

AWSUGMM x Chate Sat

18 August 2019, Seedspace Yangon

Launched on 1 May, 2019

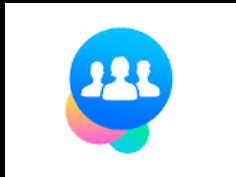
1K+ Community Members



/awsugmm



/awsugmm



/awsusergroupmyanmar



/awsugmm

Amazon Web Services နဲ့ပက်သတ်တဲ့ Knowledge
များနှင့် နည်းပညာ သစ်များကို User များ ခင်မင်ရင်းနှီးစွာ
လေ့လာစေမှု ပေးနိုင် ရန်။



Monthly Meetups

Annual Conference

Random Hackathons





Introducing AWS for Startups

Free Credits and Technical Support



AWS Concepts (Introduction, Compute)	2:25 – 2:55	AWS Users Group Myanmar
AWS Concepts (Storage, IAM)	2:55 – 3:25	AWS Users Group Myanmar
Demo Session by AWS	3:25 – 4:10	AWS Users Group Myanmar
Presenting Chate Sat Registration, and Verification System	4:10 – 4:30	Aye Pyae
Appreciation Certificate Awarding	4:30 – 4:35	Ma Honey
Tea Break and Networking session	4:35 – 5:00	All

AWS Concepts

(Compute - EC2)

Wai Yan Min



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AWS USER GROUP MYANMAR

Contents

AWS Elastic Compute Cloud – EC2

- Choosing the correct instance type/size
- Amazon Machine Image - AMI
- Understanding the storage
- Networking & Security
- Best Practices & Pricing

AWS Elastic Compute Cloud - EC2

Elastic Compute Cloud (EC2) သည် AWS ၏ **Core Services** များထဲမှ လူသုံးအများဆုံး Compute Service တစ်ခုဖြစ်သည်။ EC2 ကို AWS platform ၏ compute service အနေဖြင့် Hosting Environment, Development/Test/Production Environment, Backup/DR Environment များတည်ဆောက်ရာတွင် လွယ်ကူစွာ အသုံးပြုနိုင်ပါသည်။

Amazon
EC2



Instance



Instances



Auto
Scaling



Amazon EC2 enables you to scale **up** or **down** to handle changes in requirements or spikes in popularity, reducing your need to forecast traffic.

The background is a dark blue gradient with a complex network of glowing lines in blue and red. These lines form a dense web of connections, with some lines being solid and others dotted. In the bottom left corner, there is a small, detailed diagram of a network node or switch, showing multiple ports and internal components. The overall aesthetic is high-tech and digital.

Choosing the correct instance type / size

Instance Type

Combinations of CPU, Memory, Storage, and Networking capacity and give you the flexibility to choose the appropriate mix of resources for your applications.

General Purpose

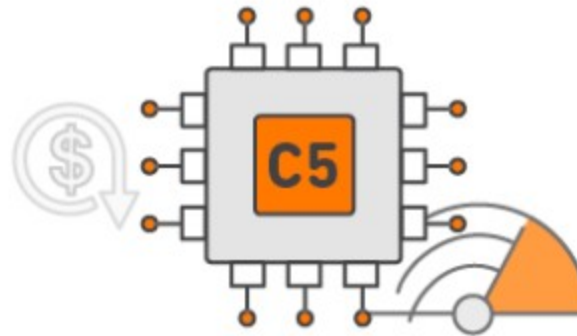


Amazon EC2 M5 instances are ideal for:

- business critical applications
- web and application servers
- back-end servers for enterprise applications

[Learn More](#)

Compute Optimized

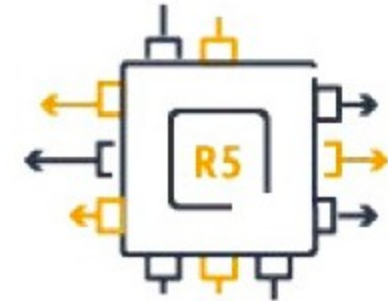


Amazon EC2 C5 instances are ideal for:

- high-performance computing (HPC)
- machine learning, deep inference, and distributed analytics
- batch processing

[Learn More](#)

Memory Optimized



Amazon EC2 R5 instances are ideal for:

- high performance databases
- distributed web scale in-memory caches
- mid-size in-memory databases

[Learn More](#)

