

AWS EC2 Cheat Sheet

Business Science

11/26/2019

Contents

AWS EC2 Server Setup	1
Step 1 - Select AMI	1
Step 2 - Select the Instance Type (CPU & RAM)	2
Step 3 - Configure Instance	3
Step 4 - Add Storage	4
Step 5 - Add Tags	5
Step 6 - Configure Security Group	5
Step 7 - Review & Launch	6
Step 8 - Key Pair	7
Step 9 - Instance	8

AWS EC2 Server Setup

Step 1 - Select AMI

Pick an Amazon Machine Image (AMI) that suits your needs. In the course, we will select “Free Tier Eligible”, which is a t2.micro that comes with 1 CPU and 1GB RAM.

The screenshot shows the AWS Management Console interface for selecting an Amazon Machine Image (AMI). The top navigation bar includes the AWS logo, 'Services', 'Resource Groups', and user information. The main content area is titled 'Step 1: Choose an Amazon Machine Image (AMI)' and includes a search bar and a list of AMIs. The 'Free tier only' checkbox is selected, and the 'Amazon Linux 2 AMI (HVM, SSD Volume Type)' is highlighted with a green arrow. The list of AMIs includes Amazon Linux, Amazon Linux 2018.03.0, Red Hat Enterprise Linux 8, SUSE Linux Enterprise Server 15 SP1, and Ubuntu Server 18.04 LTS. Each entry shows the AMI name, version, architecture, and a 'Select' button. A green arrow also points to the 'Free tier eligible' badge on the Amazon Linux 2 AMI entry.

Step 2 - Select the Instance Type (CPU & RAM)

We are going with Free Tier Eligible, which has 1 CPU & 1GB RAM.

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	vCPU	Memory (GiB)	Instance Storage (GB)	EBS-Optimized Available	Network Performance	IPv6 Support
<input type="checkbox"/>	General purpose	t2.nano	1	0.5	EBS only	-	Low to Moderate	Yes
<input checked="" type="checkbox"/>	General purpose	t2.micro Free tier eligible	1	1	EBS only	-	Low to Moderate	Yes
<input type="checkbox"/>	General purpose	t2.small	1	2	EBS only	-	Low to Moderate	Yes
<input type="checkbox"/>	General purpose	t2.medium	2	4	EBS only	-	Low to Moderate	Yes
<input type="checkbox"/>	General purpose	t2.large	2	8	EBS only	-	Low to Moderate	Yes
<input type="checkbox"/>	General purpose	t2.xlarge	4	16	EBS only	-	Moderate	Yes
<input type="checkbox"/>	General purpose	t2.2xlarge	8	32	EBS only	-	Moderate	Yes
<input type="checkbox"/>	General purpose	t3a.nano	2	0.5	EBS only	Yes	Up to 5 Gigabit	Yes

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

Feedback English (US) © 2008 - 2019, Amazon Web Services, Inc. or its affiliates. All rights reserved. Privacy Policy Terms of Use

Step 3 - Configure Instance

Leave these settings as-is. We can always address Networking later via VPC, Subnet, Routing, and more.

The screenshot shows the 'Launch Instance Wizard' in the AWS Management Console, specifically Step 3: Configure Instance Details. The wizard is for the 'us-east-2' region. The steps are: 1. Choose AMI, 2. Choose Instance Type, 3. Configure Instance (current), 4. Add Storage, 5. Add Tags, 6. Configure Security Group, and 7. Review.

Step 3: Configure Instance Details
Configure the instance to suit your requirements. You can launch multiple instances from the same AMI, request Spot instances to take advantage of the lower pricing, assign an access management role to the instance, and more.

Number of Instances 1 [Launch into Auto Scaling Group](#)

Purchasing option ☐ Request Spot instances

Network vpc-747b481d (default) [Create new VPC](#)

Subnet No preference (default subnet in any Availability Zone) [Create new subnet](#)

Auto-assign Public IP Use subnet setting (Enable)

Placement group ☐ Add instance to placement group

Capacity Reservation Open [Create new Capacity Reservation](#)

IAM role None [Create new IAM role](#)

Shutdown behavior Stop

Enable termination protection ☐ Protect against accidental termination

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

Tenancy Shared - Run a shared hardware instance

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

[Feedback](#) [English \(US\)](#) © 2008 - 2019, Amazon Web Services, Inc. or its affiliates. All rights reserved. [Privacy Policy](#) [Terms of Use](#)

Step 4 - Add Storage

Increase to 30 GB of storage. This is the maximum within the “Free Tier”.

