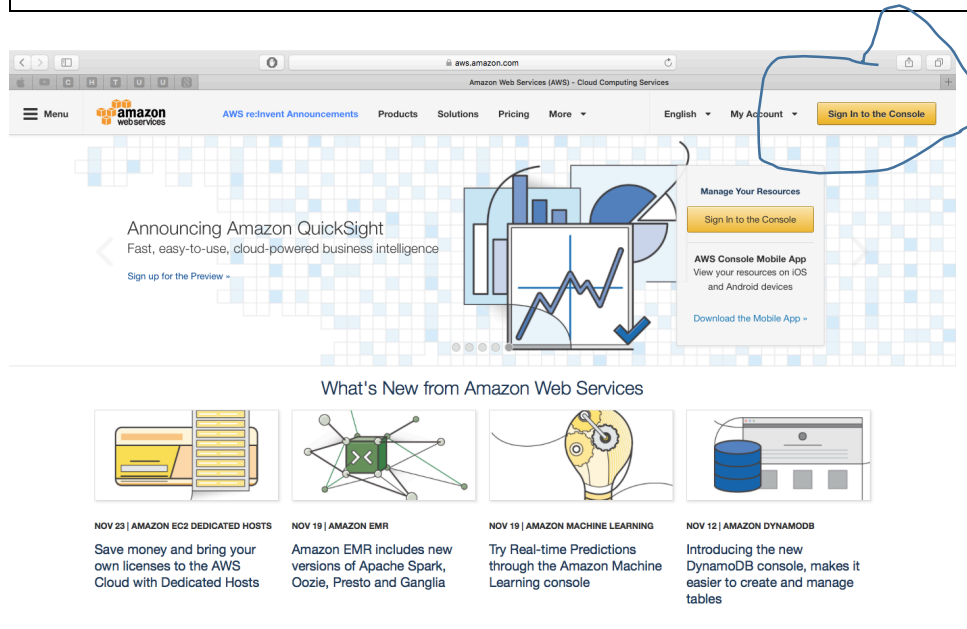
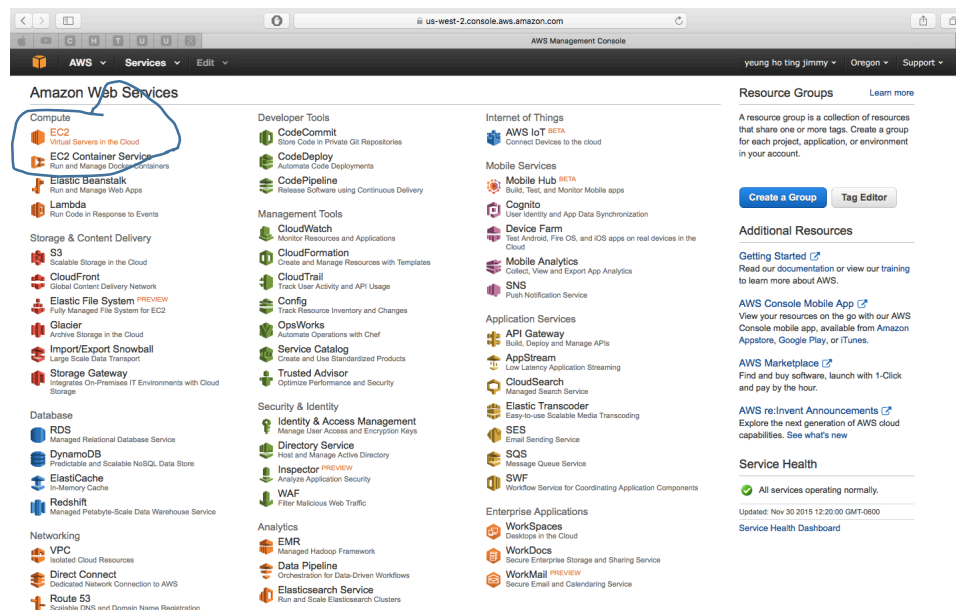


