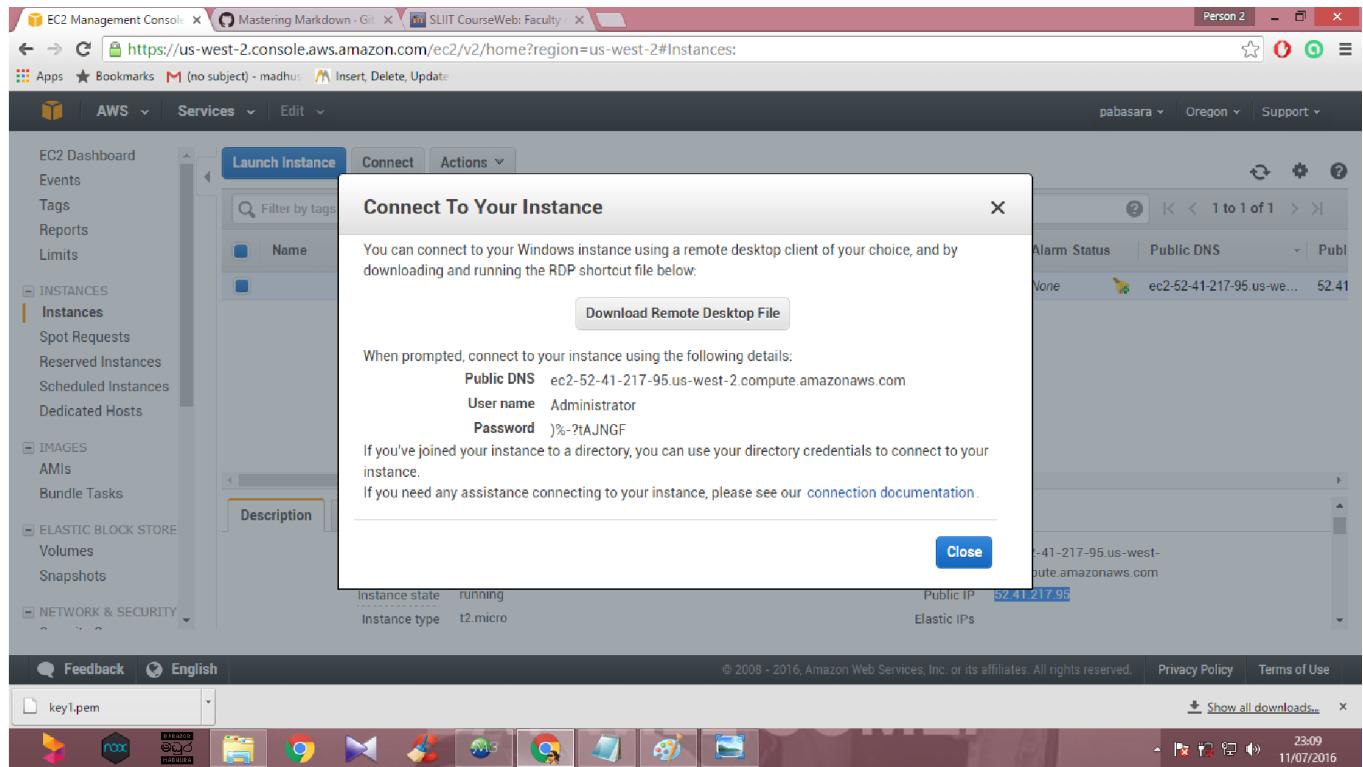
14. After click on the Get Password button, this interface will appear.



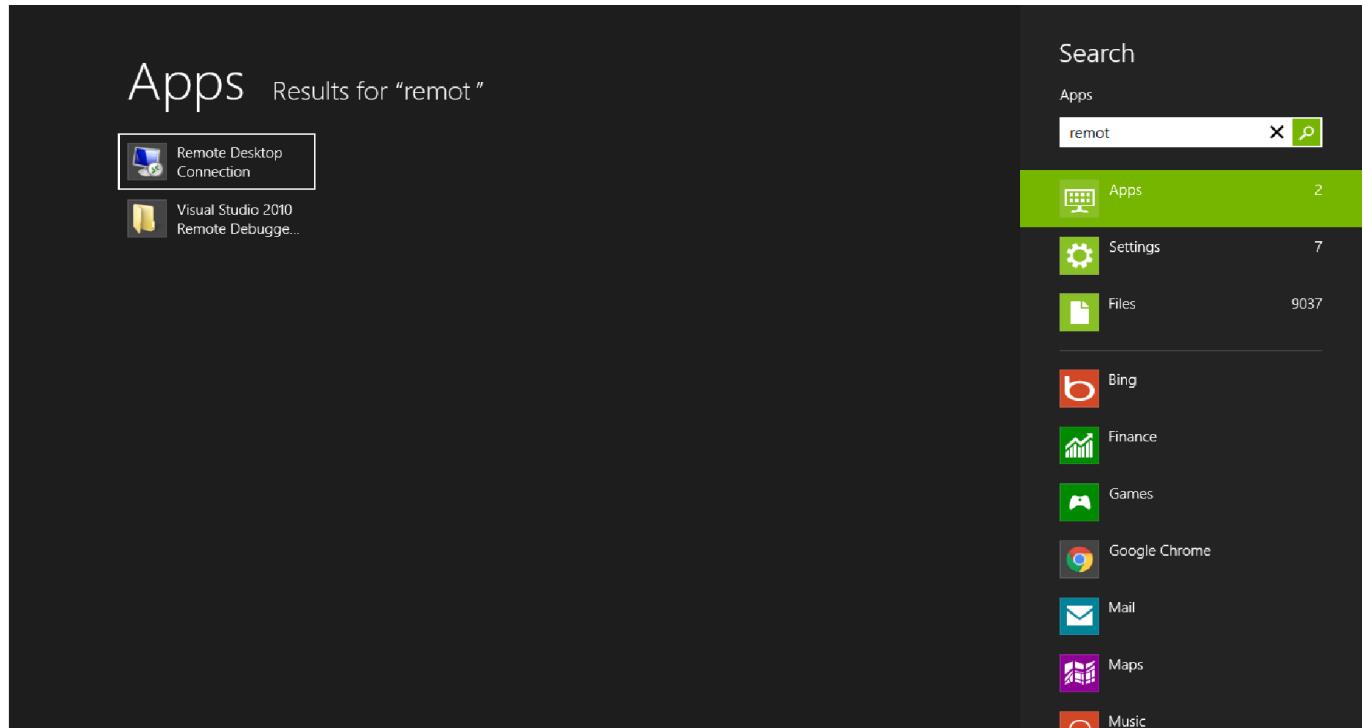
15. Choose the downloaded .pem file.



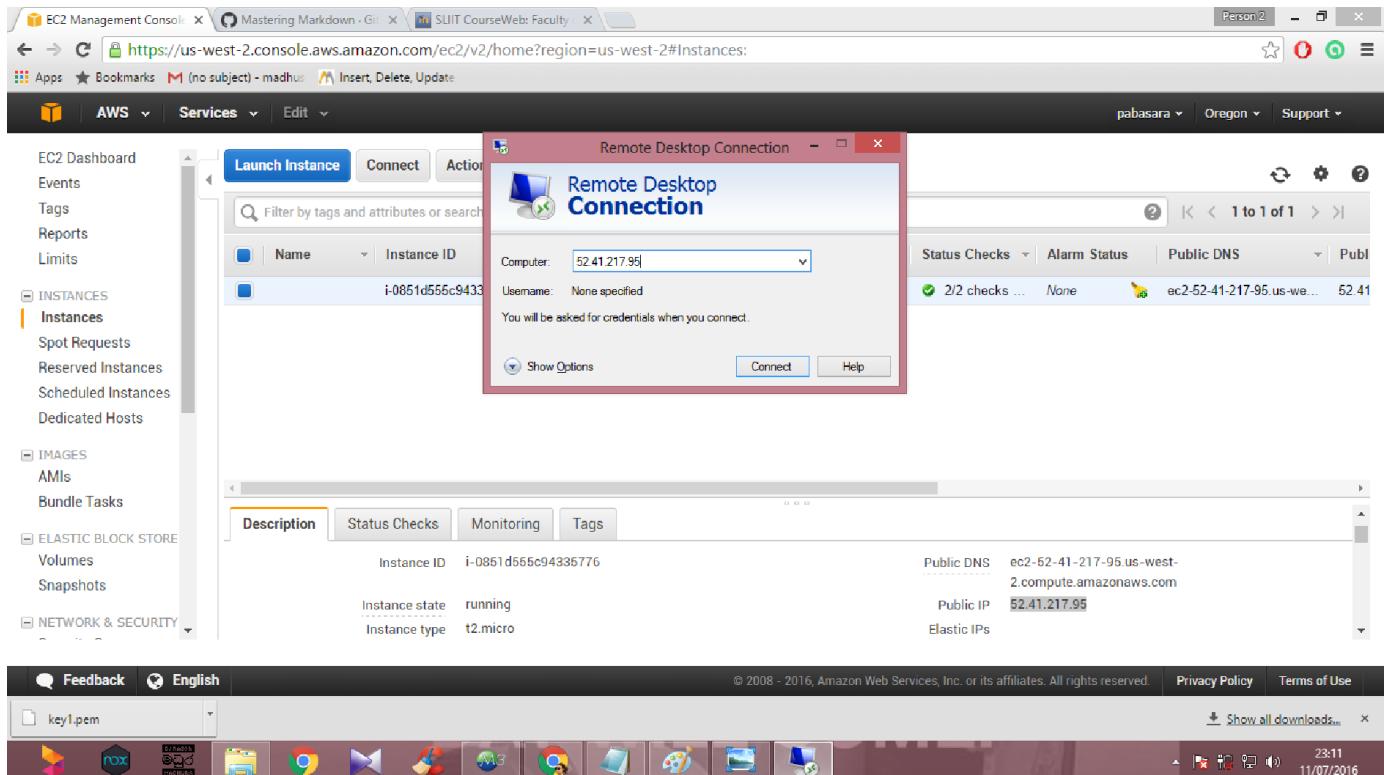
16. Then decrypt the password. Decrypted password will appear.



