# **Cloud Hosting Tutorial**

Web Server Design | CS 431/531 Fall 2019
Old Dominion University
Department of Computer Science
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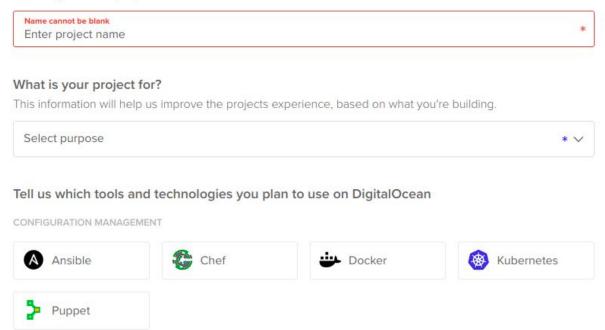
Set up Digital ocean server

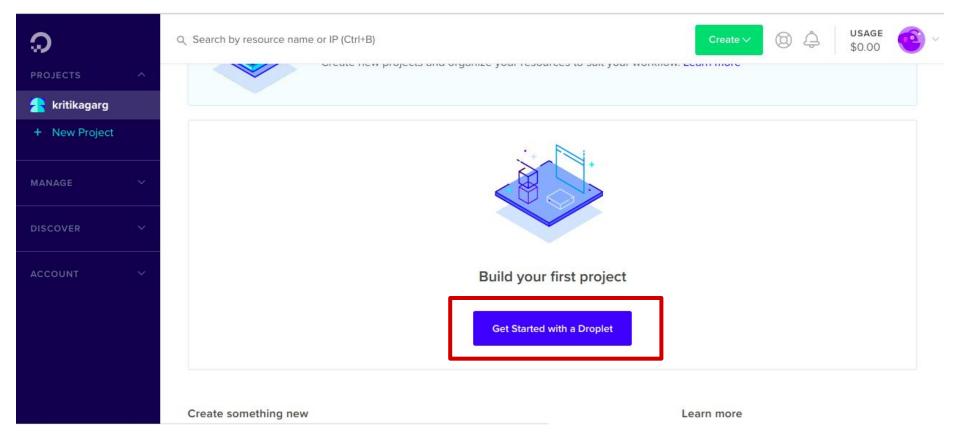
# Welcome, kritikagarg!

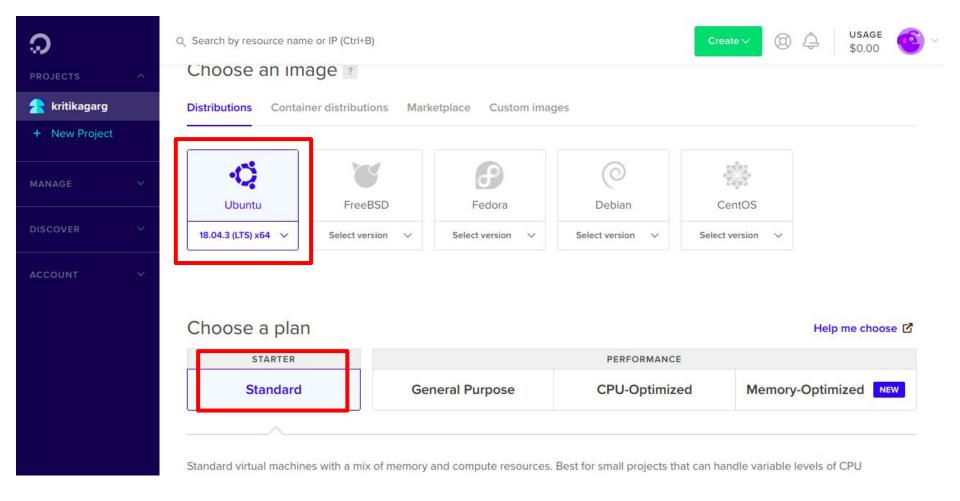
To begin, let's create a new project. Projects help you organize your resources by environment, workload, client - however you or your team like to work.

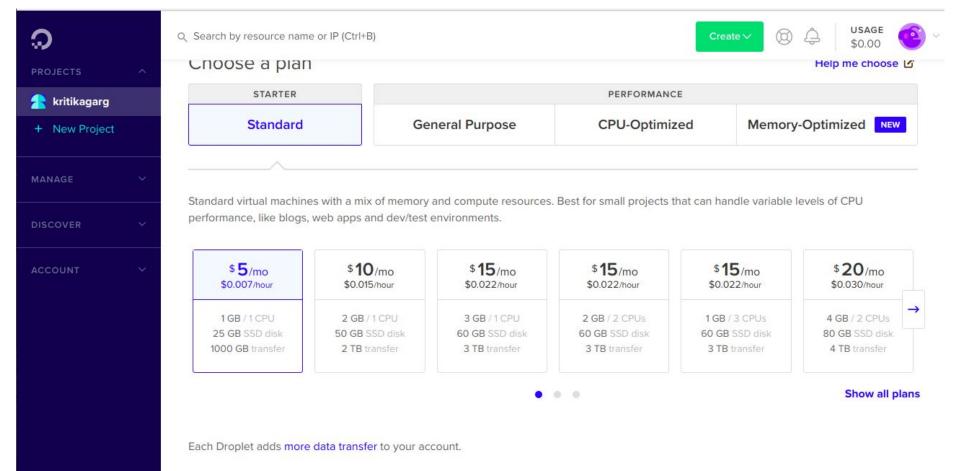
**Note:** You can change the name, redefine the purpose, and move resources between projects as your needs change.

