A guide on how to host an Apache server on google cloud platform

with oddish

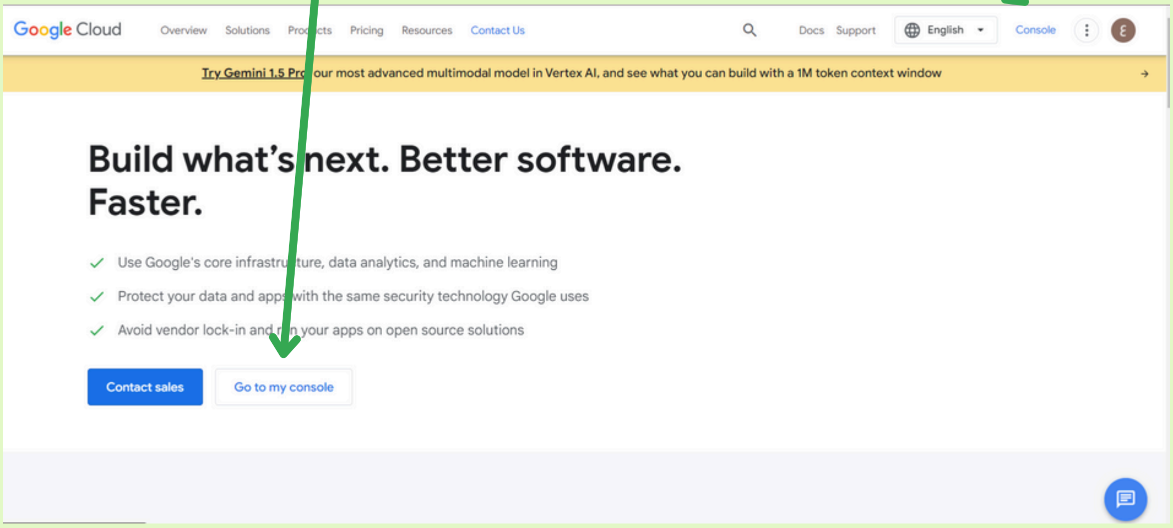
Google Cloud

before you start you need to:

1/create your own GCP account.

2/enable compute engine.

Step 1 / open google cloud platform and go to console by clicking **console** the top right Or by clicking **Go to my console** .



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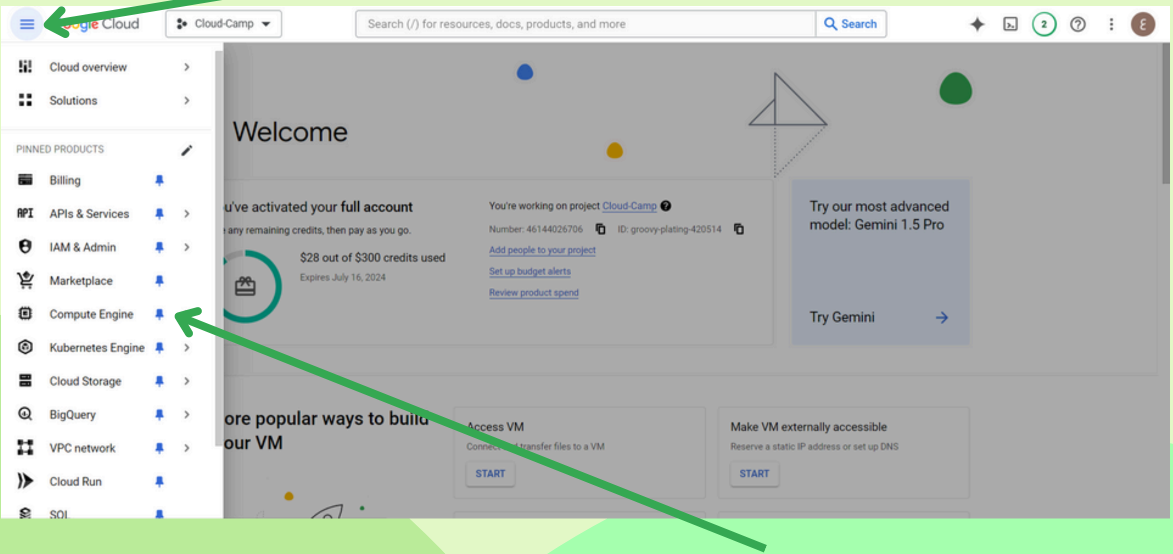
Step 2 / when you go to the console there will be a lot of details , but what you wanna focus on is the menu on the lift which can be accessed by **clicking on the three lines** .,



Welcome

u've activated your full account

any remaining credits, then pay as you go.

