



1. AWS Deployment 0%
(/m/59/5447)
 - EC2 Set Up (/m/)
 - MySQL and Data Export
 - Apache Set Up
 - Spring Boot Set Up
 - JDK and systemd
 - Chapter Survey

Deploying your Spring Boot to Amazon

CHECKLIST

Prerequisites:

- Basic Terminal knowledge
- Basic Java and Spring knowledge
- AWS Free Tier account. You can sign up at: <http://aws.amazon.com/free/> (<http://aws.amazon.com/free/>)

Overview:

To successfully deploy our Spring Boot application, we will need to install the following technology:

- Java JDK
- Apache Web Server
- MySQL Database

Setting Up our EC2 Instance

1. Once your AWS account is created, let's log in to the console at aws.amazon.com/console. Click on the **EC2** link in the left-hand navigation pane.

AWS services

Find a service by name or feature (for example, EC2, S3 or VM, storage).

Recently visited services



EC2

All services



Compute

EC2

EC2 Container Service

Lightsail

Elastic Beanstalk

Lambda

Batch



Developer Tools

CodeStar

CodeCommit

CodeBuild

CodeDeploy

CodePipeline

X-Ray



Infrastructure

AWS IAM

AWS Identity

AWS Key Management

AWS Lambda

AWS Organizations

AWS Security

2. In the EC2 dashboard, let's click the large blue button that says "Launch Instance"

EC2 Dashboard

- Events
- Tags
- Reports
- Limits

INSTANCES

- Instances
- Spot Requests
- Reserved Instances

IMAGES

- AMIs
- Bundle Tasks

ELASTIC BLOCK STORE

- Volumes
- Snapshots

Resources

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

1 Running Instances	1 Elastic IP Address
1 Volumes	0 Snapshots
5 Key Pairs	0 Load Balancers
0 Placement Groups	11 Security Groups

... Easily deploy Ruby, PHP, Java, .NET, Python, Node.js & Docker.

Create Instance

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

Launch Instance

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

3. Now, we need to choose an Amazon Machine Image (AMI). The machine that we will be using should be offered by Amazon for free.

ServicesResource Groups

1. Choose AMI2. Choose Instance Type3. Configure Instance4. Add Storage5. Add Tags6. Configure Security Group7. Review

Quick Start

My AMIs

AWS Marketplace

Community AMIs

☐ Free tier only

Amazon Linux

Free tier eligible

Amazon Linux AMI 2017.03.1 (HVM), SSD Volume Type - ami-s4c7edb2

The Amazon Linux AMI is an EBS-backed, AWS-supported image. The default image includes AWS command line tools, Python, and other packages.

Root device type: ebsVirtualization type: hvm

SUSE Linux

Free tier eligible

SUSE Linux Enterprise Server 12 SP2 (HVM), SSD Volume Type - ami-fde4e4bea

SUSE Linux Enterprise Server 12 Service Pack 2 (HVM), EBS General Purpose (SSD) Volume Type. Public Cloud, Advanced System and Legacy modules enabled.

Root device type: ebsVirtualization type: hvm

Red Hat

Free tier eligible

Red Hat Enterprise Linux 7.3 (HVM), SSD Volume Type - ami-9e2f0988

Red Hat Enterprise Linux version 7.3 (HVM), EBS General Purpose (SSD) Volume Type

Root device type: ebsVirtualization type: hvm

Ubuntu

Free tier eligible

Ubuntu Server 16.04 LTS (HVM), SSD Volume Type - ami-d15a75c7

Ubuntu Server 16.04 LTS (HVM), EBS General Purpose (SSD) Volume Type. Support available from Canonical (<http://www.ubuntu.com>)

Root device type: ebsVirtualization type: hvm

Windows

Free tier eligible

Microsoft Windows Server 2016 Base - ami-f4d1f0e2

Microsoft Windows 2016 Datacenter edition. [English]

4. Now, we get to choose how powerful we want this instance to be. Let's go with the *t2.micro* ahead and click on "Next: Configure Instance Details".

	Family	Type	vCPUs	Memory (GiB)	Instance Storage (GiB)	EBS-Optimized
<input checked="" type="checkbox"/>	General purpose	t2.micro Free tier eligible	1	1	EBS only	
<input type="checkbox"/>	General purpose	t2.small	1	2	EBS only	
<input type="checkbox"/>	General purpose	t2.medium	2	4	EBS only	
<input type="checkbox"/>	General purpose	m3.medium	1	3.75	1 x 4 (SSD)	
<input type="checkbox"/>	General purpose	m3.large	2	7.5	1 x 32 (SSD)	
<input type="checkbox"/>	General purpose	m3.xlarge	4	15	2 x 40 (SSD)	
<input type="checkbox"/>	General purpose	m3.2xlarge	8	30	2 x 80 (SSD)	
<input type="checkbox"/>	Compute optimized	c4.large	2	3.75	EBS only	

CancelPreviousNext

5. We will be using mostly default configurations but is good to know what you are able to cus won't need to change anything. Go ahead and click "Next: Add Storage".

