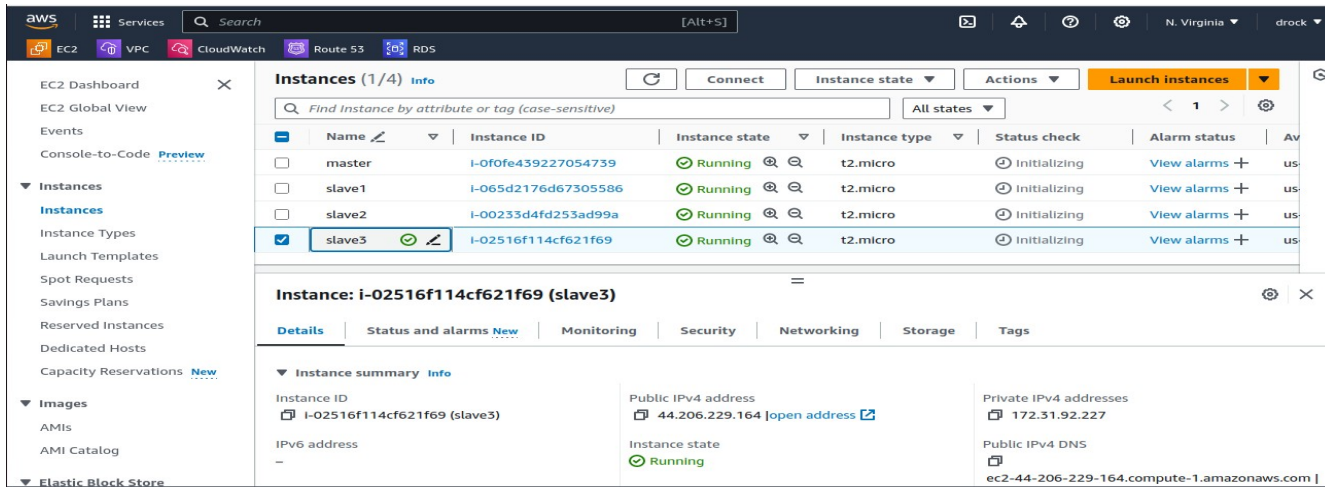


1. Setup Puppet master-slave using 3 nodes
2. Installing Apache on slaves using manifest



On Master

```
sudo apt update
wget https://apt.puppetlabs.com/puppet-release-bionic.deb
sudo dpkg -i puppet-release-bionic.deb
sudo apt install puppet-master
apt policy puppet-master
sudo systemctl status puppet-master.service
sudo vim /etc/default/puppet-master
--JAVA-ARGS="Xms512m -Xmx512m"
sudo systemctl restart puppet-master.service
```

```
sudo ufw allow8140/tcp
```

//change code

```
sudo mkdir -p /etc/puppet/code/environments/production/manifests/
sudo nano /etc/puppet/code/environments/production/manifests/
```

```
ubuntu@ip-172-31-93-254:/$ cd /etc/puppet
ubuntu@ip-172-31-93-254:/etc/puppet$ ls
auth.conf  code  hiera.yaml  puppet.conf
ubuntu@ip-172-31-93-254:/etc/puppet$ cd code
ubuntu@ip-172-31-93-254:/etc/puppet/code$ ls
ubuntu@ip-172-31-93-254:/etc/puppet/code$ sudo mkdir -p environment/production/manifests
ubuntu@ip-172-31-93-254:/etc/puppet/code$ sudo mkdir -p environments/production/manifests
ubuntu@ip-172-31-93-254:/etc/puppet/code$ cd environments
ubuntu@ip-172-31-93-254:/etc/puppet/code/environments$ cd production
ubuntu@ip-172-31-93-254:/etc/puppet/code/environments/production$ cd manifests
ubuntu@ip-172-31-93-254:/etc/puppet/code/environments/production/manifests$
```

i-0f0fe439227054739 (master)