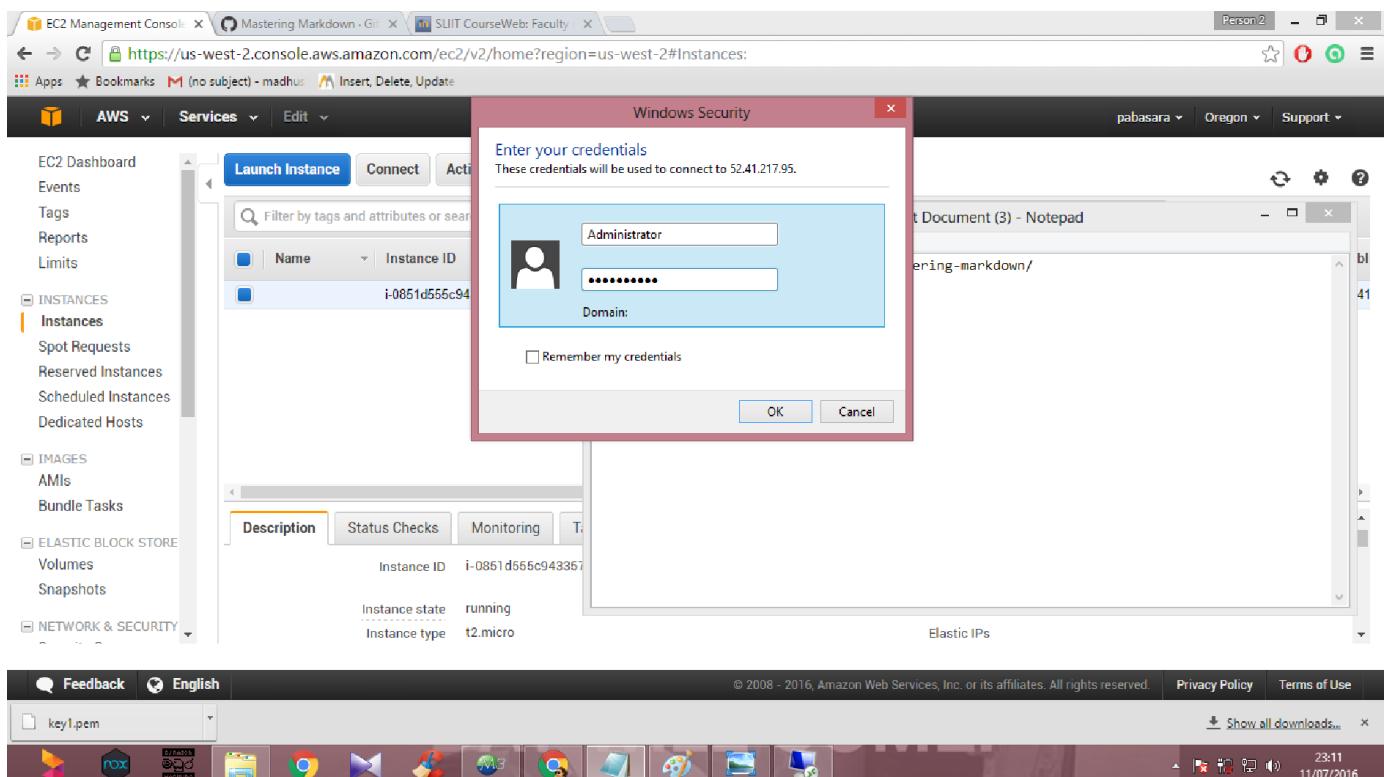
17. Search the Remote Desktop Connection.

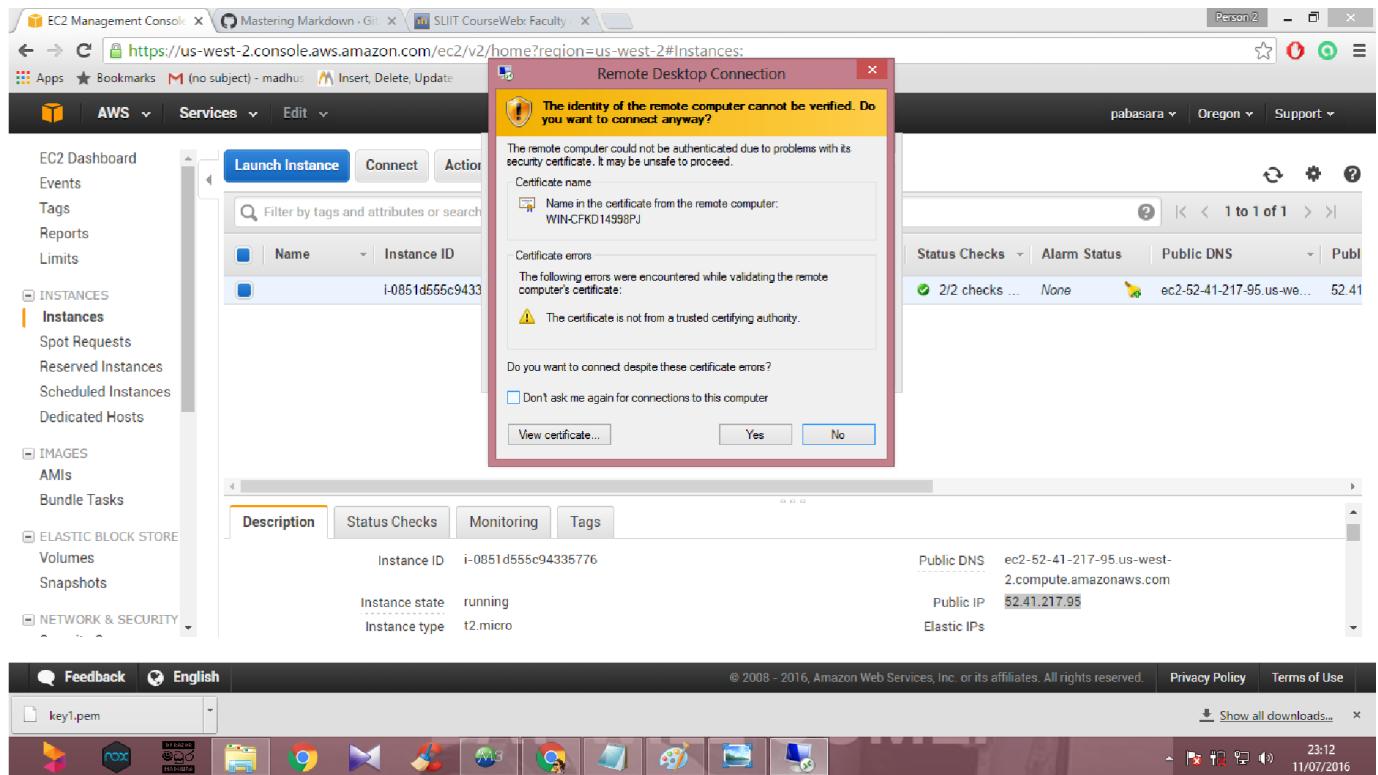


18. Give the public IP as the remote computer IP. And click on the Connect button.

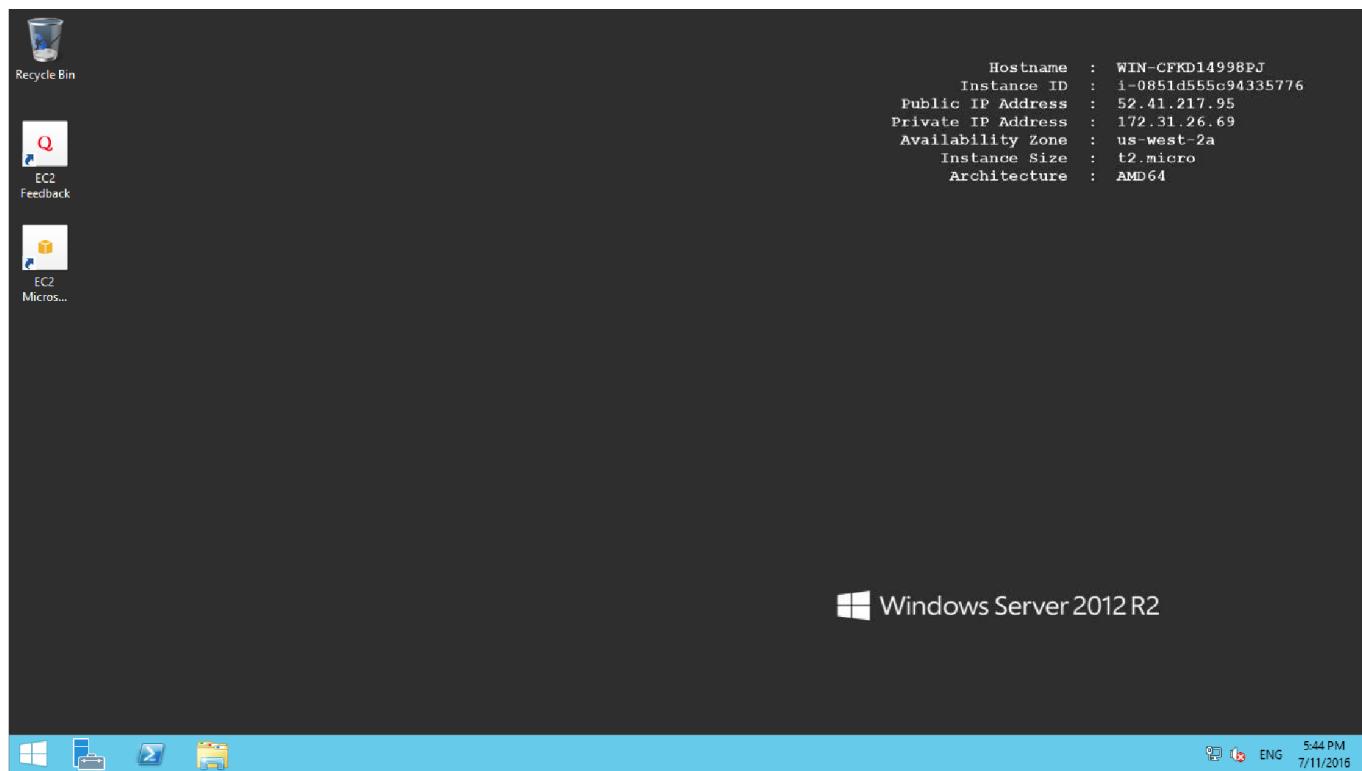


19. Enter the credentials. Username- Administrator, Password- the decrypted password.
Then press OK.





20. After click Yes, Windows instance will appear.



21. Terminate the windows instance.

The screenshot shows the AWS EC2 Management Console interface. On the left, there's a navigation sidebar with sections like EC2 Dashboard, Instances, Images, and Network & Security. The main area displays a table of instances. One instance, with the ID i-0851d555c94335776 and type t2.micro, is selected. A context menu is open over this instance, with the 'Actions' dropdown expanded. The 'Instance State' submenu is active, showing options: Start, Stop, Reboot, and Terminate. The 'Terminate' option is highlighted in red. Below the table, detailed information about the selected instance is shown, including its ID, state, type, and network details. At the bottom, there's a toolbar with various icons and a status bar indicating the date and time (11/07/2016, 23:16).