General Purpose - Burstable

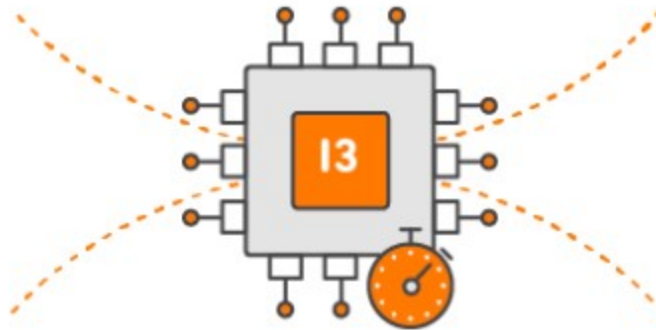


Amazon EC2 T3 instances are ideal for:

- micro-services
- low-latency interactive applications
- small and medium databases

[Learn More](#)

Storage Optimized

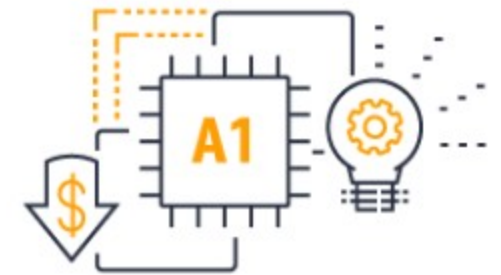


Amazon EC2 I3 instances are ideal for:

- NoSQL databases
- in-memory databases
- data warehousing

[Learn More](#)

Scale-out and Arm



Amazon EC2 A1 instances are ideal for:

- web servers
- containerized microservices
- caching fleets

[Learn More](#)

Machine Learning

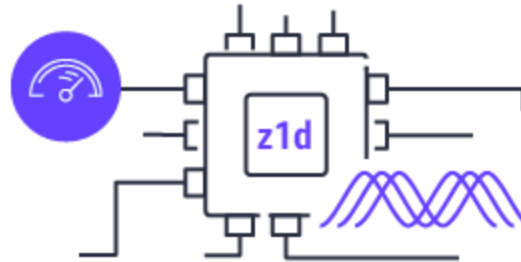


Amazon EC2 P3dn instances are ideal for:

- Distributed Machine Learning
- High-Performance Computing

[Learn More](#)

High Single Thread



Amazon EC2 z1d instances are ideal for:

- electronic design automation (EDA)
- gaming
- relational database workloads with high per-core licensing costs

[Learn More](#)

High In-Memory



Amazon EC2 High Memory instances are ideal for:

- large in-memory databases

[Learn More](#)

Amazon Machine Image - AMI



An **Amazon Machine Image (AMI)** is a template that defines your operating environment, including the operating system. A single AMI can be used to launch one or thousands of instances.

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.

🔍 Search for an AMI by entering a search term e.g. "Windows"

✕

Quick Start

⏪ < 1 to 38 of 38 AMIs > ⏩

My AMIs

AWS Marketplace

Community AMIs

☐ Free tier only ⓘ



Amazon Linux 2 AMI (HVM), SSD Volume Type - ami-01f7527546b557442

Amazon Linux
Free tier eligible

Amazon Linux 2 comes with five years support. It provides Linux kernel 4.14 tuned for optimal performance on Amazon EC2, systemd 219, GCC 7.3, Glibc 2.26, Binutils 2.29.1, and the latest software packages through extras.

Root device type: ebs Virtualization type: hvm ENA Enabled: Yes

Select

64-bit (x86)



Amazon Linux AMI 2018.03.0 (HVM), SSD Volume Type - ami-0fb6b6f9e81056553

Amazon Linux
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 ENA Enabled: Yes

Select

64-bit (x86)



Red Hat Enterprise Linux 8 (HVM), SSD Volume Type - ami-04a2d6660f1296314

Red Hat
Free tier eligible

Red Hat Enterprise Linux version 8 (HVM), EBS General Purpose (SSD) Volume Type

Root device type: ebs Virtualization type: hvm ENA Enabled: Yes

Select

64-bit (x86)



SUSE Linux Enterprise Server 15 SP1 (HVM), SSD Volume Type - ami-08964713cc902ea56

SUSE Linux
Free tier eligible

SUSE Linux Enterprise Server 15 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 ENA Enabled: Yes

Select

64-bit (x86)



Ubuntu Server 18.04 LTS (HVM), SSD Volume Type - ami-03b6f27628a4569c8

Free tier eligible

Ubuntu Server 18.04 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 ENA Enabled: Yes

Select

64-bit (x86)



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Understanding the storage

- Amazon Elastic Block Store (Amazon EBS)
- Amazon EC2 Instance Store
- Amazon Elastic File System (Amazon EFS)
- Amazon Simple Storage Service (Amazon S3)

Amazon Elastic Block Store (EBS)

- Persistence Network Block Storage
- High Performance / Low Latency
- Highly Available and Durable
- Easily scale to Petabytes of data
- Cost-Effective