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 price, and more.

Number of instances1

Purchasing option☐ Request Spot Instances

Network

vpc-18b24c7d (172.31.0.0/16) (default)

Create new VPC

Subnet

No preference (default subnet in any Availability Zone)

Create new subnet

Auto-assign Public IP

Use subnet setting (Enable)

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 tenancy (multi-tenant hardware)

Additional charges will apply for dedicated tenancy.

Advanced Details

CancelPrevious

6. This is where we want to specify how much storage we want. We will only need 8 GB for nov Tag Instance".



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.

Type	Device	Snapshot	Size (GiB)	Volume Type	IOPS	Delete on Termination	Encryption
Root	/dev/sda1	snap-a3b70461	8	General Purpose (SSD)	24 / 3000	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

[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](#)

7. We can give our instance a name by "tagging" it. It is up to you if you want to name it. Go at **Configure Security Group**".

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

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

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

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

8. In the Configure Security Group page, you have the option to create a new security group. A firewall rules that control the traffic for your instance. Under this **Security Group**, the default TCP protocol, this means that we can only access this instance via SSH (PUTTY for windows macs. For web traffic, we also want to add the HTTP protocol. Go ahead and click on "Review

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 allow access to 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](#)

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

Security group name:

Description:

Type	Protocol	Port Range	Source
SSH	TCP	22	0.0.0.0/0
HTTP	TCP	80	0.0.0.0/0

[Add Rule](#)

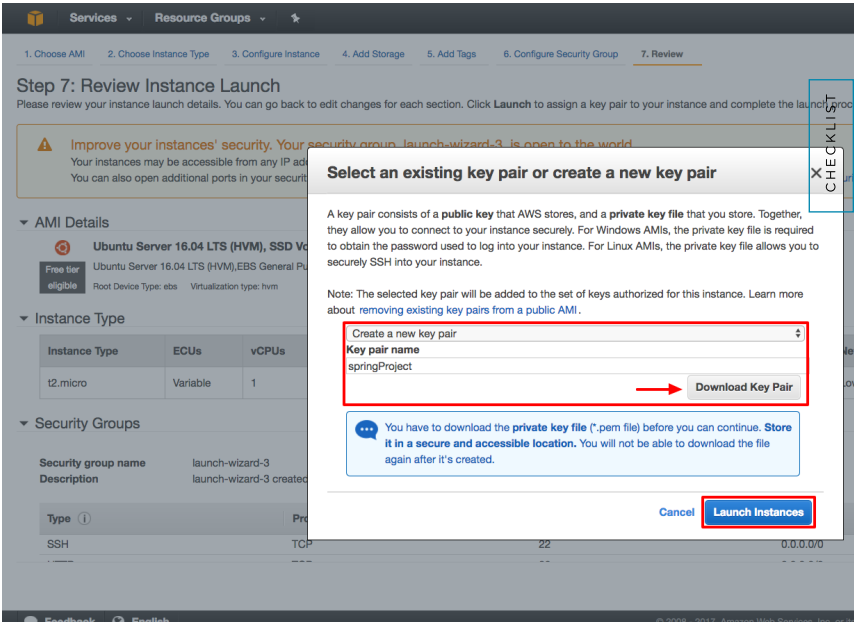
Warning

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

9. Go ahead and click **Launch** to create our configured EC2 instance.

10. Next, need to create and download a new key pair. This is a private KEY that will allow us to

- Once you have the pem file downloaded, move it to a convenient directory of your choice.



- In your terminal, navigate to the directory where the pem file is located and change the permissions using `chmod 400 <<theNameOfYourKey>>.pem`.
- Using ssh, we will connect to our instance by running `ssh -i <<theNameOfYourKey>>.pem ubuntu@<<yourPublicIpAddress>>`.
- Your system will ask you if you want to continue connecting. Type in **yes**.

Note: You can find both, public and private IPs, in the EC2 dashboard.

11. Once connected to the server, run `sudo apt-get update` and `sudo apt-get -y upgrade`. The system is up to date. If you see a pink screen to update `menu.lst`, choose the default option **currently installed**.