

Experiment No.7.

Aim: Categorize Amazon Web Service (AWS) and implement its various cloud entities using its Cloud Toolbox support.

Theory:

Amazon Web Services offers a broad set of global cloud-based products including compute, storage, databases, analytics, networking, mobile, developer tools, management tools, IoT, security and enterprise applications. These services help organizations move faster, lower IT costs, and scale. AWS is trusted by the largest enterprises and the hottest start-ups to power a wide variety of workloads including: web and mobile applications, game development, data processing and warehousing, storage, archive, and many others.

Featured Services (Different Categories)

- Analytics
- Application Integration
- AWS Cost Management
- Blockchain
- Business Applications
- Compute
- Containers
- Customer Engagement
- Database
- Developer Tools
- End User Computing
- Front-End Web & Mobile
- Game Tech
- Internet of Things
- Machine Learning
- Management & Governance
- Media Services
- Migration & Transfer
- Networking & Content Delivery
- Quantum Technologies
- Robotics
- Satellite
- Security, Identity, & Compliance
- Serverless
- Storage
- VR & AR

Compute:

- Amazon Elastic Compute Cloud (EC2)
- Amazon EC2 Spot
- Amazon EC2 Autoscaling
- Amazon Light sail
- AWS Batch
- Amazon Elastic Compute Cloud (EC2)

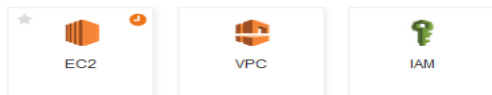
Amazon Elastic Compute Cloud (Amazon EC2) is a web service that provides secure, resizable compute capacity in the cloud. It is designed to make web-scale cloud computing easier for developers. Amazon EC2's simple web service interface allows you to obtain and configure capacity with minimal friction. It provides you with complete control of your computing resources and lets you run on Amazon's proven computing environment.

Step 1: Launch an Amazon EC2 Instance

To launch an EC2 instance

1. Sign in to the preview version of the AWS Management Console
2. Open the Amazon EC2 console by choosing **EC2** under **Compute**.

Shortcuts and Recently Viewed Services



All AWS Services SHOW CATEGORIES

COMPUTE

EC2
EC2 Container Service
Elastic Beanstalk
Lambda

STORAGE & CONTENT DELIVERY

S3
CloudFront
Elastic File System PREVIEW
Glacier
Import/Export Snowball
Storage Gateway

DATABASE

RDS
DynamoDB
ElastiCache
Redshift
DMS PREVIEW

NETWORKING

VPC
Direct Connect
Route 53

DEVELOPER TOOLS

CodeCommit
CodeDeploy
CodePipeline

MANAGEMENT TOOLS

CloudWatch
CloudFormation
CloudTrail
Config
OpsWorks
Service Catalog
Trusted Advisor

SECURITY & IDENTITY

IAM
Directory Service
Inspector PREVIEW
WAF

ANALYTICS

EMR
Data Pipeline
Elasticsearch Service
Kinesis
Machine Learning
QuickSight

INTERNET OF THINGS

AWS IoT BETA

MOBILE SERVICES

Mobile Hub BETA
Cognito
Device Farm
Mobile Analytics
SNS

APPLICATION SERVICES

API Gateway
AppStream
CloudSearch
Elastic Transcoder
SES
SQS
SWF

ENTERPRISE APPLICATIONS

WorkSpaces
WorkDocs
WorkMail PREVIEW

If you are using the **Show Categories** view, your screen looks like this with **Compute** expanded:

Shortcuts and Recently Viewed Services



Recommended For You

GET STARTED QUICKLY

[Launch a Linux Virtual Machine quickly and easily](#)

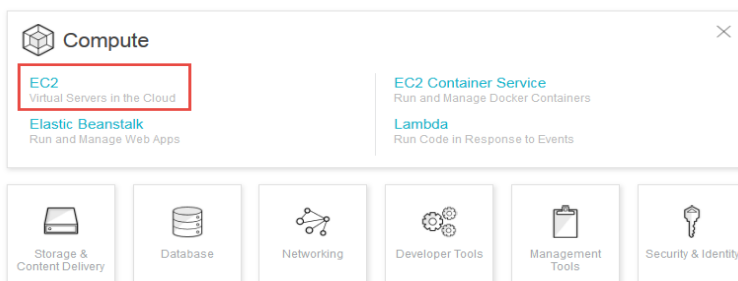
AMAZON EC2 INSTANCES

[Learn more about the available Amazon EC2 instance types](#)

AMAZON EC2 STORAGE

[Learn more about Amazon EC2 storage options](#)

AWS Services [SHOW ALL SERVICES](#)



From the Amazon EC2 dashboard, choose Launch Instance.

