

IoT Bluetooth & Wi-Fi & AWS EC2 Project

AWS EC2 Project

AWS EC2 Project

❖ EC2 (Elastic Compute Cloud)

- Create Instances
 - Virtual computing environments
- Use AMIs (Amazon Machine Images)
 - Preconfigured templates for instances
 - Provides help for Servers, OSs (Operating Systems), and Application Software

AWS EC2 Project

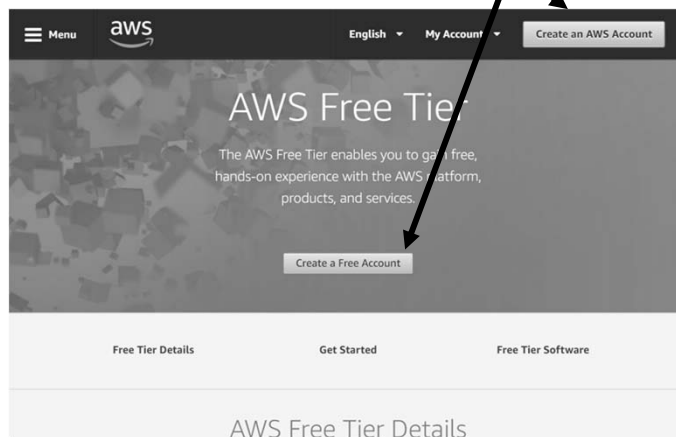
❖ EC2 (Elastic Compute Cloud)

- Use Instance Types
 - Enables various configurations for instances
 - CPU, memory, storage
 - Networking capacity, etc.
- To make an account, a Credit Card & Telephone Number is needed

AWS EC2 Project

❖ Start AWS EC2

- Step 1 : Make an AWS account and start the free trial



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❖ Start AWS EC2

- Step 1-1 : Write in your information
 - Make an AWS account name

aws English ▾

Create an AWS account

Email address

Password

Confirm password

AWS account name ⓘ

Continue

[Sign in to an existing AWS account](#)

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AWS Accounts Include 12 Months of Free Tier Access

Including use of Amazon EC2, Amazon S3, and Amazon DynamoDB
Visit aws.amazon.com/free for full offer terms

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❖ Start AWS EC2

- Step 1-2 : Write in your Contact information
 - Choose Personal or Professional

aws English ▾

Contact Information All fields are required.

Please select the account type and complete the fields below with your contact details.

Account type ⓘ
☒ Professional ☐ Personal

Full name

Company name

Phone number

Country/Region

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- ❖ Start AWS EC2
 - Step 1-3 : Write in your Payment information
 - Insert Credit/Debit Card information

The screenshot shows the AWS 'Payment Information' page. At the top, there's an AWS logo and a language dropdown set to 'English'. The main heading is 'Payment Information'. Below it, a message states: 'Please type your payment information so we can verify your identity. We will not charge you unless your usage exceeds the AWS Free Tier Limits. Review frequently asked questions for more information.' The form fields include: 'Credit/Debit card number' (text input), 'Expiration date' (two dropdown menus showing '03' and '2018'), 'Cardholder's name' (text input), and 'Billing address' (radio buttons for 'Use my contact address' and 'Use a new address', with the first one selected). A 'Secure Submit' button is at the bottom.

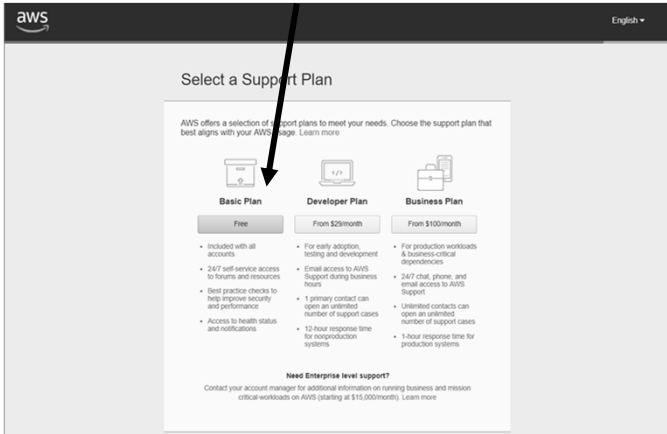
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- ❖ Start AWS EC2
 - Step 1-4 : Phone Verification process
 - Provide a Phone Number

The screenshot shows the AWS 'Phone Verification' page. At the top, there's an AWS logo and a language dropdown set to 'English'. The main heading is 'Phone Verification'. Below it, a message states: 'AWS will call you immediately using an automated system. When prompted, enter the 4-digit number from the AWS website on your phone keypad.' The form section is titled 'Provide a telephone number' and includes instructions: 'Please enter your information below and click the "Call Me Now" button.' The fields are: 'Country/Region code' (dropdown menu showing 'Korea, Republic of (+82)'), 'Phone number' (text input), and 'Ext' (text input). Below these is a 'Security Check' section with a CAPTCHA image showing 'wb3x56', a speaker icon, a refresh icon, and a text input field with the prompt 'Please type the characters as shown above'. A 'Call Me Now' button is at the bottom.

