



Services

Resource Groups



Sydney ▾ Support ▾

History

Console Home

EC2

S3

EMR

EFS

IAM

Compute

EC2

Lightsail

ECR

ECS

EKS

Lambda

Batch

Elastic Beanstalk

Robotics

AWS RoboMaker

Blockchain

Amazon Managed Blockchain

Satellite

Analytics

Athena

EMR

CloudSearch

Elasticsearch Service

Kinesis

QuickSight

Data Pipeline

AWS Glue

Business Applications

Alexa for Business

Amazon Chime

WorkMail

End User Computing

WorkSpaces

AppStream 2.0

Create an AWS account if you don't have (easy to do)
Login to your AWS console and in the Service menu select EC2
EC2 are simply computers on the AWS cloud

FSx

S3 Glacier

Storage Gateway

AWS Backup

Database

RDS

DynamoDB

ElastiCache

Neptune

Amazon Redshift

CloudFormation

CloudTrail

Config

OpsWorks

Service Catalog

Systems Manager

Trusted Advisor

Managed Services

Control Tower

AWS License Manager

AWS Well-Architected Tool

Personal Health Dashboard

Cognito

Secrets Manager

GuardDuty

Inspector

Amazon Macie

AWS Organizations

AWS Single Sign-On

Certificate Manager

Key Management Service

CloudHSM

Directory Service

WAF & Shield

Amazon FreeRTOS

IoT 1-Click

IoT Analytics

IoT Device Defender

IoT Device Management

IoT Events

IoT Greengrass

IoT SiteWise

IoT Things Graph

Game Development

▲ close



EC2 Dashboard

Events

Tags

Reports

Limits

INSTANCES

Instances

Launch Templates

Spot Requests

Reserved Instances

Dedicated Hosts

Capacity Reservations

IMAGES

AMIs

Bundle Tasks

ELASTIC BLOCK STORE

Volumes

Snapshots

Lifecycle Manager

NETWORK & SECURITY

Security Groups

Elastic IPs

Placement Groups

Key Pairs

Network Interfaces

LOAD BALANCING

Load Balancers

Target Groups

Resources

You are using the following Amazon EC2 resources in the Asia Pacific (Sydney) region:

0 Running Instances

0 Dedicated Hosts

3 Volumes

3 Key Pairs

0 Placement Groups

0 Elastic IPs

5 Snapshots

0 Load Balancers

7 Security Groups

Learn more about the latest in AWS Compute from AWS re:Invent by viewing the [EC2 Videos](#).

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 Asia Pacific (S

Service Health

Service Status:

✓ Asia Pacific (Sydney):

Availability Zone Status:

✓ ap-southeast-2a:

Availability zone is operating normally

✓ ap-southeast-2b:

Availability zone is operating normally

✓ ap-southeast-2c:

Availability zone is operating normally

[Service Health Dashboard](#)

Before launching an EC2 instance, you should create a key-pair (it's a file) to be able to access to your computer. This is a one time operation and you can use the same key as many time as you want

Account Attributes

Supported Platforms

VPC

Default VPC

vpc-b0ecaad7

Resource ID length management

Console experiments

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:[Barracuda CloudGen Firewall for AWS - PAYG](#)

By Barracuda Networks, Inc.

Rating ★★★★☆

Starting from \$0.60/hr or from \$4,599/yr (12% savings) for software + AWS usage fees

[View all Infrastructure Software](#)[Matillion ETL for Amazon Redshift](#)

By Matillion

Rating ★★★★☆

EC2 Dashboard

Events

Tags

Reports

Limits

INSTANCES

Instances

Launch Templates

Spot Requests

Reserved Instances

Dedicated Hosts

Capacity Reservations

IMAGES

AMIs

Bundle Tasks

ELASTIC BLOCK STORE

Volumes

Snapshots

Lifecycle Manager

NETWORK & SECURITY

Security Groups

Elastic IPs

Placement Groups

Key Pairs

Network Interfaces

LOAD BALANCING

Load Balancers

Create Key Pair

Import Key Pair

Delete



Filter by attributes or search by keyword

K < 1 to 3 of 3 > K

 Key pair name

Fingerprint

Select a key pair



EC2 Dashboard

Events

Tags

Reports

Limits

INSTANCES

Instances

Launch Templates

Spot Requests

Reserved Instances

Dedicated Hosts

Capacity Reservations

IMAGES

AMIs

Bundle Tasks

ELASTIC BLOCK STORE

Volumes

Snapshots

Lifecycle Manager

NETWORK & SECURITY

Security Groups

Elastic IPs

Placement Groups

Key Pairs

Network Interfaces

LOAD BALANCING

Load Balancers

Create Key Pair

Import Key Pair

Delete



Filter by attributes or search by keyword

? K < 1 to 3 of 3 > >

Key pair name

Fingerprint

Create Key Pair

Key pair name:

Test

[Cancel](#) **Create**

Select a key pair

Name your key and click create. Once you click create, a “pem” file (your key) will be downloaded. Be careful with that file. If you lose it you cannot get it again. But you can create another key-pair to get a new file (new key).

