

Amazon Web Service

Setting up Elastic Cloud 2 (EC2)

Amazon Web Services (AWS) | aws.amazon.com

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AWS re:Invent

November 11-14, 2014 | Las Vegas, NV

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Manage Your Resources

Sign in to the Console

AWS Console Mobile App

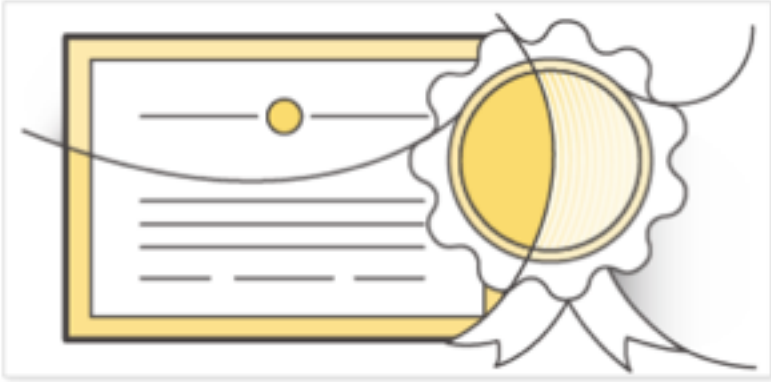
View your resources on iOS and Android devices

[Learn More and Download »](#)



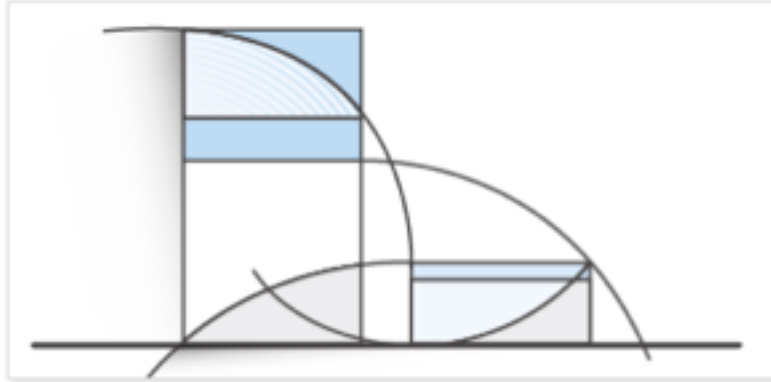
AWS STARTUP PROGRAM

Includes training, support, guidance, and more. Free to join



GET AWS CERTIFIED AT RE:INVENT

Validate your technical expertise.
Registration for onsite exams is now open



AWS TCO CALCULATOR

See how much you could save compared to traditional infrastructure

aws.amazon.com

CAUTION!!!

Without free tier, 1 EC2 unit costs me \$15 monthly

If you don't use it, stop or terminate it.

The screenshot shows the AWS Management Console interface. The browser address bar displays <https://console.aws.amazon.com/console/home?region=us-east-1>. The top navigation bar includes the AWS logo, 'Services' and 'Edit' dropdowns, the user name 'Apon Palanuwech', the current region 'N. Virginia' (highlighted with a red circle), and a 'Help' dropdown. The main content area is titled 'Amazon Web Services' and lists various services categorized into Compute & Networking, Storage & Content Delivery, Database, Deployment & Management, App Services, Analytics, and Mobile Services. The 'Additional Resources' section on the right includes links for 'Getting Started', 'AWS Console Mobile App', 'AWS Marketplace', 'Service Health' (showing all services operating normally), and 'Set Start Page' (with a 'Console Home' button).