Name	Instance ID	Instance Type	Availability Zone	Instance State	Status Checks	Alarm Status	Public DNS	Publ
	i-0851d555c94335776	t2.micro	us-west-2a	running	None	None	ec2-52-41-217-95.us-west-	52.41

Details for Instance ID i-0851d555c94335776:

- Instance ID: i-0851d555c94335776
- Instance state: running
- Instance type: t2.micro
- Public DNS: ec2-52-41-217-95.us-west-2.compute.amazonaws.com
- Public IP: 52.41.217.95
- Elastic IPs: None

Getting started with Amazon Linux instance

1. Launch the instance.

The screenshot shows the AWS EC2 Management Console dashboard for the US West (Oregon) region. The left sidebar includes links for EC2 Dashboard, Instances, Images, Elastic Block Store, Network & Security, and Feedback. The main content area displays resource counts: 0 Running Instances, 0 Dedicated Hosts, 0 Volumes, 4 Key Pairs, 0 Placement Groups, 0 Elastic IPs, 0 Snapshots, 0 Load Balancers, and 3 Security Groups. A central box encourages using Amazon Simple Workflow Service. Below this is a 'Create Instance' section with a 'Launch Instance' button. To the right, there's an 'Account Attributes' panel listing supported platforms (VPC), default VPC (vpc-2452f40), and resource ID length management. An 'Additional Information' sidebar provides links to the Getting Started Guide, Documentation, All EC2 Resources, Forums, Pricing, and Contact Us. At the bottom, there's an 'AWS Marketplace' section with a note about finding software trial products and a link to Tableau Server (10 users). The footer contains standard AWS links like Privacy Policy and Terms of Use, along with a 'CAN DO IT!' banner.

2. Select Amazon Linux AMI or Red Hat Enterprise Linux.

The screenshot shows the 'Step 1: Choose an Amazon Machine Image (AMI)' page of the AWS EC2 Launch Instance Wizard. The top navigation bar shows the current step: '1. Choose AMI'. The main content area is titled 'Step 1: Choose an Amazon Machine Image (AMI)'. It explains that an AMI is a template containing software configuration required to launch an instance. It lists three options: 'Amazon Linux AMI 2016.03.3 (HVM), SSD Volume Type - ami-7172b611', 'Red Hat Enterprise Linux 7.2 (HVM), SSD Volume Type - ami-775e4f16', and 'SUSE Linux Enterprise Server 12 SP1 (HVM), SSD Volume Type - ami-d2627db3'. Each option includes a 'Select' button and a 'Free tier eligible' badge. The sidebar on the left has a 'Quick Start' section with links for My AMIs, AWS Marketplace, Community AMIs, and a 'Free tier only' checkbox.

3. Choose t2.micro as the instance type. And click on the configure instance details button.

Step 2: Choose an Instance Type

Amazon EC2 provides a wide selection of instance types optimized to fit different use cases. Instances are virtual servers that can run applications. They have varying combinations of CPU, memory, storage, and networking capacity, and give you the flexibility to choose the appropriate mix of resources for your applications. [Learn more](#) about instance types and how they can meet your computing needs.

Currently selected: t2.micro (Variable ECUs, 1 vCPUs, 2.5 GHz, Intel Xeon Family, 1 GiB memory, EBS only)							
	Family	Type	vCPUs	Memory (GiB)	Instance Storage (GB)	EBS-Optimized Available	Network Performance
<input type="checkbox"/>	General purpose	t2.nano	1	0.5	EBS only	-	Low to Moderate
<input checked="" type="checkbox"/>	General purpose	t2.micro <small>Free tier eligible</small>	1	1	EBS only	-	Low to Moderate
<input type="checkbox"/>	General purpose	t2.small	1	2	EBS only	-	Low to Moderate
<input type="checkbox"/>	General purpose	t2.medium	2	4	EBS only	-	Low to Moderate
<input type="checkbox"/>	General purpose	t2.large	2	8	EBS only	-	Low to Moderate

Cancel Previous Review and Launch Next: Configure Instance Details

4. Click on Next: Add storage.

Step 3: Configure Instance Details

Configure the instance to suit your requirements. You can launch multiple instances from the same AMI, request Spot instances to take advantage of the lower pricing, assign an access management role to the instance, and more.

Number of instances	<input type="text" value="1"/> Launch into Auto Scaling Group
Purchasing option	<input type="checkbox"/> Request Spot instances
Network	vpc-24522f40 (172.31.0.0/16) (default) <input type="button" value="Create new VPC"/>
Subnet	No preference (default subnet in any Availability Zone) <input type="button" value="Create new subnet"/>
Auto-assign Public IP	Use subnet setting (Enable)
IAM role	<input type="text" value="None"/> <input type="button" value="Create new IAM role"/>
Shutdown behavior	Stop
Enable termination protection	<input type="checkbox"/> Protect against accidental termination
Monitoring	<input type="checkbox"/> Enable CloudWatch detailed monitoring <small>Additional charges apply</small>

Cancel Previous Review and Launch Next: Add Storage

5. Select Next: Tag instance button.

Volume Type	Device	Snapshot	Size (GiB)	Volume Type	IOPS	Throughput (MB/s)	Delete on Termination	Encrypted
Root	/dev/xvda	snap-d465048a	8	General Purpose SSD (GP2)	100 / 3000	N/A	<input checked="" type="checkbox"/>	Not Encrypted

Add New Volume

Free tier eligible customers can get up to 30 GB of EBS General Purpose (SSD) or Magnetic storage. [Learn more](#) about free usage tier eligibility and usage restrictions.

Cancel Previous Review and Launch Next: Tag Instance

6. Click on the Launch button.

Step 7: Review Instance Launch

Please review your instance launch details. You can go back to edit changes for each section. Click **Launch** to assign a key pair to your instance and complete the launch process.

AMI Details

Amazon Linux AMI 2016.03.3 (HVM), SSD Volume Type - ami-7172b611

Free tier eligible

The Amazon Linux AMI is an EBS-backed, AWS-supported image. The default image includes AWS command line tools, Python, Ruby, Perl, and Java. The repositories include Docker, PHP, MySQL, PostgreSQL, and other packages.

Root Device Type: ebs Virtualization type: hvm

Instance Type

Instance Type	ECUs	vCPUs	Memory (GiB)	Instance Storage (GB)	EBS-Optimized Available	Network Performance
t2.micro	Variable	1	1	EBS only	-	Low to Moderate

Cancel Previous Launch

7. Create a new key pair and download the key pair. Then launch the instance.

Please review your instance launch details. You can always change them later.

AMI Details

Instance Type

Instance Type	ECUs
t2.micro	Variable

Select an existing key pair or create a new key pair

A key pair consists of a **public key** that AWS stores, and a **private key file** that you store. Together, they allow you to connect to your instance securely. For Windows AMIs, the private key file is required to obtain the password used to log into your instance. For Linux AMIs, the private key file allows you to securely SSH into your instance.

Note: The selected key pair will be added to the set of keys authorized for this instance. Learn more about [removing existing key pairs from a public AMI](#).

Create a new key pair
Key pair name: linuxkey
Download Key Pair

You have to download the **private key file (*.pem file)** before you can continue. Store it in a secure and accessible location. You will not be able to download the file again after it's created.

Cancel Launch Instances

8. Then the launch status will appear.

Your instances are now launching

The following instance launches have been initiated: [i-02f0a04b10e357513](#) [View launch log](#)

Get notified of estimated charges

Create billing alerts to get an email notification when estimated charges on your AWS bill exceed an amount you define (for example, if you exceed the free usage tier).

How to connect to your instances

Your instances are launching, and it may take a few minutes until they are in the **running** state, when they will be ready for you to use. Usage hours on your new instances will start immediately and continue to accrue until you stop or terminate your instances.

Click [View Instances](#) to monitor your instances' status. Once your instances are in the **running** state, you can [connect](#) to them from the Instances screen. [Find out](#) how to connect to your instances.

Here are some helpful resources to get you started

- How to connect to your Linux instance
- Learn about AWS Free Usage Tier
- Amazon EC2: User Guide
- Amazon EC2: Discussion Forum

Feedback English

C:\Users\pabasara\Downloads\linuxkey.pem

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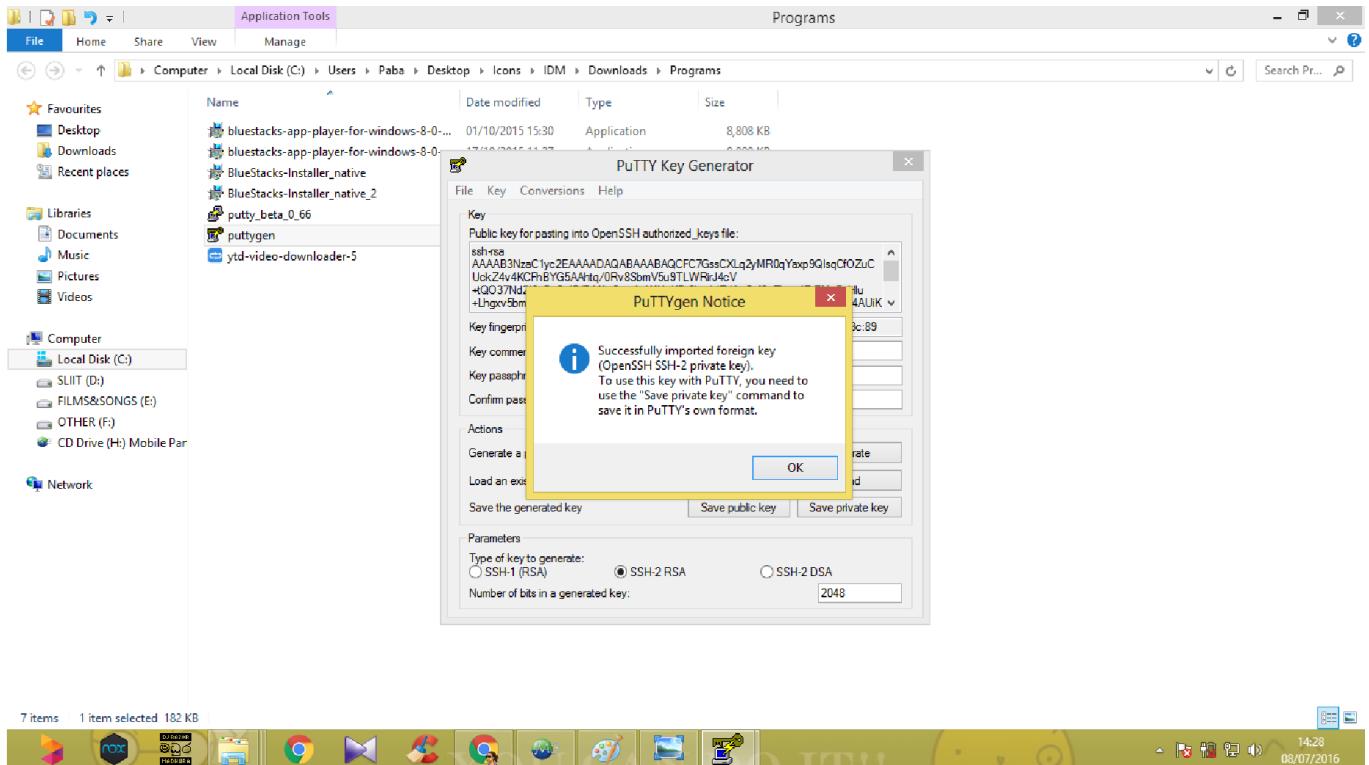
9. Then the instance details appear. Now the instance is running.