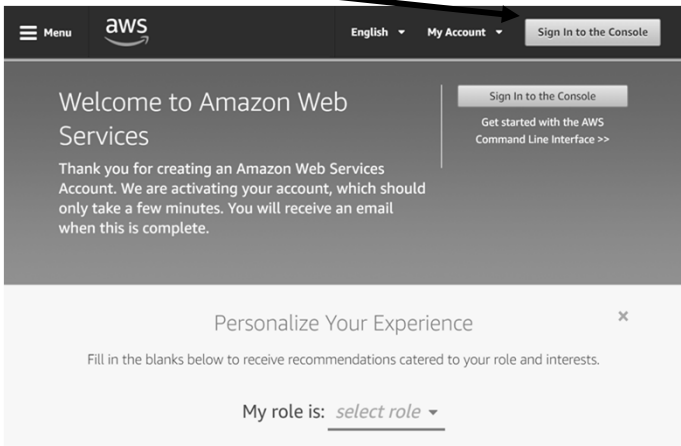
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- ❖ Start AWS EC2
 - Step 1-5 : Select a Support Plan
 - Start with the Free Basic Plan



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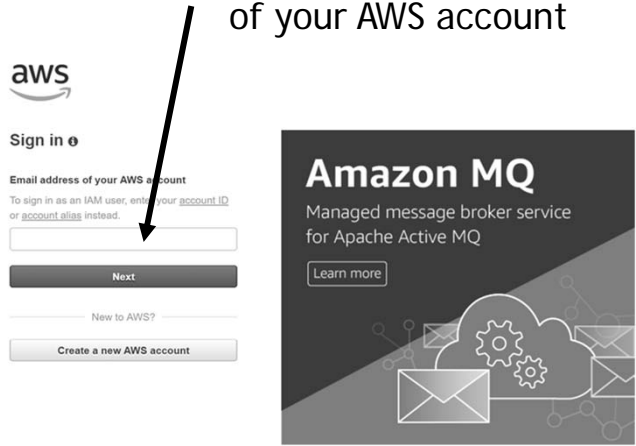
- ❖ Start AWS EC2
 - Step 2 : Sign in to the Console



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❖ Start AWS EC2

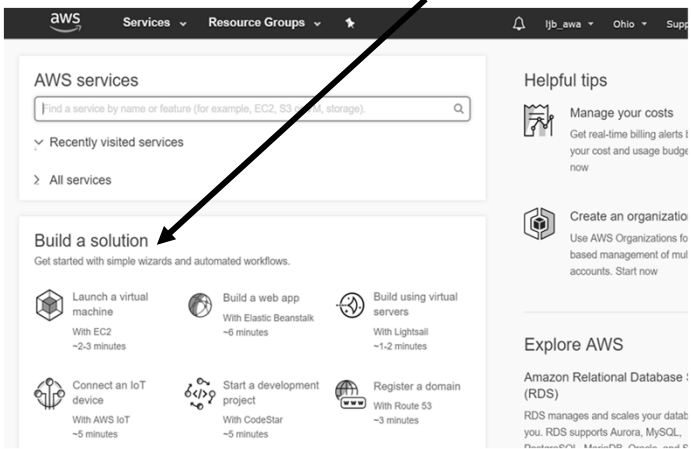
- Step 2-1 : Sign In using the Email address of your AWS account



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❖ Start AWS EC2

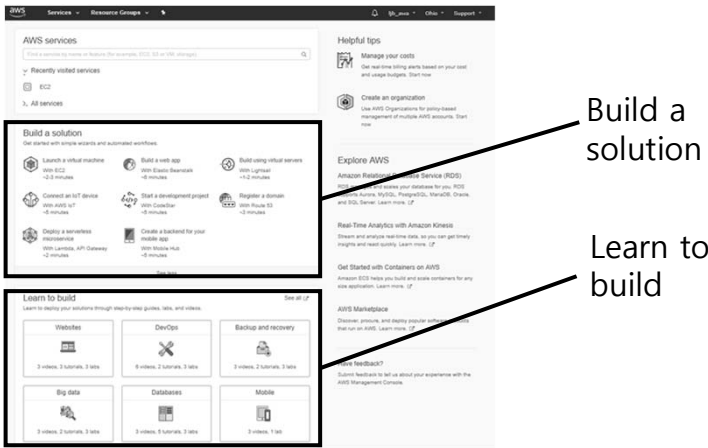
- Step 2-2 : Check the AWS Console options