[EC2 Dashboard](#)[Events](#)[Tags](#)[Reports](#)[Limits](#)[INSTANCES](#)[Instances](#)[Launch Templates](#)[Spot Requests](#)[Reserved Instances](#)[Dedicated Hosts](#)[Capacity Reservations](#)[IMAGES](#)[AMIs](#)[Bundle Tasks](#)[ELASTIC BLOCK STORE](#)[Volumes](#)[Snapshots](#)[Lifecycle Manager](#)[NETWORK & SECURITY](#)[Security Groups](#)[Elastic IPs](#)[Placement Groups](#)[Key Pairs](#)[Network Interfaces](#)[Create Key Pair](#)[Import Key Pair](#)[Delete](#) Filter by attributes or search by keyword[?](#) K < 1 to 4 of 4 > > Key pair name | Fingerprint Test 8a:7b:75:81:96:91:ae:51:e6:ff:6e:f0:20:76:ce:63:de:d6:eb:89

Here is our key. See bottom left corner for the downloaded file.
then click EC2 Dashboard to get back to EC2 menu

[Select a key pair](#)

EC2 Dashboard

Events

Tags

Reports

Limits

INSTANCES

Instances

Launch Templates

Spot Requests

Reserved Instances

Dedicated Hosts

Capacity Reservations

IMAGES

AMIs

Bundle Tasks

ELASTIC BLOCK STORE

Volumes

Snapshots

Lifecycle Manager

NETWORK & SECURITY

Security Groups

Elastic IPs

Placement Groups

Key Pairs

Network Interfaces

LOAD BALANCING

Load Balancers

Resources

You are using the following Amazon EC2 resources in the Asia Pacific (Sydney) region:

0 Running Instances

0 Dedicated Hosts

3 Volumes

4 Key Pairs

0 Placement Groups

0 Elastic IPs

5 Snapshots

0 Load Balancers

7 Security Groups

Learn more about the latest in AWS Compute from AWS re:Invent by viewing the [EC2 Videos](#).

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 Asia Pacific (Sydney) region

Service Health

Service Status:

✓ Asia Pacific (Sydney):

Available

ap-southeast-2a:

Availability zone is operating normally

✓ ap-southeast-2b:

Availability zone is operating normally

✓ ap-southeast-2c:

Availability zone is operating normally

Scheduled Events

Asia Pacific (Sydney):

No events

[Service Health Dashboard](#)

Now we can launch an EC2 Instance to run our analysis

Account Attributes

Supported Platforms

VPC

Default VPC

vpc-b0ecaad7

Resource ID length management

Console experiments

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:[CloudGen Firewall for AWS - PAYG](#)

By Barracuda Networks, Inc.

Rating

Starting from \$0.60/hr or from \$4,599/yr (12% savings) for software + AWS usage fees

[View all Infrastructure Software](#)[Matillion ETL for Amazon Redshift](#)

By Matillion

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

[Cancel and Exit](#)

Step 1: Choose an Amazon Machine Image (AMI)

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.

 ViGWAS

Quick Start (0)

My AMIs (2)

AWS Marketplace (0)

Community AMIs (1)



ViGWAS - ami-0f081450eb8a63861

ViGWAS

Root device type: ebs Virtualization type: hvm

◀ ◀ 1 to 1 of 1 AMIs ▶ ▶

[Select](#)

64-bit (x86)

▼ Operating system

- Amazon Linux
 - Cent OS
 - Debian
 - Fedora
 - Gentoo
 - openSUSE
 - Other Linux
 - Red Hat
 - SUSE Linux
 - Ubuntu
 - Windows
- 

The following results for "ViGWAS" were found in other catalogs:

[1 results](#) in My AMIs

My AMIs are AMIs owned by you or shared with you

We add our system image (Ubuntu with ViGWAS and all needed software) to AWS community AMI. If you cannot find the AMI, try Sydney Region (see upper right corner)