$28 out of $300 credits used

Expires July 16, 2024

You're working on project Cloud-Camp

Number: 46144026706 ID: groovy-plating-420514

Add people to your project

Set up budget alerts

Review product spend

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Try Gemini

ore popular ways to build our VM

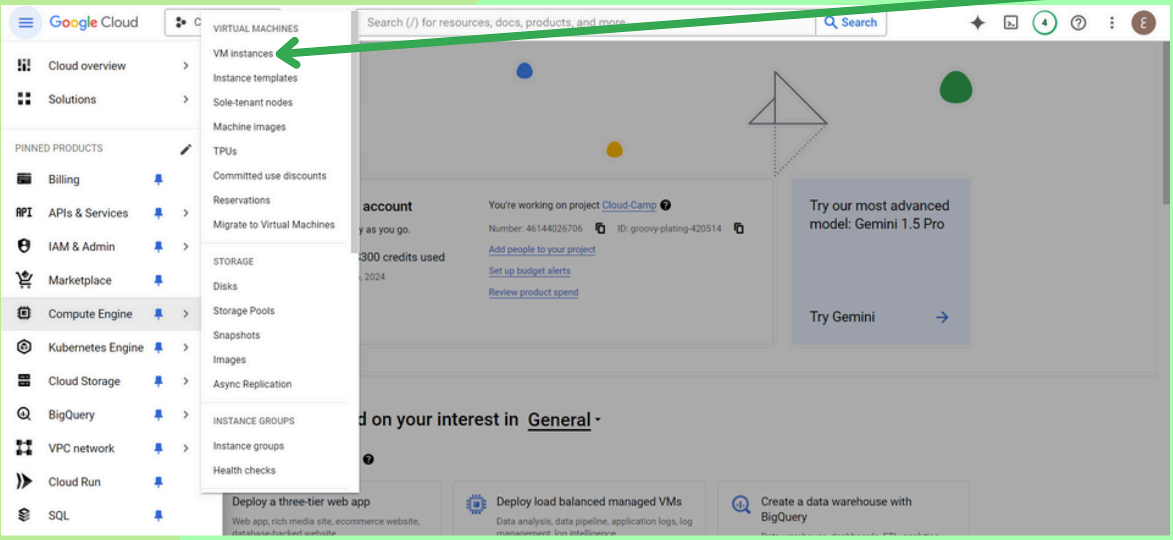
Access VM

Connect/transfer files to a VM

Make VM externally accessible

Reserve a static IP address or set up DNS

Once you open the menu you will wanna go to **Compute Engine,** and click on **VM instances**



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Try Gemini

d on your interest in General

Deploy a three-tier web app

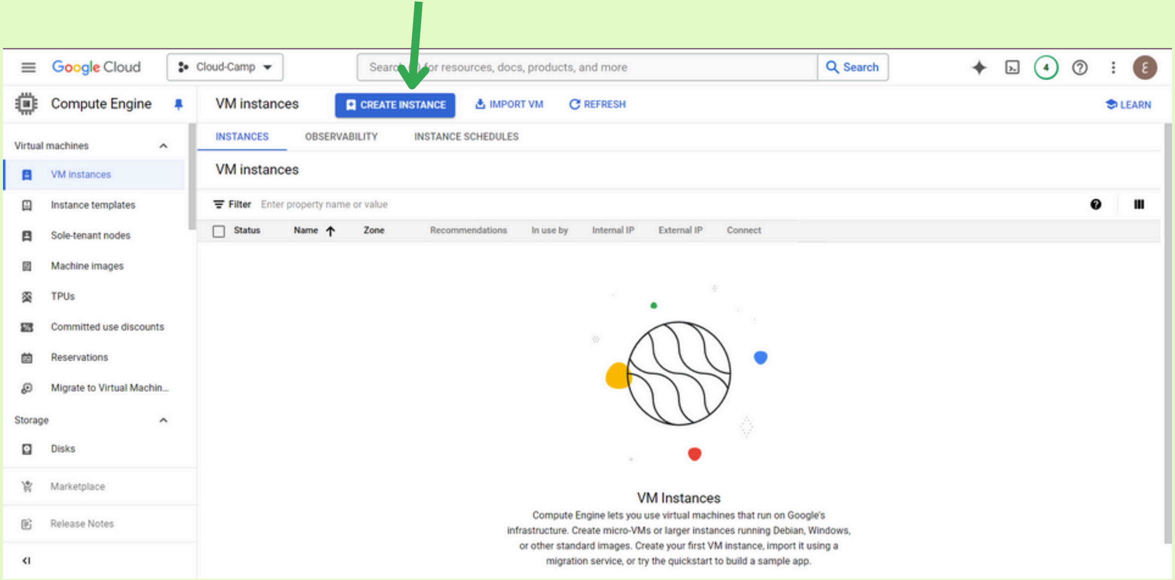
Web app, rich media site, ecommerce website, database-backed website

