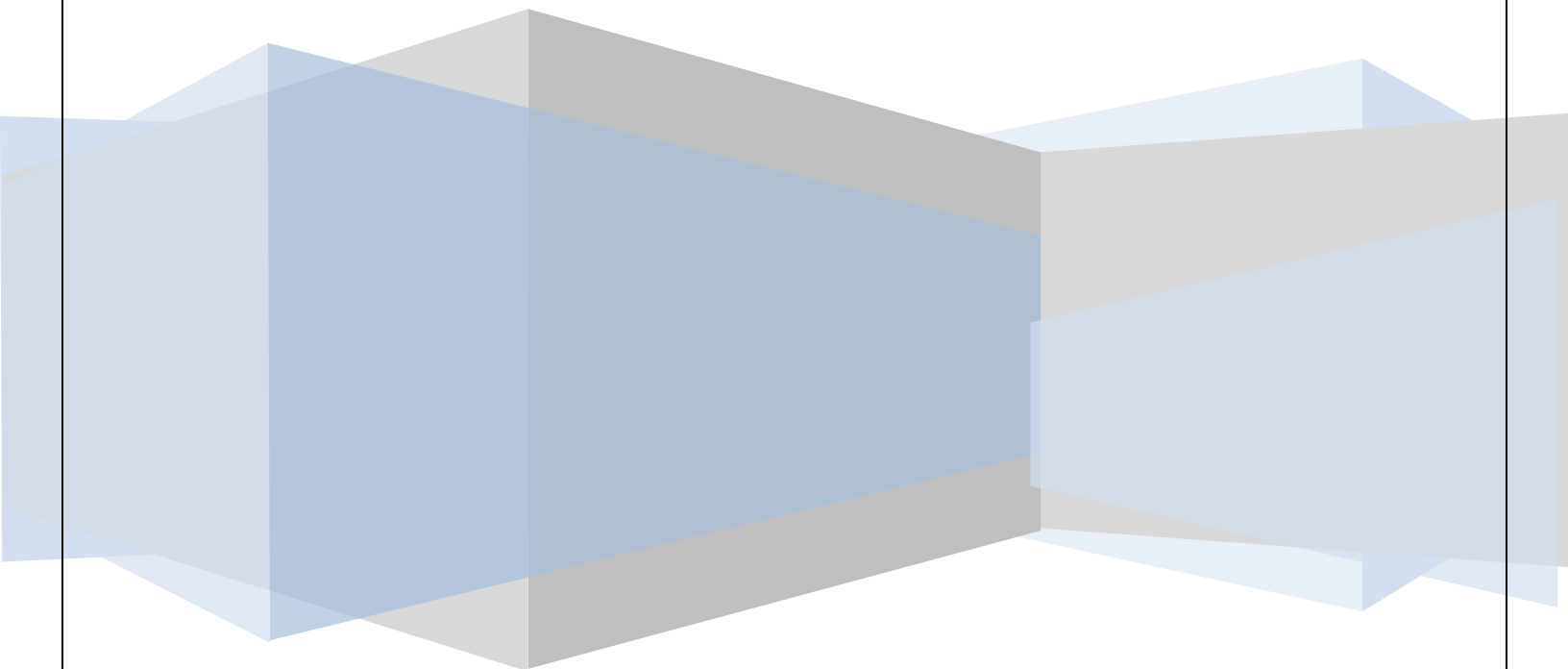


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AWS Cloud Training AMI INTRODUCTION



AMAZON MACHINE IMAGE

When I launch an instance, what software will be installed on it?

- Software is taken from an **Amazon Machine Image (AMI)**
- Selected when you launch an instance
- Essentially a file system that contains the operating system, applications, and potentially other data
- Lives in S3

How do I get an AMI?

- Amazon provides several generic ones, e.g., Amazon Linux, Fedora Core, Windows Server, ...
- You can make your own