1. Choose AMI 2. Choose Instance Type 3. Configure Instance 4. Add Storage 5. Add Tags 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: **Memory optimized** ▾ 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	vCPUs	Memory (GiB)	Instance Storage (GB)	EBS-Optimized Available	Network Performance	IPv6 Support
<input type="checkbox"/>	Memory optimized	x1.32xlarge	128	1952	2 x 1920 (SSD)	Yes	25 Gigabit	Yes
<input type="checkbox"/>	Memory optimized	x1e.32xlarge	128	3904	2 x 1920 (SSD)	Yes	25 Gigabit	Yes
<input type="checkbox"/>	Memory optimized	r5.24xlarge	96	768	EBS only	Yes	25 Gigabit	Yes
<input type="checkbox"/>	Memory optimized	r5d.24xlarge	96	768	4 x 900 (SSD)	Yes	25 Gigabit	Yes
<input type="checkbox"/>	Memory optimized	x1e.16xlarge	64	1952	1 x 1920 (SSD)	Yes	10 Gigabit	Yes
<input type="checkbox"/>	Memory optimized	x1e.12xlarge	32	376	1 x 1920 (SSD)	No	Up to 10 Gigabit	Yes
<input type="checkbox"/>	Memory optimized	x1e.8xlarge	32	976	1 x 960 (SSD)	Yes	Up to 10 Gigabit	Yes
<input type="checkbox"/>	Memory optimized	x1e.4xlarge	16	1952	1 x 960 (SSD)	No	Up to 10 Gigabit	Yes
<input type="checkbox"/>	Memory optimized	x1e.2xlarge	8	976	1 x 960 (SSD)	No	Up to 10 Gigabit	Yes
<input type="checkbox"/>	Memory optimized	x1e.xlarge	4	492	1 x 960 (SSD)	No	Up to 10 Gigabit	Yes
<input type="checkbox"/>	Memory optimized	t2.micro	1	1	1 x 1920 (SSD)	No	Up to 10 Gigabit	Yes

Select an EC2 instance that fits your need. You will pay for the instance to have an idea of how much it cost you see <https://aws.amazon.com/ec2/pricing/on-demand/>

Cancel

Previous

Review and Launch

Next: Configure Instance Details

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

Step 2: Choose an Instance Type

<input type="checkbox"/>	Memory optimized	x1e.32xlarge	128	3904	2 x 1920 (SSD)	Yes	25 Gigabit	Yes
<input type="checkbox"/>	Memory optimized	r5.24xlarge	96	768	EBS only	Yes	25 Gigabit	Yes
<input type="checkbox"/>	Memory optimized	r5d.24xlarge	96	768	4 x 900 (SSD)	Yes	25 Gigabit	Yes
<input type="checkbox"/>	Memory optimized	x1e.16xlarge	64	1952	1 x 1920 (SSD)	Yes	10 Gigabit	Yes
<input type="checkbox"/>	Memory optimized	x1.16xlarge	64	976	1 x 1920 (SSD)	Yes	10 Gigabit	Yes
<input type="checkbox"/>	Memory optimized	r4.16xlarge	64	488	EBS only	Yes	25 Gigabit	Yes
<input type="checkbox"/>	Memory optimized	r5.16xlarge	16	224	EBS only	Yes	10 Gigabit	Yes
<input type="checkbox"/>	Memory optimized	r5d.16xlarge	16	224	EBS only	Yes	10 Gigabit	Yes
<input type="checkbox"/>	Memory optimized	x1e.8xlarge	32	976	1 x 960 (SSD)	Yes	Up to 10 Gigabit	Yes
<input type="checkbox"/>	Memory optimized	r4.8xlarge	32	244	EBS only	Yes	10 Gigabit	Yes
<input type="checkbox"/>	Memory optimized	x1e.4xlarge	16	488	1 x 480 (SSD)	When	Up to 10 Gigabit	Yes
<input checked="" type="checkbox"/>	Memory optimized	r4.4xlarge	16	122	EBS only	Yes	Up to 10 Gigabit	Yes
<input type="checkbox"/>	Memory optimized	r5.4xlarge	16	128	EBS only	Yes	Up to 10 Gigabit	Yes
<input type="checkbox"/>	Memory optimized	r5d.4xlarge	16	128	2 x 300 (SSD)	Yes	Up to 10 Gigabit	Yes
<input type="checkbox"/>	Memory optimized	x1e.2xlarge	8	244	1 x 240 (SSD)	Yes	Up to 10 Gigabit	Yes

[Cancel](#)[Previous](#)[Review and Launch](#)[Next: Configure Instance Details](#)

1. Choose AMI 2. Choose Instance Type 3. Configure Instance 4. Add Storage 5. Add Tags 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.

 Your instance configuration is not eligible for the free usage tier

To launch an instance that's eligible for the free usage tier, check your AMI selection, instance type, configuration options, or storage devices. Learn more about [free usage tier](#) eligibility and usage restrictions.

[Don't show me this again](#)



AMI Details



ViGWAS - ami-0f081450eb8a63861

VIGWAS

Root Device Type: ebs Virtualization type: hvm

[Edit AMI](#)

Instance Type

[Edit instance type](#)

Instance Type	ECUs	vCPUs	Memory (GiB)	Instance Storage (GB)	EBS-Optimized Available	Network Performance
r4.4xlarge	52.8	16	122	EBS only	Yes	Up to 10 Gigabit

Security Groups

[Edit security groups](#)

Security group name: launch-wizard-2

Description: launch-wizard-2 created 2019-02-13T16:59:18.387+11:00

Type (i)	Protocol (i)	Port Range (i)	Source (i)	Description (i)
-------------------------------------------------	-----------------------------------------------------	-------------------------------------------------------	---------------------------------------------------	--------------------------------------------------------

This security group has no rules

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



1. Choose AMI 2. Choose

Step 7: Review Instance

Please review your instance

When you launch the instance you should select a key-pair that you have its “pem” file. Otherwise you cannot access the instance.