Deploy load balanced managed VMs

Data analysis, data pipeline, application logs, log management, log intelligence

Create a data warehouse with BigQuery

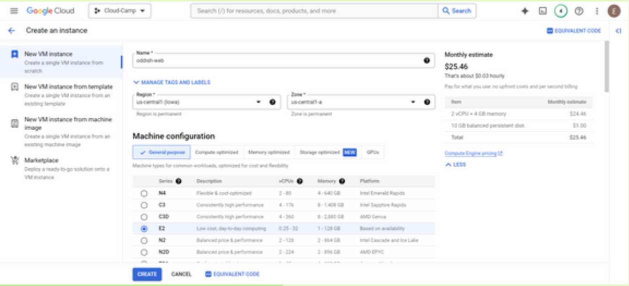
Step3/ now we will wanna creat a virtual mechine(VM) to host the web server on , we will do that by clicking on **CREATE INSTANCE.**



VM Instances

Compute Engine lets you use virtual machines that run on Google's infrastructure. Create micro-VMs or larger instances running Debian, Windows, or other standard images. Create your first VM instance, import it using a migration service, or try the quickstart to build a sample app.

Step4/ this is the part where you create you VM , first give it a ***name ,*** second set region as **us-central1** for the best experience , then , make sure the boot disk is the same as the one below , which is the default setting , **make sure to Allow HTTPS and HTTP,** the press create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Cloud-Camp
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Search
Create an instance
EQUIVALENT CODE
New VM instance
Create a single VM instance from scratch
New VM instance from template
Create a single VM instance from an existing template
New VM instance from machine image
Create a single VM instance from an existing machine image
Marketplace
Deploy a ready-to-go solution onto a VM instance
MANAGE TAGS AND LABELS
General purpose
Compute optimized
Memory optimized
Storage optimized
NEW
GPUs
Compute Engine pricing
LESS
CREATE
CANCEL
EQUIVALENT CODE

Name *: oddish-web

Region *: us-central1 (Iowa) — Region is permanent

Zone *: us-central1-a — Zone is permanent

Machine configuration

Machine types for common workloads, optimized for cost and flexibility

	Series	Description	vCPUs	Memory	Platform
○	N4	Flexible & cost-optimized	2 - 80	4 - 640 GB	Intel Emerald Rapids
○	C3	Consistently high performance	4 - 176	8 - 1,408 GB	Intel Sapphire Rapids
○	C3D	Consistently high performance	4 - 360	8 - 2,880 GB	AMD Genoa
●	E2	Low cost, day-to-day computing	0.25 - 32	1 - 128 GB	Based on availability
○	N2	Balanced price & performance	2 - 128	2 - 864 GB	Intel Cascade and Ice Lake
○	N2D	Balanced price & performance	2 - 224	2 - 896 GB	AMD EPYC

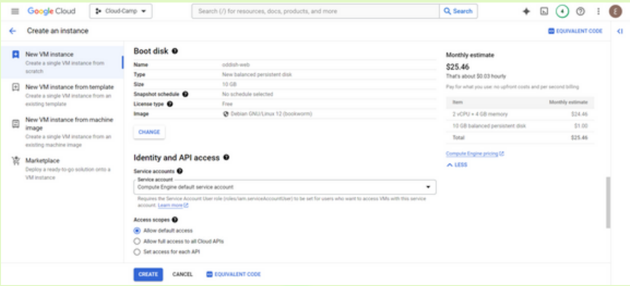
Monthly estimate

$25.46

That's about $0.03 hourly

Pay for what you use: no upfront costs and per second billing

Item	Monthly estimate
2 vCPU + 4 GB memory	$24.46
10 GB balanced persistent disk	$1.00
Total	$25.46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Boot disk