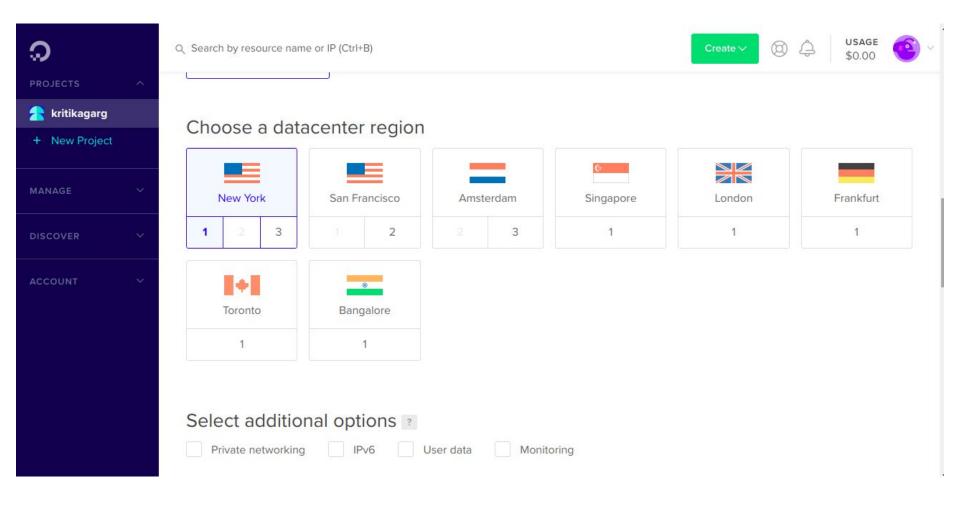
## Create your first project

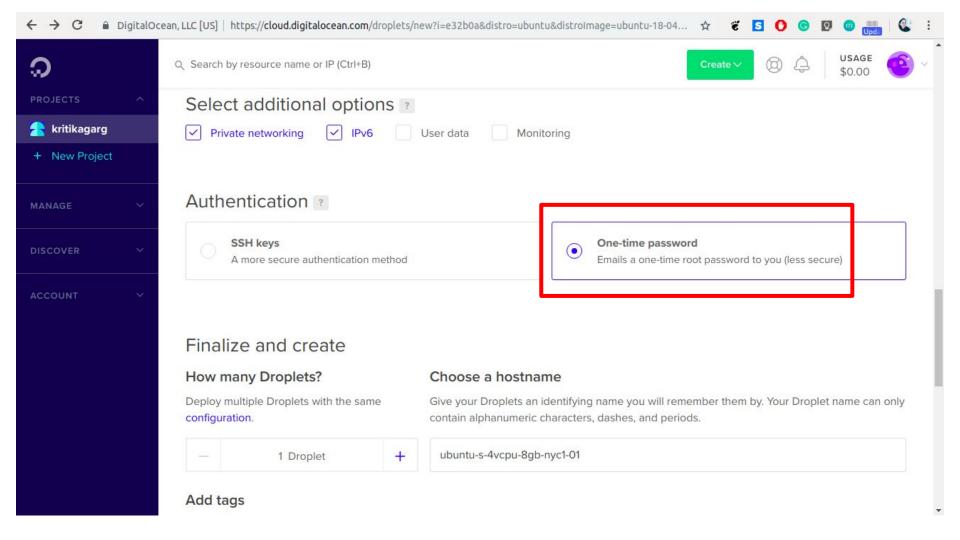


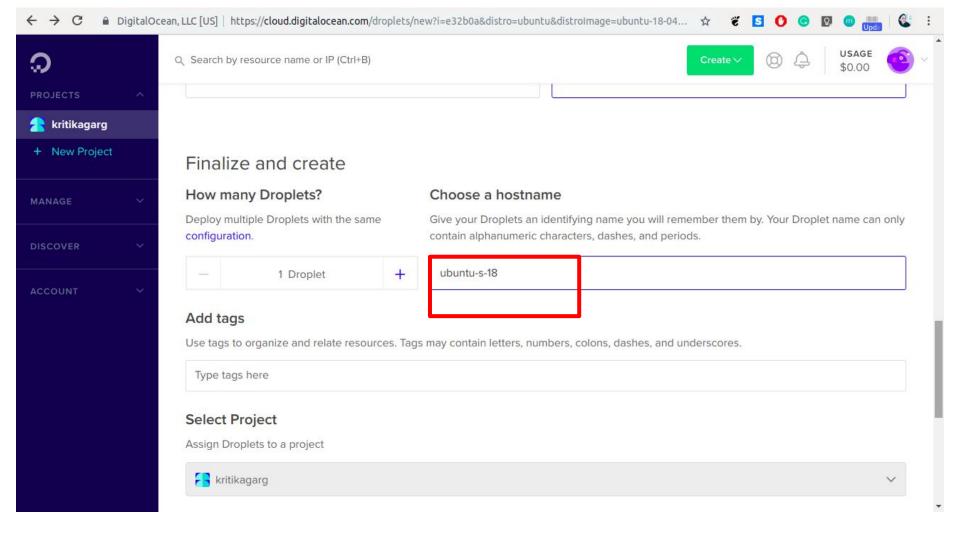


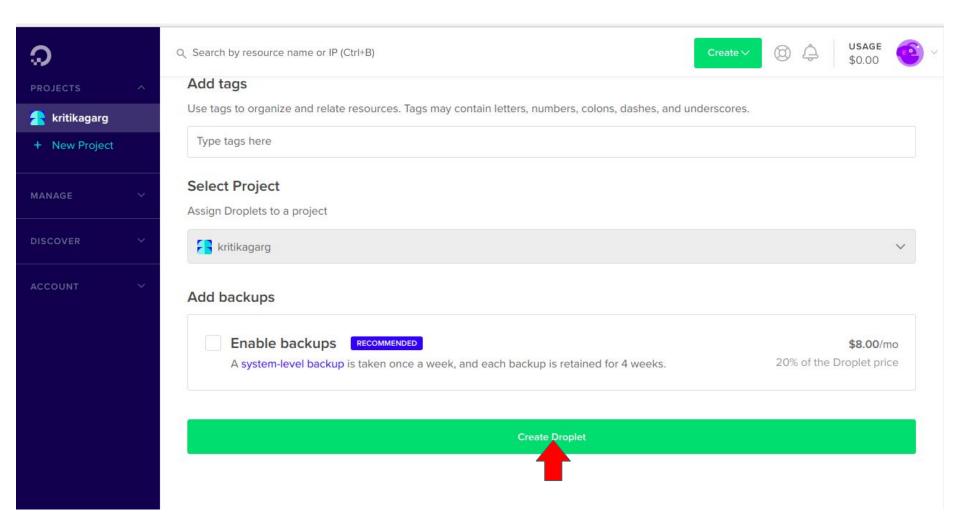












# Your New Droplet: ubuntu-s18 Inbox ×







12:10 PM (8 hours ago)







DigitalOcean <support@support.digitalocean.com>

to me -

Your new Droplet is all set to go! You can access it using the following credentials:

Droplet Name: ubuntu-s18 IP Address: 192.81.211.229

Username: root

Password: 77e225872259dbbe22ec7a4fa6

# Email containing public I.P. and temporary password

For security reasons, you will be required to change this Droplet's root password when you login. You should choose a strong password that will be easy for you to remember, but hard for a computer to quess. You might try creating an alpha-numerical phrase from a memorable sentence (e.g. "I won my first spelling bee at age 7," might become "Iwm#1sbaa7"). Random strings of common words, such as "Mousetrap Sandwich Hospital Anecdote," tend to work well, too.

As an added security measure, we also strongly recommend adding an SSH key to your account. You can do that here: https://cloud.digitalocean.com/settings/security?i=e32b0a

Once added, you can select your SSH key and use it when creating future Droplets. This eliminates the need for root passwords altogether, and makes your Droplets much less vulnerable to attack.

Happy Coding, Team DigitalOcean

on the cloud.

Run a service(echo-server)

[base) kritika@kritika-E6430:~\$ ssh\_root@192.81.211.229

In terminal,

Ssh root@Public.IP.address

To access your new ubuntu server

```
kritika@kritika-E6430: ~
```

(base) kritika@kritika-E6430:~\$ ssh root@192.81.211.229 The authenticity of host '192.81.211.229 (192.81.211.229)' can't be established.

ECDSA key fingerprint is SHA256:m/mBbhe4TG2j14YJoN2cV486/t5XPdI/nSOQ8a7eTQg.