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❖ Start AWS EC2

- Step 2-3 : AWS Console options include



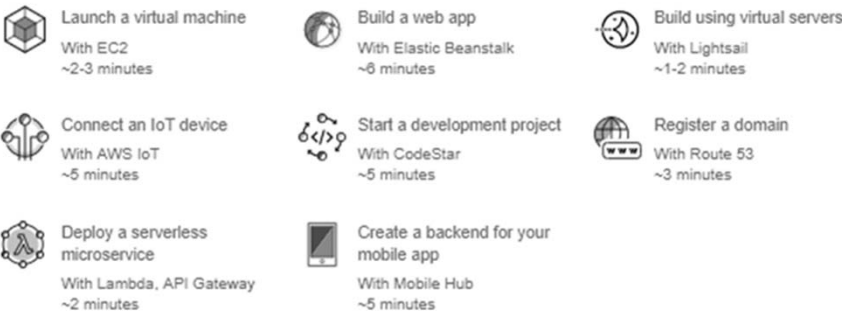
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❖ Start AWS EC2

- Step 2-3 : Check the Build a solution details

Build a solution

Get started with simple wizards and automated workflows.



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❖ Start AWS EC2

- Step 2-3 : Check the Learn to build options

Learn to build

Learn to deploy your solutions through step-by-step guides, labs, and videos.

See all

Websites

3 videos, 3 tutorials, 3 labs

DevOps

6 videos, 2 tutorials, 3 labs

Backup and recovery

3 videos, 2 tutorials, 3 labs

Big data

3 videos, 2 tutorials, 3 labs

Databases

3 videos, 5 tutorials, 3 labs

Mobile

3 videos, 1 lab

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❖ Start AWS EC2

- Step 3 : Among the Build a solution options select “Launch a virtual machine”

AWS

Services

Resource Groups

Find a service by name or feature (for example, EC2, S3 or IAM role)

Recently visited services

All services

Build a solution

Get started with simple wizards and automated workflows.

Launch a virtual machine

With EC2

~2-3 minutes

Build a web app

With Elastic Beanstalk

~6 minutes

Build using virtual servers

With Lightsail

~1-2 minutes

Connect an IoT device

With AWS IoT

~5 minutes

Start a development project

With CodeStar

~5 minutes

Register a domain

With Route 53

~3 minutes

Helpful tips

Manage your costs

Get real-time billing alerts to your cost and usage budget now

Create an organization

Use AWS Organizations for based management of multiple accounts. Start now

Explore AWS

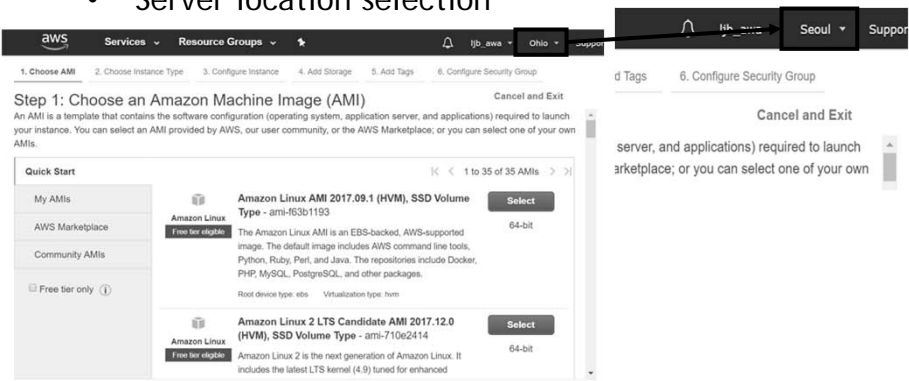
Amazon Relational Database (RDS)

RDS manages and scales your database. RDS supports Aurora, MySQL, PostgreSQL, MariaDB, Oracle, and Amazon Redshift.

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❖ Start AWS EC2

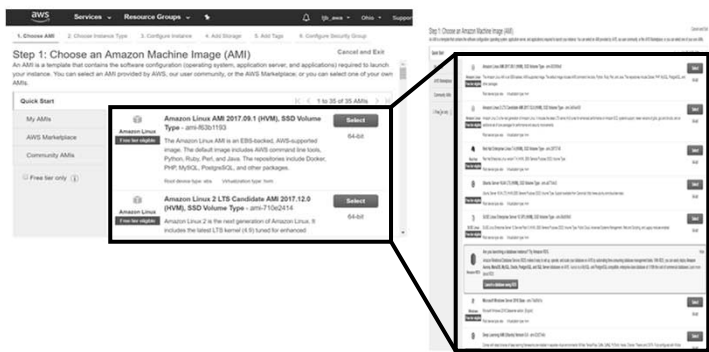
- Step 3-1 : Choose an AMI (Amazon Machine Image)
 - AMI provides a template for the OS, Server, and Apps
 - Server location selection



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❖ Start AWS EC2

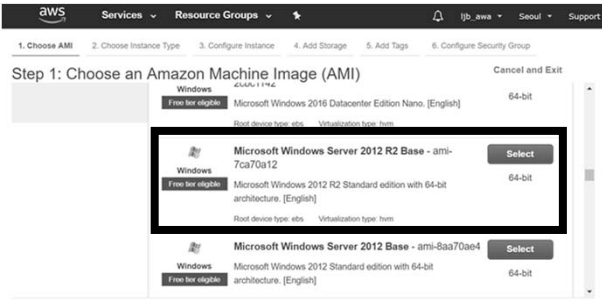
- Step 3-2 : Choose AMI OS type
 - There are many OS options (Window, Linux, etc.)