The screenshot shows the AWS EC2 Management Console. On the left, there's a sidebar with navigation links: EC2 Dashboard, Events, Tags, Reports, Limits, Instances (which is selected), Spot Requests, Reserved Instances, Scheduled Instances, Dedicated Hosts, Images (AMIs, Bundle Tasks), Elastic Block Store (Volumes, Snapshots), and Network & Security. The main area has tabs for Launch Instance, Connect, and Actions. A search bar at the top says "Filter by tags and attributes or search by keyword". Below it is a table with columns: Name, Instance ID, Instance Type, Availability Zone, Instance State, Status Checks, Alarm Status, Public DNS, and Public IP. One row is highlighted for the instance with ID i-02f0a04b10e357513, which is a t2.micro type in us-west-2b, currently running. The Public DNS is ec2-52-40-206-171.us-west-2.compute.amazonaws.com and the Public IP is 52.40.206.171. At the bottom, there are tabs for Description, Status Checks, Monitoring, and Tags. The status checks section shows 2/2 checks ... and None. The monitoring section shows Public DNS and Public IP. The footer includes links for Feedback, English, Privacy Policy, Terms of Use, and a download link for 'linuxkey.pem'. The status bar at the bottom right shows the date and time: 13:47 08/07/2016.

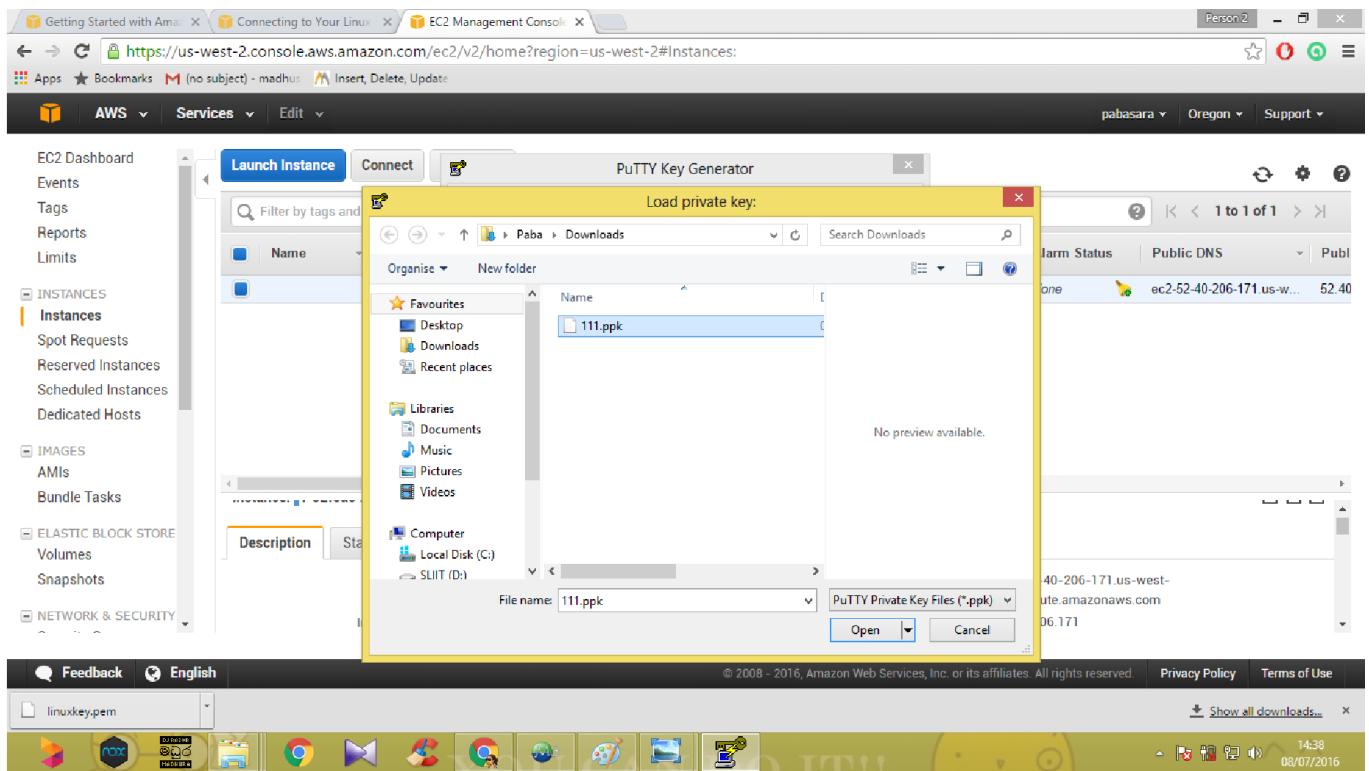
10. Download the PuTTY and PuTTY gen

11. Double click on the PuTTY gen. this dialog will appear. Generate the private key

This screenshot is similar to the previous one, showing the AWS EC2 Management Console. The PuTTY Key Generator dialog box is now overlaid on the main interface. This dialog has tabs for File, Key, Conversions, and Help. The Key tab shows "No key." The Actions section contains "Generate a public/private key pair" with a "Generate" button. The Load section has a "Load" button. The Save section has "Save public key" and "Save private key" buttons. The Parameters section allows selecting the type of key to generate: SSH-1 (RSA) (unchecked), SSH-2 RSA (checked), and SSH-2 DSA (unchecked). A dropdown for "Number of bits in a generated key" is set to 2048. In the background, the EC2 instance details are visible, including its Public DNS (ec2-52-40-206-171.us-west-2.compute.amazonaws.com) and Public IP (52.40.206.171). The footer and status bar are also present.

