

How to configure an EC2 instance

By: Marek Gordiski





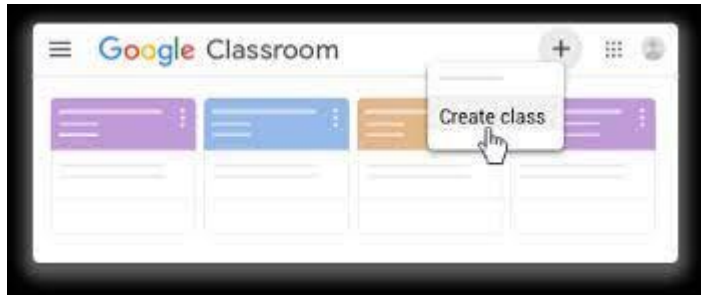
Why I chose this topic



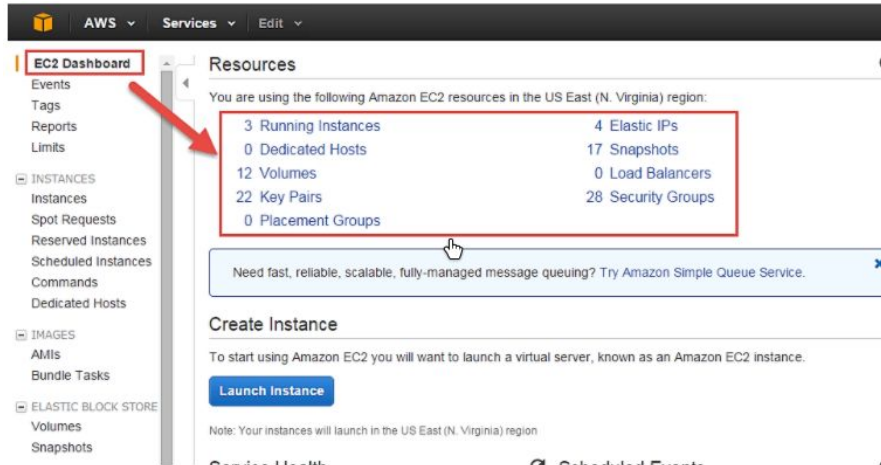
I chose this because its a fairly common task for the industry I desire to be apart of. Virtual storage and servers is the future due to price and ease of use and maintenance. So I decided to show an example of this industry with the common practice of making a web server. This is in particular connected to something I learned earlier in this year.


methods that I will use to obtain further knowledge and skills to complete this project

I will go over again the lesson which introduced this topic in class, and which was provided by our educator. And I will review the AWS help section on the Amazon site.

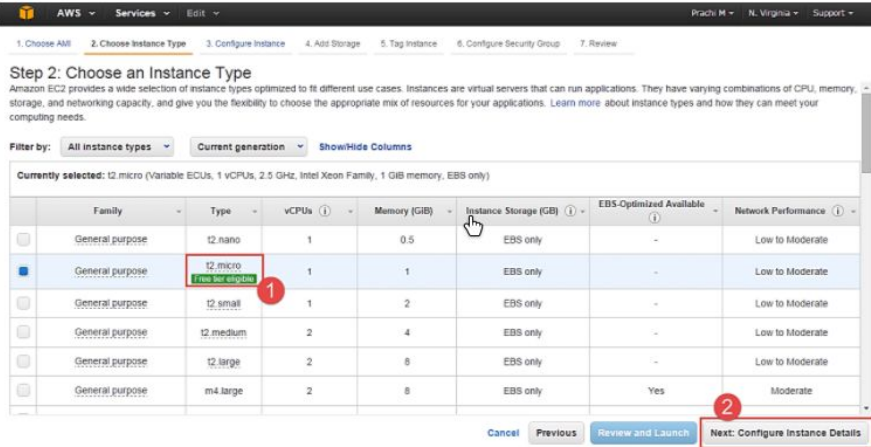


step-by-step instructions on how to perform the skill.



1. In the Management Console find and select the EC2 Dashboard
2. click 
3. Select the Amazon Linux 2 AMI (HVM)
4. Select the t2.micro instance.

step-by-step instructions on how to perform the skill.



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.

Filter by: All Instance types Current generation Show/Hide Columns

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 (GiB) | EDS-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 |
| <input type="checkbox"/> | General purpose | m4.large | 2 | 8 | EBS only | Yes | Moderate |

Cancel Previous Review and Launch Next: Configure Instance Details

5. Select Next: Configure Instance Details

6. Accept the default settings for the Step 3: Configure Instance Details page and scroll down to the bottom to the Advanced Details section.

step-by-step instructions on how to perform the skill.