Are you sure you want to continue connecting (yes/no)? yes



(base) kritika@kritika-E6430:~\$ ssh root@192.81.211.229
The authenticity of host '192.81.211.229 (192.81.211.229)' can't be established.
ECDSA key fingerprint is SHA256:m/mBbhe4TG2j14YJoN2cV486/t5XPdI/nSOQ8a7eTQg.
Are you sure you want to continue connecting (yes/no)? yes
Warning: Permanently added '192.81.211.229' (ECDSA) to the list of known hosts.
root@192.81.211.229's password:

# **Enter your Temporary** password

```
File Edit View Search Terminal Help
Welcome to DigitalOcean's One-Click Docker Droplet.
To keep this Droplet secure, the UFW firewall is enabled.
All ports are BLOCKED except 22 (SSH), 2375 (Docker) and 2376 (Docker).
 The Docker One-Click Quickstart guide is available at:
  https://do.co/docker1804#start
  You can SSH to this Droplet in a terminal as root: ssh root@165.227.196.193
 Docker is installed and configured per Docker's recommendations:
  https://docs.docker.com/install/linux/docker-ce/ubuntu/
 Docker Compose is installed and configured per Docker's recommendations:
  https://docs.docker.com/compose/install/#install-compose
For help and more information, visit http://do.co/docker1804
To delete this message of the day: rm -rf /etc/update-motd.d/99-one-click
The programs included with the Ubuntu system are free software;
the exact distribution terms for each program are described in the
individual files in /usr/share/doc/*/copyright.
```

Ubuntu comes with ABSOLUTELY NO WARRANTY, to the extent permitted by applicable law.

Create new password

(current) UNIX password: Enter new UNIX password:

Changing password for root.

Retype new UNIX password:

		root@ubuntu-s18: -
	File Edit View Search Terminal Help	
	root@ubuntu-s18:~# nano echoserver.py	
1		



```
root@ubuntu-s18:~# nano echoserver.py
root@ubuntu-s18:~# ls -lr
total 4
-rwxr-xr-x 1 root root 587 Sep 16 20:06 echoserver.py
root@ubuntu-s18:~#
root@ubuntu-s18:~#
root@ubuntu-s18:~# chmod +x echoserver.py
root@ubuntu-s18:~#
```

root@ubuntu-s18:~# ./echoserver.py

Run your echo server In your cloud server

```
(base) kgarg@E-3102-16:~$ ping 192.81.211.229
PING 192.81.211.229 (192.81.211.229) 56(84) bytes of data.
64 bytes from 192.81.211.229: icmp_seq=1 ttl=48 time=13.3 ms
64 bytes from 192.81.211.229: icmp_seq=2 ttl=48 time=12.7 ms
64 bytes from 192.81.211.229: icmp_seq=3 ttl=48 time=12.7 ms
64 bytes from 192.81.211.229: icmp_seq=4 ttl=48 time=12.8 ms
64 bytes from 192.81.211.229: icmp_seq=5 ttl=48 time=12.8 ms
64 bytes from 192.81.211.229: icmp_seq=6 ttl=48 time=13.1 ms
```

Ping your I.P. address In another terminal

(base) kgarg@E-3102-16:~\$ ping 192.81.211.229
PING 192.81.211.229 (192.81.211.229) 56(84) bytes of data.
64 bytes from 192.81.211.229: icmp\_seq=1 ttl=48 time=13.3 ms
64 bytes from 192.81.211.229: icmp\_seq=2 ttl=48 time=12.7 ms
64 bytes from 192.81.211.229: icmp\_seq=3 ttl=48 time=12.7 ms
64 bytes from 192.81.211.229: icmp\_seq=4 ttl=48 time=12.8 ms
64 bytes from 192.81.211.229: icmp\_seq=5 ttl=48 time=12.8 ms
64 bytes from 192.81.211.229: icmp\_seq=5 ttl=48 time=12.8 ms
64 bytes from 192.81.211.229: icmp\_seq=6 ttl=48 time=12.6 ms
64 bytes from 192.81.211.229: icmp\_seq=7 ttl=48 time=12.6 ms
64 bytes from 192.81.211.229: icmp\_seq=8 ttl=48 time=12.7 ms
64 bytes from 192.81.211.229: icmp\_seq=9 ttl=48 time=12.7 ms
67 c
--- 192.81.211.229 ping statistics --9 packets transmitted, 9 received, 0% packet loss, time 8014ms
rtt min/avg/max/mdev = 12.684/12.885/13.336/0.215 ms
(base) kgarg@E-3102-16:~\$

File Edit View Search Terminal Help

```
File Edit View Search Terminal Help
(base) kgarg@E-3102-16:~$ ping 192.81.211.229
PING 192.81.211.229 (192.81.211.229) 56(84) bytes of data.
64 bytes from 192.81.211.229: icmp seq=1 ttl=48 time=13.3 ms
64 bytes from 192.81.211.229: icmp seq=2 ttl=48 time=12.7 ms
64 bytes from 192.81.211.229: icmp seq=3 ttl=48 time=12.7 ms
64 bytes from 192.81.211.229: icmp seq=4 ttl=48 time=12.8 ms
64 bytes from 192.81.211.229: icmp seq=5 ttl=48 time=12.8 ms
64 bytes from 192.81.211.229: icmp seq=6 ttl=48 time=13.1 ms
64 bytes from 192.81.211.229: icmp seq=7 ttl=48 time=12.6 ms
64 bytes from 192.81.211.229: icmp seq=8 ttl=48 time=12.7 ms
64 bytes from 192.81.211.229: icmp seq=9 ttl=48 time=12.7 ms
^C
--- 192.81.211.229 ping statistics ---
9 packets transmitted, 9 received, 0% packet loss, time 8014ms
rtt min/avg/max/mdev = 12.684/12.885/13.336/0.215 ms
(base) kgarg@E-3102-16:~$
(base) kgarg@E-3102-16:~$ telnet 192.81.211.229 80
                                                      Telnet your_IP_address
Trying 192.81.211.229...
Connected to 192.81.211.229.
Escape character is '^]'.
```

Set up a Domain name server.

