

Name = Arnav Sharma
Student ID = 35554704

Assignment 2

Cloud Server project

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Unit Name = Introduction to Server Environments and Architectures (ICT 1711)

IP Address: - 209.38.62.119

DNS: - <https://brixmart.shop/>

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EC2 > Elastic IP addresses > Allocate Elastic IP address

- Public IPv4 address that you bring to your AWS account with BYOIP. (option disabled because no pools found) [Learn more](#)
- Customer-owned pool of IPv4 addresses created from your on-premises network for use with an Outpost. (option disabled because no customer-owned pools found) [Learn more](#)
- Allocate using an IPv4 IPAM pool (option disabled because no public IPv4 IPAM pools with AWS service as EC2 were found)

Network border group [Info](#)

Q ap-northeast-1 X

Global static IP addresses
AWS Global Accelerator can provide global static IP addresses that are announced worldwide using anycast from AWS edge locations. This can help improve the availability and latency for your user traffic by using the Amazon global network. [Learn more](#)


[Create accelerator](#)

Tags - optional
A tag is a label that you assign to an AWS resource. Each tag consists of a key and an optional value. You can use tags to search and filter your resources or track your AWS costs.
No tags associated with the resource.

[Add new tag](#)
You can add up to 50 more tag

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Creating the WordPress Server

 Deploy a Wordpress server [Select a different framework](#)


Try DigitalOcean with \$200 in credit for 60 days, free! Get started below with your credit

Create Droplet

Servers on DigitalOcean are called Droplets. Like a local computer, you need to install the right software on your Droplet to run your project.


Choose a location for your Droplet

We believe **New York** to be the closest region to you. If we're wrong, feel free to modify the selection.

 New York NYC3 ▾


Droplet Plan [?](#)

We've picked the best plan for your selected package

 **\$6.00 Droplet** (\$0.009/hr) [Change](#)

Monthly Cost

Hourly Cost

 **What a**
Droplets are like a local computer, they act like a server, you can install an operating system on them, and you can install software on them to run your project.

Making the password the Droplet

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Authentication

Choose an authentication method to access your Droplet remotely

☐ **SSH Key** RECOMMENDED
Connect to your Droplet with an SSH key pair (more secure)

☒ **Password**
Connect to your Droplet as the "root" user via password (less secure)

Password*

.....


Password requirement

- ✓ Must be at least 8 characters long
- ✓ Must contain 1 uppercase (first and last characters don't count)
- ✓ Must contain 1 number
- ✓ Cannot end with a number or special character

Monthly Cost

Hourly Cost






Making project-droplet to server

 **first-project** DEFAULT
Update your project information under Settings

→ Move Resources

Resources Activity Settings

DROPLETS (1)

 wordpress-s-1vcpu-1gb-nyc3-01	134.122.8.202	 Get started	  Upsize 
--	---------------	---	--

This is the IP address of WordPress

 **wordpress-s-1vcpu-1gb-nyc3-01**
in  **first-project** / 1 GB Memory / 25 GB Disk / NYC3 - WordPress 6.4.5 on Ubuntu 22.04  [Get started](#)

[Upsize Droplet](#) ON

ipv4: 134.122.8.202 ipv6: [Enable now](#) Private IP: 10.108.0.2 Reserved IP: [Enable now](#) Metrics agent: ... Console:  ?

Graphs
Access
Power

Upgrade your Droplet for additional metrics and alerting. [Learn How to Update](#) ×

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Setting DNS records for digital oceans.

Creating a record for www.

creating a record for brixmart.shop

to redirect the domain for both names.

DNS records

Type	Hostname	Value	TTL (seconds)	
A	www.brixmart.shop	directs to 209.38.62.119	3600	More ∨
A	brixmart.shop	directs to 209.38.62.119	3600	More ∨
NS	brixmart.shop	directs to ns1.digitalocean.com.	1800	More ∨
NS	brixmart.shop	directs to ns2.digitalocean.com.	1800	More ∨
NS	brixmart.shop	directs to ns3.digitalocean.com.	1800	More ∨

Configuring DNS records for server redirect.

Use @ to create the record at the root of the domain or enter a hostname to create it elsewhere. A records are for IPv4 addresses only and tell a request where your domain should direct to.