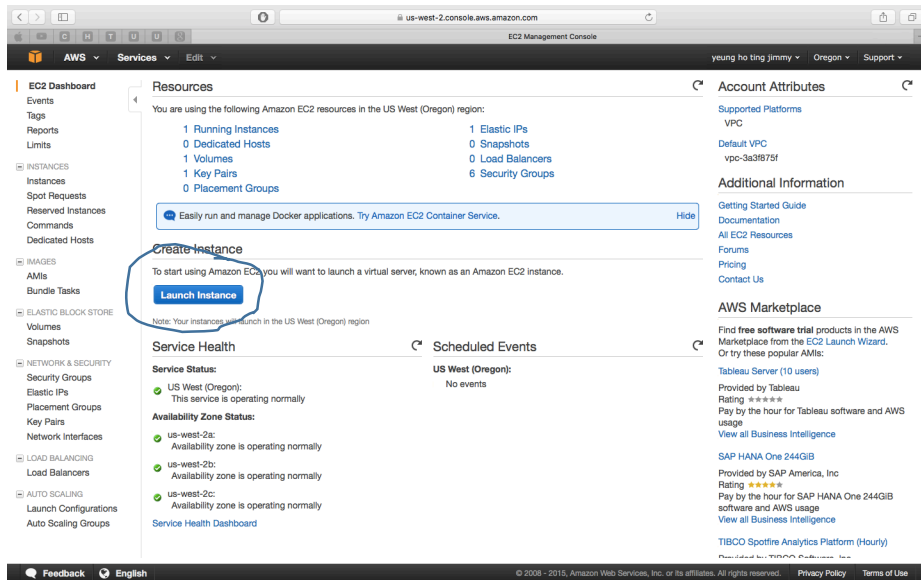
Go to [Amazon Web Services](https://aws.amazon.com) and click on sign in the Console. Create an account there if you don't have one, and you will get one year free to try it out.

Note: You do need to enter your credit card info, but you won't be charged unless you change to other services.

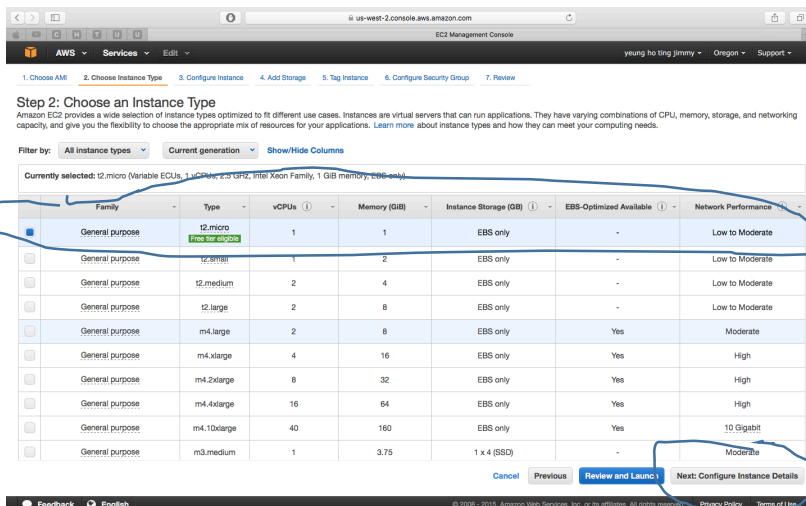
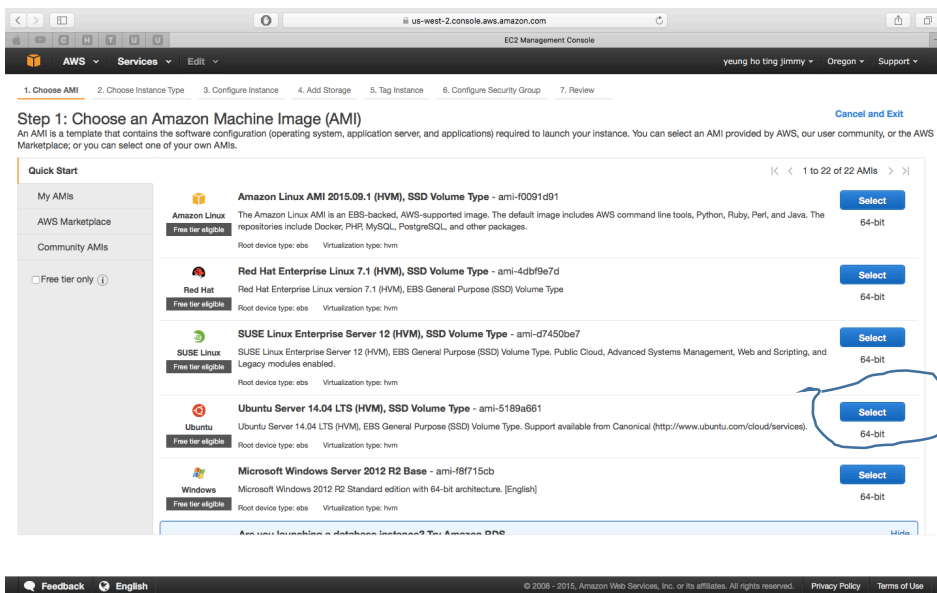