# **Set up your Domain**



Microsoft Azure is an everexpanding set of cloud services to help you build, manage, and deploy applications.

Details Level up your ideas by learning cloud computing skills and get a \$100 credit with your free Azure for Students account—no credit card required.

Request your offer code to get access

Help available at Microsoft support



Affordable registration, hosting, and domain management

**Details** 1 year domain name registration on the .me TLD.

Get access by connecting your GitHub account on Namecheap

Details 1 year SSL certificate.

Use your offer code on the Namecheap website

Your code:

5E79BC142E\*224D24B32

Help available at Namecheap
 Support

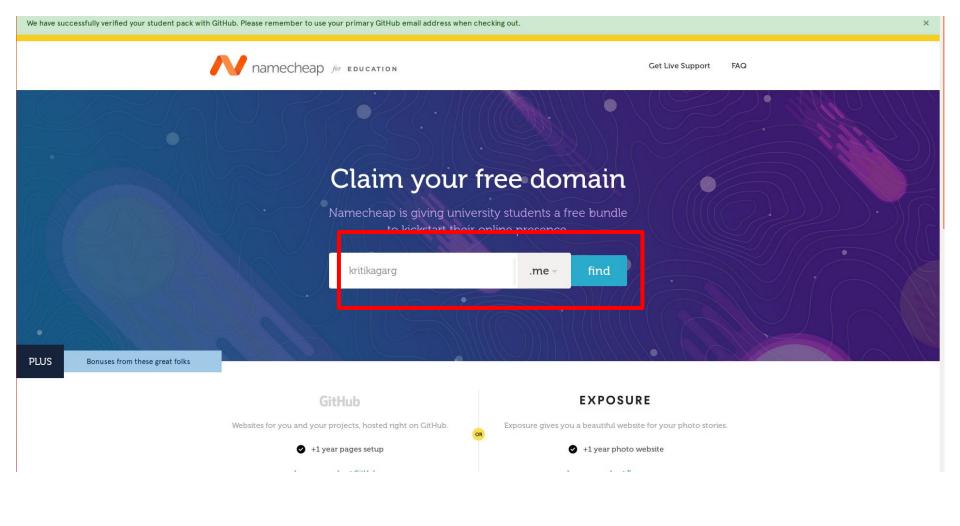
# name.com

Domain names, web hosting, and websites. Unicorns and rainbows come standard with our customer support.

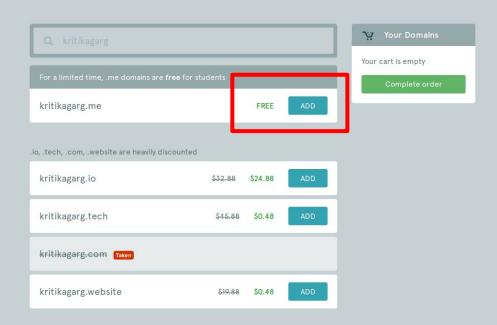
**Details** One free domain name and free Advanced Security (SSL, privacy protection, and more).

Get access by connecting your GitHub account on Name.com

 Help available at Name.com support

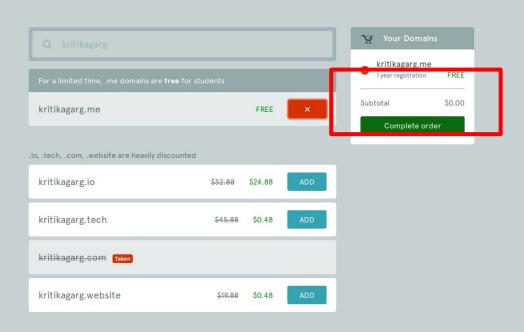






### **DOMAIN RESULTS**





You are registering kritikagarg.me

for FREE



### Student email

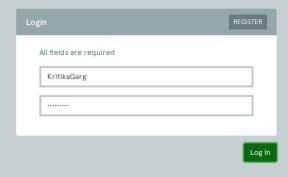
Currently we are only offering free .me domains and a discounted rate on other TLD's to select universities in the US, UK, Canada and Australia. Enter your student email address here. We'll check your eligibility and email you additional instructions.