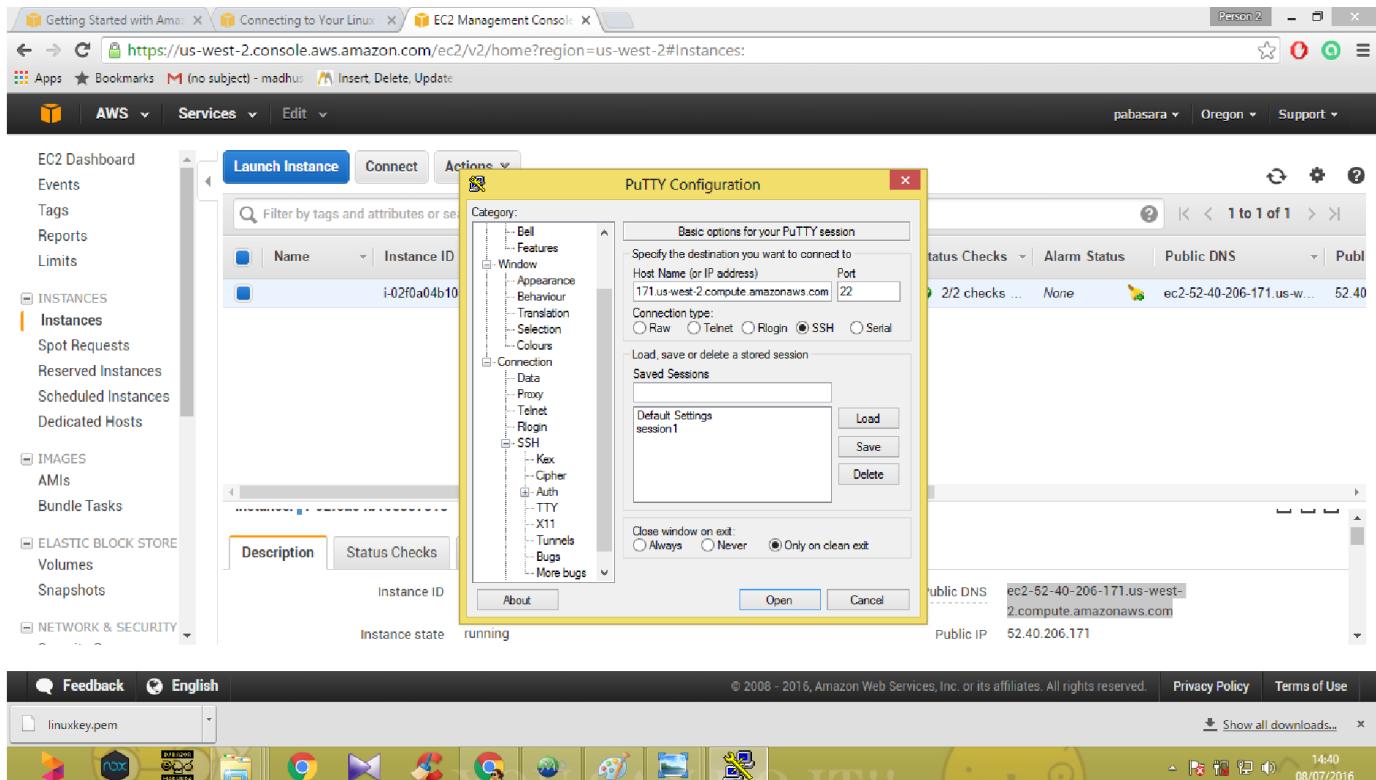


12. Load the private key.(ppk)

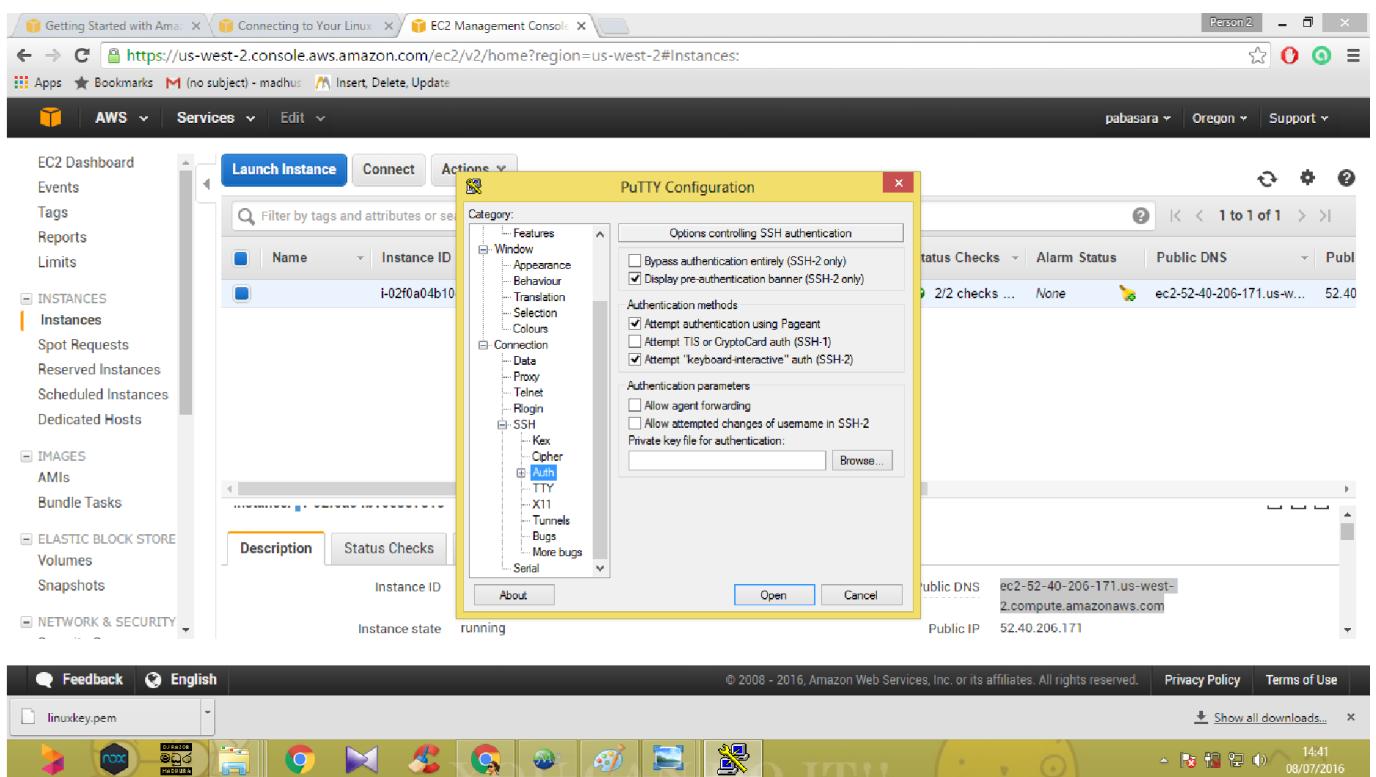


13. Then double click on the PuTTY configuration.

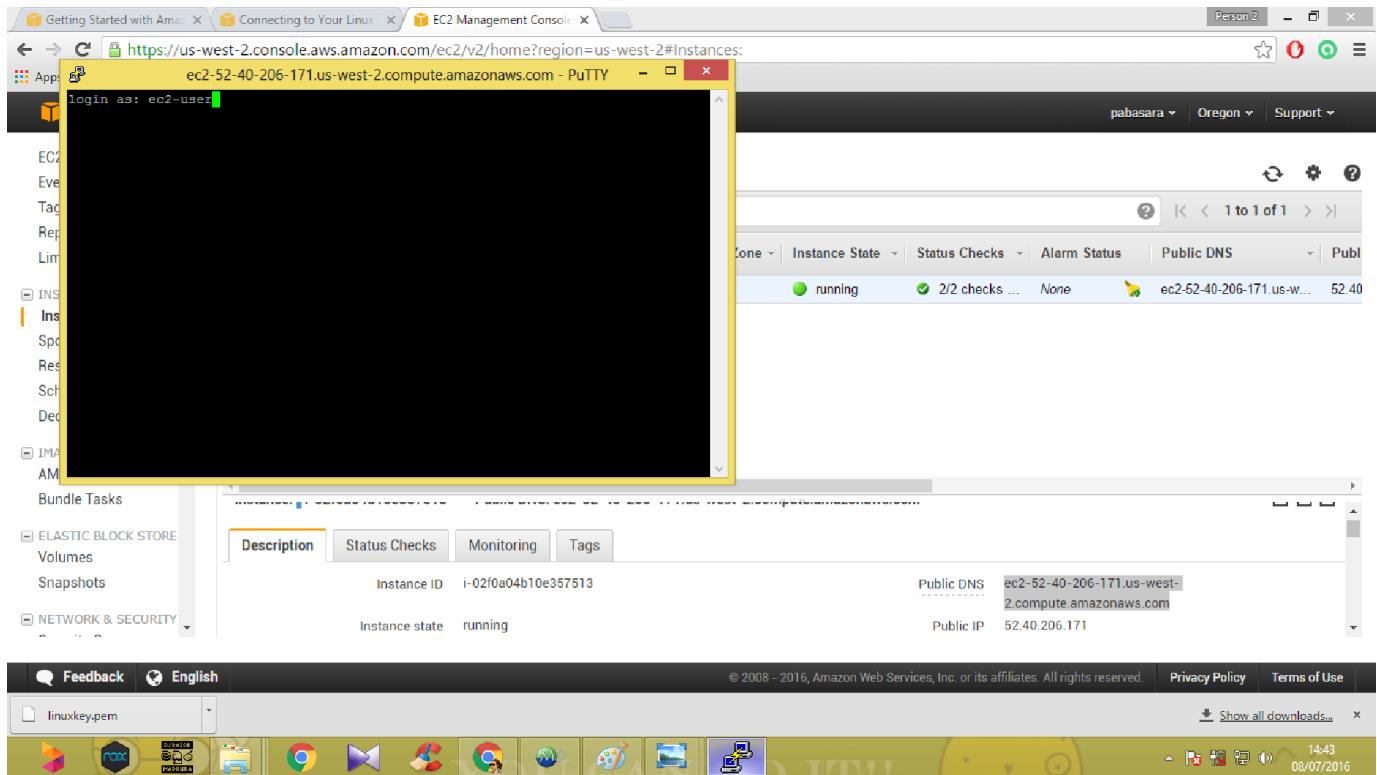
14. Give the public DNS as the host name. And create a session and save it. (category → session)



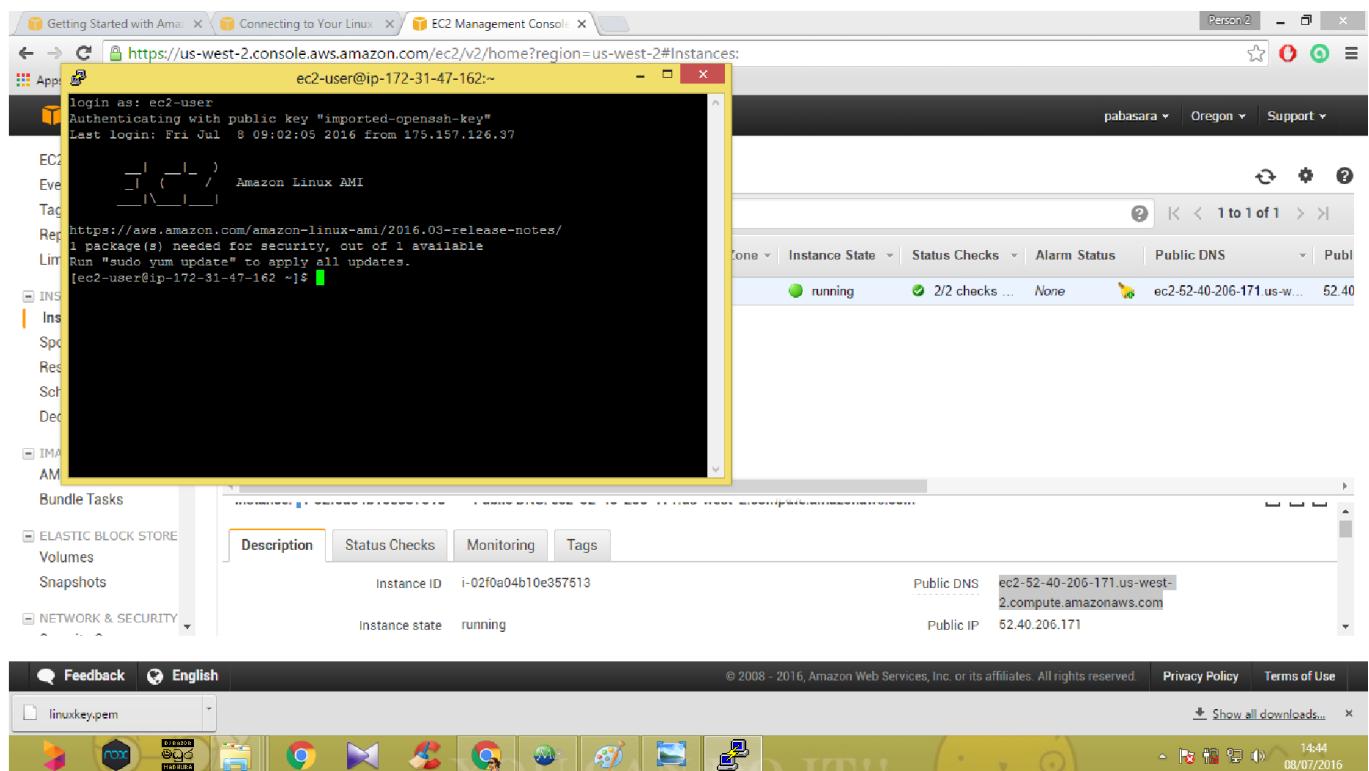
15. (category → connection → SSH → Auth) then open.



16. give ec2-user to login.



17. Then the Amazon Linux instance will appear.



Getting started with Amazon RDS (Relational Database Service)

The objective is to create a MySQL DB Instance and Connecting to a Database on a MySQL DB Instance.