Select EC2 and then select Launch Instance





You can select an Amazon Machine Image that has Free Tier eligible. For this tutorial, we will be using Ubuntu Server 14.04. Click on Select, then click Next: Configure instances details.



Since this is just a tutorial, we can skip this section for now. Click Next: Add Storage.

1. Choose AMI 2. Choose Instance Type 3. Configure Instance 4. Add Storage 5. Tag Instance 6. Configure Security Group 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-3a3675f (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 - Run a shared hardware instance Additional charges will apply for dedicated tenancy.

Advanced Details

Cancel Previous Review and Launch Next: Add Storage

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For free tier users, you can get up to 30GB of storage for your instance for free. For now, we will just keep it to 8 GB. Click Next: Tag Instance

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.

Type	Device	Snapshot	Size (GiB)	Volume Type	IOPS	Delete on Termination	Encrypted
Root	/dev/sda1	snap-bd9c25fb	8	General Purpose (SSD)	24 / 3000	<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: Tag Instance

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You can give your instance a name on this page. Here, we will call it EC2 Tutorial. Click Next: Configure Security Group

us-west-2.console.aws.amazon.com

EC2 Management Console

young ho ting jimmy Oregon Support

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	Value
Name	EC2 Tutorial

Create Tag (Up to 10 tags maximum)

Cancel Previous **Review and Launch** Next: Configure Security Group

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You can add your own rules for specific traffic to reach your instance. The default setting has only one rule, which is the SSH rule. Let's add another one as HTTP because we are setting up a web server that needs to allow internet traffic. To do this, just click add rule and select HTTP as the type. Also, you may want to give this security group a name and description. When finished, click Review and Launch.

us-west-2.console.aws.amazon.com

EC2 Management Console

young ho ting jimmy Oregon Support

1. Choose AMI 2. Choose Instance Type 3. Configure Instance 4. Add Storage 5. Tag Instance 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: Unit test

Description: test ec2

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

Cancel Previous **Review and Launch**

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Review all the info before launching the instance. When ready, click on launch. Next, we will need to select a key pair for this instance. Key pair is like the password of your instance, and you should keep the key pair file safe. Let's create a new key pair for this instance for the sake of this tutorial and name it as "TutorialKey". Click Download Key Pair, and you should get the key pair file. Click Launch Instance.

Note: AWS will only give you the key pair file once, if you lose the file, you won't be able to get access to your instance anymore, which is really bad.

Step 7: Review Instance Launch

AMI Details

Free tier eligible

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

Root Device Type: ebs Virtualization type: hvm

Instance Type

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

Security Groups

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

Instance Details

Storage

Tags

Cancel Previous Launch

Step 7: Review Instance Launch

AMI Details

Free tier eligible

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

Root Device Type: ebs Virtualization type: hvm

Instance Type

Instance Type	ECUs	vCPUs
t2.micro	Variable	1

Security Groups

Security Group ID	Type
sg-bf7954db	HTTP
sg-bf7954db	SSH

Instance Details

Storage

Tags

Cancel Previous Launch

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

TutorialKey

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

Congratulation, you have just created an ec2 instance on your account. You will see your instance on ec2 dashboard. It will take a few minutes for Amazon to set up a new instance on their servers. The instance will be ready once you see the status checks tab turns to checked. Then you can continue to install apache, MySQL, and PHP on the instance.

The screenshot displays the AWS Management Console for the 'us-west-2' region. The left-hand navigation pane shows various AWS services, with 'EC2 Dashboard' and 'Instances' highlighted. The main content area shows a table of EC2 instances. One instance, 'EC2 Tutorial' (ID: i-0c91dac8), is listed with a status of 'running'. Below the table, the details for this instance are shown, including its public IP address (52.33.56.88) and public DNS name (ec2-52-33-56-88.us-west-2.compute.amazonaws.com).