If you are a part of the GitHub student program please use your primary GitHub email on the checkout form, instead of your student email address. You may learn more about the GitHub Student Developer Pack here.

kgarg001@odu.edu

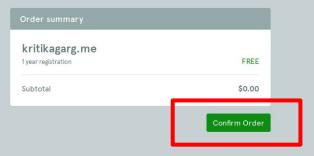


## Login or create a new Namecheap account





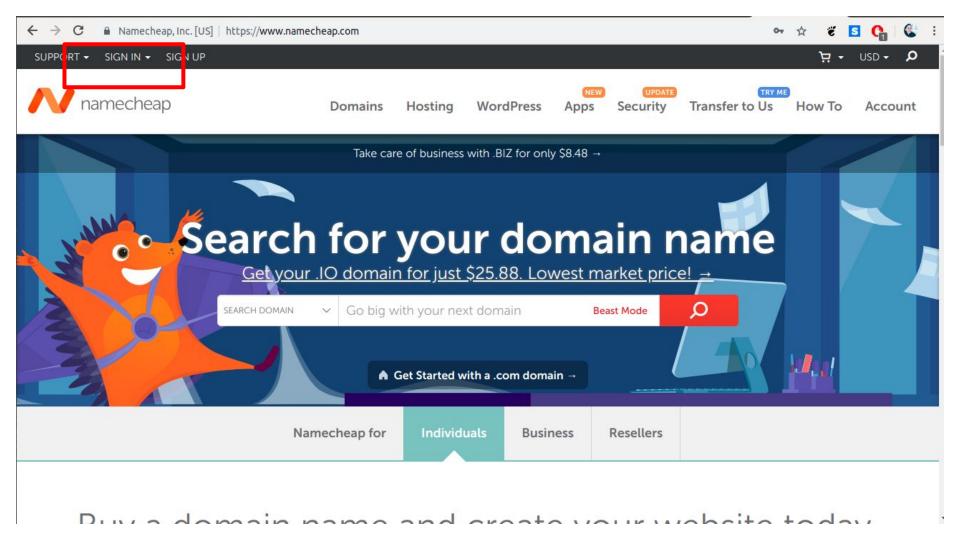
### Confirm Order #314558

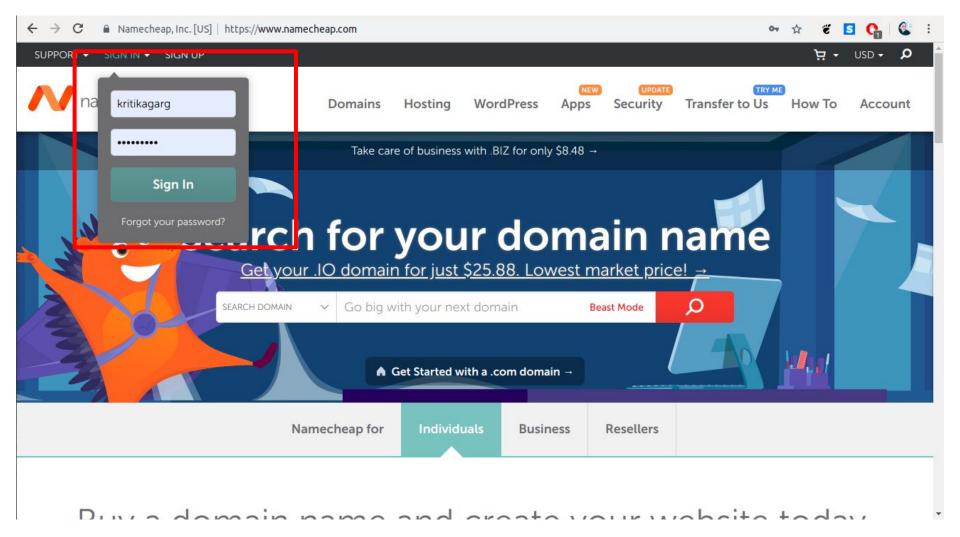


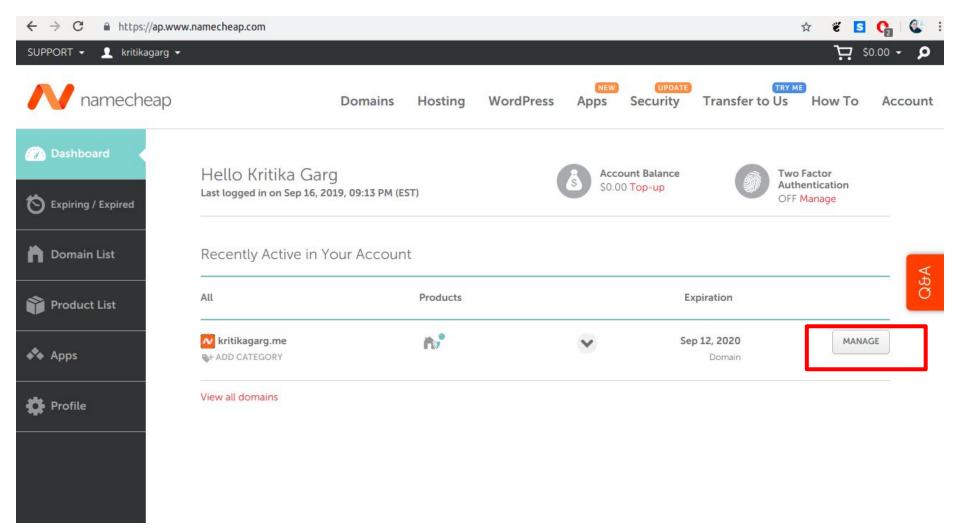


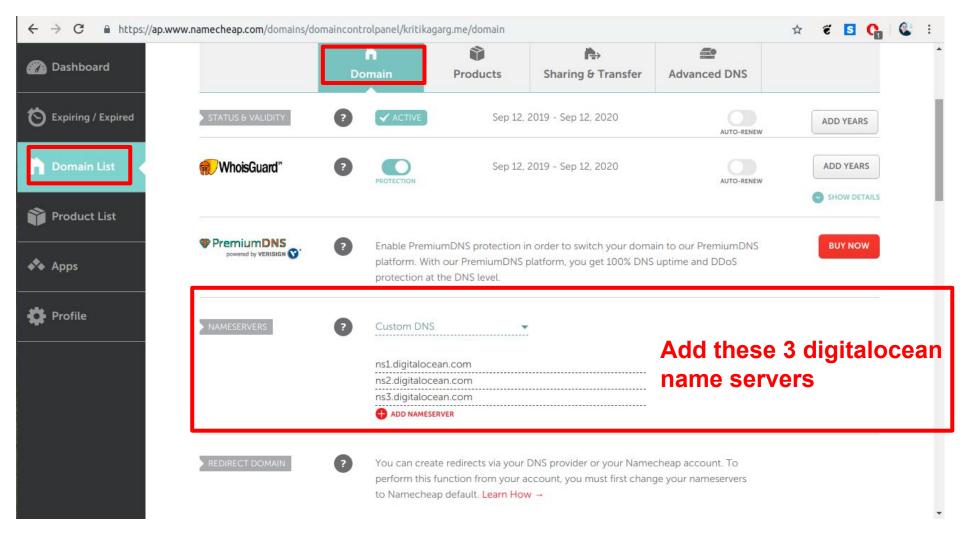
## Congratulations!

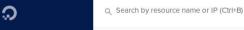
Your GitHub account was successfully setup. You can expect some delay before your GitHub Pages website is fully working.











# Go back to your Digitalocean account to add domain









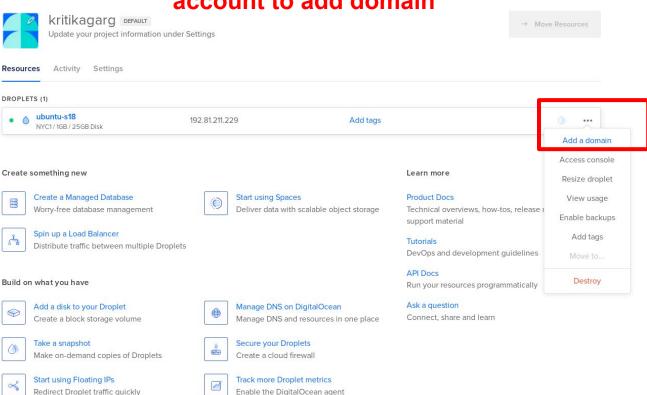


Profile

Billina

Security

Referrals



Profile Billing Security Referrals Q Search by resource name or IP (Ctrl+B)







### Create new record

AAAA CNAME MX TXT NS SRV CAA

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.

You need to update your nameservers with your domain registrar for the records below to take effect. Learn now to do that