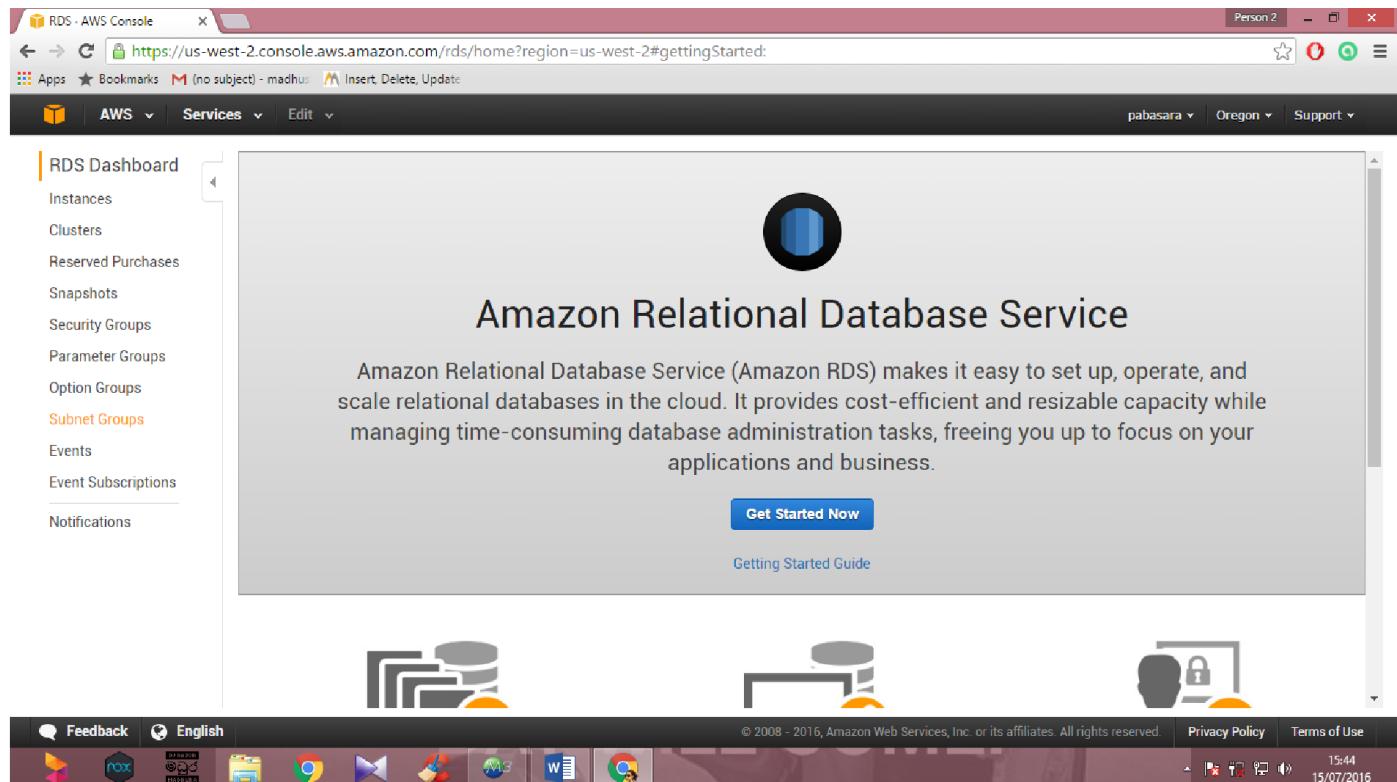
To achieve this there are 3 tasks to fulfill.

1. Creating a MySQL DB Instance.
2. Connecting to a Database on a DB Instance Running the MySQL Database Engine.
3. Deleting a DB Instance.

Before creating the mysql db instance, need to setup for Amazon RDS.

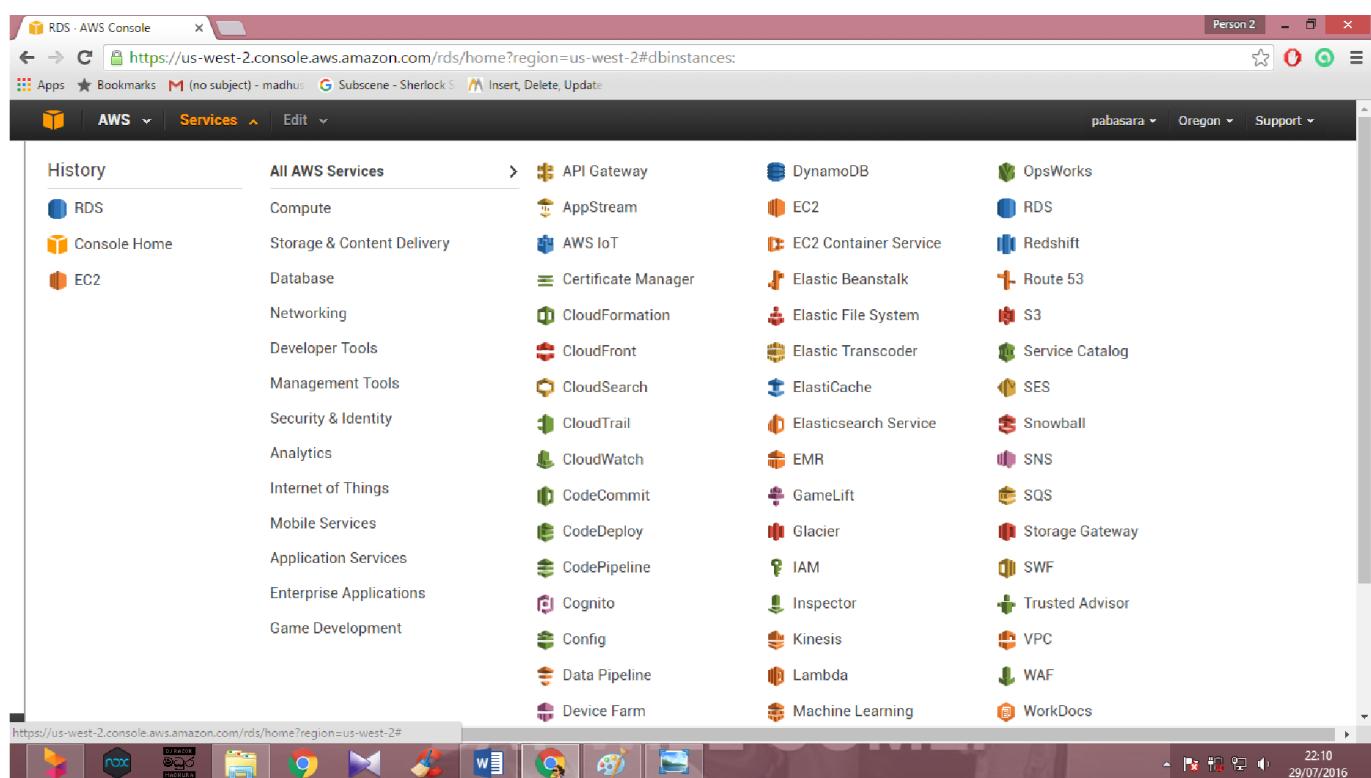
The screenshot shows the AWS Management Console homepage with the URL <https://us-west-2.console.aws.amazon.com/console/home?region=us-west-2>. The 'RDS' service is highlighted in orange under the 'Database' category. The page lists various AWS services in categories: Storage (S3, CloudFront, Elastic File System, Glacier, Snowball, Storage Gateway), Database (RDS, Dynamodb, ElastiCache, Redshift, DMS), Networking (VPC, Direct Connect, Route 53), Analytics (EMR, Data Pipeline, Elasticsearch Service, Kinesis, Machine Learning), Security & Identity (Identity & Access Management, Directory Service, Inspector, WAF, Certificate Manager), Application Services (API Gateway, AppStream, CloudSearch, Elastic Transcoder, SES, SQS, SWF), Cognito, Device Farm, Mobile Analytics, SNS, and S3. On the right, there are sections for 'Getting Started', 'AWS Console Mobile App', 'AWS Marketplace', 'AWS re:Invent Announcements', and 'Service Health'. The status bar at the bottom indicates 'All services operating normally' and shows the date and time as 'Updated: Jul 16 2016 09:45:02 GMT+0530'.

1st we need to login to the AWS console and choose the RDS from the database category.



Then there is this interface and click on **get started now** button.

1. Creating a MySQL DB Instance.



Go to services in navigation pane and find the RDS. Then it is redirected to the select engine page as follows.

The screenshot shows the 'Select Engine' step of the RDS setup process. On the left, a sidebar lists steps: Step 1: Select Engine, Step 2: Production?, Step 3: Specify DB Details, and Step 4: Configure Advanced Settings. The main area is titled 'Select Engine' with the sub-instruction 'To get started, choose a DB Engine below and click Select.' Below this, there's a list of database engines:

- Amazon Aurora**: MySQL Community Edition. A 'Select' button is next to it. A description states: 'MySQL is the most popular open source database in the world. MySQL on RDS offers the rich features of the MySQL community edition with the flexibility to easily scale compute resources or storage capacity for your database.' It lists benefits: supports database size up to 6 TB, instances offer up to 32 vCPUs and 244 GiB Memory, supports automated backup and point-in-time recovery, and supports cross-region read replicas.
- MySQL**: MySQL Community Edition. This option is selected, indicated by a blue border around its icon and text.
- MariaDB**: MariaDB logo.
- PostgreSQL**: PostgreSQL logo.
- ORACLE**: Oracle logo.
- Microsoft SQL Server**: Microsoft SQL Server logo.

At the bottom of the page, there are links for Feedback, English, Privacy Policy, Terms of Use, and system status indicators.

On the **select engine** page select **MYSQL** icon. After selecting the **MYSQL** community edition, it will redirect to the **production?** page. Choose the RDS free usage tier and select **next**.

The screenshot shows the 'Production?' step of the RDS setup process. The sidebar shows steps 1-4. The main area is titled 'Do you plan to use this database for production purposes?' and contains two options:

- Production**: Contains a radio button for 'Amazon Aurora' (which is 'Recommended') and a description: 'MySQL-compatible, enterprise-class database at 1/10th the cost of commercial databases.'
- Dev/Test**: Contains a radio button for 'MySQL' and a description: 'Use Multi-AZ Deployment and Provisioned IOPS. Storage as defaults for high availability and fast, consistent performance.'

A note at the bottom says 'Billing is based on [RDS pricing](#)'. At the bottom right are 'Cancel', 'Previous', and 'Next Step' buttons.

This is a continuation of the previous screenshot, showing the same 'Production?' step. The 'Next Step' button is highlighted in blue, indicating the user has selected the 'MySQL' option for Dev/Test and is proceeding to the next step.

Then on the **specify DB details** page give the details as follows.

The screenshot shows the 'Instance Specifications' section of the 'Specify DB Details' page. The DB Engine is set to mysql, License Model to general-public-license, and DB Engine Version to 5.6.27. The DB Instance Class is selected as db.t2.small (1 vCPU, 2 GiB RAM). Multi-AZ Deployment is set to 'Select One'. Storage Type is General Purpose (SSD) with 15 GB allocated. A note states: '(Minimum: 5 GB, Maximum: 6144 GB) Higher allocated storage may improve IOPS performance.' A warning message in a red-bordered box says: 'Provisioning less than 100 GB of General Purpose (SSD) storage for high throughput workloads could result in higher latencies upon exhaustion of the initial General Purpose (SSD) IO credit balance. Click here for more details.' Below this is a 'Settings' section where the DB Instance Identifier is set to dbinstance, Master Username is pabasara, and Master Password and Confirm Password are both masked. The browser toolbar at the bottom includes icons for Feedback, English, and various AWS services like Lambda, CloudWatch, and S3.

The screenshot shows the 'Settings' section of the 'Specify DB Details' page. It includes fields for DB Instance Identifier (dbinstance), Master Username (pabasara), Master Password, and Confirm Password. A note next to the password fields says: 'Retype the value you specified for Master Password.' At the bottom, there are 'Required' and 'Cancel' buttons, and a prominent blue 'Next Step' button. The browser toolbar at the bottom is identical to the one in the previous screenshot.