Name	oddish-web
Type	New balanced persistent disk
Size	10 GB
Snapshot schedule	No schedule selected
License type	Free
Image	Debian GNU/Linux 12 (bookworm)

Identity and API access

Service accounts

Service account: Compute Engine default service account

Requires the Service Account User role (roles/iam.serviceAccountUser) to be set for users who want to access VMs with this service account. Learn more

Access scopes

- ● Allow default access
- ○ Allow full access to all Cloud APIs
- ○ Set access for each API

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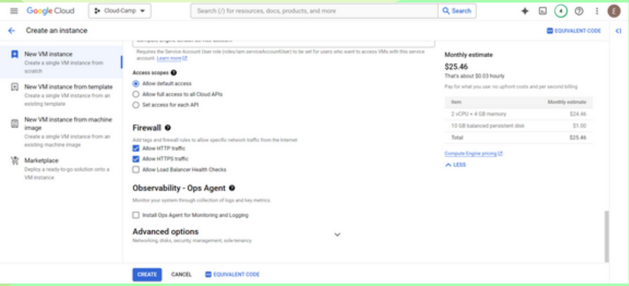
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Firewall

Add tags and firewall rules to allow specific network traffic from the Internet

- ☑ Allow HTTP traffic
- ☑ Allow HTTPS traffic
- □ Allow Load Balancer Health Checks

Observability - Ops Agent

Monitor your system through collection of logs and key metrics.

- □ Install Ops Agent for Monitoring and Logging

Advanced options

Networking, disks, security, management, sole-tenancy

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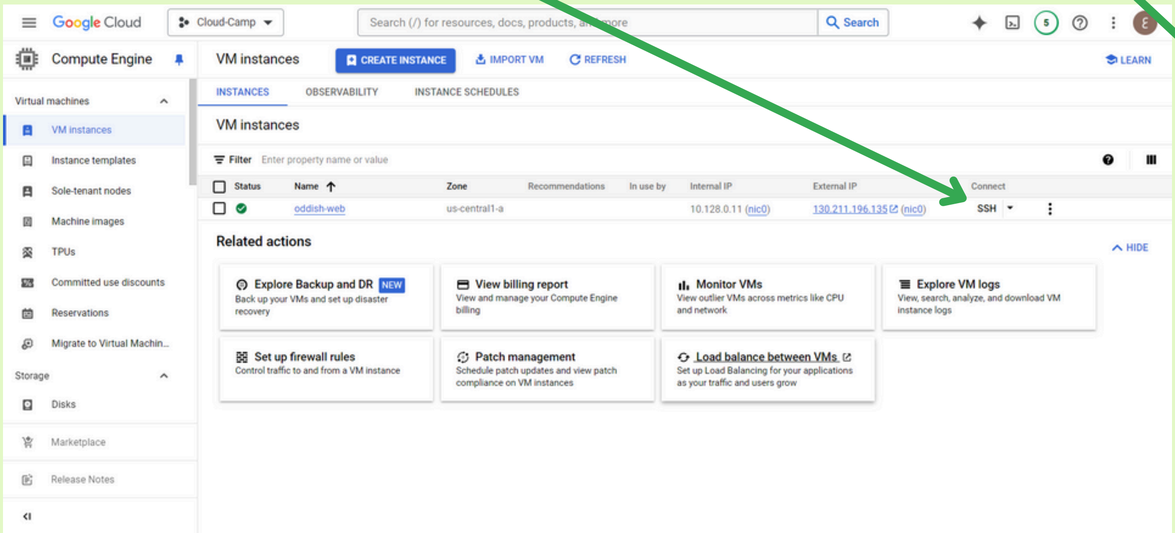
Item	Monthly estimate
2 vCPU + 4 GB memory	$24.46
10 GB balanced persistent disk	$1.00
Total	$25.46

Step5/ run the SSH by clicking **SSH** ,NOTE: you might need to click **authorize**



VM instances

Status	Name	Zone	Recommendations	In use by	Internal IP	External IP	Connect
✓	oddish-web	us-central1-a			10.128.0.11 (nic0)	130.211.196.135 (nic0)	SSH