HOSTNAME WILL DIRECT TO TTL (SECONDS) Enter TTL Enter @ or hostname Select resource or enter custom IP 3600

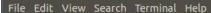
#### DNS records Value TTL (seconds) Type Hostname kritikagarg.me directs to 192.81.211.229 3600 More V Α NS kritikagarg.me directs to ns1.digitalocean.com. 1800 More V NS kritikagarg.me directs to ns2.digitalocean.com. 1800 More V NS kritikagarg.me directs to ns3.digitalocean.com. 1800 More ∨

root@ubuntu-s18:~# host kritikagarg.me kritikagarg.me has address 192.81.211.229 root@ubuntu-s18:~# []

File Edit View Search Terminal Help

After few minutes, check if your ip address is mapped to your domain name or not?

```
kritika@kritika-E6430: ~
File Edit View Search Terminal Help
(base) kritika@kritika-E6430:~$ ssh root@kritikagarg.me
                                      ssh root@your_domain_name
```



(base) kritika@kritika-E6430:~\$ ssh root@kritikagarg.me
The authenticity of host 'kritikagarg.me (192.81.211.229)' can't be established.
ECDSA key fingerprint is SHA256:m/mBbhe4TG2j14YJoN2cV486/t5XPdI/nSOQ8a7eTQg.