Services

Amazon Web Services

Compute & Networking

- Direct Connect
- EC2
- Route 53
- VPC

Storage & Content Delivery

- CloudFront
- Glacier
- S3
- Storage Gateway

Database

- DynamoDB
- ElastiCache
- RDS
- Redshift

Deployment & Management

- CloudFormation
- CloudTrail
- CloudWatch
- Directory Service
- Elastic Beanstalk
- IAM
- OpsWorks
- Trusted Advisor

App Services

- AppStream
- CloudSearch
- Elastic Transcoder
- SES
- SQS
- SWF

Analytics

- Data Pipeline
- Elastic MapReduce
- Kinesis

Mobile Services

- Cognito
- Mobile Analytics
- SNS

Additional Resources

Getting Started

AWS Console Mobile App

AWS Marketplace

Service Health

Set Start Page

Feedback

- change location to N.Virginia or any station near you
- select EC2

EC2 Management Console

← → ↺ https://console.aws.amazon.com/ec2/v2/home?region=us-east-1#

Services Edit

Apon Palanuwech N. Virginia Help

EC2 Dashboard

Events

Tags

Reports

Limits

INSTANCES

Instances

Spot Requests

Reserved Instances

IMAGES

AMIs

Bundle Tasks

ELASTIC BLOCK STORE

Volumes

Snapshots

NETWORK & SECURITY

Security Groups

Elastic IPs

Placement Groups

Load Balancers

Key Pairs

Network Interfaces

AUTO SCALING

Launch Configurations

Auto Scaling Groups

Resources

You are using the following Amazon EC2 resources in the US East (N. Virginia) region:

2 Running Instances

2 Volumes

12 Key Pairs

0 Placement Groups

1 Elastic IP

0 Snapshots

0 Load Balancers

7 Security Groups

Easily deploy Ruby, PHP, Java, .NET, Python, Node.js & Docker applications with [Elastic Beanstalk.](#) Hide

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 East (N. Virginia) region

Service Health

Service Status:

US East (N. Virginia):
This service is operating normally

Availability Zone Status:

us-east-1a:
Availability zone is operating normally

us-east-1c:
Availability zone is operating normally

us-east-1d:
Availability zone is operating normally

Service Health Dashboard

Scheduled Events

US East (N. Virginia):
No events

Account Attributes

Supported Platforms

Additional Information

Getting Started Guide

Documentation

All EC2 Resources

Forums

Pricing

Contact Us

AWS Marketplace

Find free software trial products in the AWS Marketplace from the [EC2 Launch Wizard.](#)

Or try these popular AMIs:

Vyatta Virtual Router/Firewall/VPN

Provided by Vyatta, Inc.

Rating ★★★★★

Pay by the hour for software and AWS usage

[View all Networking](#)

Alert Logic Threat Manager for AWS

Provided by Alert Logic

Rating ★★★★★

Pay by the hour for software and AWS usage

[View all Security Software](#)

ColdFusion 11

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Feedback

EC2 Management Console x

https://console.aws.amazon.com/ec2/v2/home?region=us-east-1#LaunchInstanceWizard:

Services Edit Apon Palanuwech N. Virginia Help

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)

[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.


Quick Start


My AMIs


AWS Marketplace


Community AMIs


☐ Free tier only ⓘ

**Amazon Linux AMI 2014.09.1 (HVM) - ami-b66ed3de**
Free tier eligible
The Amazon Linux AMI is an EBS backed image. It includes the 3.14 kernel, Ruby 2.1, PHP 5.5, PostgreSQL 9.3, Docker 1.2, the AWS command line tools, and repository access to many other packages.
Root device type: ebs Virtualization type: hvm

**Red Hat Enterprise Linux 6.5 (HVM) - ami-00a11e68**
Free tier eligible
Red Hat Enterprise Linux version 6.5 (HVM), EBS-backed
Root device type: ebs Virtualization type: hvm

**SUSE Linux Enterprise Server 11 SP3 (HVM), SSD Volume Type - ami-70f74418**
Free tier eligible
SuSE Linux Enterprise Server 11 Service Pack 3 (HVM), EBS General Purpose (SSD) Volume Type. Nvidia driver installs automatically during startup for GPU instances.
Root device type: ebs Virtualization type: hvm

**Ubuntu Server 14.04 LTS (HVM), SSD Volume Type - ami-9eaa1cf6**
Free tier eligible
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

**Microsoft Windows Server 2012 R2 Base - ami-904be6f8**

< 1 to 22 of 22 AMIs >

Select 64-bit

Select 64-bit

Select 64-bit

Select 64-bit

Select

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We'll be using Ubuntu distribution
(Free for a year!)