Related actions

Explore Backup and DR — Back up your VMs and set up disaster recovery

View billing report — View and manage your Compute Engine billing

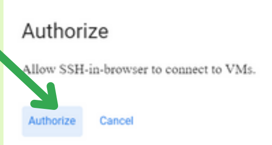
Monitor VMs — View outlier VMs across metrics like CPU and network

Explore VM logs — View, search, analyze, and download VM instance logs

Set up firewall rules — Control traffic to and from a VM instance

Patch management — Schedule patch updates and view patch compliance on VM instances

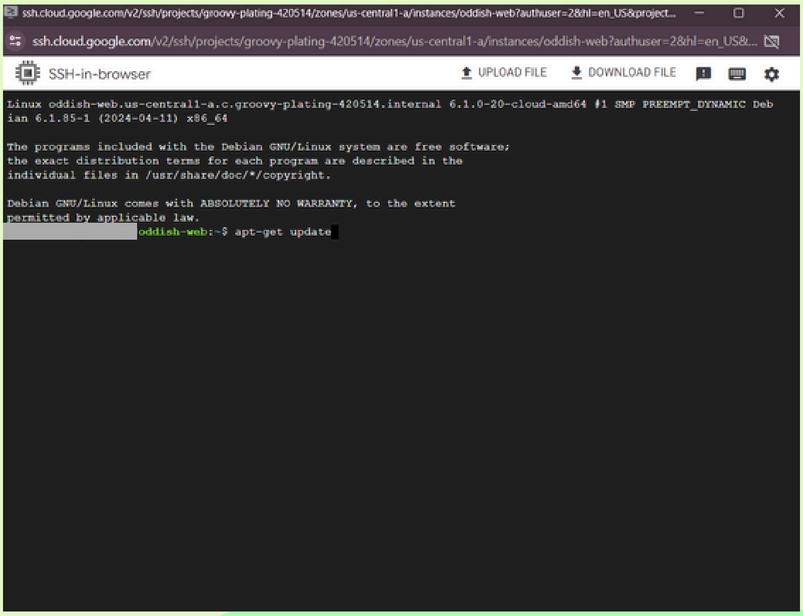
Load balance between VMs — Set up Load Balancing for your applications as your traffic and users grow



Authorize

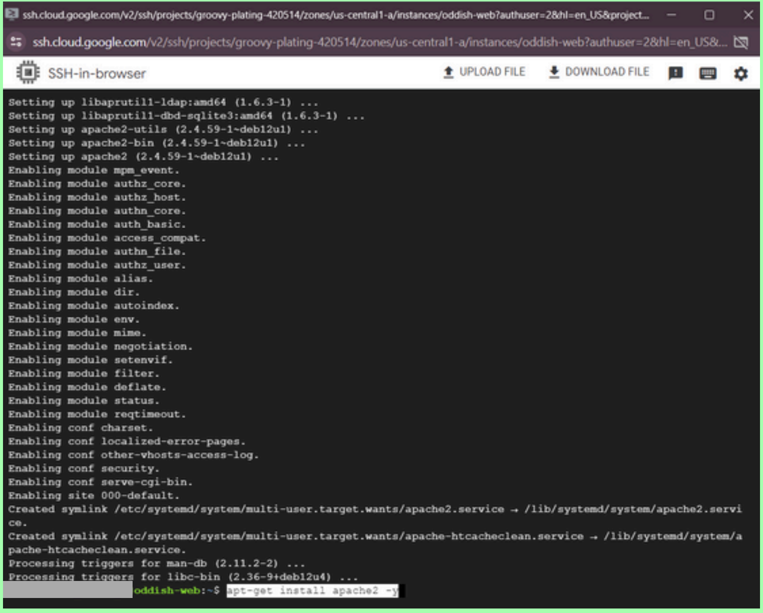
Allow SSH-in-browser to connect to VMs.