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❖ Start AWS EC2

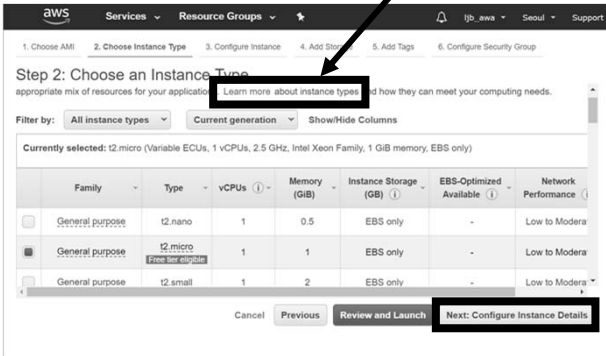
- Step 3-3 : For example you can choose Window Server 2012



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❖ Start AWS EC2

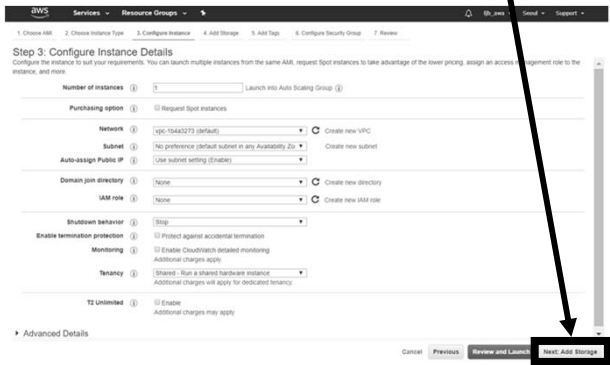
- Step 3-4 : Choose an Instance Type
 - Learn more about Instance Types before making a selection



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❖ Start AWS EC2

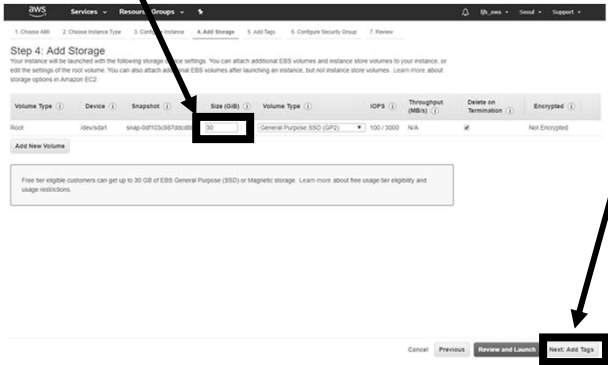
- Step 3-5 : Configure Instance Details then click on Next: Add Storage



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❖ Start AWS EC2

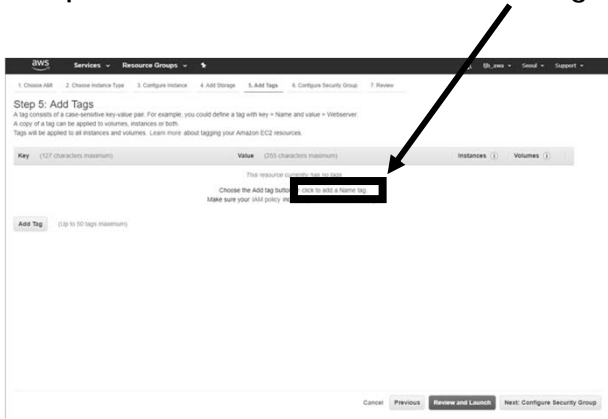
- Step 3-6 : Add Storage by selecting a desired Size (max 30 GiB) then click on Next: Add Tags