The screenshot shows the final step of the 'Specify DB Details' process. It displays a summary of the chosen options: DB Engine (mysql), DB Instance Class (db.t2.small), Storage Type (General Purpose SSD), and Allocated Storage (15 GB). The browser toolbar at the bottom is identical to the ones in the previous screenshots.

Give the username and password. You need to remember those.

Then on the **Configure Advanced Settings** page, provide additional information that RDS needs to launch the MySQL DB instance.

Configure Advanced Settings

Network & Security

VPC: Default VPC (vpc-24522f40)
Subnet Group: clouddedemygroup
Publicly Accessible: No
Availability Zone: us-west-2b
VPC Security Group(s): Create new Security Group
default (VPC)
groupids (VPC)
launch-wizard-1 (VPC)

Database Options

Database Name: mydb
Note: if no database name is specified then no initial MySQL database will be created on the DB instance.
Database Port: 3306
DB Parameter Group: default.mysql5.6

Select the DB option group that enables any optional functionality you want the DB instance to support, such as

Give the created subnet group name as the **subnet group**.

Steps to create the subnet group:

Create DB Subnet Group

To create a new Subnet Group give it a name, description, and select an existing VPC below. Once you select an existing VPC, you will be able to add subnets related to that VPC.

Name: clouddedemygroup
Description: rdslab3
VPC ID: vpc-24522f40

Add Subnet(s) to this Subnet Group. You may add subnets one at a time below or add all the subnets related to this VPC. You may make additions/edits after this group is created. A minimum of 2 subnets is required.

Availability Zone	Subnet ID	CIDR Block	Action
us-west-2c	subnet-e49659bc	172.31.0.0/20	Remove
us-west-2a	subnet-a92845cd	172.31.16.0/20	Remove
us-west-2b	subnet-17d65261	172.31.32.0/20	Remove

Cancel Create

1. Go to subnet groups.
2. Then it will redirect to the create subnet group.
3. Give a name for the subnet group.
4. Click the **add all the subnets** button.
5. If you want you can remove an available zone.
6. Then click the **create** button.

Back to **Configure Advanced Settings** page.

In the **Configure Advanced Settings** page, do the changes as below.

The screenshot shows the AWS RDS 'Configure Advanced Settings' page. Key configuration details include:

- DB Parameter Group:** default.mysql5.6
- Option Group:** default:mysql-5-6
- Backup:**
 - Backup Retention Period: 0 days
 - Note: A backup retention period of zero days will disable automated backups for this DB Instance.
 - Backup Window: No Preference
- Monitoring:** Enable Enhanced Monitoring: No
- Maintenance:**
 - Auto Minor Version Upgrade: Yes
 - Maintenance Window: No Preference

At the bottom of the page, there are links for Feedback, English, Privacy Policy, Terms of Use, and a timestamp indicating the screenshot was taken on 29/07/2016 at 22:20.

Then click on the **launch DB instance** button. Then it will be create the DB instance successfully.

RDS - AWS Console https://us-west-2.console.aws.amazon.com/rds/home?region=us-west-2#launch-dbinstance:ct=gettingStarted:

Step 1: Select Engine
Step 2: Production?
Step 3: Specify DB Details
Step 4: Configure Advanced Settings

Your DB Instance is being created.
Note: Your instance may take a few minutes to launch.

Connecting to your DB Instance
You will be unable to connect to your database instance unless you have previously authorized access on your chosen security group.
Go to the Security Groups Page

Related AWS Services
Amazon ElastiCache
Add a managed Memcached or Redis-compatible in-memory cache to speed up your database access.
Click here to learn more and launch your Cache Cluster

[View Your DB Instances](#)

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Then you can view the DB instance that has been created.

RDS - AWS Console https://us-west-2.console.aws.amazon.com/rds/home?region=us-west-2#dbinstances:id=dbinstance;sf=all

RDS Dashboard Launch DB Instance Show Monitoring Instance Actions

Instances Clusters Reserved Purchases Snapshots Security Groups Parameter Groups Option Groups Subnet Groups Events Event Subscriptions Notifications

Filter: All Instances Search DB Instances... Viewing 1 of 1 DB Instances

Engine	DB Instance	Status	CPU	Current Activity	Maintenance	Class	VPC	Multi-AZ	Replication Role	En
MySQL	dbinstance	available	0 Connections	None	db.t2.small	vpc-24522f40	No	No	No	No

Endpoint: dbinstance.cuhtrs8o9wqr.us-west-2.rds.amazonaws.com:3306 (authorized)

Alarms and Recent Events

TIME (UTC+5:30)	EVENT
Jul 29 10:25 PM	DB instance created
Jul 29 10:24 PM	DB instance restarted

Monitoring

CURRENT VALUE	THRESHOLD	LAST HOUR	CURRENT VALUE	LAST HOUR
CPU 1.8%	1	1	Read IOPS 0/sec	1
Memory 1,500 MB	1	1	Write IOPS 0.35/sec	1
Storage 14,500 MB	1	1	Swap Usage 0 MB	1

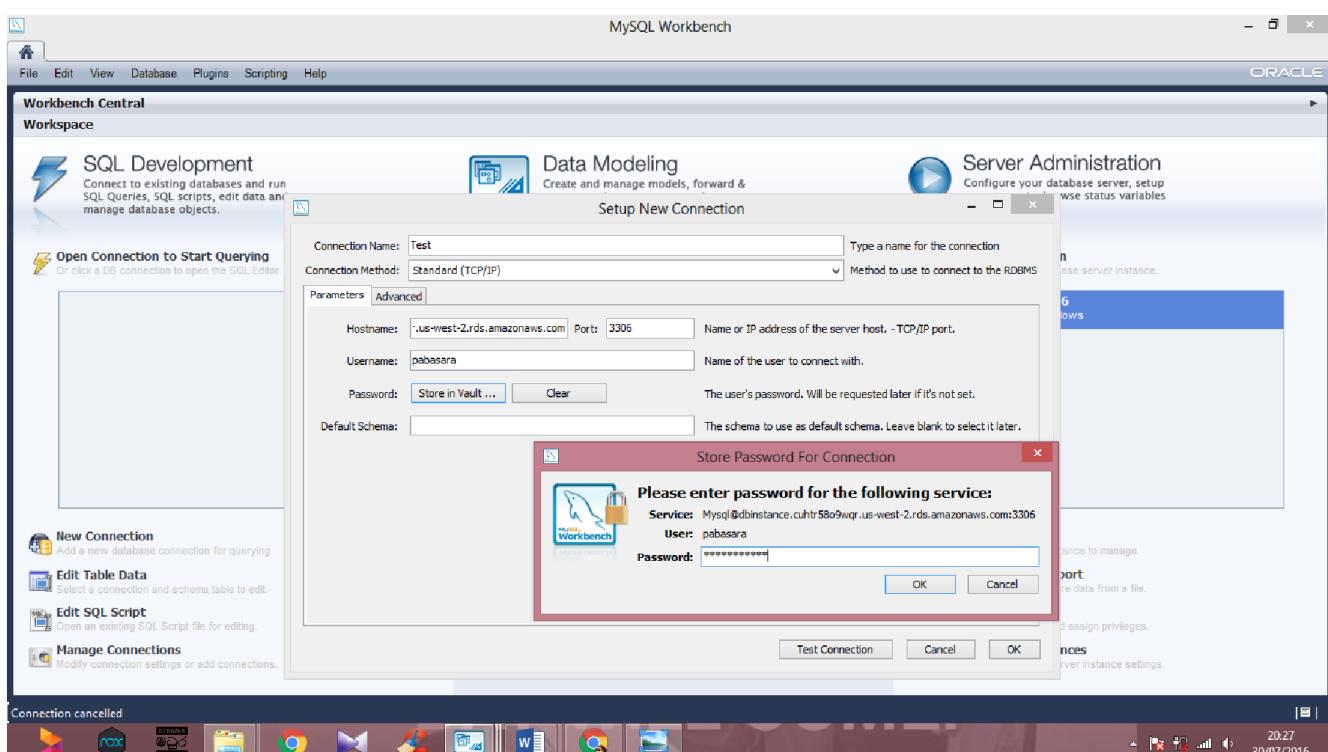
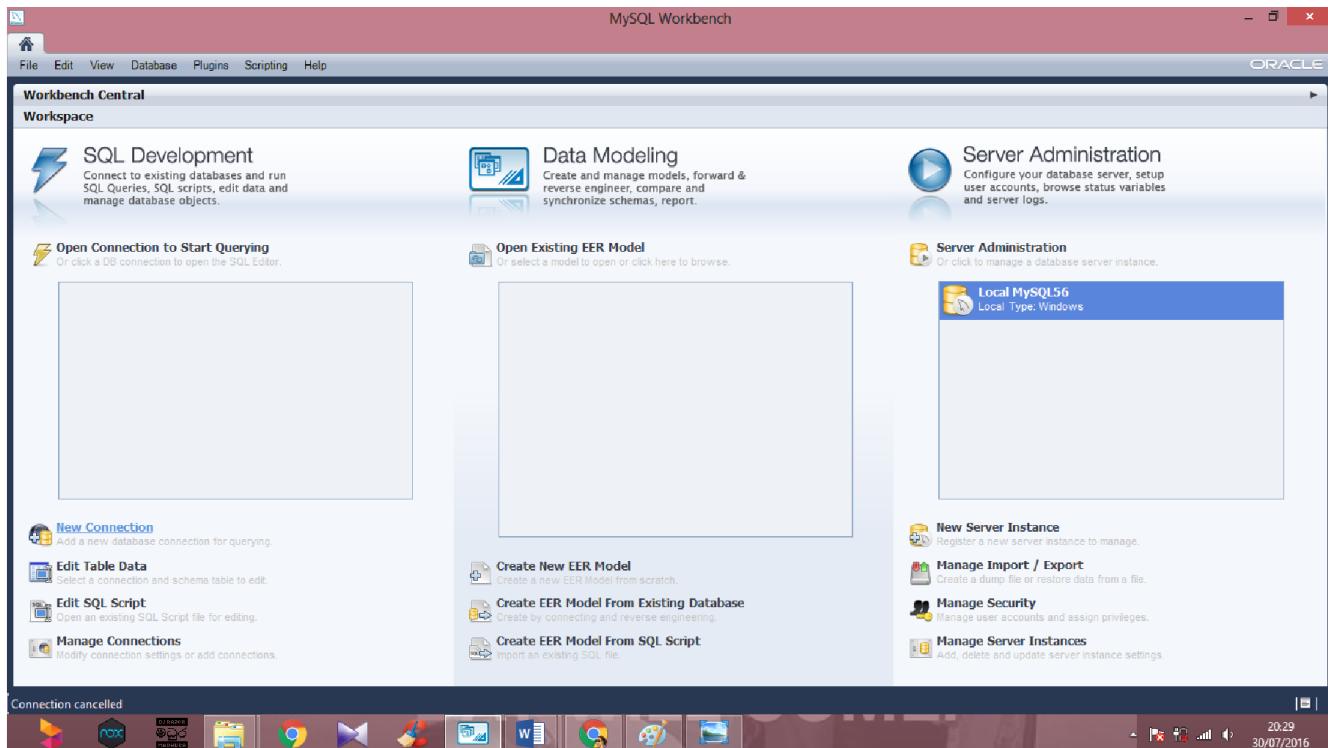
Instance Actions Tags Logs

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2. Connecting to a Database on a DB Instance Running the MySQL Database Engine.