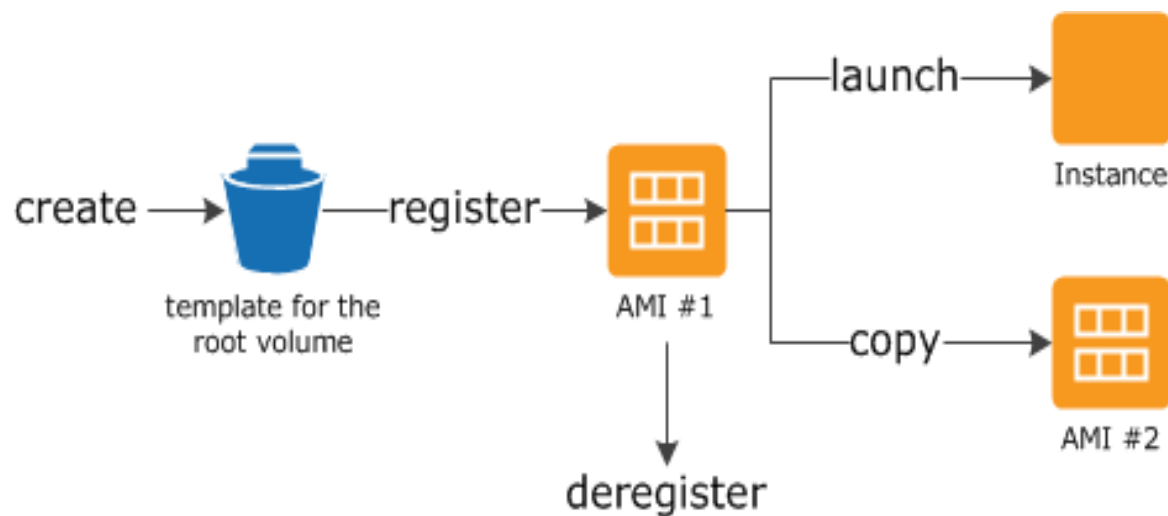
An Amazon Machine Image (AMI) provides the information required to launch an instance, which is a virtual server in the cloud. You specify an AMI when you launch an instance, and you can launch as many instances from the AMI as you need. You can also launch instances from as many different AMIs as you need.

An AMI includes the following:

- A template for the root volume for the instance (for example, an operating system, an application server, and applications)
- Launch permissions that control which AWS accounts can use the AMI to launch instances
- A block device mapping that specifies the volumes to attach to the instance when it's launched

USING AN AMI

The following diagram summarizes the AMI lifecycle. After you create and register an AMI, you can use it to launch new instances. (You can also launch instances from an AMI if the AMI owner grants you launch permissions.) You can copy an AMI to the same region or to different regions. When you are finished launching instance from an AMI, you can deregister the AMI.



CHOOSING AN AMI

Once you click on Launch instance on Instance s page under EC2, you will get the following screen with

A bunch of options, see the options which has highlighted with arrow marks.

Quick Start: Will give you a bunch of AMI's which related to most daily used Operating systems AMI's.

Step 1: Choose an Amazon Machine Image (AMI)

An AMI is a template that contains the software configuration (operating system, application server, and applications) required to launch your instance. You can select an AMI provided by AWS, our user community, or the AWS Marketplace; or you can select one of your own AMIs.

Quick Start 1 to 22 of 22 AMIs

- My AMIs**
- AWS Marketplace**
- Community AMIs**
- ☐ Free tier only ⓘ

Logo	AMI Name	Description	Root device type	Virtualization type	Action
Amazon Linux	Amazon Linux AMI 2016.03.0 (HVM), SSD Volume Type - ami-e90dc68a	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.	ebs	hvm	Select
Red Hat	Red Hat Enterprise Linux 7.2 (HVM), SSD Volume Type - ami-3f03c55c	Red Hat Enterprise Linux version 7.2 (HVM), EBS General Purpose (SSD) Volume Type	ebs	hvm	Select
SUSE Linux	SUSE Linux Enterprise Server 12 SP 1 (HVM), SSD Volume Type - ami-2a19da49	SUSE Linux Enterprise Server 12 Service Pack 1 (HVM), EBS General Purpose (SSD) Volume Type. Public Cloud, Advanced Systems Management, Web and Scripting, and Legacy modules enabled.	ebs	hvm	Select

My AMIs: This will give you the list of AMIs which you have taken from the instances.

1. Choose AMI 2. Choose Instance Type 3. Configure Instance 4. Add Storage 5. Tag Instance 6. Configure Security Group 7. Review

Step 1: Choose an Amazon Machine Image (AMI)

An AMI is a template that contains the software configuration (operating system, application server, and applications) required to launch your instance. You can select an AMI provided by AWS, our user community, or the AWS Marketplace; or you can select one of your own AMIs.

Quick Start 1 to 1 of 1 AMIs

Search my AMIs

My AMIs

TestAMI - ami-b8e115d8

Testing AMI Creation

Root device type: ebs Virtualization type: hvm Owner: 087193966411

AMI which was created by me

Select

AWS Marketplace: Will give you a list of AMIs shared by different vendors and third party where you have to buy or pay some amount to AWS to use those AMI. You can see the below screen shot where I have searched for Trend micro.

Step 1: Choose an Amazon Machine Image (AMI)

[Cancel and Exit](#)

An AMI is a template that contains the software configuration (operating system, application server, and applications) required to launch your instance. You can select an AMI provided by AWS, our user community, or the AWS Marketplace; or you can select one of your own.