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❖ Start AWS EC2

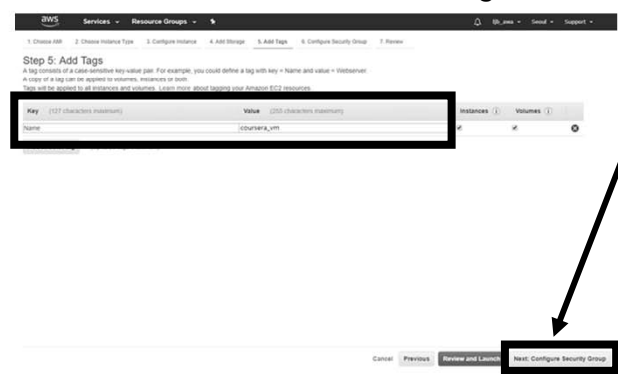
- Step 3-7 : Click to add a Name Tag



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❖ Start AWS EC2

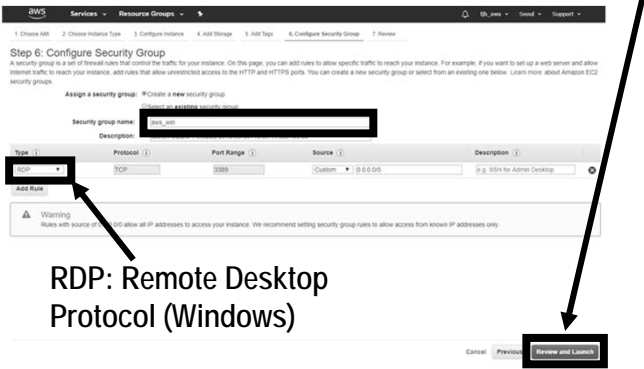
- Step 3-7 : Add Tags based on Key and Value then click on Next: Configure Security Group



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❖ Start AWS EC2

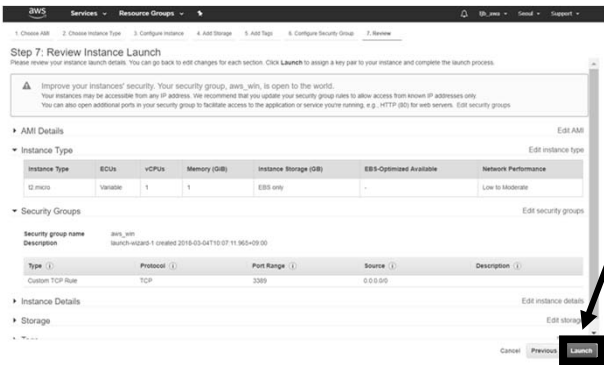
- Step 3-8 : Configure Security group name and type then click on Review and Launch



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❖ Start AWS EC2

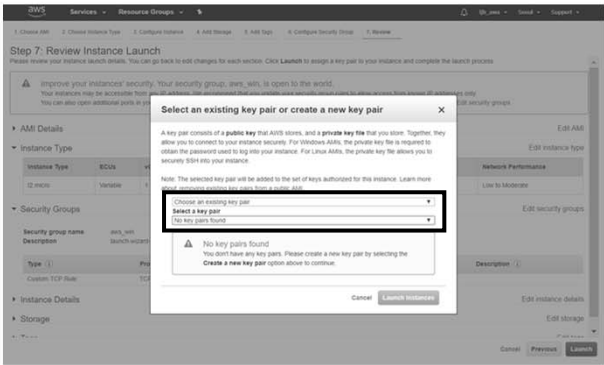
- Step 3-9 : Review Instance Launch settings, and if all is good then click on Launch



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❖ Start AWS EC2

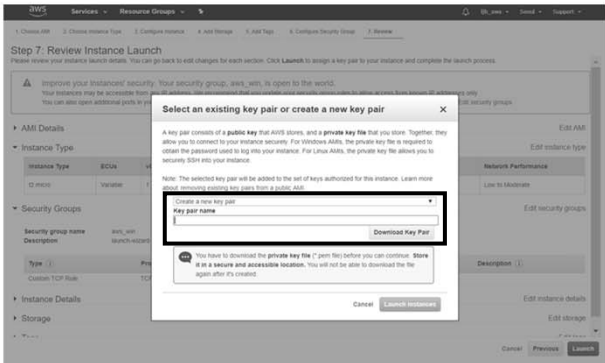
- Step 3-10 : Select a key pair (if you do not have one, then go to the next step)



AWS EC2 Project

❖ Start AWS EC2

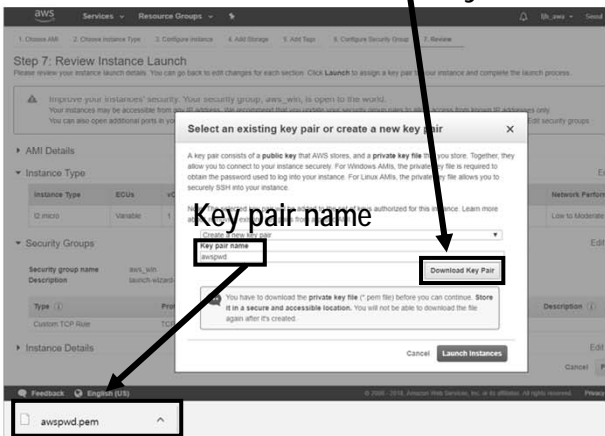
- Step 3-10 : Create a new key pair using the Key pair name field



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❖ Start AWS EC2

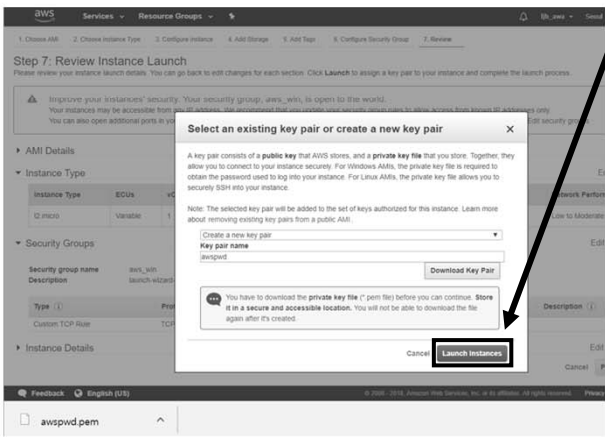
- Step 3-10 : Select the key pair using the Download Key Pair button