A Your instance configuration is not eligible for the free usage tier

To launch an instance that's eligible for the free

AMI Details

ViGWAS - ami-0f081450eb8a63861



ViGWAS

Root Device Type: ebs Virtualization type: hvm

Instance Type

Instance Type	ECUs	vCPUs
r4.4xlarge	52.8	16

Security Groups

Security group name	launch-wizard-2
Description	launch-wizard-2 created

Type	Protocol	Port Range	Source	Description

This security group has no rules

Cancel Previous Launch

Launch Status

✓ Your instances are now launching

The following instance launches have been initiated: [i-08b9ca8209b58a8a5](#) [View launch log](#)

ℹ Get notified of estimated charges

[Create billing alerts](#) to get an email notification when estimated charges on your AWS bill exceed an amount you define (for example, if you exceed the free usage tier).

How to connect to your instances

Your instances are launching, and it may take a few minutes until they are in the **running** state, when they will be ready for you to use. Usage hours on your new instances will start immediately and continue to accrue until you stop or terminate your instances.

Click [View Instances](#) to monitor your instances' status. Once your instances are in the **running** state, you can **connect** to them from the Instances screen. [Find out](#) how to connect to your instances.

▼ Here are some helpful resources to get you started

- [AWS China Marketplace: Help](#)
- [Amazon EC2: User Guide](#)
- [How to connect to your Linux instance](#)
- [Amazon EC2: Discussion Forum](#)
- [Learn about AWS Free Usage Tier](#)

Click on instance ID to see your Instance details

While your instances are launching you can also

[Create status check alarms](#) to be notified when these instances fail status checks. (Additional charges may apply)

[Create and attach additional EBS volumes](#) (Additional charges may apply)

[Manage security groups](#)

[View Instances](#)



Services

Resource Groups



Sydney

Support

EC2 Dashboard

Events

Tags

Reports

Limits

INSTANCES

Instances

Launch Templates

Spot Requests

Reserved Instances

Dedicated Hosts

Capacity Reservations

IMAGES

AMIs

Bundle Tasks

ELASTIC BLOCK STORE

Volumes

Snapshots

Lifecycle Manager

NETWORK & SECURITY

Security Groups

Elastic IPs

Placement Groups

Key Pairs

Network Interfaces

LOAD BALANCING

Load Balancers

Launch Instance

Connect

Actions



Filter by tags and attributes or search by keyword								
Name	Instance ID	Instance Type	Availability Zone	Instance State	Status Checks	Alarm Status	Public DNS (IPv4)	IPv4 Public IP
[Redacted]	i-08b9ca8209b58a8a5	r4.4xlarge	ap-southeast-2b	running	Initializing	None	ec2-52-64-147-57.ap-s...	52.64.147.57
[Redacted]								

Instance: i-08b9ca8209b58a8a5 Public DNS: ec2-52-64-147-57.ap-southeast-2.compute.amazonaws.com



Click on Connect to see public DNS and ssh connection details

Instance ID	i-08b9ca8209b58a8a5	Public DNS (IPv4)	ec2-52-64-147-57.ap-southeast-2.compute.amazonaws.com
Instance state	running	IPv4 Public IP	52.64.147.57
Instance type	r4.4xlarge	IPv6 IPs	-
Elastic IPs		Private DNS	
Availability zone	ap-southeast-2b	Private IPs	
Security groups	launch-wizard-2 . view inbound rules . view outbound rules	Secondary private IPs	
Scheduled events	No scheduled events	VPC ID	
AMI ID	ViGWAS (ami-0f081450eb8a63861)	Subnet ID	
Platform	-	Network interfaces	eth0
IAM role	-	Source/dest. check	True
Key pair name	Test	T2/T3 Unlimited	-
Owner	[Redacted]	EBS-optimized	True
Launch time		Root device type	ebs

[Feedback](#)[English \(US\)](#)

© 2008 - 2019, Amazon Web Services, Inc. or its affiliates. All rights reserved.

[Privacy Policy](#)[Terms of Use](#)

EC2 Dashboard
Events
Tags
Reports
Limits

just note that in the ssh command you should replace the “root” with “ubuntu”

** DNS and ssh command are different every time you create and instance

Launch Instance ▾ Connect Actions ▾

Filter by tags and

Name

Connect To Your Instance

- I would like to connect with
- A standalone SSH client (i)
 - A Java SSH Client directly from my browser (Java required) (i)

To access your instance:

1. Open an SSH client. (find out how to [connect using PuTTY](#))
2. Locate your private key file (Test.pem). The wizard automatically detects the key you used to launch the instance.
3. Your key must not be publicly viewable for SSH to work. Use this command if needed:
`chmod 400 Test.pem`

4. Connect to your instance using its Public DNS:

`ec2-52-64-147-57.ap-southeast-2.compute.amazonaws.com`

Example:

`ssh -i "Test.pem" root@ec2-52-64-147-57.ap-southeast-2.compute.amazonaws.com`

Please note that in most cases the username above will be correct, however please ensure that you read your AMI usage instructions to ensure that the AMI owner has not changed the default AMI username.