The screenshot shows the AWS Marketplace search interface. The search bar contains the text 'trend'. A blue arrow points to the search bar with a callout bubble that says 'Searched for trend'. The results are displayed in a list format. The first result is 'Trend Micro Deep Security (Classic)' with a 'Select' button. The second result is 'Trend Micro Deep Security (BYOL)' with a 'Select' button. The left sidebar shows navigation options: Quick Start, My AMIs, AWS Marketplace, and Community AMIs. Under 'Categories', there are links for 'All Categories', 'Software Infrastructure (19)', 'Developer Tools (7)', and 'Business Software (5)'. Under 'Operating System', there are links for 'Amazon Linux', 'Cent OS', 'Debian', 'Fedora', 'Gentoo', 'OpenSUSE', 'Other Linux', 'Red Hat', and 'SUSE Linux'.

Community AMIs: Will give you a list of AMIs which was shared by different communities such as Fedora, Open SUSE, CentOS and etc.

Step 1: Choose an Amazon Machine Image (AMI)

[Cancel and Exit](#)

The screenshot shows the AWS Community AMIs search interface. The search bar contains the text 'centos'. A blue arrow points to the search bar with a callout bubble that says 'Searched for centos'. The results are displayed in a list format. The first result is 'Webuzo 2.3.2 Dolibarr 3.6.1 Application Manager on LAMP Stack centos 6.6 x86-8e7e2818-a96d-41a5-ad04-3b0a72691d37-ami-5e9bf636.2 - ami-002d0652' with a 'Select' button. The second result is 'Webuzo 2.3.2 Dolibarr 3.6.1 Application Manager on LAMP Stack centos 6.6 x86_64 Stack' with a 'Select' button. The third result is 'Webuzo 2.2.9 Pligg 2.0.2 Application Manager on LAMP Stack centos 6.5 x86_64-53dd7c3e-7c51-494e-8718-f2146bcde20e-ami-2a982b42.2 - ami-00725052' with a 'Select' button. The left sidebar shows navigation options: Quick Start, My AMIs, AWS Marketplace, and Community AMIs. Under 'Operating system', there are checkboxes for 'Amazon Linux', 'Cent OS', 'Debian', 'Fedora', 'Gentoo', 'OpenSUSE', 'Other Linux', 'Red Hat', and 'SUSE Linux'. A yellow callout bubble with a green arrow pointing to the 'Cent OS' checkbox says 'We can even search using OS'.

Free tier Only: Will display the AMIs which are applicable under Free tier only.

Step 1: Choose an Amazon Machine Image (AMI)

[Cancel and Exit](#)

An AMI is a template that contains the software configuration (operating system, application server, and applications) required to launch your instance. You can select an AMI provided by AWS, our user community, or the AWS Marketplace; or you can select one of your own AMIs.


Quick Start

My AMIs

AWS Marketplace

Community AMIs

☒ Free tier only ⓘ



Amazon Linux AMI 2016.03.0 (HVM), SSD Volume Type - ami-e90dc68a


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

Select

64-bit



Red Hat Enterprise Linux 7.2 (HVM), SSD Volume Type - ami-3f03c55c


Free tier eligible

Red Hat Enterprise Linux version 7.2 (HVM), EBS General Purpose (SSD) Volume Type

Root device type: ebs Virtualization type: hvm

Select

64-bit



SUSE Linux Enterprise Server 12 SP 1 (HVM), SSD Volume Type - ami-2a19da49

Free tier eligible

SUSE Linux Enterprise Server 12 Service Pack 1 (HVM), EBS General Purpose (SSD) Volume Type. Public Cloud, Advanced Systems Management, Web and Scripting, and Legacy modules enabled.