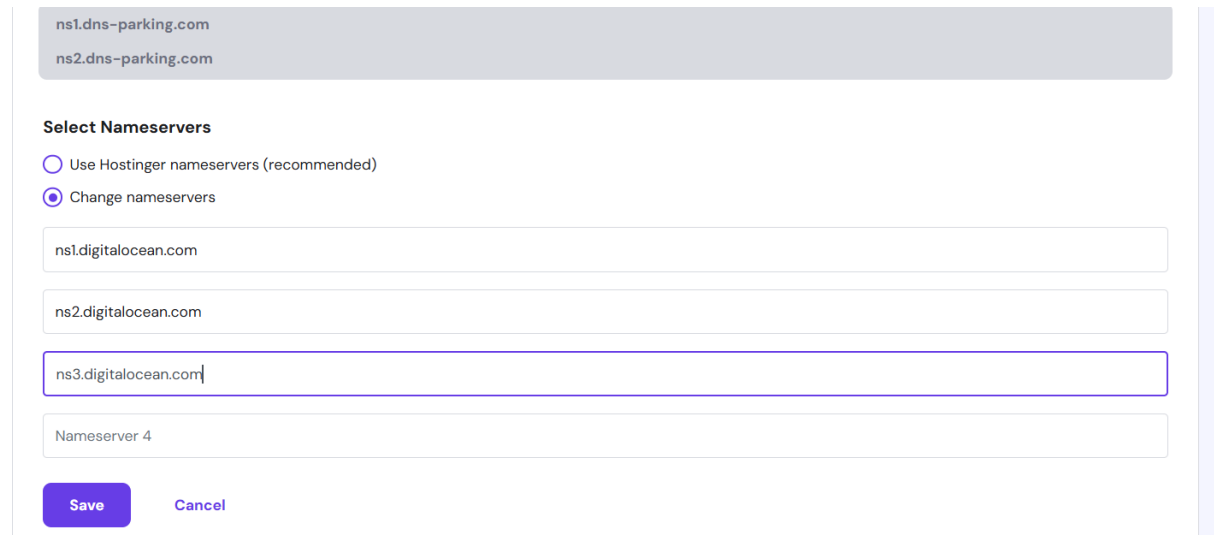
HOSTNAME	WILL DIRECT TO	TTL (SECONDS)	
<input type="text" value="Enter @ or hostname"/>	<input type="text" value="Select resource or enter custom IP"/>	<input type="text" value="Enter TTL 3600"/>	<input type="button" value="Create Record"/>

DNS records

Type	Hostname	Value	TTL (seconds)	
A	www.brixmart.shop	directs to 209.38.62.119	3600	More ∨
A	brixmart.shop	directs to 209.38.62.119	3600	More ∨
NS	brixmart.shop	directs to ns1.digitalocean.com.	1800	More ∨
NS	brixmart.shop	directs to ns2.digitalocean.com.	1800	More ∨
NS	brixmart.shop	directs to ns3.digitalocean.com.	1800	More ∨

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Changing name servers from hostinger to digital oceans for domain redirects.



The screenshot shows a web interface for managing domain nameservers. At the top, a grey box displays the current nameservers: `ns1.dns-parking.com` and `ns2.dns-parking.com`. Below this, the section "Select Nameservers" contains two radio buttons: "Use Hostinger nameservers (recommended)" (unselected) and "Change nameservers" (selected). Under the "Change nameservers" option, there are four input fields for new nameservers. The first three fields contain `ns1.digitalocean.com`, `ns2.digitalocean.com`, and `ns3.digitalocean.com` respectively. The fourth field is labeled "Nameserver 4" and is currently empty. At the bottom of the form, there are two buttons: a purple "Save" button and a blue "Cancel" button.

Download Apache2: -

```
root@wordpress-s-1vcpu-1gb-nyc3-01:~# sudo apt install apache2
```

Installing SSL certificate.

Run this command to get a certificate and have Certbot edit your apache configuration automatically to serve it, turning on HTTPS access in a single step.

```
$ sudo certbot --apache
```

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Setting firewall. Opening ports for only HTTP, HTTPS, SSH and MySQL database for security.

Name

Name

Firewall

✓

Inbound Rules

Set the Firewall rules for incoming traffic. Only the specified ports will accept inbound connections. All other traffic will be dropped.

Type	Protocol	Port Range	Sources	
SSH	TCP	22	All IPv4 All IPv6	Delete
HTTPS	TCP	443	All IPv4 All IPv6	Delete
HTTP	TCP	80	All IPv4 All IPv6	Delete
MySQL	TCP	3306	All IPv4 All IPv6	Delete

Connecting to droplet ssh server.

```
Welcome to Ubuntu 22.04.4 LTS (GNU/Linux 5.15.0-113-generic x86_64)

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

System information as of Sat Apr  5 09:20:19 UTC 2025

System load:  0.72           Processes:            116
Usage of /:   10.3% of 24.05GB Users logged in:       0
Memory usage: 40%          IPv4 address for eth0: 134.122.8.202
Swap usage:   0%           IPv4 address for eth0: 10.17.0.5

Expanded Security Maintenance for Applications is not enabled.

188 updates can be applied immediately.
83 of these updates are standard security updates.
To see these additional updates run: apt list --upgradable

2 additional security updates can be applied with ESM Apps.
Learn more about enabling ESM Apps service at https://ubuntu.com/esm

New release '24.04.2 LTS' available.
Run 'do-release-upgrade' to upgrade to it.
```

Configuring/ installing WordPress server with droplet.

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```
IMPORTANT:
  After connecting to the Droplet for the first time,
  immediately add the WordPress administrator at http://134.122.8.202.