If you need any assistance connecting to your instance, please see our [connection documentation](#).

Close

Instance: i-08b9ca

Description

Status Checks

Monitoring

Tags



EC2 Dashboard

Events

Tags

Reports

Limits

INSTANCES

Instances

Launch Templates

Spot Requests

Reserved Instances

Dedicated Hosts

Capacity Reservations

IMAGES

AMIs

Bundle Tasks

ELASTIC BLOCK STORE

Volumes

Snapshots

Lifecycle Manager

NETWORK & SECURITY

Security Groups

Elastic IPs

Placement Groups

Key Pairs

Network Interfaces

LOAD BALANCING

Load Balancers

Launch Instance

Connect

Actions ▾



Filter by tags and attributes or search by keyword

? K < 1 to 5 of 5 > |

Name	Instance ID	Instance Type	Availability Zone	Instance State	Status Checks	Alarm Status	Public DNS (IPv4)	IPv4 Public IP
	i-08b9ca8209b58a8a5	r4.4xlarge	ap-southeast-2b	running	Initializing	None	ec2-52-64-147-57.ap-s...	52.64.147.57

AWS is secure. Before you can connect to your instance you should let AWS know about your IP and allow your IP to connect to the instance. This is done in security groups.
Select your instance and click on EC2 groups

Availability zone	ap-southeast-2b
Security groups	launch-wizard-2, view inbound rules, view outbound
Scheduled events	No scheduled events
AMI ID	ViGWAS (ami-0f081450eb8a63861)
Platform	-
IAM role	-
Key pair name	Test
Owner	[REDACTED]
Launch time	[REDACTED]

Private DNS (IPv4)	ec2-52-64-147-57.ap-southeast-2.compute.amazonaws.com
Pv4 Public IP	52.64.147.57
IPv6 IPs	-
Private DNS	[REDACTED]
Private IPs	[REDACTED]

VPC ID	[REDACTED]
Subnet ID	[REDACTED]
Network interfaces	eth0
Source/dest. check	True
T2/T3 Unlimited	-
EBS-optimized	True
Root device type	ebs

- EC2 Dashboard
- Events
- Tags
- Reports
- Limits
- INSTANCES**
 - Instances
 - Launch Templates
 - Spot Requests
 - Reserved Instances
 - Dedicated Hosts
 - Capacity Reservations

- IMAGES**
 - AMIs
 - Bundle Tasks

- ELASTIC BLOCK STORE**
 - Volumes
 - Snapshots
 - Lifecycle Manager

- NETWORK & SECURITY**
 - Security Groups**
 - Elastic IPs
 - Placement Groups
 - Key Pairs
 - Network Interfaces

- LOAD BALANCING**
 - Load Balancers

[Create Security Group](#)[Actions ▾](#) Group ID : sg-0b8fa41fb9d4d6cde [Add filter](#)[?](#) [K](#) [<](#) [1 to 1 of 1](#) [>](#) [I](#)

Name	Group ID	Group Name	VPC ID	Description
	sg-0b8fa41fb9d4d6cde	launch-wizard-2	vpc-b0ecaad7	launch-wizard-2

Select Inbound and click Edit to add your IP.
If your IP changes you. should repeat this process

Security Group: sg-0b8fa41fb9d4d6cde[Description](#) **Inbound** [Outbound](#) [Tags](#)[Edit](#)

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

EC2 Dashboard
Events
Tags
Reports
Limits

INSTANCES

Instances
Launch Templates
Spot Requests
Reserved Instances

Dedicated Hosts
Capacity Reservations

IMAGES

AMIs

Bundle Tasks

ELASTIC BLOCK STORE

Volumes

Snapshots

Lifecycle Manager

NETWORK & SECURITY

Security Groups

Elastic IPs

Placement Groups

Key Pairs

Network Interfaces

LOAD BALANCING

Load Balancers

Create Security Group

Actions

Group ID : sg-0b8fa41fb9d4d6cde Add filter

1 to 1 of 1

Name Group ID

Group Name

VPC ID

Description

sg-0b8fa41fb9d4d6cde launch-wizard-2 vpc-b0ecaad7 launch-wizard-2

Edit inbound rules

Type

Protocol

Port Range

Source

Description

All traffic

All

0 - 65535

My IP

e.g. SSH for Admin Desktop

Add Rule

NOTE: Any edits made on existing rules will result in the edited rule being deleted and a new rule created with the new details. This will cause traffic that depends on that rule to be dropped for a very brief period of time until the new rule can be created.