Root device type: ebs Virtualization type: hvm

Select

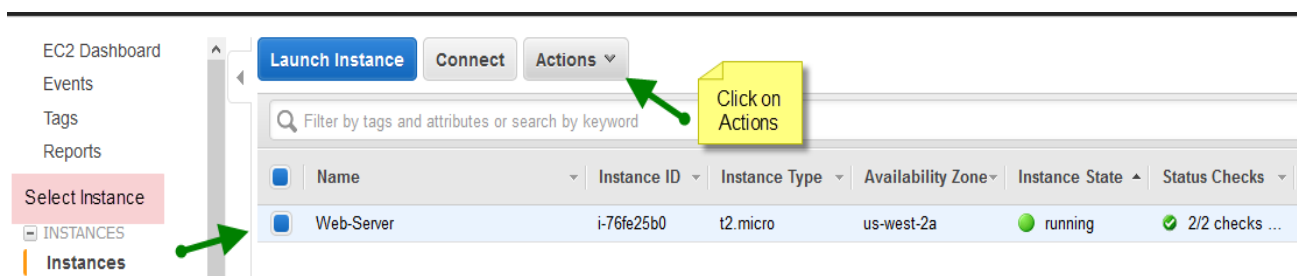
64-bit

Selected only
Free Tier AMIs

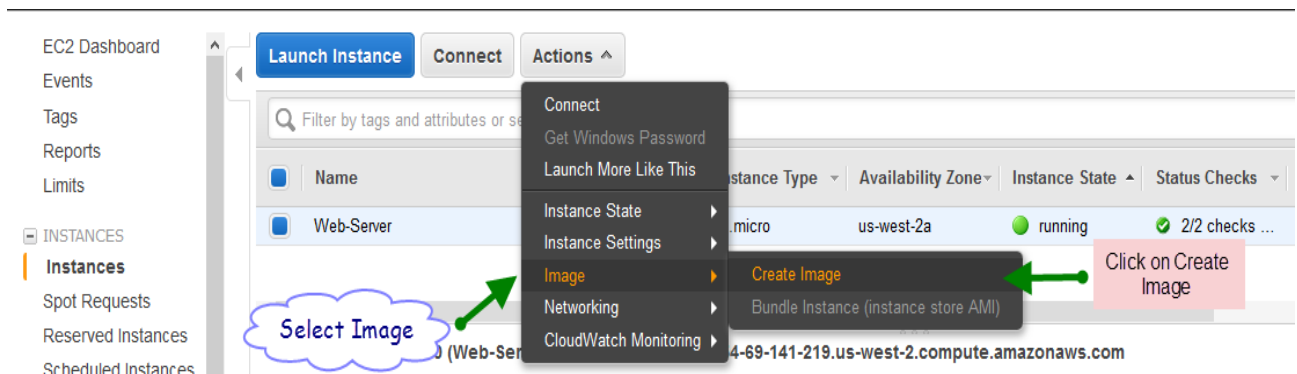
CREATE AMI FROM EXISTING INSTANCE

Once you logged in to AWS management console go to EC2 and under EC2 select Instances.

Under Instances select the instance you want to take an AMI and click on Actions.



Under the Actions, click on Image and then select Create Image to create AMI.



On the window specify a name to AMI and add a description.
And select No reboot if you want your server not to reboot while creating an AMI image. (It's advisable to reboot while taking AMI).
Then click on click on Create Image to start creating an AMI.

Create Image

Instance ID ⓘ i-76fe25b0

Image name ⓘ

Image description ⓘ

No reboot ⓘ ☐

Specify a Name

Add a description

Select if you want your instance not to reboot

Instance Volumes

Volume Type ⓘ	Device ⓘ	Snapshot ⓘ	Size (GiB) ⓘ	Volume Type ⓘ	IOPS ⓘ	Delete on Termination ⓘ	Encrypted ⓘ
Root	/dev/xvda	snap-bfb086e1	<input type="text" value="8"/>	General Purpose SSD (GP2) ▾	24 / 3000	<input checked="" type="checkbox"/>	Not Encrypted

Add New Volume

Total size of EBS Volumes: 8 GiB

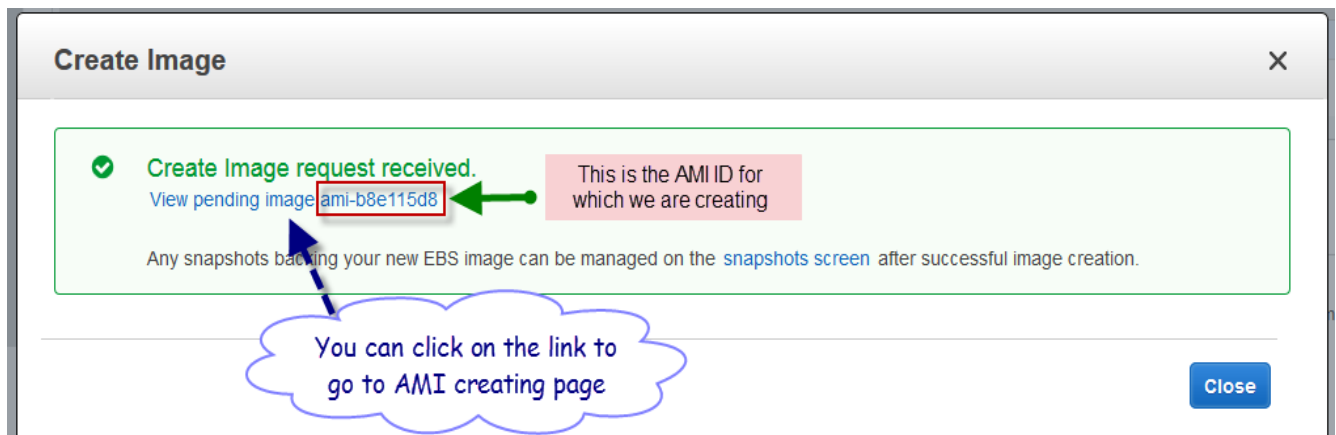
When you create an EBS image, an EBS snapshot will also be created for each of the above volumes.