PublicIPs: 44.202.159.244 PrivateIPs: 172.31.93.254

Paste the manifest

```
sudo nano apache.pp
```

```
package { 'apache2':  
  ensure => installed,  
}
```

```
service { 'apache2':  
  ensure => running,  
  enable => true,  
}
```



```
sudo systemctl restart puppet-master
```

```
aws
Services
Search [Alt+S]
EC2 VPC CloudWatch Route 53 RDS
ubuntu@ip-172-31-93-254:~$ sudo systemctl status puppet-master.service
● puppet-master.service - Puppet master
   Loaded: loaded (/lib/systemd/system/puppet-master.service; enabled; vendor preset: enabled)
   Active: active (running) since Wed 2024-03-20 13:12:18 UTC; 11min ago
     Docs: man:puppet-master(8)
  Process: 2749 ExecStart=/usr/bin/puppet master (code=exited, status=0/SUCCESS)
    Main PID: 2758 (puppet)
       Tasks: 2 (limit: 1121)
      Memory: 59.3M
         CPU: 7.657s
    CGroup: /system.slice/puppet-master.service
            └─2758 /usr/bin/ruby /usr/bin/puppet master

Mar 20 13:12:18 ip-172-31-93-254 puppet-master[2749]: Signed certificate request for ip-172-31-93-254.ec2.internal
Mar 20 13:12:18 ip-172-31-93-254 puppet-master[2749]: Removing file Puppet::SSL::CertificateRequest ip-172-31-93-254.ec2.internal at '/var/
Mar 20 13:12:18 ip-172-31-93-254 puppet-master[2749]: Removing file Puppet::SSL::CertificateRequest ip-172-31-93-254.ec2.internal at '/var/
Mar 20 13:12:18 ip-172-31-93-254 puppet-master[2749]: The WEBrick Puppet master server is deprecated and will be removed in a future release
Mar 20 13:12:18 ip-172-31-93-254 puppet-master[2749]: (location: /usr/lib/ruby/vendor_ruby/puppet/application/master.rb:207:in `main')
Mar 20 13:12:18 ip-172-31-93-254 puppet-master[2749]: Accessing 'bindaddress' as a setting is deprecated.
Mar 20 13:12:18 ip-172-31-93-254 puppet-master[2749]: (location: /usr/lib/ruby/vendor_ruby/puppet/settings.rb:1210:in `issue_deprecation
Mar 20 13:12:18 ip-172-31-93-254 puppet-master[2758]: Reopening log files
Mar 20 13:12:18 ip-172-31-93-254 puppet-master[2758]: Starting Puppet master version 5.5.22
Mar 20 13:12:18 ip-172-31-93-254 systemd[1]: Started Puppet master.
lines 1-22/22 (END)
Text Editor
i-06e439227054739 (master)
PublicIPs: 44.211.128.67 PrivateIPs: 172.31.93.254
```

## Puppet Agent

sudo apt update

wget <https://apt.puppetlabs.com/puppet-release-bionic.deb>

sudo dpkg -i puppet-release-bionic.deb

sudo apt install puppet

sudo nano /etc/hosts

put in the: masterip puppet

```
aws
Services
Search [Alt+S]
EC2 VPC CloudWatch Route 53 RDS
GNU nano 6.2 /etc/hosts *
127.0.0.1 localhost
44.202.159.244 puppet
# The following lines are desirable for IPv6 capable hosts
::1 ip6-localhost ip6-loopback
fe00::0 ip6-localnet
ff00::0 ip6-mcastprefix
ff02::1 ip6-allnodes
ff02::2 ip6-allrouters
ff02::3 ip6-allhosts

^G Help      ^O Write Out  ^M Where Is   ^R Cut        ^T Execute    ^C Location   M-U Undo      M-A Set Mark
^X Exit      ^R Read File  ^_ Replace   ^U Paste      ^J Justify    ^_/ Go To Line M-B Redo      M-6 Copy
```

```
sudo systemctl start puppet
sudo systemctl enable puppet
```