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❖ Start AWS EC2

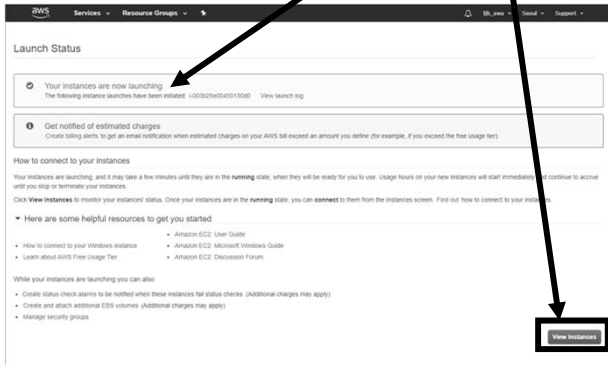
- Step 3-11 : When all options are set then click on the Launch Instances



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❖ Start AWS EC2

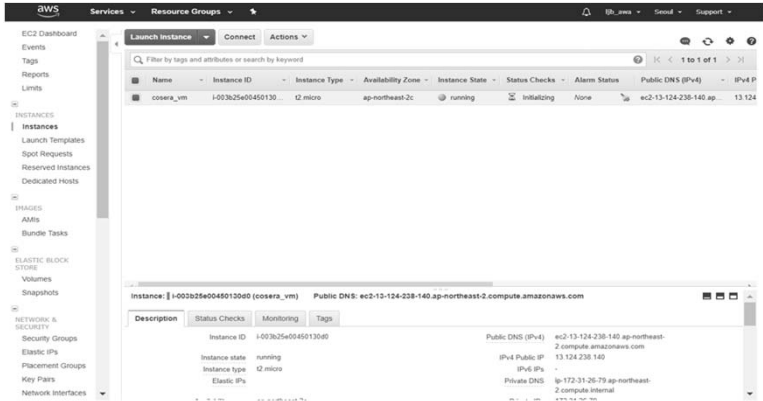
- Step 3-11 : Check the Launch Status information and click on View Instances



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❖ Start AWS EC2

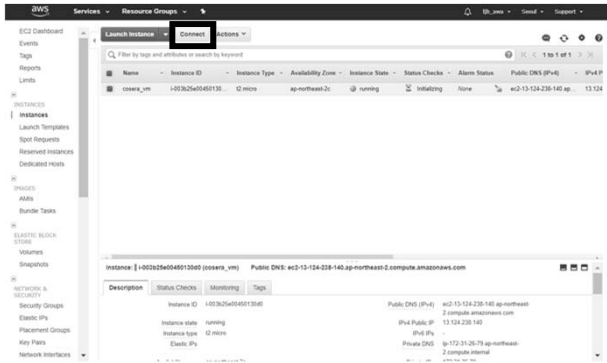
- Step 3-12 : Check the details of the Instance created



AWS EC2 Project

❖ Start AWS EC2

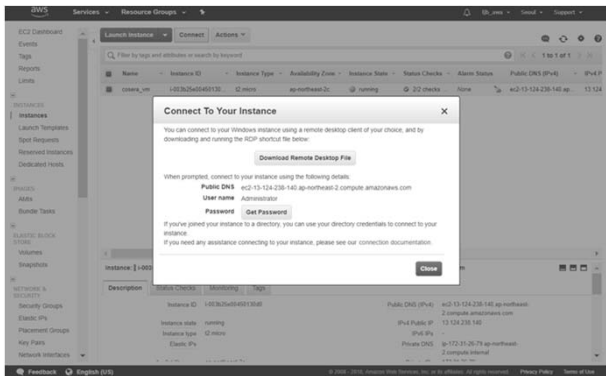
- Step 3-13 : To enter your new instance, click on Connect



AWS EC2 Project

❖ Start AWS EC2

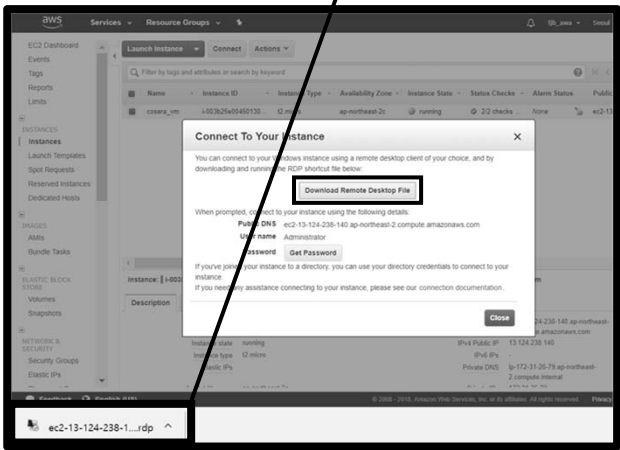
- Step 3-13 : Now you need to make a password