Click on Create Image

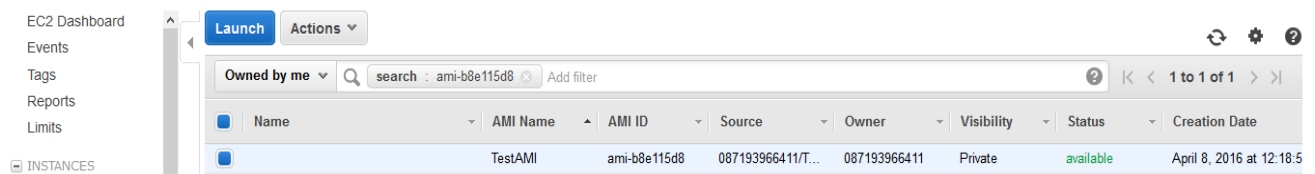
Cancel Create Image

Then you will be displayed with popup window having newly creating AMI ID and the link.

By clicking the link, you can go to the AMI screen where all AMIs are available which were specific to your account.

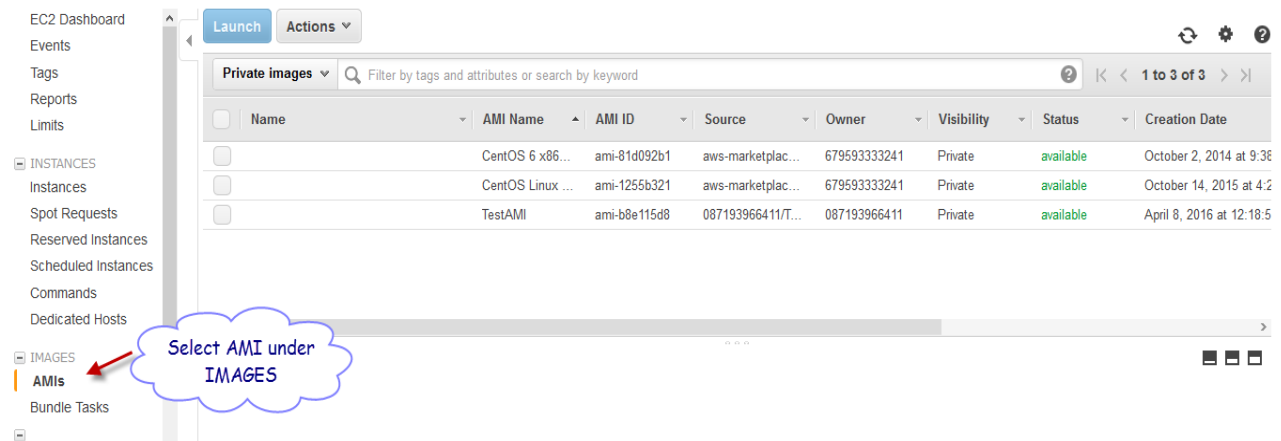


Once you will be on the AMI page you can see the AMI which were created.

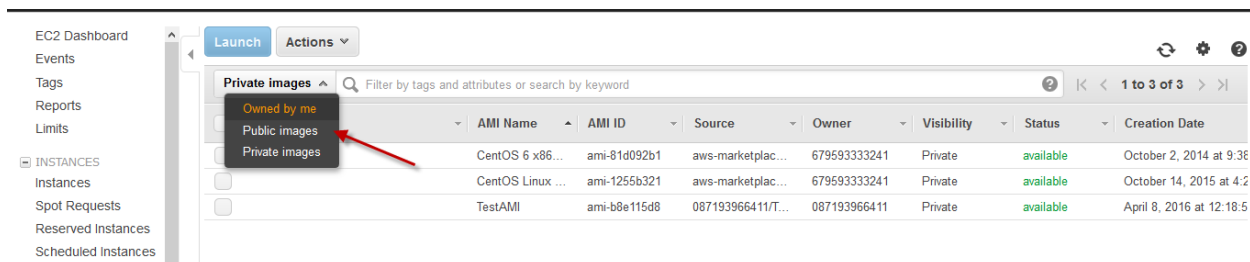


AMI PAGE ON EC2 CONSOLE

Once you are in EC2, under EC2 go to the section IMAGES on the left pane and click on AMIs.



On the AMI page we have three different types of AMIs to select.