Name	Instance ID	Instance Type	Availability Zone	Instance State	Status Checks	Alarm Status	Public DNS
EC2 Tutorial	i-0c91dac8	t2.micro	us-west-2b	running	Initializing	None	ec2-52-33-56-88.us-west-2.compute.amazonaws.com

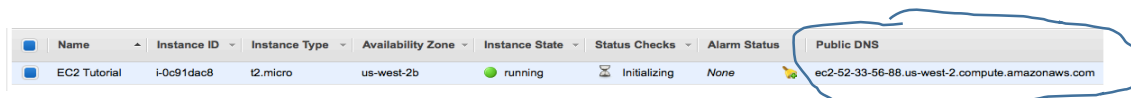
Instance: i-0c91dac8 (EC2 Tutorial)		Public DNS: ec2-52-33-56-88.us-west-2.compute.amazonaws.com	
Instance ID	i-0c91dac8	Public DNS	ec2-52-33-56-88.us-west-2.compute.amazonaws.com
Instance state	running	Public IP	52.33.56.88
Instance type	t2.micro	Elastic IP	-
Private DNS	ip-172-31-16-241.us-west-2.compute.internal	Availability zone	us-west-2b
Private IPs	172.31.16.241	Security groups	Unit test , view rules
Secondary private IPs		Scheduled events	No scheduled events
VPC ID	vpc-3a3f875f	AMI ID	ubuntu-trustv-14.04-amd64-server-20150325 fami-

Install Apache, MYSQL, and PHP on EC2

First of all, open terminal if you're a MAC user. For windows users, Putty will do the work. In terminal, go to the directory that you put your key pair file. In my case, I put it on my desktop. Once you are on the correct directory, we need to change the permission of the key pair file to read only for owner. To do that, enter the following command.

```
[Jimmys-MacBook-Air:~ Jimmy$ cd Desktop/  
[Jimmys-MacBook-Air:Desktop Jimmy$ chmod 400 TutorialKey.pem
```

Once you are done, go back to your ec2 dashboard and copy the public DNS for your instance



Name	Instance ID	Instance Type	Availability Zone	Instance State	Status Checks	Alarm Status	Public DNS
EC2 Tutorial	i-0c91dac8	t2.micro	us-west-2b	running	Initializing	None	ec2-52-33-56-88.us-west-2.compute.amazonaws.com

Next, go back to terminal and enter the following command to access your instance then press enter. Enter "yes" if something comes up. For Ubuntu users, ubuntu will always be your user name. For other systems, check on AWS website and see what are the user names.

```
Jimmys-MacBook-Air:Desktop Jimmy$ ssh ubuntu@ec2-52-33-56-88.us-west-2.compute.amazonaws.com -i TutorialKey.pem
```

Replace this with your instance's public
DNS or IP.

Replace this by your
key file name if your
key file name is
different than mine.