AWS EC2 Project

❖ Start AWS EC2

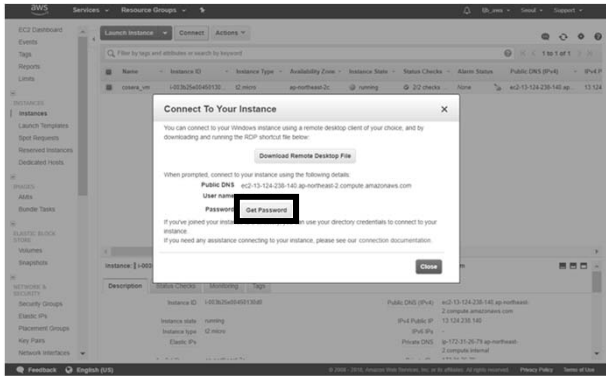
- Step 3-13 : Use Download Remote Desktop File



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❖ Start AWS EC2

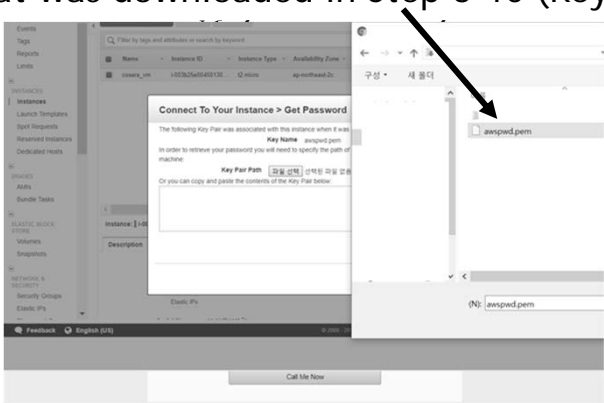
- Step 3-13 : Use the Get Password



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❖ Start AWS EC2

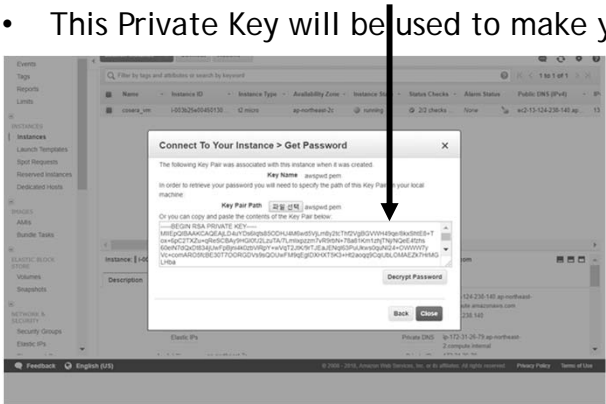
- Step 3-13 : To make a password, use the file that was downloaded in Step 3-10 (Key pair name)



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❖ Start AWS EC2

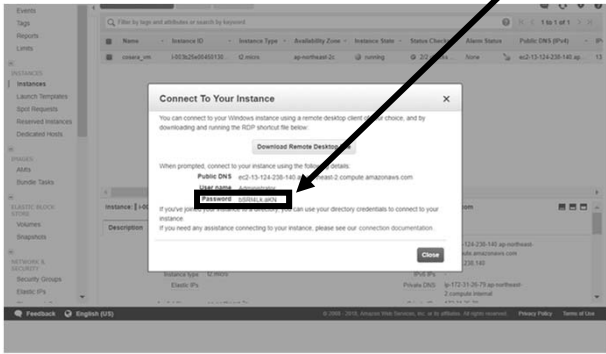
- Step 3-13 : Now a RSA Private Key has been made
 - This Private Key will be used to make your password



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❖ Start AWS EC2

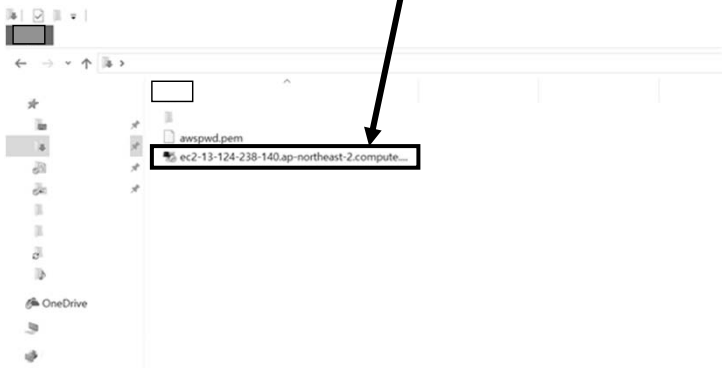
- Step 3-13 : Your EC2 login password has been created (Record This)