Step5/ now in the new window type **apt-get update** to update packages **.** note: you might have to add **sudo** before it if you get access denied messege


ssh.cloud.google.com/v2/ssh/projects/groovy-plating-420514/zones/us-central1-a/instances/oddish-web?authuser=2&hl=en_US&project...
ssh.cloud.google.com/v2/ssh/projects/groovy-plating-420514/zones/us-central1-a/instances/oddish-web?authuser=2&hl=en_US&...
SSH-in-browser
UPLOAD FILE
DOWNLOAD FILE

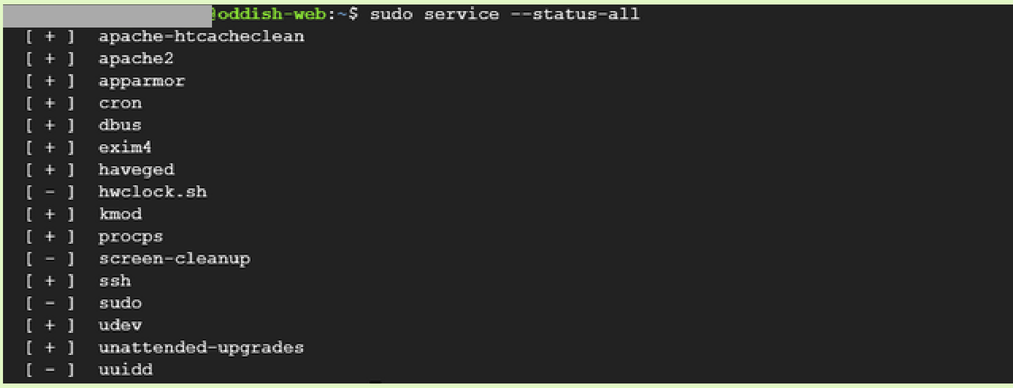
```
Linux oddish-web.us-central1-a.c.groovy-plating-420514.internal 6.1.0-20-cloud-amd64 #1 SMP PREEMPT_DYNAMIC Deb
ian 6.1.85-1 (2024-04-11) x86_64

The programs included with the Debian GNU/Linux system are free software;
the exact distribution terms for each program are described in the
individual files in /usr/share/doc/*/copyright.

Debian GNU/Linux comes with ABSOLUTELY NO WARRANTY, to the extent
permitted by applicable law.
[redacted]oddish-web:~$ apt-get update
```

Step6/ after installing the packages you will want to install the apache2 server by typing in **apt-get install apache2 -y ,** NOTE: the sudo applys to each step.


ssh.cloud.google.com/v2/ssh/projects/groovy-plating-420514/zones/us-central1-a/instances/oddish-web?authuser=2&hl=en_US&project...
ssh.cloud.google.com/v2/ssh/projects/groovy-plating-420514/zones/us-central1-a/instances/oddish-web?authuser=2&hl=en_US&...
SSH-in-browser
UPLOAD FILE
DOWNLOAD FILE

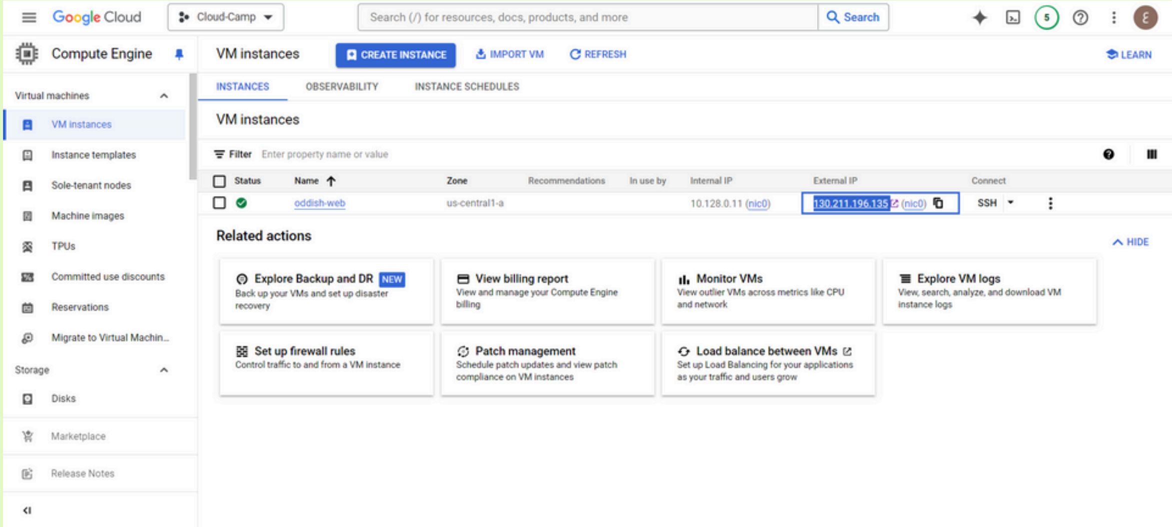
```
Setting up libaprutil1-ldap:amd64 (1.6.3-1) ...
Setting up libaprutil1-dbd-sqlite3:amd64 (1.6.3-1) ...
Setting up apache2-utils (2.4.59-1~deb12u1) ...
Setting up apache2-bin (2.4.59-1~deb12u1) ...
Setting up apache2 (2.4.59-1~deb12u1) ...
Enabling module mpm_event.
Enabling module authz_core.
Enabling module authz_host.
Enabling module authn_core.
Enabling module auth_basic.
Enabling module access_compat.
Enabling module authn_file.
Enabling module authz_user.
Enabling module alias.
Enabling module dir.
Enabling module autoindex.
Enabling module env.
Enabling module mime.
Enabling module negotiation.
Enabling module setenvif.
Enabling module filter.
Enabling module deflate.
Enabling module status.
Enabling module reqtimeout.
Enabling conf charset.
Enabling conf localized-error-pages.
Enabling conf other-vhosts-access-log.
Enabling conf security.
Enabling conf serve-cgi-bin.
Enabling site 000-default.
Created symlink /etc/systemd/system/multi-user.target.wants/apache2.service → /lib/systemd/system/apache2.servi
ce.
Created symlink /etc/systemd/system/multi-user.target.wants/apache-htcacheclean.service → /lib/systemd/system/a
pache-htcacheclean.service.
Processing triggers for man-db (2.11.2-2) ...
Processing triggers for libc-bin (2.36-9+deb12u4) ...
[redacted]oddish-web:~$ apt-get install apache2 -y
```