For help and more information, visit https://do.co/34TfYn8

*****
To delete this message of the day: rm -rf /etc/update-motd.d/99-one-click
Last login: Sat Apr  5 09:20:21 2025 from 198.211.111.194
This script will copy the WordPress installation into
Your web root and move the existing one to /var/www/html.old
-----
This setup requires a domain name.  If you do not have one yet, you may
cancel this setup, press Ctrl+C.  This script will run again on your next login
-----
Enter the domain name for your new WordPress site.
(ex. example.org or test.example.org) do not include www or http/s
-----
Domain/Subdomain name: brixmart.shop
Enabling conf block-xmlrpc.
To activate the new configuration, you need to run:
  systemctl reload apache2
Now we will create your new admin user account for WordPress.
Your Email Address: 35554704@student.murdoch.edu.au

Username: Arnavking

Password:

Blog Title: Brixmart

Is the information correct? [Y/n] y
```

```
/usr/bin/wp          100%[=====>]  6.72M  --.-KB/s   in 0.06s

2025-04-05 09:27:28 (116 MB/s) - '/usr/bin/wp' saved [7048108/7048108]

Completing the configuration of WordPress.WordPress is already installed.
Installing WP fail2ban - Advanced Security (5.4.0.1)
Downloading installation package from https://downloads.wordpress.org/plugin/wp-fail2ban.5.4.0.1.zip...
Unpacking the package...
Installing the plugin...
Plugin installed successfully.
Success: Installed 1 of 1 plugins.
Plugin 'wp-fail2ban' activated.
Success: Activated 1 of 1 plugins.
Installation complete. Access your new WordPress site in a browser to continue.
root@wordpress-s-1vcpu-1gb-nyc3-01:~#
```

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Installing Let's Encrypt certbot for SSL certificate.

Next, you have the option of configuring LetsEncrypt to secure your new site. Before doing this, be sure that you have pointed your domain or subdomain to this server's IP address. You can also run LetsEncrypt certbot later with the command 'certbot --apache'

```
Would you like to use LetsEncrypt (certbot) to configure SSL(https) for your new site? (y/n): y
Saving debug log to /var/log/letsencrypt/letsencrypt.log
Enter email address (used for urgent renewal and security notices)
  (Enter 'c' to cancel): 35554704@student.murdoch.edu.au
```

```
-----
Please read the Terms of Service at
https://letsencrypt.org/documents/LE-SA-v1.5-February-24-2025.pdf. You must
agree in order to register with the ACME server. Do you agree?
```

```
-----
(Y)es/(N)o: y
```

```
-----
Would you be willing, once your first certificate is successfully issued, to
share your email address with the Electronic Frontier Foundation, a founding
partner of the Let's Encrypt project and the non-profit organization that
develops Certbot? We'd like to send you email about our work encrypting the web,
EFF news, campaigns, and ways to support digital freedom.
```

```
-----
(Y)es/(N)o: y
Account registered.
```

```
Which names would you like to activate HTTPS for?
```

```
-----
1: brixmart.shop
2: www.brixmart.shop
-----
```

```
Select the appropriate numbers separated by commas and/or spaces, or leave input
blank to select all options shown (Enter 'c' to cancel): 1
Requesting a certificate for brixmart.shop
```

```
Certbot failed to authenticate some domains (authenticator: apache). The Certificate Authority reported these problems:
Domain: brixmart.shop
Type: unauthorized
Detail: 84.32.84.32: Invalid response from http://brixmart.shop/.well-known/acme-challenge/9m2PvIwoXzv--TpeftCKbqWlUyEzWxhvZSkqgJ49g_A: 500
```

```
Hint: The Certificate Authority failed to verify the temporary Apache configuration changes made by Certbot. Ensure that the listed domains point to this Apache server and
that it is accessible from the internet.
```

Some challenges have failed.

Ask for help or search for solutions at <https://community.letsencrypt.org>. See the logfile /var/log/letsencrypt/letsencrypt.log or re-run Certbot with -v for more details.

WordPress has been enabled at <https://brixmart.shop> Please open this URL in a browser to complete the setup of your site.

/root/wp_setup.sh: line 133: break: only meaningful in a 'for', 'while', or 'until' loop

Finalizing installation...

--2025-04-05 09:27:28-- https://raw.githubusercontent.com/wp-cli/builds/gh-pages/phar/wp-cli.phar

Resolving raw.githubusercontent.com (raw.githubusercontent.com)... 185.199.111.133, 185.199.109.133, 185.199.110.133, ...

Connecting to raw.githubusercontent.com (raw.githubusercontent.com)|185.199.111.133|:443... connected.

HTTP request sent, awaiting response... 200 OK

Length: 7048108 (6.7M) [application/octet-stream]

Saving to: '/usr/bin/wp'

/usr/bin/wp 100%[=====>] 6.72M --.-KB/s in 0.06s

2025-04-05 09:27:28 (116 MB/s) - '/usr/bin/wp' saved [7048108/7048108]