Cancel

Save

Select All Traffic and then My IP (your IP will be shown in white box)
click on save

EC2 Dashboard

Events

Tags

Reports

Limits

INSTANCES

Instances

Launch Templates

Spot Requests

Reserved Instances

Dedicated Hosts

Capacity Reservations

IMAGES

AMIs

Bundle Tasks

ELASTIC BLOCK STORE

Volumes

Snapshots

Lifecycle Manager

NETWORK & SECURITY

Security Groups

Elastic IPs

Placement Groups

Key Pairs

Network Interfaces

LOAD BALANCING

Load Balancers

Create Security Group

Actions ▾



Name	Group ID	Group Name	VPC ID	Description
sg-0b8fa41fb9d4d6cde	launch-wizard-2			launch-wizard-2

Make sure your IP is in the list and then you can connect to your Instance

Security Group: sg-0b8fa41fb9d4d6cde



Description

Inbound

Outbound

Tags

Edit

Type

Protocol

Port Range

Source

Description

All traffic

All

All

```
[>] ls Test.pem  
Test.pem  
[>] chmod 400 Test.pem
```

Enter the directory where your key (pem file) is there
and change its permission to 400

```
> ssh -i "Test.pem" ubuntu@ec2-52-64-147-57.ap-southeast-2.compute.amazonaws.com
```

```
Welcome to Ubuntu 18.04.1 LTS (GNU/Linux 4.15.0-1021-aws x86_64)
```

```
* Documentation: https://help.ubuntu.com
* Management: https://landscape.canonical.com
* Support: https://ubuntu.com/advantage
```

```
System information as of Wed Feb 13 06:10:22 UTC 2019
```

```
System load: 0.05
Usage of /: 4.9% of 96.8
Memory usage: 0%
Swap usage: 0%
```

```
Get cloud support with Ubuntu
http://www.ubuntu.com/business/services/cloud
```

```
146 packages can be updated.
```

```
78 updates are security updates.
```

ssh to your instance and run jupyter notebook server. make sure you change the IP parameter to your EC2 instance Public DNS

```
Last login: Wed Feb 13 06:09:55 2019 from 130.155.33.32
```

```
ubuntu@ip-172-31-5-46:~$ jupyter notebook --no-browser --port=8888 --NotebookApp.token='' --notebook-dir=~/ViGWA_S --ip="ec2-52-64-147-57.ap-southeast-2.compute.amazonaws.com"
```

* Support: <https://ubuntu.com/advantage>

System information as of Wed Feb 13 06:10:22 UTC 2019

System load:	0.05	Processes:	214
Usage of /:	4.9% of 96.88GB	Users logged in:	0
Memory usage:	0%	IP address for ens3:	172.31.5.46
Swap usage:	0%		

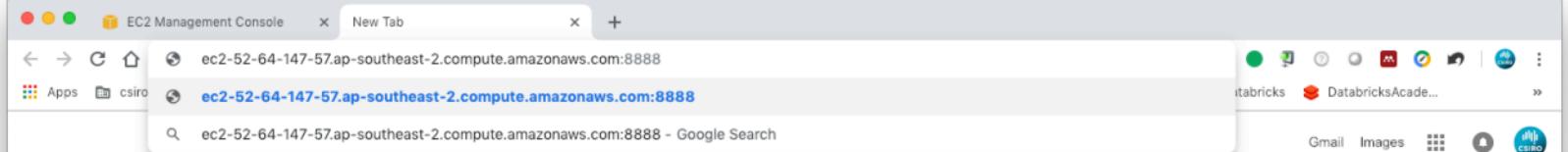
Get cloud support with Ubuntu Advantage Cloud Guest:

<http://www.ubuntu.com/business/services/cloud>

146 packages installed
78 updates available

Make sure the notebook server is running

```
Last login: Wed Feb 13 06:09:55 2019 from 130.155.33.32
ubuntu@ip-172-31-5-46:~$ jupyter notebook --no-browser --port=8888 --NotebookApp.token='' --notebook-dir=~/ViGWAS --ip="ec2-52-64-147-57.ap-southeast-2.compute.amazonaws.com"
[I 06:10:39.950 NotebookApp] Writing notebook server cookie secret to /run/user/1000/jupyter/notebook_cookie_secret
[W 06:10:40.124 NotebookApp] All authentication is disabled. Anyone who can connect to this server will be able to run code.
[I 06:10:40.130 NotebookApp] Serving notebooks from local directory: /home/ubuntu/ViGWAS
[I 06:10:40.130 NotebookApp] The Jupyter Notebook is running at:
[I 06:10:40.130 NotebookApp] http://ec2-52-64-147-57.ap-southeast-2.compute.amazonaws.com:8888/
[I 06:10:40.130 NotebookApp] Use Control-C to stop this server and shut down all kernels (twice to skip confirmation).
```