EC2 Management Console

https://console.aws.amazon.com/ec2/v2/home?region=us-east-1#LaunchInstanceWizard:

Services

Edit

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N. Virginia

Help

1. Choose AMI

2. Choose Instance Type

3. Configure Instance

4. Add Storage

5. Tag Instance

6. Configure Security Group

7. Review

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)

T2 instances are VPC-only. Your T2 instance will launch into your VPC. [Learn more](#) about T2 and VPC.

	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	m3.medium	1	3.75	1 x 4 (SSD)	-	Moderate
<input type="checkbox"/>	General purpose	m3.large	2	7.5	1 x 32 (SSD)	-	Moderate
<input type="checkbox"/>	General purpose	m3.xlarge	4	15	2 x 40 (SSD)	Yes	High
<input type="checkbox"/>	General purpose	m3.2xlarge	8	30	2 x 80 (SSD)	Yes	High

Cancel

Previous

Review and Launch

Next: Configure Instance Details

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EC2 Management Console

https://console.aws.amazon.com/ec2/v2/home?region=us-east-1#LaunchInstanceWizard:

Services Edit Apon Palanuwech N. Virginia Help

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

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 instance's security. Your security group, launch-wizard-1, is open to the world.

Your instance 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 [Edit AMI](#)

Ubuntu Server 14.04 LTS (HVM), SSD Volume Type - ami-9aaa1cf6

Free tier eligible 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

Instance Type [Edit 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

Security Groups [Edit security groups](#)

Security group name: launch-wizard-1
Description: launch-wizard-1 created 2014-10-22T16:06:29.607-04:00

Type ⓘ	Protocol ⓘ	Port Range ⓘ	Source ⓘ
SSH	TCP	22	0.0.0.0/0

[Cancel](#) [Previous](#) [Launch](#)

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Edit security groups allows full control of all ports
remember 0-65535

EC2 Management Console

← → ↻ <https://console.aws.amazon.com/ec2/v2/home?region=us-east-1#LaunchInstanceWizard:> ☆ ☰

Services ▾

Edit ▾

Apon Palanuwech ▾

N. Virginia ▾

Help ▾

1. Choose AMI2. Choose Instance Type3. Configure Instance4. Add Storage5. Tag Instance6. Configure Security Group7. 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:

Description:

Type ⓘ	Protocol ⓘ	Port Range ⓘ	Source ⓘ	
SSH	TCP	22	Anywhere 0.0.0.0/0	✕
Custom TCP Rule	TCP	80	Anywhere 0.0.0.0/0	✕
Custom TCP Rule	TCP	445	Anywhere 0.0.0.0/0	✕
Custom TCP Rule	TCP	8080	Anywhere 0.0.0.0/0	✕
Custom TCP Rule	TCP	9999	Anywhere 0.0.0.0/0	✕
Custom TCP Rule	TCP	3000-4000	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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EC2 Management Console

https://console.aws.amazon.com/ec2/v2/home?region=us-east-1#LaunchInstanceWizard:

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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 instance's security. Your security group, my_triple_security, is open to the world.
Your instance may be accessible from the Internet. You can also open additional ports. [Edit security groups](#)

AMI Details

Free tier eligible

Ubuntu Server 14.04 LTS

Root Device Type: ebs

Instance Type

Instance Type	ECUs
t2.micro	Variable

Security Groups

Security group name	Description
my_triple_security	...