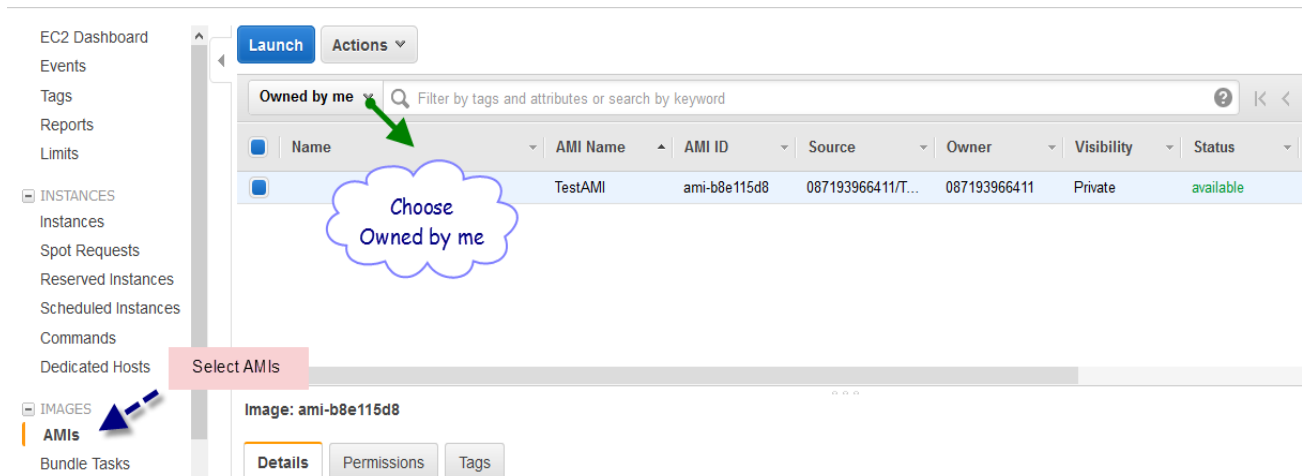
Owned by me: AMIs which were created by me.

Public Images: AMIs which were created and shared with public.

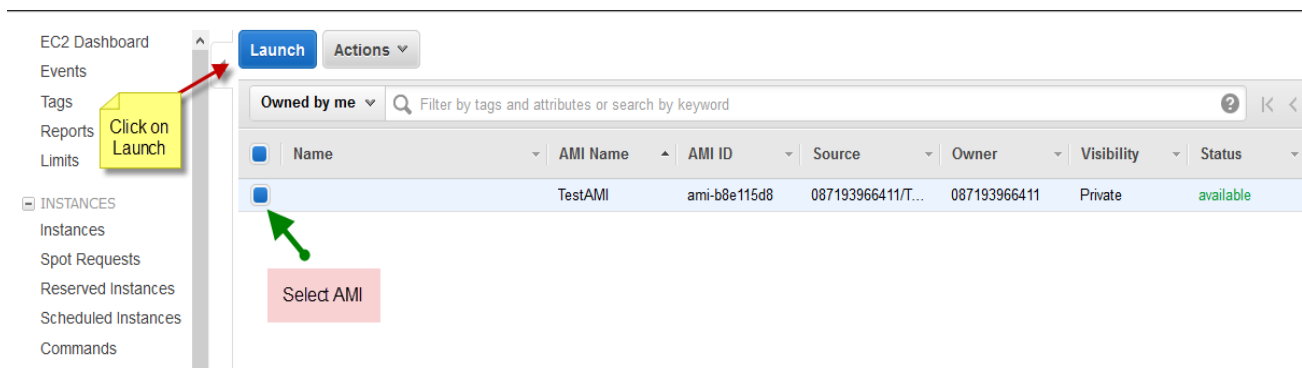
Private images: AMIs which were created by someone and given permission to your account.

DEPLOYING NEW INSTANCE FROM CREATED AMI

Once you logged in to AWS, go to IMAGES on the left pane under EC2 section. Choose AMI sorting by Owned by me.



Select your created AMI and click on Launch.



Select instance type and click on Next: Configure Instance Details to go to next screen.

Step 2: Choose an Instance Type
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)

	Select an Instance 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	-	Moderate
<input type="checkbox"/>	General purpose	t2.large	2	8	EBS only	-	Moderate
<input type="checkbox"/>	General purpose	m4.large	2	8	EBS only	Yes	Moderate

[Cancel](#) [Previous](#) [Review and Launch](#) [Next: Configure Instance Details](#)

Do not change any configurations in this menu and click Next to Add Storage.

Step 3: Configure Instance Details

Number of instances: [Launch into Auto Scaling Group](#)

Purchasing option: ☐ Request Spot instances

Network: [Create new VPC](#)

Subnet: [Create new subnet](#)

Auto-assign Public IP:

IAM role: [Create new IAM role](#)

Shutdown behavior:

Enable termination protection: ☐ Protect against accidental termination

Monitoring: ☐ Enable CloudWatch detailed monitoring
[Additional charges apply.](#)

Tenancy:

[Cancel](#) [Previous](#) [Review and Launch](#) [Next: Add Storage](#)

Specify the ROOT volume size in GB's and click on Next.