On master  
sudo puppet cert list

```
aws Services Search [Alt+S]
EC2 VPC CloudWatch Route 53 RDS
Swap usage: 0%

Expanded Security Maintenance for Applications is not enabled.
24 updates can be applied immediately.
15 of these updates are standard security updates.
To see these additional updates run: apt list --upgradable

Enable ESM Apps to receive additional future security updates.
See https://ubuntu.com/esm or run: sudo pro status

Last login: Wed Mar 20 17:46:56 2024 from 18.206.107.29
ubuntu@ip-172-31-93-254:~$ sudo puppet cert list
Warning: 'puppet cert' is deprecated and will be removed in a future release.
(location: /usr/lib/ruby/vendor_ruby/puppet/application.rb:370:in `run')
B "ip-172-31-84-211.ec2.internal" (SHA256) FE:F1:3B:43:2D:47:58:90:A7:41:4B:B8:74:4F:0C:26:08:8F:AE:C5:76:6F:2C:D6:A1:0C:D9:EE:8D:A9:E7:0
E "ip-172-31-92-227.ec2.internal" (SHA256) 8B:6B:C1:3F:71:B6:D5:4E:FF:69:85:83:30:F6:65:30:B2:FA:5E:6A:6A:0F:EF:D0:1F:F5:79:11:2E:98:F0:4
C "ip-172-31-93-207.ec2.internal" (SHA256) F9:CC:6E:40:EF:3C:62:8B:6A:51:CF:A5:B1:86:C2:15:2C:F1:B8:00:82:BD:62:72:2D:B9:F7:21:7F:33:9C:D
ubuntu@ip-172-31-93-254:~$

i-Of0fe439227054739 (master)
PublicIPs: 44.202.159.244 PrivateIPs: 172.31.93.254
```

```
sudo puppet cert sign <nodename>
i.e sudo puppet cert sign ip-172-31-93-207.ec2.internal
```

```
aws Services Search [Alt+S]
EC2 VPC CloudWatch Route 53 RDS
Swap usage: 0%

Warning: 'puppet cert' is deprecated and will be removed in a future release.
(location: /usr/lib/ruby/vendor_ruby/puppet/application.rb:370:in `run')
B "ip-172-31-84-211.ec2.internal" (SHA256) FE:F1:3B:43:2D:47:58:90:A7:41:4B:B8:74:4F:0C:26:08:8F:AE:C5:76:6F:2C:D6:A1:0C:D9:EE:8D:A9:E7:0
Notice: Signed certificate request for ip-172-31-84-211.ec2.internal
Notice: Removing file Puppet::SSL::CertificateRequest ip-172-31-84-211.ec2.internal at '/var/lib/puppet/ssl/ca/requests/ip-172-31-84-211.
ec2.internal.pem'
ubuntu@ip-172-31-93-254:~$ sudo puppet cert sign ip-172-31-92-227.ec2.internal
Warning: 'puppet cert' is deprecated and will be removed in a future release.
(location: /usr/lib/ruby/vendor_ruby/puppet/application.rb:370:in `run')
E Signing Certificate Request for:
"ip-172-31-92-227.ec2.internal" (SHA256) 8B:6B:C1:3F:71:B6:D5:4E:FF:69:85:83:30:F6:65:30:B2:FA:5E:6A:6A:0F:EF:D0:1F:F5:79:11:2E:98:F0:4
Notice: Signed certificate request for ip-172-31-92-227.ec2.internal
Notice: Removing file Puppet::SSL::CertificateRequest ip-172-31-92-227.ec2.internal at '/var/lib/puppet/ssl/ca/requests/ip-172-31-92-227.
ec2.internal.pem'
ubuntu@ip-172-31-93-254:~$ sudo puppet cert sign ip-172-31-93-207.ec2.internal
Warning: 'puppet cert' is deprecated and will be removed in a future release.
(location: /usr/lib/ruby/vendor_ruby/puppet/application.rb:370:in `run')
C Signing Certificate Request for:
"ip-172-31-93-207.ec2.internal" (SHA256) F9:CC:6E:40:EF:3C:62:8B:6A:51:CF:A5:B1:86:C2:15:2C:F1:B8:00:82:BD:62:72:2D:B9:F7:21:7F:33:9C:D
Notice: Signed certificate request for ip-172-31-93-207.ec2.internal
Notice: Removing file Puppet::SSL::CertificateRequest ip-172-31-93-207.ec2.internal at '/var/lib/puppet/ssl/ca/requests/ip-172-31-93-207.
ec2.internal.pem'
ubuntu@ip-172-31-93-254:~$

i-Of0fe439227054739 (master)
PublicIPs: 44.202.159.244 PrivateIPs: 172.31.93.254
```

.....

In Agent:

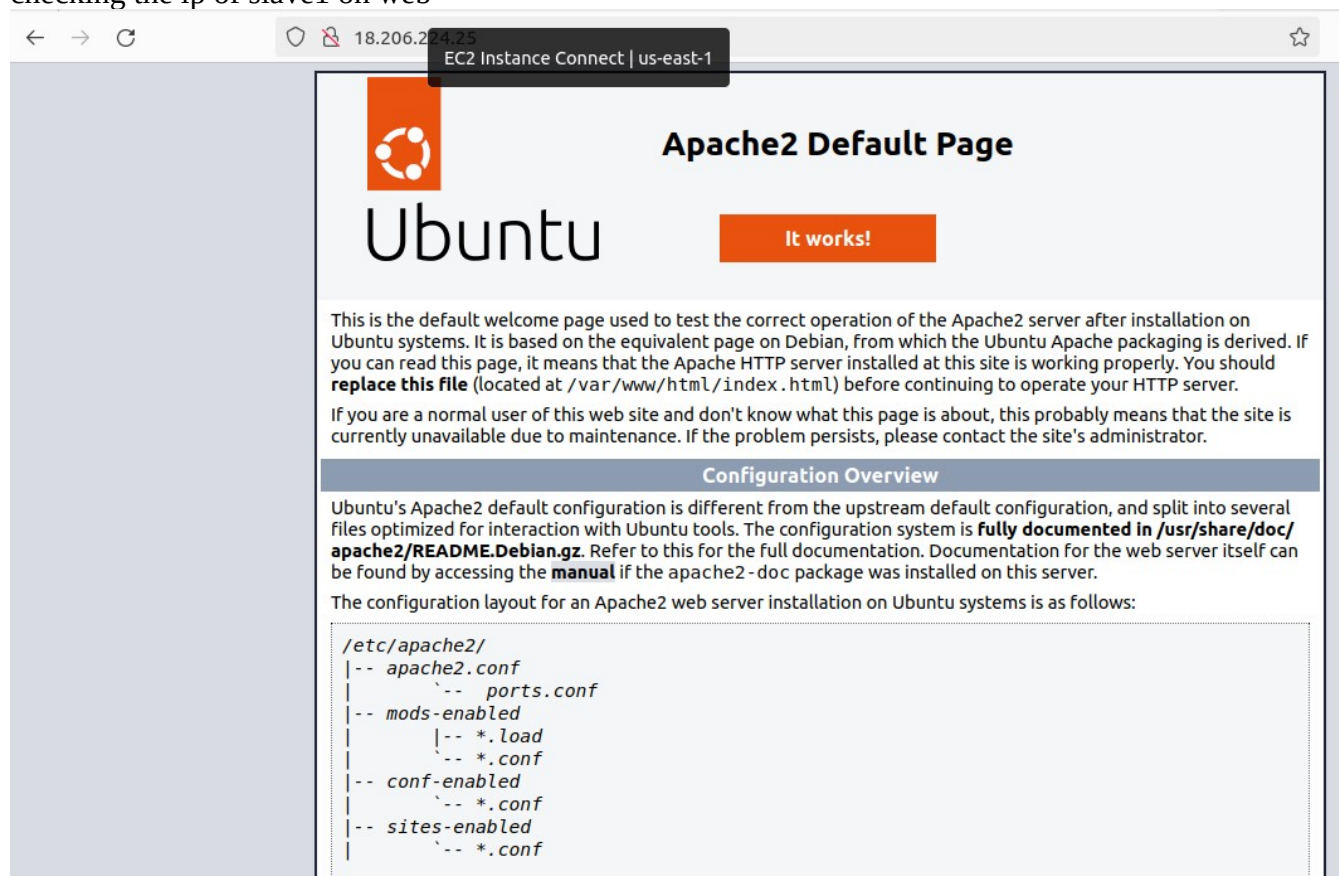
sudo puppet agent -t

```
last login: Wed Mar 20 21:42:58 2024 from 18.206.224.25
ubuntu@ip-172-31-93-207:~$ sudo puppet agent -t
Info: Using configured environment 'production'
Info: Retrieving pluginfacts
Info: Retrieving plugin
Info: Retrieving locales
Info: Caching catalog for ip-172-31-93-207.ec2.internal
Info: Applying configuration version '1710975271'
Notice: Applied catalog in 0.06 seconds
ubuntu@ip-172-31-93-207:~$
```

I-065d2176d67305586 (slave1)

PublicIPs: 18.206.224.25 PrivateIPs: 172.31.93.207

checking the ip of slave1 on web



```
ubuntu@ip-172-31-84-211:~$ sudo puppet agent -t
Info: Using configured environment 'production'
Info: Retrieving pluginfacts
Info: Retrieving plugin
Info: Retrieving locales
Info: Caching catalog for ip-172-31-84-211.ec2.internal
Info: Applying configuration version '1710975407'
Notice: Applied catalog in 0.06 seconds
ubuntu@ip-172-31-84-211:~$
```

i-00233d4fd253ad99a (slave2)

PublicIPs: 18.212.34.157 PrivateIPs: 172.31.84.211

CloudShell

Feedback

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18.212.34.157



## Apache2 Default Page

# Ubuntu

It works!

This is the default welcome page used to test the correct operation of the Apache2 server after installation on Ubuntu systems. It is based on the equivalent page on Debian, from which the Ubuntu Apache packaging is derived. 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.

```
ubuntu@ip-172-31-92-227:~$ sudo puppet agent -t
Info: Using configured environment 'production'
Info: Retrieving pluginfacts
Info: Retrieving plugin
Info: Retrieving locales
Info: Caching catalog for ip-172-31-92-227.ec2.internal
Info: Applying configuration version '1710975394'
Notice: Applied catalog in 0.06 seconds
ubuntu@ip-172-31-92-227:~$
```

i-02516f114cf621f69 (slave3)

PublicIPs: 44.203.39.194 PrivateIPs: 172.31.92.227


CloudShell

Feedback

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Instances | EC2 Instan | EC2 Instan | EC2 Instan | EC2 Instan | EC2 Instan | ChatGPT | Start Cours | Apache2 Ut x

← → ↻ 44.203.39.194 ☆ 📄 👤 📌 ☰



# Ubuntu

## Apache2 Default Page

It works!

This is the default welcome page used to test the correct operation of the Apache2 server after installation on Ubuntu systems. It is based on the equivalent page on Debian, from which the Ubuntu Apache packaging is derived. 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

Ubuntu's Apache2 default configuration is different from the upstream default configuration, and split into several files optimized for interaction with Ubuntu 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 Ubuntu systems is as follows:

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