Type ⓘ
SSH

Edit AMI

Edit instance type

Edit security groups

Cancel Previous **Launch**

Feedback

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
aws_key

Download Key Pair

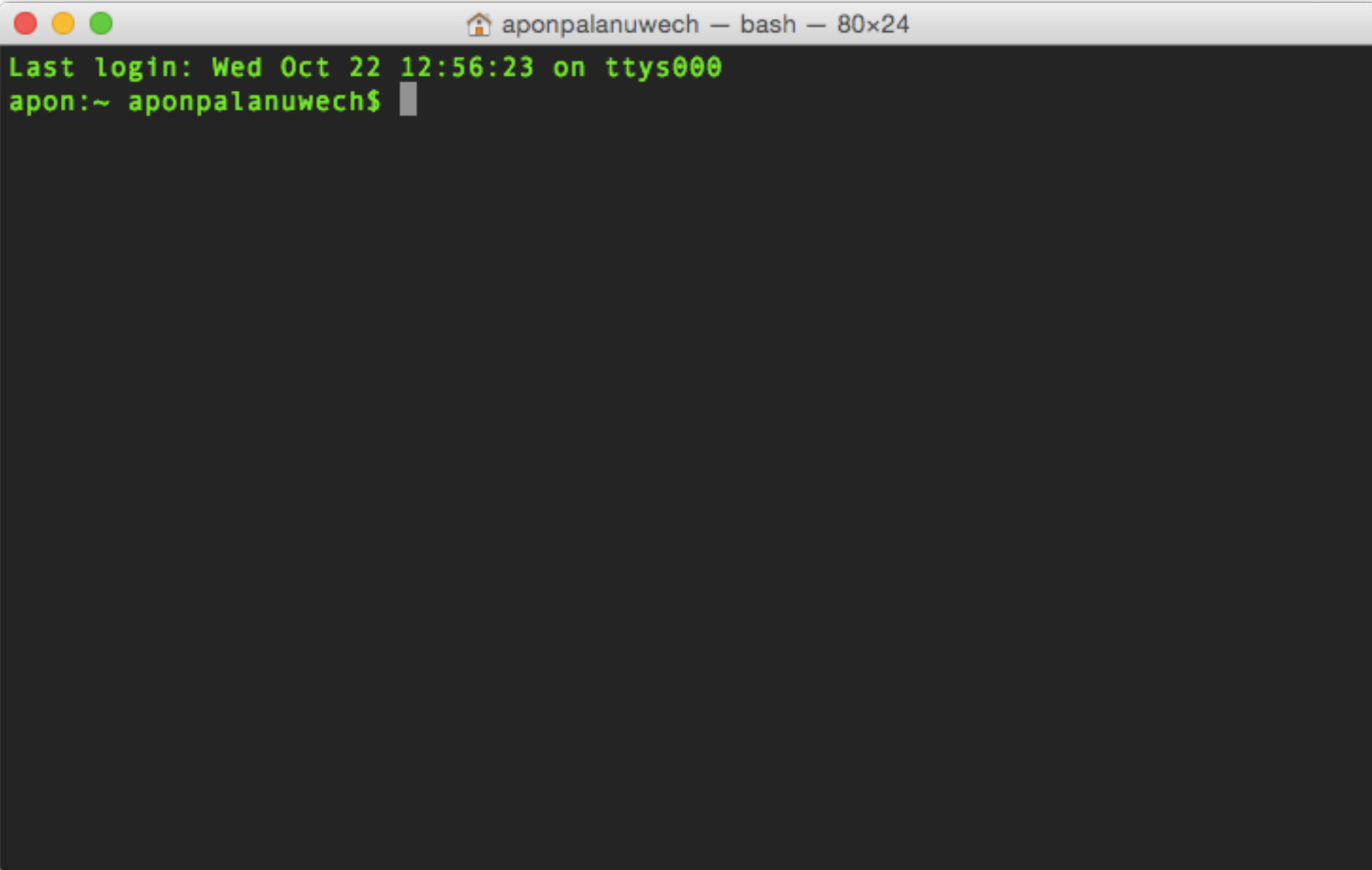
You have to download the **private key file** (*.pem file) before you can continue. **Store it in a secure and accessible location.** You will not be able to download the file again after it's created.

Cancel **Launch Instances**

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Now wait like 5 minutes...