Google

in

In your local browser address bar enter
your EC2 instance DNS and :8888

Edit File Working tool Google Drive View



eBay



Google Maps



In



Your Projects



Add shortcut



The screenshot shows a web browser window with the title "EC2 Management Console". The address bar indicates the URL is "Not Secure | ec2-52-64-147-57.ap-southeast-2.compute.amazonaws.com:8888/tree?". The main content area is a Jupyter Notebook interface titled "jupyter". At the top, there are tabs for "Files", "Running", and "Clusters", with "Files" currently selected. Below the tabs is a toolbar with "Move" (with a trash bin icon), "Upload", "New", and "File size". A file list table follows, showing the contents of the current directory. The table has columns for Name, Last Modified, and File size. The files listed are:

Name	Last Modified	File size
merge_sample	an hour ago	
merge_variant	2 hours ago	
sample_input	2 hours ago	
templates	a day ago	
VIGWAS-S.ipynb	an hour ago	76 kB
VIGWAS-V.ipynb	2 hours ago	214 kB
UserManual.pdf	6 hours ago	560 kB
VIGWAS_Setup_Instruction.sh	3 hours ago	2.35 kB

Here is your notebook running on the cloud
The selected folder contains the ViGWAS report for
the example data set. if you whats to re-run
example delete the report first

EC2 Management Console Home

Not Secure | ec2-52-64-147-57.ap-southeast-2.compute.amazonaws.com:8888/tree?

jupyter

Files Running Clusters

Select items to perform actions on them.

0 / sample_input temp VIGWAS-S.ipynb VIGWAS-V.ipynb UserManual VIGWAS_Setup_Instruction.sh

Name Last Modified File size

	Name	Last Modified	File size
<input type="checkbox"/>	sample_input	2 hours ago	
<input type="checkbox"/>	temp	a day ago	
<input checked="" type="checkbox"/>	VIGWAS-S.ipynb	an hour ago	76 kB
<input type="checkbox"/>	VIGWAS-V.ipynb	2 hours ago	214 kB
<input type="checkbox"/>	UserManual	6 hours ago	560 kB
<input type="checkbox"/>	VIGWAS_Setup_Instruction.sh	3 hours ago	2.35 kB

Upload New



The screenshot shows a Jupyter Notebook interface running on an EC2 instance. The top navigation bar includes links for 'EC2 Management Console' and 'Home'. The address bar shows the URL 'ec2-52-64-147-57.ap-southeast-2.compute.amazonaws.com:8888/tree?'. The main area is titled 'jupyter' and contains tabs for 'Files', 'Running', and 'Clusters'. Below the tabs, a message says 'Select items to perform actions on them.' A file list is displayed with the following entries:

- 0 / sample_input temp VIGWAS-S.ipynb VIGWAS-V.ipynb UserManual VIGWAS_Setup_Instruction.sh

Below the file list are sorting and filtering options: 'Name', 'Last Modified', and 'File size'. A table lists the files with their details:

	Name	Last Modified	File size
<input type="checkbox"/>	sample_input	2 hours ago	
<input type="checkbox"/>	temp	a day ago	
<input checked="" type="checkbox"/>	VIGWAS-S.ipynb	an hour ago	76 kB
<input type="checkbox"/>	VIGWAS-V.ipynb	2 hours ago	214 kB
<input type="checkbox"/>	UserManual	6 hours ago	560 kB
<input type="checkbox"/>	VIGWAS_Setup_Instruction.sh	3 hours ago	2.35 kB

Open one of the example notebook

EC2 Management Console Home ViGWAS-V

Not Secure | ec2-52-64-147-57.ap-southeast-2.compute.amazonaws.com:8888/notebooks/ViGWAS-V.ipynb

jupyter ViGWAS-V Last Checkpoint: 4 hours ago (autosaved)

File Edit View Insert Cell Kernel Help

Trusted Python 3

In [1]:

```
## read from sample annotations and vcf files
sample_annot_deli = ',' #'t' for tsv and ',' for csv
sample_annot_file_list = [ sample_input/hipster.csv ]

mt_file_type = 'vcf' # support 'vcf' or 'plink'
mt_file_list = ['sample_input/V1.vcf.bgz',
```

If you want to run the example data leave the user block as is (only change numCPU and memory to fit your selected EC2 instance).

If you want to work on your own data change the parameter carefully.

```
## variant-spark
PATH_TO_VS = '-/VariantSpark/bin/variant-spark' #full path to where variant-spark is installed (included in the package)
mtry_fraction=0.1
num_of_trees=1000

## Some configs
numCPU = 16
memory = '100g'
```

Environment initialization

In [2]: ## Environment init

EC2 Management Console | Home | VI GWAS-V | Not Secure | ec2-52-64-147-57.ap-southeast-2.compute.amazonaws.com:8888/notebooks/VI GWAS-V.ipynb

jupyter VI GWAS-V Last Checkpoint: 4 hours ago (autosaved)