The screenshot shows the AWS Management Console interface for the 'Tag Instance' step. The top navigation bar includes 'AWS', 'Services', and 'Edit'. The breadcrumb trail shows the steps: 1. Choose AMI, 2. Choose Instance Type, 3. Configure Instance, 4. Add Storage, 5. Tag Instance (highlighted), 6. Configure Security Group, and 7. Review. The main heading is 'Step 5: Tag Instance', followed by a sub-header 'A tag consists of a case-sensitive key-value pair. For example, you could define a tag with key = Name and value = Webserver. Learn more about tagging your Amazon EC2 resources.' Below this, there is a table with two columns: 'Key' (127 characters maximum) and 'Value' (255 characters maximum). The first row has 'Name' in the Key column and 'Dev_Web Server 01' in the Value column. A red arrow labeled '1' points to the 'Name' field. At the bottom right, there is a 'Next: Configure Security Group' button, which is highlighted with a red arrow labeled '2'. Other buttons at the bottom include 'Cancel', 'Previous', and 'Review and Launch'.

a. Expand Advanced Details. A field for User data will appear.

b. Copy the following commands and paste them into the User Data field:

7. Click Next: Add Storage

8. Click Next: Add Tags

step-by-step instructions on how to perform the skill.

The screenshot shows the AWS Management Console interface for configuring a security group. The breadcrumb trail at the top indicates the current step is '6. Configure Security Group'. The page title is 'Step 6: Configure Security Group'. A brief description of security groups is provided. The main configuration area includes a section for 'Assign a security group' with radio buttons for 'Create a new security group' (selected) and 'Select an existing security group'. Below this, the 'Security group name' is set to 'Web Server SG' and the 'Description' is 'launch-wizard-7 created 2016-02-03T19:49:12.288+05:30'. A table lists the configured rules:

| Type | Protocol | Port Range | Source |
|-------|----------|------------|----------------------|
| SSH | TCP | 22 | My IP 52.1.77.244/32 |
| HTTP | TCP | 80 | Anywhere 0.0.0.0/0 |
| HTTPS | TCP | 443 | Anywhere 0.0.0.0/0 |

At the bottom, there are 'Cancel', 'Previous', and 'Review and Launch' buttons. Red numbered arrows (1-5) point to specific elements: 1 points to 'Create a new security group', 2 points to 'Web Server SG', 3 points to the 'Add Rule' button, 4 points to the 'Source' column header, and 5 points to the 'Review and Launch' button.

9. Click Add tag then configure:

a. Key: Name Value: Your Server

10. Click Next: Configure Security Group

11. Configure a new security group as follows:

a. Security Group Name: Web Server SG

step-by-step instructions on how to perform the skill.

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 2015.09.1 (HVM), SSD Volume Type - ami-60b6c60a
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
t2.micro
ECUs: Variable, vCPUs: 1, Memory (GiB): 1, Instance Storage (GiB): EBS only, EBS-Optimized Available: -, Network Performance: Low to Moderate

Security Groups
Security group name: Web Server SG
Description: launch wizard-7 created 2016-02-03T19:49:12.288+05:30

| Type | Protocol | Port Range | Source |
|------|----------|------------|--------|
| | | | |

Launch

b. Description: security group for my web server

c. Click Review and Launch.

12. Review the details, scroll down and click Launch.

13. The key pair modal displays. In the dropdown select Proceed

without a key pair, check the box next to the I acknowledge...

statement, and then click Launch Instances

step-by-step instructions on how to perform the skill.

Step 7: Review Instance Launch

Please review your instance launch details. You can no longer go back to edit changes for each section. Click **Launch** to assign a key pair to your instance and complete the launch.

▼ AMI Details

Amazon Linux AMI 2015.09

The Amazon Linux AMI is an EBS-backed, 64-bit Amazon Linux AMI. It includes Docker, PHP, MySQL, PostgreSQL, and Java. Root Device Type: ebs Virtualization: paravirtual

▼ Instance Type

| Instance Type | ECUs |
|---------------|----------|
| t2.micro | Variable |

▼ Security Groups

| Security group name | Web Server |
|---------------------|------------|
| launch-v | |

Type ⓘ

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

Dev Key

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

14. On the Launch Status page, go to the bottom and click View

Instances. Next you will be taken to the Instances page.



Anticipated Questions:



Why would I want to make this? A: because it's a cheaper virtual option compared to creating one in house.

And your employer will want it now you can provide.

What is AWS? A: Amazon Web Services is a subsidiary of Amazon providing on-demand virtual platforms and storage to people on a metered pay-as-you-go basis.

How much will this cost? A: The price varies depending on how much you want. The lower end cost is around \$0.0058 per hour.



What skills have you better mastered because of this project?

Before this project I had very little to not knowledge on AWS. I essentially followed the instructions and going to the next assignment. So this gave me the opportunity to fully go over the skills and subject. I learned more about AWS as a system and as a concept through this project. Going in depth to the process of creating an EC2 Instance helped me see on the branching paths that allow one knowledgeable enough to achieve a lot on the system. Creating an EC2 Instance is only the beginning.



What skills have you better mastered because of this project?

I have learned about Virtual systems. By this is mean before this project I knew no more about the subject than the average man my age. So this action and study of the process of creating a virtual system has helped me better grasp and understand it.