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❖ Start AWS EC2

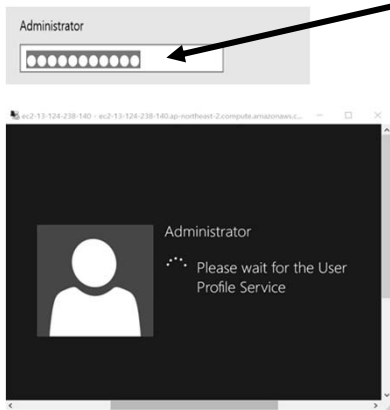
- Step 3-14 : Now lets make contact to your AWS EC2 Virtual Computer (VM)



AWS EC2 Project

❖ Start AWS EC2

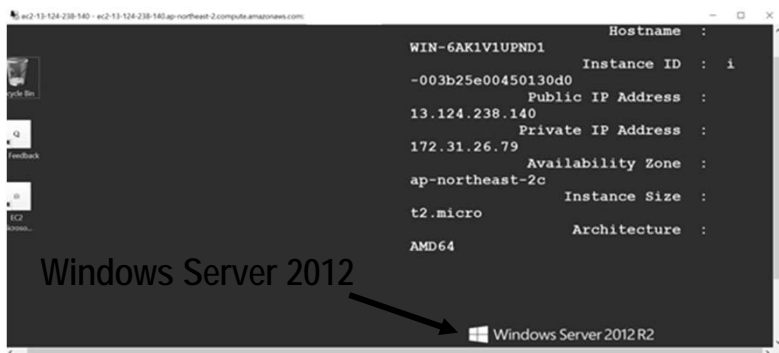
- Step 3-14 : Login with your EC2 Login Password
From Step 3-13



AWS EC2 Project

❖ Start AWS EC2

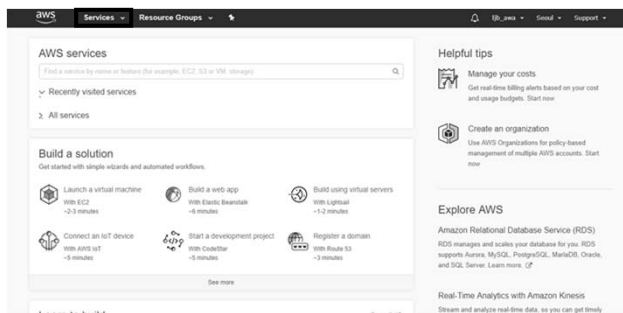
- Step 3-14 : Welcome to your EC2 Virtual Computer



AWS EC2 Project

❖ Project Assignment

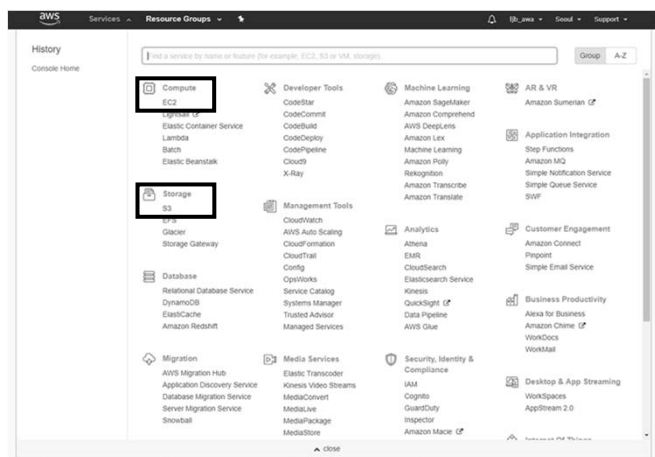
- AWS EC2 provides many other OSs
- Make an EC2 instance of another OS
- Also try out the various service solutions



AWS EC2 Project

❖ Project Assignment

- Check the options Compute EC2 & Storage S3



IoT Bluetooth & Wi-Fi & AWS EC2 Project References

References

- "Network Analyzer," Jiri Techet, [Online] Available from: <https://play.google.com/store/apps/details?id=net.techet.netanalyzerlite.an> [Accessed Feb. 27, 2018]
- "Network Analyzer Lite," Techet, [Online] Available from: <https://itunes.apple.com/us/app/network-analyzer-lite/id562315041?mt=8> [Accessed Feb. 27, 2018]
- "BLE Scanner," Bluepixel Technologies LLP, [Online] Available from: <https://play.google.com/store/apps/details?id=com.macdom.ble.blescanner> [Accessed Feb. 27, 2018]
- "Bluetooth 4.0 Scanner," John Abraham, [Online] Available from: <https://play.google.com/store/apps/details?id=com.bluemotionlabs.bluescan> [Accessed Feb. 27, 2018]
- "BLE Discovery," Heap & Stack, [Online] Available from: <https://itunes.apple.com/us/app/ble-discovery/id821826273?mt=8> [Accessed Feb. 27, 2018]
- <https://aws.amazon.com>