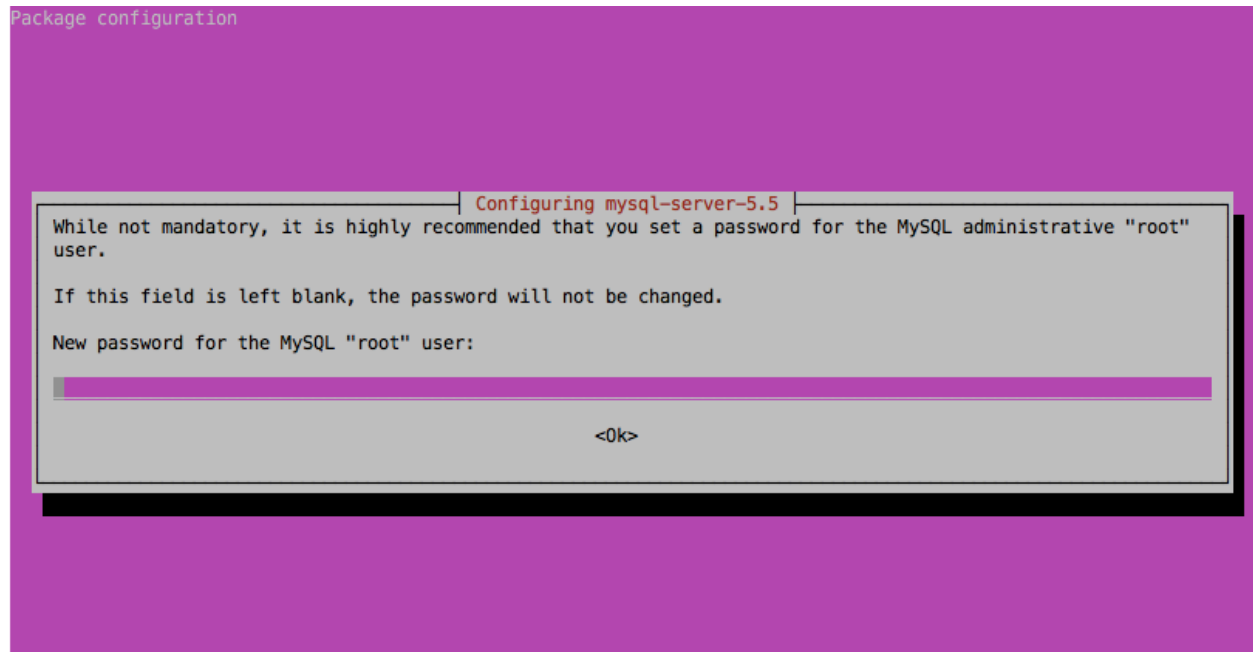
Now you should be inside your server. Before we install anything, we need to make sure the server is up-to-date. To do this, just enter the following command and press enter. It may take a while to load.

```
ubuntu@ip-172-31-16-241:~$ sudo apt-get update
```

Once the update is done, we can now install Apache, PHP and MYSQL. Simply enter the following command and press enter. Enter "y" if asked.

```
ubuntu@ip-172-31-16-241:~$ sudo apt-get install php5 apache2 libapache2-mod-php5 mysql-server php5-mysql
```

Next thing you need to do is create a password for you MYSQL server. Enter your desire password if you see this screen. Press enter, and you will need to re-enter your password again. Press enter again.



Once the installation is done, we will need to restart the apache server just to be safe. Enter the following command to restart the server.

```
ubuntu@ip-172-31-16-241:~$ sudo service apache2 restart
```

Next, we will need to do some security setting for MYSQL server. Enter the following command.

```
ubuntu@ip-172-31-16-241:~$ mysql_secure_installation
```

Then, you need enter the password you just set up for your MYSQL server. If it asks you for making a new password, just enter "n". For the next few settings, just enter all "y" for now. Once you are done, you should see the following lines.

```
All done! If you've completed all of the above steps, your MySQL
installation should now be secure.
```

```
Thanks for using MySQL!
```


Now, everything should be successfully installed. To check if the server is working fine, just enter your public DNS as the URL to any browser and see if anything comes up. Also, you can go to your html directory and make a PHP file to check the version and other information of PHP. To do this, enter the following commands.

```
[ubuntu@ip-172-31-16-241:~$ cd ..
[ubuntu@ip-172-31-16-241:/home$ cd ..
[ubuntu@ip-172-31-16-241:/]$ ls
bin    dev    home    lib    lost+found  mnt    proc    run    srv    tmp    var
boot  etc    initrd.img  lib64  media      opt    root    sbin   sys    usr    vmlinuz
[ubuntu@ip-172-31-16-241:/]$ cd var/www/html
[ubuntu@ip-172-31-16-241:/var/www/html$ sudo pico phpinfo.php
```

Here you just need to enter the code as following and then press control+x, and then enter.

```
GNU nano 2.2.6          File: phpinfo.php          Modified
<?php
phpinfo();
?>
```

```
[ New File ]
^G Get Help      ^O WriteOut      ^R Read File     ^Y Prev Page     ^K Cut Text      ^C Cur Pos
^X Exit          ^J Justify       ^W Where Is      ^V Next Page     ^U UnCut Text    ^T To Spell
```

Now, go to any browser and enter “<http://www.yourPublicDNS/phpinfo.php>” as URL. Replace “yourPublicDNS” as your instance’s public DNS or IP. You should be able to see all the information that relates to the PHP on your server. Congratulations, you just learned how to use AWS EC2 and install Apache, PHP and MySQL on it.