File Edit View Insert Cell Kernel Help Trusted Python 3

User Blo

In [1]:

```
## read from sample_annotation file
sample_annotation = pd.read_csv('sample_annotation.csv')

# read vcf files
vcf_files = glob.glob('vcf/*')
vcf_files = [file.replace('.vcf', '.vcf.gz') for file in vcf_files]
vcf_files = [file.replace('vcf', 'vcf/')] + vcf_files

# read plink files
mt_file_type = 'plink' # 'vcf' for vcf files, 'plink' for plink files
mt_file_list = ['paths/to/plink-1', 'paths/to/plink-2']

# read hipster file
hipster_file = 'hipster.csv'

# read annotations
annotation_file = 'sample_annotation.csv'

# read variants
variants_file = 'variants.vcf'

# read sample annotations
sample_annotation_file = 'sample_annotation.csv'
```

Run Cells Run Cells and Select Below Run Cells and Insert Below Run All Run All Above Run All Below

Cell Type Current Outputs All Output

vcf files v and ',' for csv put/hipster.csv] or 'plink' .bgz',

Run all cells

Environment initialization

```
> ls Test.pem
Test.pem
> ssh -i "Test.pem" ubuntu@ec2-52-64-147-57.ap-southeast-2.compute.amazonaws.com
Welcome to Ubuntu 18.04.1 LTS (GNU/Linux 4.15.0-1021-aws x86_64)
```

```
* Documentation: https://help.ubuntu.com
* Management: https://landscape.canonical.com
* Support: https://ubuntu.com/advantage
```

```
System information as of Wed Feb 13 07:07:31 UTC 2019
```

```
System load: 0.0
Usage of /: 5.2% of 96.88GB
Memory usage: 0%
Swap usage: 0%
```

To copy result (html report) form
EC2 instance to your computer, ssh
to your instance in another shell

```
Get cloud support with Ubuntu Advantage Cloud Guest:
http://www.ubuntu.com/business/services/cloud
```

```
* Canonical Livepatch is available for installation.
- Reduce system reboots and improve kernel security. Activate at:
https://ubuntu.com/livepatch
```

```
92 packages can be updated.
0 updates are security updates.
```

```
*** System restart required ***
Last login: Wed Feb 13 06:10:22 2019 from 130.155.33.32
ubuntu@ip-172-31-5-46:~$ _
```

```
ubuntu@ip-172-31-5-46:~$ tar czvf htmls.tar.gz ViGWAS/merge_variant/htmls/  
ViGWAS/merge_variant/htmls/  
ViGWAS/merge_variant/htmls/manhattan_page.html  
ViGWAS/merge_variant/htmls/pca.html  
ViGWAS/merge_variant/htmls/variant-spark.html  
ViGWAS/merge_variant/htmls/overview.html  
ViGWAS/merge variant/htmls/sample annot.html
```

In your instance bash, compress the reports into a file and then exist.

In you local shell use SCP to copy report to your computer.

You can also use SCP to copy your data to the instance

```
ViGWAS/merge_variant/htmls/manhattan.html  
ViGWAS/merge_variant/htmls/sample_qc_page.html  
ViGWAS/merge_variant/htmls/vs_page.html  
ViGWAS/merge_variant/htmls/sample_annot_page.html  
[ubuntu@ip-172-31-5-46: ~]$ exit  
logout  
Connection to ec2-52-64-147-57.ap-southeast-2.compute.amazonaws.com closed.  
> scp -i "Test.pem" ubuntu@ec2-52-64-147-57.ap-southeast-2.compute.amazonaws.com:~/htmls.tar.gz  
./  
htmls.tar.gz  
> -
```

```
> tar zxvf htmls.tar.gz
x ViGWAS/merge_variant/htmls/
x ViGWAS/merge_variant/htmls/manhattan_page.html
x ViGWAS/merge_variant/htmls/pca.html
x ViGWAS/merge_variant/htmls/variant-spark.html
x ViGWAS/merge_variant/htmls/overview.html
x ViGWAS/merge_variant/htmls/sample_annot.html
x ViGWAS/merge_variant/htmls/summary.html
x ViGWAS/merge_variant/htmls/pca_page.html
x ViGWAS/merge_variant/htmls/variant_qc_page.html
x ViGWAS/merge_variant/htmls/sample_qc.html
x ViGWAS/merge_variant/htmls/variant_qc.html
x ViGWAS/merge_variant/htmls/.ipynb_checkpoints/
x ViGWAS/merge_variant/htmls/manhattan.html
x ViGWAS/merge_variant/htmls/sample_qc_page.html
x ViGWAS/merge_variant/htmls/vs_page.html
x ViGWAS/merge_variant/htmls/sample_annot_page.html
[> ls ViGWAS/merge_variant/htmls/
manhattan.html          sample_annot.html      variant-spark.html
manhattan_page.html     sample_annot_page.html  variant_qc.html
overview.html            sample_qc.html        variant_qc_page.html
pca.html                 sample_qc_page.html   vs_page.html
pca_page.html           summary.html
> _
```

Extract and see report locally

Activities

Files