Launch instance wizard | EC2

us-east-2.console.aws.amazon.com/ec2/home?region=us-east-2#LaunchInstanceWizard:

Services Resource Groups

1. Choose AMI 2. Choose Instance type 3. Configure Instance 4. Add Storage 5. Add Tags 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	Throughput (MB/s)	Delete on Termination	Encryption
Root	/dev/sda1	snap-021874a79dc16a50b	30	General Purpose SSD (gp2)	100 / 3000	N/A	<input checked="" type="checkbox"/>	Not Encrypted

[Add New Volume](#)

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

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

Step 5 - Add Tags

Skip this step.

Step 6 - Configure Security Group

Add a new security group with the following ports open:

- 3838: Shiny Server
- 8787: RStudio Server

Launch instance wizard | EC2

us-east-2.console.aws.amazon.com/ec2/home?region=us-east-2#LaunchInstanceWizard:

Services Resource Groups

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

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

Security group name: launch-wizard-1

Description: launch-wizard-1 created 2019-10-31T15:24:57.778-04:00

Type	Protocol	Port Range	Source	Description
SSH	TCP	22	Custom 0.0.0.0/0	e.g. SSH for Admin Desktop
Custom TCP	TCP	3838	Anywhere 0.0.0.0/0, ::/0	e.g. SSH for Admin Desktop
Custom TCP	TCP	8787	Anywhere 0.0.0.0/0, ::/0	e.g. SSH for Admin Desktop

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.

Cancel Previous Review and Launch

Step 7 - Review & Launch

Double-check your settings. If happy, click launch.

The screenshot displays the AWS Management Console's 'Launch Instance Wizard' at Step 7: Review Instance Launch. The breadcrumb trail at the top indicates the progression from 'Choose AMI' to 'Review'. The main content area is divided into several sections:

- Instance Type:** A table showing the selected instance type 't2.micro' with its specifications: Variable ECUs, 1 vCPU, 1 Memory (GiB), EBS only Instance Storage (GiB), EBS-Optimized Available (No), and Low to Moderate Network Performance. An 'Edit instance type' link is present.
- Security Groups:** Shows the 'launch-wizard-1' security group with its description and a table of inbound rules. An 'Edit security groups' link is available.
- Instance Details:** A section for reviewing the instance's basic information, with an 'Edit instance details' link.
- Storage:** Displays the root volume configuration. A table shows the volume type 'gp2', device '/dev/sda1', snapshot 'snap-021874a79dc16a50b', size '29', IOPS '100 / 3000', throughput 'N/A', delete on termination 'Yes', and encryption status 'Not Encrypted'. An 'Edit storage' link is provided.
- Tags:** A section for reviewing the instance's tags, with an 'Edit tags' link.

At the bottom right, there are three buttons: 'Cancel', 'Previous', and 'Launch'. A green arrow points to the 'Launch' button.

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

Type	Protocol	Port Range	Source	Description
SSH	TCP	22	0.0.0.0/0	
Custom TCP Rule	TCP	3838	0.0.0.0/0	
Custom TCP Rule	TCP	3838	:::0	
Custom TCP Rule	TCP	8787	0.0.0.0/0	
Custom TCP Rule	TCP	8787	:::0	

Volume Type	Device	Snapshot	Size (GiB)	Volume Type	IOPS	Throughput (MB/s)	Delete on Termination	Encrypted
Root	/dev/sda1	snap-021874a79dc16a50b	29	gp2	100 / 3000	N/A	Yes	Not Encrypted

Step 8 - Key Pair

If your first key-pair, you will need to create. Moving forward, you can re-use keys.