Step7/ cheak if the server is working by typing **service --status-all**



```
[redacted]oddish-web:~$ sudo service --status-all
 [ + ]  apache-htcacheclean
 [ + ]  apache2
 [ + ]  apparmor
 [ + ]  cron
 [ + ]  dbus
 [ + ]  exim4
 [ + ]  haveged
 [ - ]  hwclock.sh
 [ + ]  kmod
 [ + ]  procps
 [ - ]  screen-cleanup
 [ + ]  ssh
 [ - ]  sudo
 [ + ]  udev
 [ + ]  unattended-upgrades
 [ - ]  uuidd
```

Step8/ go back to the VM instances and copy and paste the **IP**



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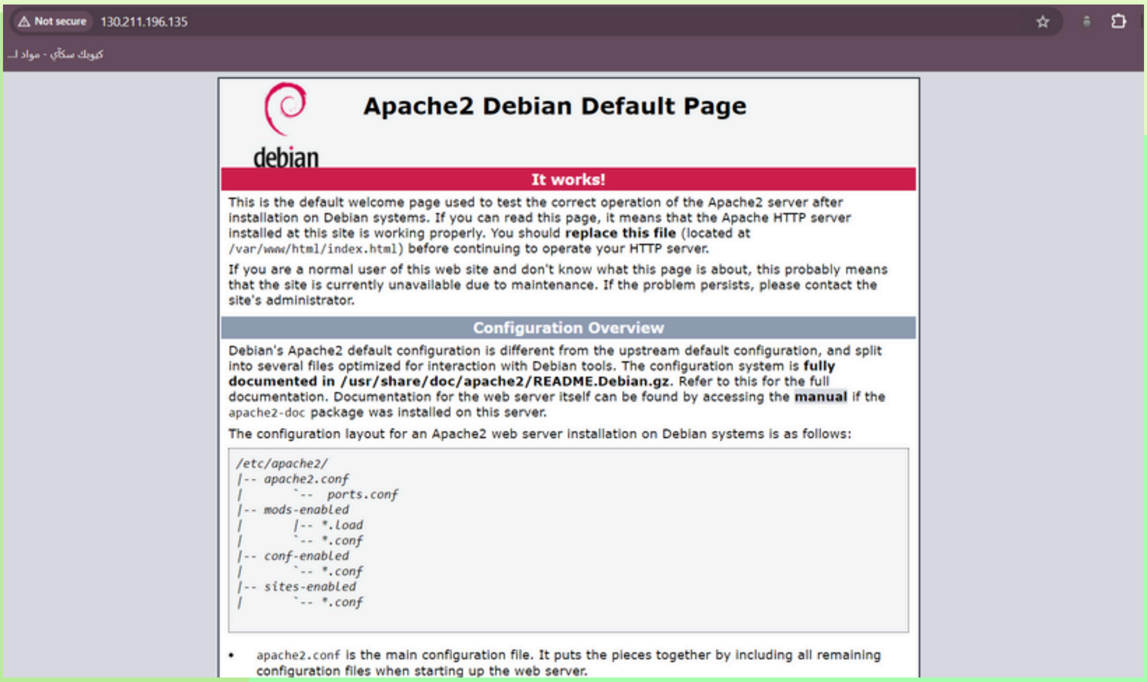
Step9/ it works !