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[1. Choose AMI](#)
[2. Choose Instance Type](#)
[3. Configure Instance](#)
[4. Add Storage](#)
[5. Tag Instance](#)
[6. Configure Security Group](#)
[7. Review](#)

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	Delete on Termination	Encrypted
Root	/dev/xvda	snap-c0381a21	8	General Purpose SSD (GP2)	24 / 3000	<input checked="" type="checkbox"/>	Not Encrypted

[Add New Volume](#)

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

Specify the root volume storage in GB's

Click here to go to next screen

[Cancel](#)
[Previous](#)
[Review and Launch](#)
[Next: Tag Instance](#)

Specify a tag to your instance and click next.

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[1. Choose AMI](#)
[2. Choose Instance Type](#)
[3. Configure Instance](#)
[4. Add Storage](#)
[5. Tag Instance](#)
[6. Configure Security Group](#)
[7. Review](#)

Step 5: Tag Instance

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.

Key (127 characters maximum)	Value (255 characters maximum)
Name	Testing

[Create Tag](#) (Up to 10 tags maximum)

Name your instance a tag

Click here to go to next screen

[Cancel](#)
[Previous](#)
[Review and Launch](#)
[Next: Configure Security Group](#)

Click on Create a new security group, add a name and description to the security group and click on Review and launch.

Step 6: Configure Security Group

A security group is a set of firewall rules that control the traffic for your instance. On this page, you can add rules to allow specific traffic to reach your instance. For example, if you want to set up a web server and allow Internet traffic to reach your instance, add rules that allow unrestricted access to the HTTP and HTTPS ports. You can create a new security group or select from an existing one below. [Learn more](#) about Amazon EC2 security groups.

Assign a security group: ☒ Create a new security group ☐ Select an existing security group

Specify a name and Description

Create a new SG

Name: test

Description: test

Type	Protocol	Port Range	Source
SSH	TCP	22	Anywhere 0.0.0.0/0

Add Rule

Warning
Rules with source of 0.0.0.0/0 allow all IP addresses to access your instance. We recommend setting security group rules to allow access from known IP addresses only.

[Click here to go to next screen](#)

[Cancel](#) [Previous](#) [Review and Launch](#)

Cross check all your settings for your instance and click on Launch.

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.

Improve your instances' security. Your security group, test, is open to the world.
Your instances may be accessible from any IP address. We recommend that you update your security group rules to allow access from known IP addresses only. You can also open additional ports in your security group to facilitate access to the application or service you're running, e.g., HTTP (80) for web servers. [Edit security groups](#)

AMI Details [Edit AMI](#)

Amazon Linux AMI 2016.03.0 (HVM), SSD Volume Type - ami-e90dc68a

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

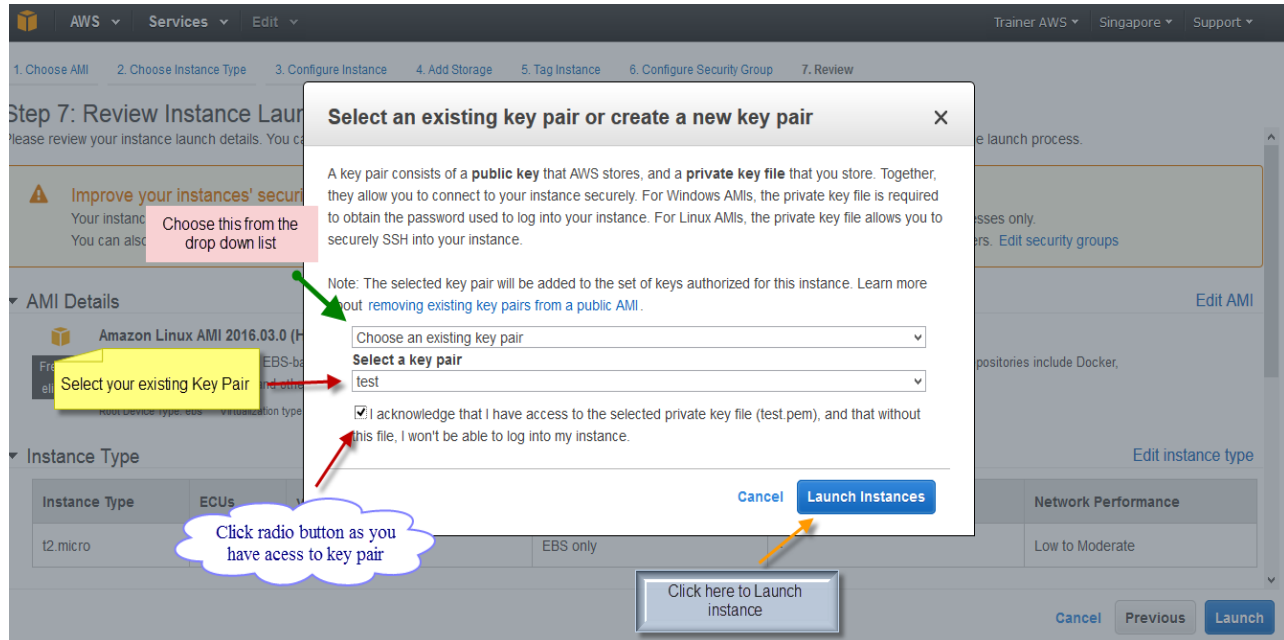
Instance Type [Edit instance type](#)

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

[Click here to launch](#)

[Cancel](#) [Previous](#) [Launch](#)

Select choose an existing key pair from dropdown list to get the existing key pairs. Choose the existing key pair and then click on acknowledgement then click Launch instance.