In the meantime, let's configure our .pem
we just downloaded



```
Last login: Wed Oct 22 12:56:23 on ttys000
apon:~ aponpalanuwech$
```


Ubuntu requires the .pem key to have 0600 permission

<http://www.thinkplexx.com/learn/article/unix/command/chmod-permissions-flags-explained-600-0600-700-777-100-etc>

```
$ sudo chmod 0600 ~/Downloads/aws_key.pem
```

Now assuming that our server is ready to go. Check instances tab —> if 2/2 checks pass then it's good.

- Grab Public IP, for example, 54.173.20.63
- `$ ssh ubuntu@ 54.173.20.63 -i ~/Download/aws_key.pem`
- say yes
- and boom! you're now in a Linux machine somewhere in Amazon computer center in North Virginia

Using Nano text editor

- to create new file: `$ sudo nano banana.txt`
- to save and exit: `ctrl + x` then return

Now we will:

- Add a user (ourselves)
- Append this user as ROOT so he/she can do root commands (sudo)
- Edit Secure-shell (ssh) configuration
- Restart sshd

- \$ sudo adduser apon
- set your password
- \$ sudo visudo

<http://askubuntu.com/questions/59458/error-message-when-i-run-sudo-unable-to-resolve-host-none>



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Two things to check (assuming your machine is called `my-machine`, you can change this as appropriate):



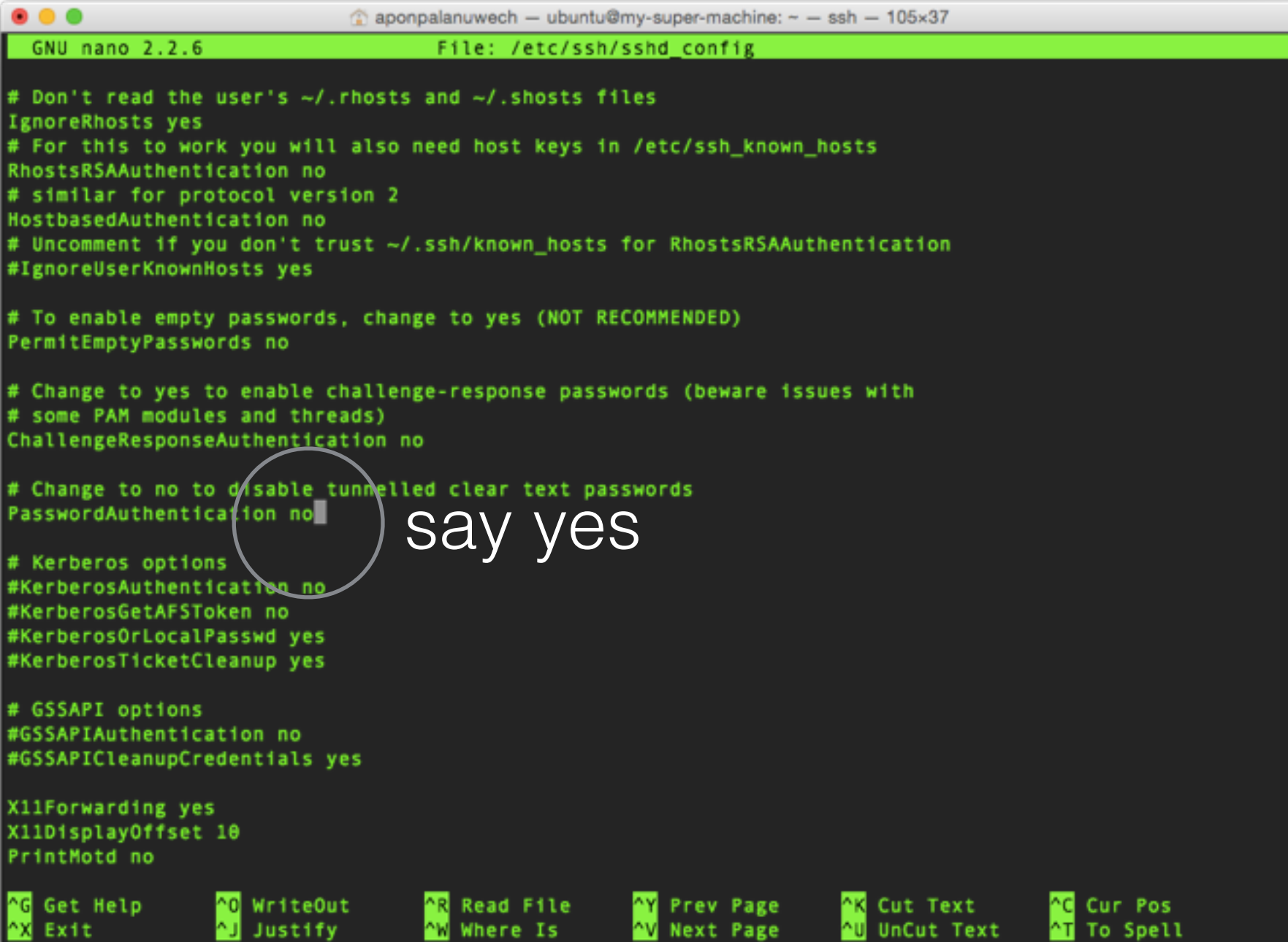
1. That the `/etc/hostname` file contains just the name of the machine.