Apache2 Debian Default Page

It works!

This is the default welcome page used to test the correct operation of the Apache2 server after installation on Debian systems. If you can read this page, it means that the Apache HTTP server installed at this site is working properly. You should **replace this file** (located at `/var/www/html/index.html`) before continuing to operate your HTTP server.

If you are a normal user of this web site and don't know what this page is about, this probably means that the site is currently unavailable due to maintenance. If the problem persists, please contact the site's administrator.

Configuration Overview

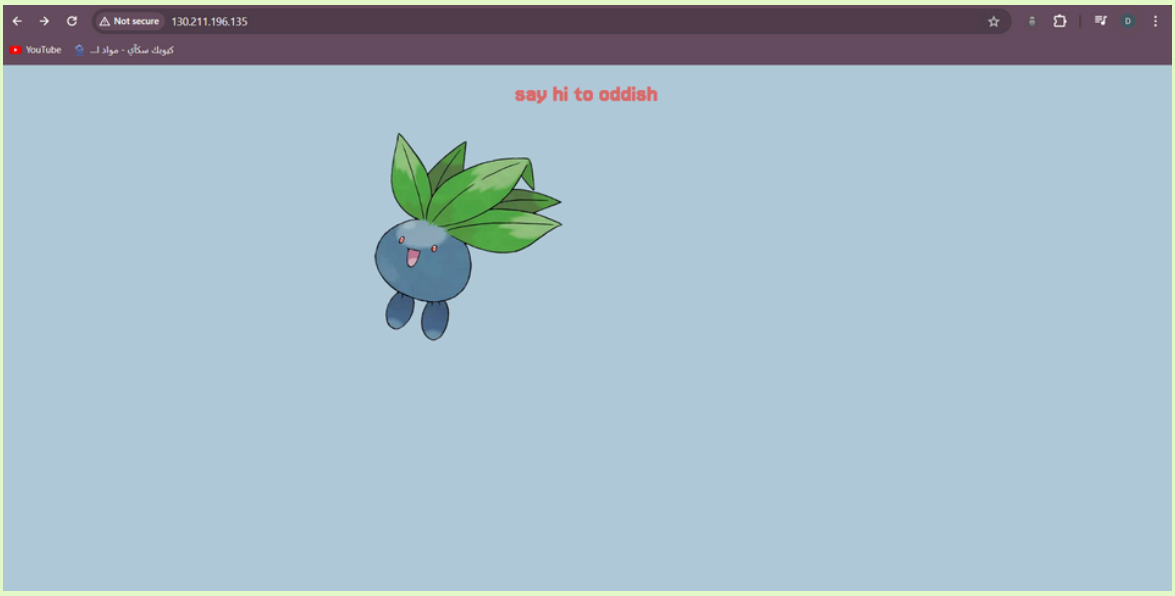
Debian's Apache2 default configuration is different from the upstream default configuration, and split into several files optimized for interaction with Debian tools. The configuration system is **fully documented in /usr/share/doc/apache2/README.Debian.gz**. Refer to this for the full documentation. Documentation for the web server itself can be found by accessing the **manual** if the `apache2-doc` package was installed on this server.

The configuration layout for an Apache2 web server installation on Debian systems is as follows:

```
/etc/apache2/
|-- apache2.conf
|       `--  ports.conf
|-- mods-enabled
|       |-- *.load
|       `-- *.conf
|-- conf-enabled
|       `-- *.conf
|-- sites-enabled
|       `-- *.conf
```

- `apache2.conf` is the main configuration file. It puts the pieces together by including all remaining configuration files when starting up the web server.

Step9(optional)/ change the index.html in the to your own by replacing the index.html file



say hi to oddish

that's all !