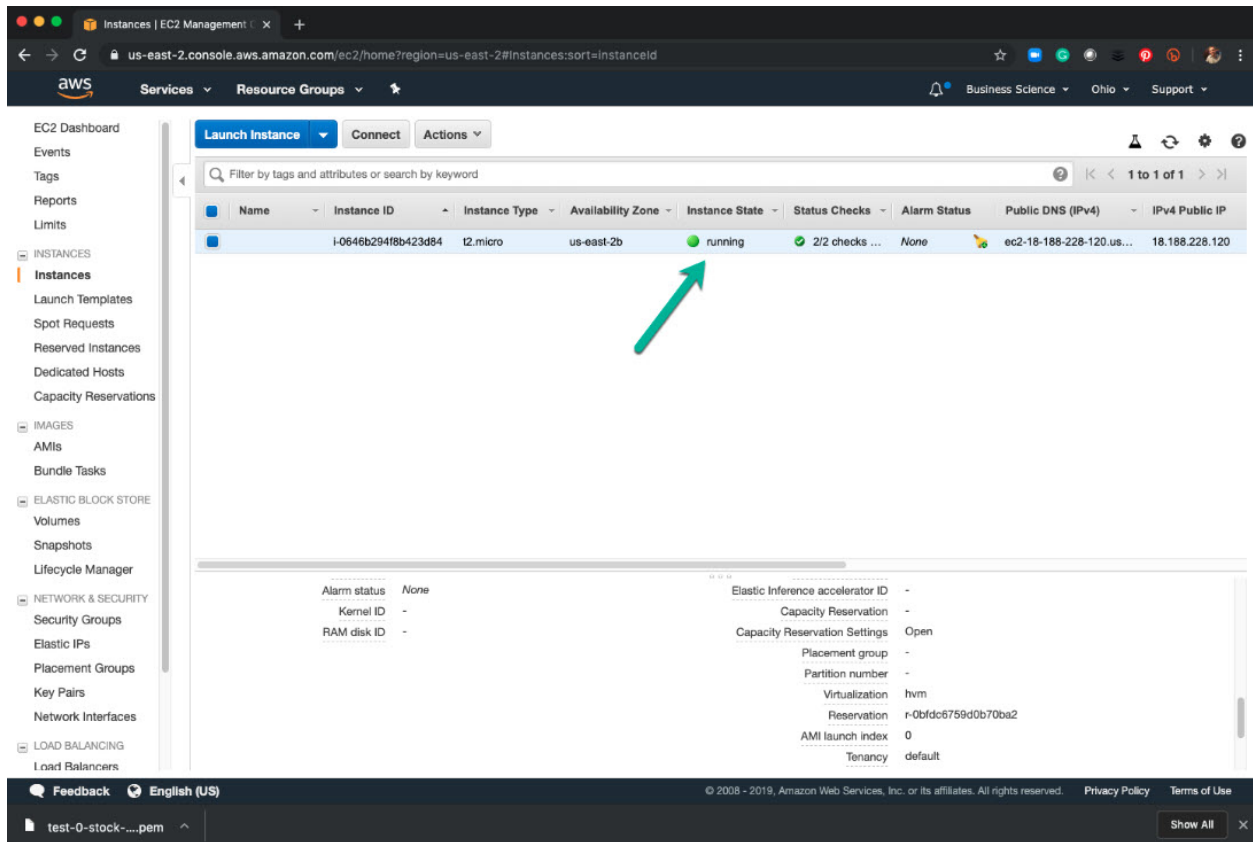
The screenshot displays the AWS Management Console during the 'Step 7: Review Instance Launch' process. A modal dialog titled 'Select an existing key pair or create a new key pair' is centered on the screen. The dialog contains the following elements:

- Title:** Select an existing key pair or create a new key pair
- Text:** 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](#).
- Form:** A dropdown menu set to 'Create a new key pair' and a text input field for the 'Key pair name' containing 'test-0-stock-analyzer'.
- Buttons:** 'Download Key Pair' and 'Launch Instances'.
- Warning:** A blue box with a speech bubble icon stating: '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.'

The background shows the instance configuration details, including the instance type (t2.micro), security groups, and storage. A green arrow points to the 'Create a new key pair' dropdown in the modal, and another green arrow points to the 'test-0-stock-analyzer' text input field. The bottom of the console shows the 'test-0-stock-analyzer.pem' file name.

Step 9 - Instance

It will take about 5-10 minutes to launch your instance.



The screenshot displays the AWS Management Console for the EC2 service in the us-east-2 region. The left-hand navigation pane shows various AWS services, with 'INSTANCES' expanded and 'Instances' selected. The main content area shows a table of EC2 instances. A single instance is listed with the following details:

Name	Instance ID	Instance Type	Availability Zone	Instance State	Status Checks	Alarm Status	Public DNS (IPv4)	IPv4 Public IP
	i-0646b294f8b423d84	t2.micro	us-east-2b	running	2/2 checks ...	None	ec2-18-188-228-120.us...	18.188.228.120

A green arrow points to the 'running' status in the 'Instance State' column. Below the table, the instance details are shown in a key-value format:

- Alarm status: None
- Kernel ID: -
- RAM disk ID: -
- Elastic Inference accelerator ID: -
- Capacity Reservation: -
- Capacity Reservation Settings: Open
- Placement group: -
- Partition number: -
- Virtualization: hvm
- Reservation: r-0bfdc6759d0b70ba2
- AMI launch index: 0
- Tenancy: default

The bottom of the console shows the footer with 'Feedback', 'English (US)', copyright information, and links to 'Privacy Policy' and 'Terms of Use'. A file named 'test-0-stock-....pem' is visible in the bottom left corner.