	Solid-State Drives (SSD)		Hard Disk Drives (HDD)	
Volume Type *	General Purpose SSD (gp2)	Provisioned IOPS SSD (io1)	Throughput Optimized HDD (st1)	Cold HDD (sc1)
Description	General purpose SSD volume that balances price and performance for a wide variety of workloads	Highest-performance SSD volume for mission-critical low-latency or high-throughput workloads	Low-cost HDD volume designed for frequently accessed, throughput-intensive workloads	Lowest cost HDD volume designed for less frequently accessed workloads
Use Cases	<ul style="list-style-type: none"> Recommended for most workloads System boot volumes Virtual desktops Low-latency interactive apps Development and test environments 	<ul style="list-style-type: none"> Critical business applications that require sustained IOPS performance, or more than 16,000 IOPS or 250 MiB/s of throughput per volume Large database workloads, such as: <ul style="list-style-type: none"> MongoDB Cassandra Microsoft SQL Server MySQL PostgreSQL Oracle 	<ul style="list-style-type: none"> Streaming workloads requiring consistent, fast throughput at a low price Big data Data warehouses Log processing Cannot be a boot volume 	<ul style="list-style-type: none"> Throughput-oriented storage for large volumes of data that is infrequently accessed Scenarios where the lowest storage cost is important Cannot be a boot volume
API Name	gp2	io1	st1	sc1
Volume Size	1 GiB - 16 TiB	4 GiB - 16 TiB	500 GiB - 16 TiB	500 GiB - 16 TiB
Max. IOPS**/Volume	16,000***	64,000****	500	250
Max. Throughput/Volume	250 MiB/s***	1,000 MiB/s†	500 MiB/s	250 MiB/s
Max. IOPS/Instance††	80,000	80,000	80,000	80,000
Max. Throughput/Instance††	1,750 MiB/s	1,750 MiB/s	1,750 MiB/s	1,750 MiB/s
Dominant Performance Attribute	IOPS	IOPS	MiB/s	MiB/s

Security Groups (SGs)

- Instance Level
- Virtual Firewall for one or more instances
- Whitelisting method
- Default - Deny all inbound traffic
- Default - Allow all outbound traffic

Create Security Group



Security group name ⓘ

AWSGUMM - Web and Remote Only

Description ⓘ

SSH - HTTP- HTTPS ONLY

VPC ⓘ

vpc-0e22e93b83d6c6882 | awsugmm-VPC ▼

Security group rules:

Inbound

Outbound

Type ⓘ	Protocol ⓘ	Port Range ⓘ	Source ⓘ	Description ⓘ
HTTP ▼	TCP	80	Custom ▼ 0.0.0.0/0, ::/0	Web World
HTTPS ▼	TCP	443	Custom ▼ 0.0.0.0/0, ::/0	Web World
SSH ▼	TCP	22	Custom ▼ 10.25.66.103/32	SSH MY IP Only

Add Rule

Cancel

Create



Best Practices and Pricing

EC2 Instance

1. On-Demand (Pay-as-you-Go)
2. Reserved Instances (Up to 75%)
3. Spot Instances (Up to 90%)
4. Dedicated Hosts



t3.medium

STANDARD 1-YEAR TERM					
Payment Option	Upfront	Monthly*	Effective Hourly**	Savings over On-Demand	On-Demand Hourly
No Upfront	\$0	\$19.05	<u>\$0.026</u>	37%	\$0.0416
Partial Upfront	\$109	\$9.05	<u>\$0.025</u>	40%	
All Upfront	\$213	\$0.00	<u>\$0.024</u>	42%	
CONVERTIBLE 1-YEAR TERM					
Payment Option	Upfront	Monthly*	Effective Hourly**	Savings over On-Demand	On-Demand Hourly
No Upfront	\$0	\$21.90	<u>\$0.030</u>	28%	\$0.0416
Partial Upfront	\$125	\$10.44	<u>\$0.029</u>	31%	
All Upfront	\$245	\$0.00	<u>\$0.028</u>	33%	
STANDARD 3-YEAR TERM					
Payment Option	Upfront	Monthly*	Effective Hourly**	Savings over On-Demand	On-Demand Hourly
No Upfront	\$0	\$13.14	<u>\$0.018</u>	57%	\$0.0416
Partial Upfront	\$219	\$6.06	<u>\$0.017</u>	60%	
All Upfront	\$412	\$0.00	<u>\$0.016</u>	62%	

Amazon EC2 Instance Store

- Directly attached, block-device storage
- Temporary Storage
- Vary on Instance Types

Instance Store Lifetime

- The underlying disk drive fails
- The instance stops
- The instance terminates

Let's Discuss



Join us