Get the MySQL Workbench. And create a new connection.

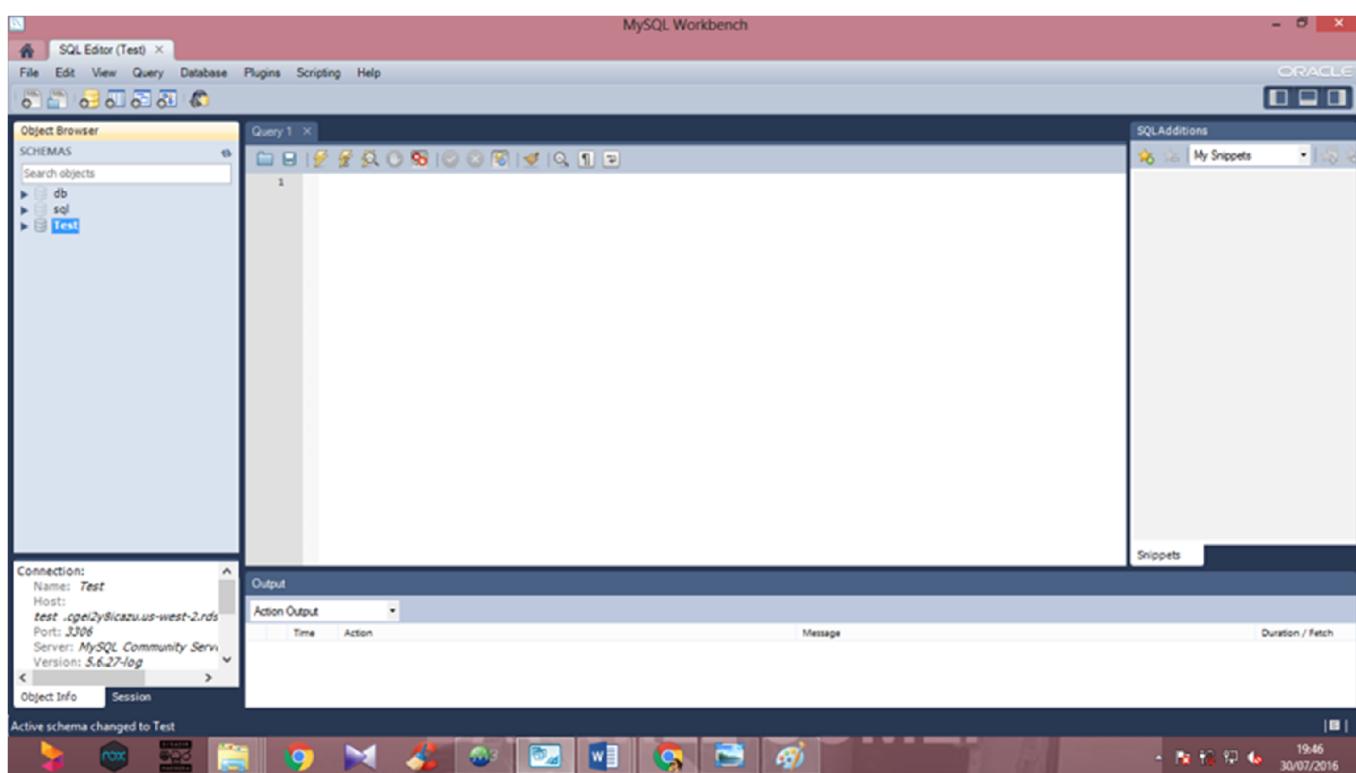
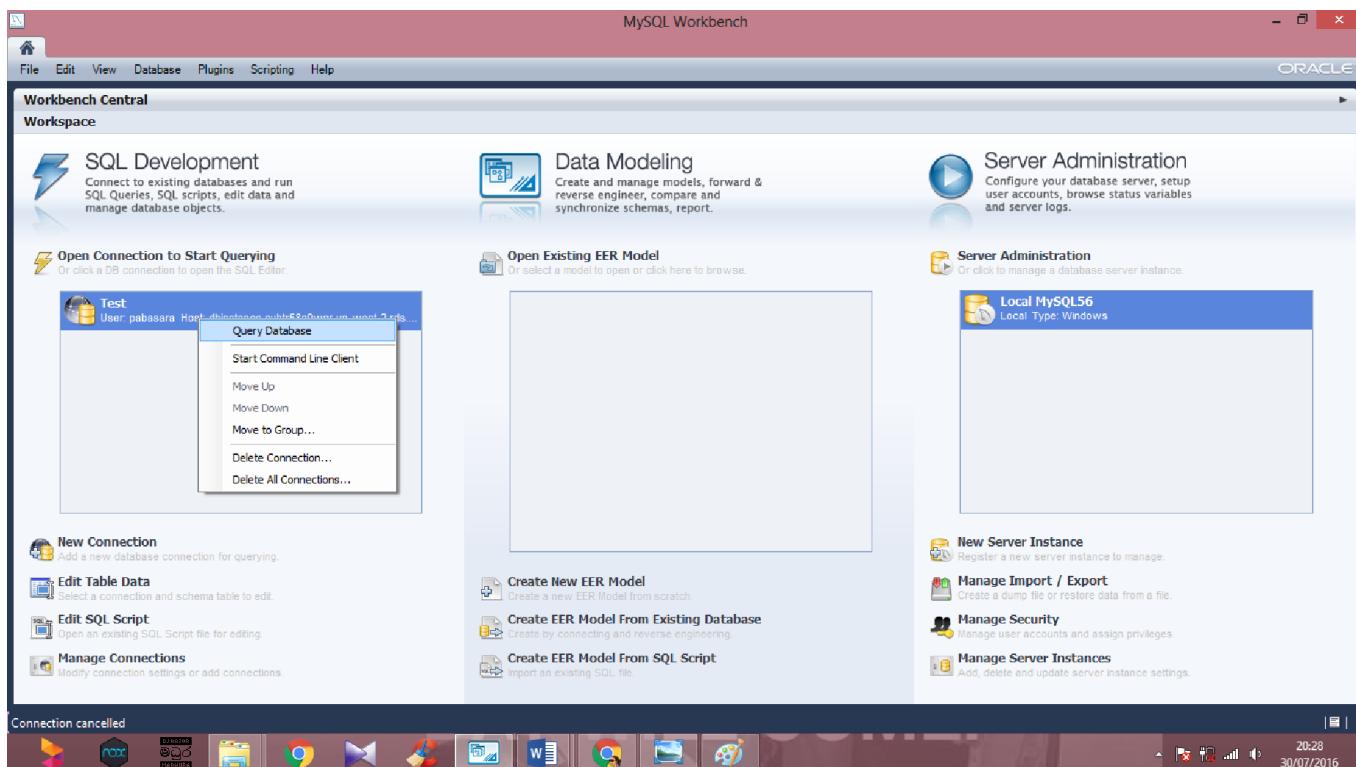
In the set up new connection dialog box, give the following details.



Give any connection name you want. As the host name give the endpoint in the RDS instance.

Then click OK.

Then open the created connection.



If the connection can be open it is connected to the db instance.

3. Deleting a DB Instance.

The screenshot shows the AWS RDS Dashboard. On the left, there's a sidebar with links like Instances, Clusters, Reserved Purchases, Snapshots, Security Groups, Parameter Groups, Option Groups, Subnet Groups, Events, Event Subscriptions, and Notifications. The main area has tabs for Launch DB Instance, Show Monitoring, and Instance Actions. A search bar says 'Search DB Instances...'. Below it, a table shows one DB instance: dbi.1, with details like Engine: MySQL, Status: available, CPU usage: 1.19%, and VPC: vpc-24522f40. To the right is a 'Monitoring' section with graphs for CPU, Memory, Storage, Read IOPS, Write IOPS, and Swap Usage. A context menu is open over the instance table, with 'Delete' highlighted at the bottom. The menu also includes options like See Details, Create Read Replica, Promote Read Replica, Take Snapshot, Restore to Point in Time, Migrate Latest Snapshot, Modify, Reboot, and Delete.

The screenshot shows the 'Delete DB Instance' confirmation dialog. It asks 'Are you sure you want to Delete the dbinstance DB Instance?'. There are two dropdowns: 'Create final Snapshot?' set to 'Yes' and 'Final snapshot name' set to 'dbinstance-final-snapshot'. A warning message in a yellow box says: 'We strongly recommend taking a final snapshot before instance deletion since after your instance is deleted, automated backups will no longer be available.' At the bottom are 'Cancel' and 'Delete' buttons. The background shows the same RDS Dashboard interface as the previous screenshot.

RDS - AWS Console

https://us-west-2.console.aws.amazon.com/rds/home?region=us-west-2#dbinstances:id=dbinstance;sf=all

Apps Bookmarks M (no subject) - madhu SubScene - Sherlock Insert, Delete, Update

AWS Services Edit pabasara Oregon Support

RDS Dashboard

Instances Clusters Reserved Purchases Snapshots Security Groups Parameter Groups Option Groups Subnet Groups Events Event Subscriptions Notifications

Launch DB Instance Show Monitoring Instance Actions

Filter: All Instances Search DB Instances... Viewing 1 of 1 DB Instances

Engine: MySQL DB Instance: dbinstance Status: deleting CPU: 0.83% Current Activity: None Maintenance: None Class: db.t2.small VPC: vpc-24522f40 Multi-AZ: No Replication: No

Endpoint: dbinstance.cuhtrs8o9wqr.us-west-2.rds.amazonaws.com:3306 (authorized)

Alarms and Recent Events

TIME (UTC+5:30)	EVENT
Jul 30 2:55 PM	Finished DB instance backup
Jul 30 2:50 PM	Backing up DB instance
Jul 30 2:47 PM	DB instance created
Jul 30 2:46 PM	DB instance restarted
Jul 29 11:19 PM	DB instance deleted
Jul 29 11:13 PM	DB instance shutdown
Jul 29 10:25 PM	DB instance created
Jul 29 10:24 PM	DB instance restarted

Monitoring

CURRENT VALUE	THRESHOLD	LAST HOUR	CURRENT VALUE	LAST HOUR
CPU			Read IOPS	0/sec
Memory			Write IOPS	
Storage			Swap Usage	

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