Click on View instances to see the instance which is creating.

Launch Status

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](#)
- [Amazon EC2: User Guide](#)
- [Learn about AWS Free Usage Tier](#)
- [Amazon EC2: Discussion Forum](#)

While your instances are launching you can also

[Create status check alarms](#) to be notified when these instances fail status checks. (Additional charges may apply)

[Create and attach additional EBS volumes](#) (Additional charges may apply)

[Manage security groups](#)

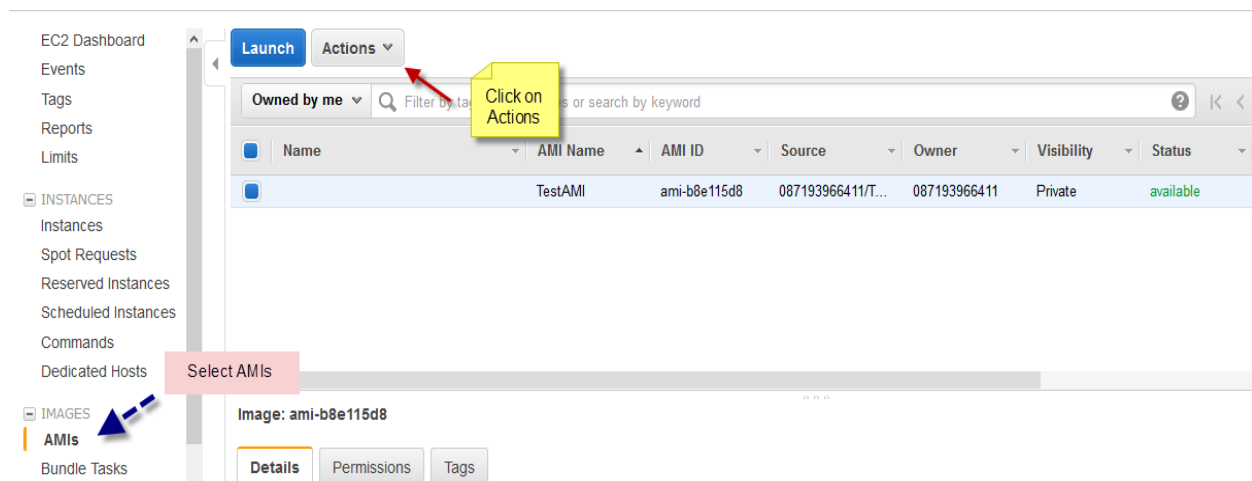
Click here to see
launched instance

[View Instances](#)

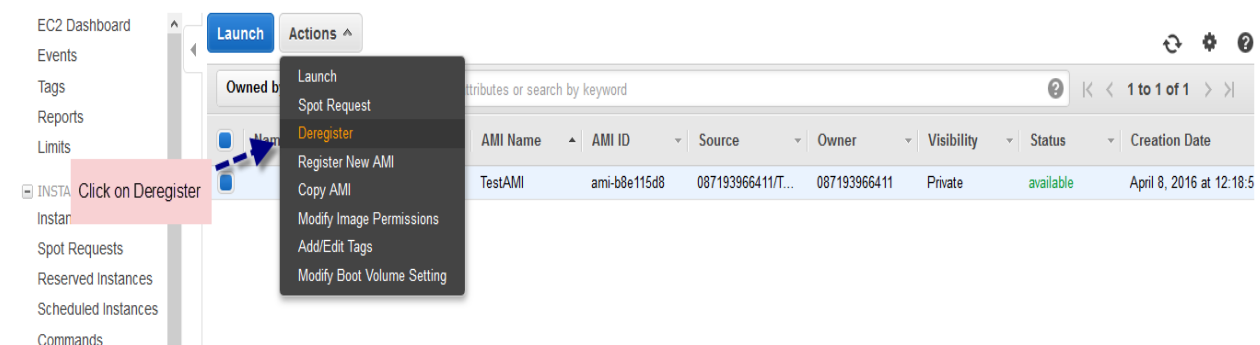
You can see the instance which is creating under instances tab.

TERMINATING AMI

Go to the AMI section under EC2 under IMAGES and select the AMI and click on Actions.



Then under the Actions, select Deregister to terminate the instance.



A popup window will ask you for the confirmation to terminate then click continue to complete the AMI termination.