2. That `/etc/hosts` has an entry for `localhost`. It should have something like:

```
127.0.0.1    localhost.localdomain localhost
127.0.1.1    my-machine
```


- \$ sudo nano /etc/ssh/sshd_config



```
GNU nano 2.2.6 File: /etc/ssh/sshd_config

# Don't read the user's ~/.rhosts and ~/.shosts files
IgnoreRhosts yes
# For this to work you will also need host keys in /etc/ssh_known_hosts
RhostsRSAAuthentication no
# similar for protocol version 2
HostbasedAuthentication no
# Uncomment if you don't trust ~/.ssh/known_hosts for RhostsRSAAuthentication
#IgnoreUserKnownHosts yes

# To enable empty passwords, change to yes (NOT RECOMMENDED)
PermitEmptyPasswords no

# Change to yes to enable challenge-response passwords (beware issues with
# some PAM modules and threads)
ChallengeResponseAuthentication no

# Change to no to disable tunnelled clear text passwords
PasswordAuthentication no

# Kerberos options
#KerberosAuthentication no
#KerberosGetAFSToken no
#KerberosOrLocalPasswd yes
#KerberosTicketCleanup yes

# GSSAPI options
#GSSAPIAuthentication no
#GSSAPICleanupCredentials yes

X11Forwarding yes
X11DisplayOffset 10
PrintMotd no

^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
```

- \$ sudo service ssh restart

Let's login using our username!

On your mac,

```
$ ssh apon@ 54.173.20.63
```

```
enter password
```

// Let's update our machine and install some useful stuff:

- `$ sudo add-apt-repository ppa:chris-lea/node.js`

// For mongodb reference: <http://docs.mongodb.org/manual/tutorial/install-mongodb-on-ubuntu/>

- `$ sudo apt-key adv --keyserver hkp://keyserver.ubuntu.com:80 --recv 7F0CEB10`
 - `$ echo 'deb http://downloads-distro.mongodb.org/repo/ubuntu-upstart dist 10gen' | sudo tee /etc/apt/sources.list.d/mongodb.list`
 - `$ sudo apt-get update`
 - `$ sudo apt-get install nodejs samba build-essential`
- // mongodb takes a lot of space and time to install, do it only when needed
- `$ sudo apt-get install mongodb-org`

Now we will:

– Configure Samba

On Ubuntu,

```
$ mkdir share
```

```
$ sudo chmod 777 share/
```

```
$ sudo nano /etc/samba/smb.conf
```

At the bottom of the file

```
[SHARE]
```

```
path = /home/apon/share
```

```
read only = no
```

```
browsable = yes
```

```
public = yes
```

```
writable = yes
```

```
create mask = 0644
```

```
directory mask = 0755
```

```
$ sudo restart smbd
```

On your mac,

Finder > Go > Connect to server

smb://your-ip-of-the-server

login as guest... and you're good



Samba