Resources

You are using the following Amazon EC2 resources in the US West (Oregon) region:

9 Running Instances	0 Elastic IPs
0 Dedicated Hosts	0 Snapshots
9 Volumes	0 Load Balancers
4 Key Pairs	8 Security Groups
0 Placement Groups	

Easily run and manage Docker applications. [Try Amazon EC2 Container Service.](#)

Create Instance

To start using Amazon EC2 you will want to launch a virtual server, known as an Amazon EC2 instance.

[Launch Instance](#)

Note: Your instances will launch in the US West (Oregon) region

Service Health

Service Status:

- US West (Oregon):
This service is operating normally

Availability Zone Status:

- us-west-2a:
Availability zone is operating normally

Scheduled Events

US West (Oregon):

No events

- Choose an Amazon Machine Image (AMI) page displays a list of basic configurations called Amazon Machine Images (AMIs) that serve as templates for your instance. Select the HVM edition of the Amazon Linux AMI. Notice that this configuration is marked Free tier eligible.

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 22 of 22 AMIs

My AMIs

AWS Marketplace

Community AMIs

☐ Free tier only

Amazon Linux
Free tier eligible

Amazon Linux AMI 2015.09.1 (HVM), SSD Volume Type - ami-f0091d91

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
Free tier eligible

Red Hat Enterprise Linux 7.2 (HVM), SSD Volume Type - ami-775e4f16

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
Free tier eligible

SUSE Linux Enterprise Server 12 (HVM), SSD Volume Type - ami-d7450be7

SUSE Linux Enterprise Server 12 (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

Ubuntu
Free tier eligible

Ubuntu Server 14.04 LTS (HVM), SSD Volume Type - ami-5189a661

Ubuntu Server 14.04 LTS (HVM), EBS General Purpose (SSD) Volume Type. Support available from Canonical (<http://www.ubuntu.com/cloud/services>).

Root device type: ebs Virtualization type: hvm

Select
64-bit

Choose an Instance Type page, choose **t.2micro** as the hardware configuration of your instance and Review and Launch.

Note

T2 instances, such as **t2.micro**, must be launched into a virtual private cloud (VPC). If you don't have a VPC, you can let the wizard create one for you. For more information, see step 6 in Launching an Instance.

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 (GB)	EBS-Optimized Available	Network Performance
<input checked="" type="checkbox"/>	General purpose	t2.micro Free tier eligible	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
<input type="checkbox"/>	General purpose	m4.xlarge	4	16	EBS only	Yes	High
<input type="checkbox"/>	General purpose	m4.2xlarge	8	32	EBS only	Yes	High
<input type="checkbox"/>	General purpose	m4.4xlarge	16	64	EBS only	Yes	High

Cancel Previous **Review and Launch** Next: Configure Instance Details


On the **Review Instance Launch** page, choose **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, launch-wizard-6, 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

 **Amazon Linux AMI 2015.09.1 (HVM), SSD Volume Type - ami-f0091d91**

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

Edit AMI

▼ 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

Edit instance type

▼ Security Groups

Security group name	launch-wizard-6
Description	launch-wizard-6 created 2015-12-09T13:46:16.433-08:00

Edit security groups

Cancel

Previous

Launch

Note

On the **Review Instance Launch** page, under **Security Groups**, you see that the wizard created and selected a security group for you. For the purposes of this quick start, no further action than what is described in step 6 above is necessary. For more information about how to create or configure a security group and define firewall rules for your instance, see step 9 in *Launching an Instance*.

In the **Select an existing key pair or create a new key pair** dialog box, choose **create a new key pair**, enter a name for the key pair, and then choose **Download Key Pair**. This is the only chance for you to save the private key file, so be sure to download it. Save the private key file in a safe place. You can use `C:\user\yourusername\.ssh\myfirstkey.pem` if you are on a Windows machine, and `~/.ssh/myfirstkey.pem` if you are on a Mac or Linux machine. You need to provide the name of your key pair when you launch an instance, and the corresponding private key each time you connect to the instance.

Note

A key pair enables you to connect to a Linux instance through SSH. If you launch your instance without a key pair, then you can't connect to it. We recommend against choosing the **Proceed without a key pair** option.

When you are ready, select the acknowledgment check box, and then choose **Launch Instances**.

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
quickstartkeypair

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

1. A confirmation page lets you know that your instance is launching. Choose View Instances to close the confirmation page and return to the console.
- On the Instances page, you can view the status of your instance. It takes a short time for an instance to launch. When you launch an instance, its initial state is pending. After the instance starts, its state changes to running, and it receives a public DNS name. (If the Public DNS column is hidden, choose the Show/Hide icon.)

Conclusion:

Hence, I have Categorized Amazon Web Service (AWS) into different domains and launched an Amazon EC2 Instance.