Are you sure you want to continue connecting (yes/no)? yes

(base) kritika@kritika-E6430:~\$ ssh root@kriti The authenticity of host 'kritikagarg.me (192. ECDSA key fingerprint is SHA256:m/mBbhe4TG2j14	81.211.229)' can't be established.	
Are you sure you want to continue connecting (	ves/no)? ves	
root@kritikagarg.me's password:	CDSA) to the test of known hoses.	

```
The authenticity of host 'kritikagarg.me (192.81.211.229)' can't be established.
ECDSA key fingerprint is SHA256:m/mBbhe4TG2j14YJoN2cV486/t5XPdI/nS008a7eT0g.
Are you sure you want to continue connecting (yes/no)? yes
Warning: Permanently added 'kritikagarg.me' (ECDSA) to the list of known hosts.
root@kritikagarg.me's password:
Welcome to Ubuntu 18.04.3 LTS (GNU/Linux 4.15.0-58-generic x86 64)
 * Documentation: https://help.ubuntu.com
                  https://landscape.canonical.com
 * Management:
 * Support:
                  https://ubuntu.com/advantage
  System information as of Tue Sep 17 01:30:08 UTC 2019
  System load: 0.0
                                                      87
                                 Processes:
  Usage of /: 4.0% of 24.06GB Users logged in:
                                 IP address for eth0: 192.81.211.229
  Memory usage: 14%
  Swap usage: 0%
```

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

root@ubuntu-s18:~#

(base) kritika@kritika-E6430:~\$ ssh root@kritikagarg.me

Last login: Tue Sep 17 01:27:40 2019 from 172.56.3.139

```
File Edit View Search Terminal Help
(base) kritika@kritika-E6430:~$ ssh root@kritikagarg.me
The authenticity of host 'kritikagarg.me (192.81.211.229)' can't be established.
ECDSA kev fingerprint is SHA256:m/mBbhe4TG2i14YJoN2cV486/t5XPdI/nS008a7eTOg.
Are you sure you want to continue connecting (yes/no)? yes
Warning: Permanently added 'kritikagarg.me' (ECDSA) to the list of known hosts.
root@kritikagarg.me's password:
Welcome to Ubuntu 18.04.3 LTS (GNU/Linux 4.15.0-58-generic x86 64)
 * Documentation: https://help.ubuntu.com
 * Management:
                  https://landscape.canonical.com
 * Support:
                   https://ubuntu.com/advantage
  System information as of Tue Sep 17 01:30:08 UTC 2019
  System load: 0.0
                                 Processes:
                                                       87
  Usage of /: 4.0% of 24.06GB Users logged in:
                                 IP address for eth0: 192.81.211.229
  Memory usage: 14%
  Swap usage:
               0%
0 packages can be updated.
0 updates are security updates.
Last login: Tue Sep 17 01:27:40 2019 from 172.56.3.139
root@ubuntu-s18:~# ./echoserver.py
Listening on 0.0.0.0:80
```

File Edit View Search Terminal Help			
(base) kritika@kritika-E6430:~\$ host kritikagarg.m kritikagarg.me has address 192.81.211.229 (base) kritika@kritika-E6430:~\$ telnet kritikagarg Trying 192.81.211.229 Connected to kritikagarg.me.	.me has address 192.81.211.229  ika@kritika-E6430:~\$ telnet kritikagarg.me 80  81.211.229		
Escape character is '^]'.	In other terminal, Telnet your_domain_name port_80		

```
The authenticity of host 'kritikagarg.me (192.81.211.229)' can't be established.
ECDSA key fingerprint is SHA256:m/mBbhe4TG2j14YJoN2cV486/t5XPdI/nS008a7eTQq.
Are you sure you want to continue connecting (yes/no)? yes
Warning: Permanently added 'kritikagarg.me' (ECDSA) to the list of known hosts.
root@kritikagarg.me's password:
Welcome to Ubuntu 18.04.3 LTS (GNU/Linux 4.15.0-58-generic x86 64)
 * Documentation: https://help.ubuntu.com
 * Management:
                https://landscape.canonical.com
 * Support: https://ubuntu.com/advantage
  System information as of Tue Sep 17 01:30:08 UTC 2019
  System load: 0.0
                                                      87
                                 Processes:
  Usage of /: 4.0% of 24.06GB Users logged in: 1
                                 IP address for eth0: 192.81.211.229
  Memory usage: 14%
  Swap usage: 0%
0 packages can be updated.
0 updates are security updates.
Last login: Tue Sep 17 01:27:40 2019 from 172.56.3.139
root@ubuntu-s18:~# ./echoserver.py
```

LESCENCING ON OVOICE

Connected by ('172.56.3.139', 28516)

(base) kritika@kritika-E6430:~\$ ssh root@kritikagarg.me