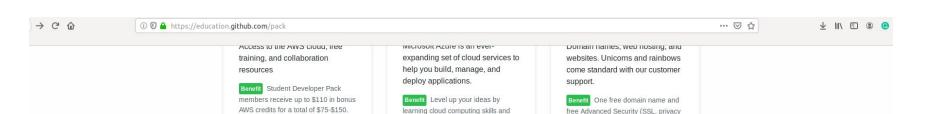
DigitalOcean Server Setup With Custom Domain Name

Web Server Design | CS 431/531 Fall 2019
Old Dominion University
Department of Computer Science
Kritika Garg, kgarg001@odu.edu

1. Set up DigitalOcean Server



Set up your server



new users.



get a \$100 credit with your free Azure

for Students account-no credit card

required.

Affordable registration, hosting, and domain management

Benefit 1 year domain name registration on the .me TLD.

Benefit 1 year SSL certificate.



protection, and more).

Bootstrap Studio

Bootstrap Studio is a powerful desktop app for creating responsive websites using the Bootstrap framework.

Benefit A free license for Bootstrap Studio while you are a student.

JETBRAINS

Professional desktop IDEs: IntelliJ IDEA, PyCharm, and

Benefit A free subscription for students, to be renewed annually.



Advance your skills with in-depth JavaScript, Node.js & front-end engineering courses.

Benefit Free 6-months access to all courses and workshops.



termius

SSH client that works on desktop and mobile. Termius securely syncs data across all your devices.

Benefit Free access to the Premium plan while you're a student.

GitHub Education Bundle: https://education.github.com/pack



Create	e Your	Acc	count
Full Name			
Email Address			
Password			
	Create Acc	ount	
	OR SIGN UP	WITH	
G Google		o	iitHub
			and Privacy F

Already have an account? Sign In

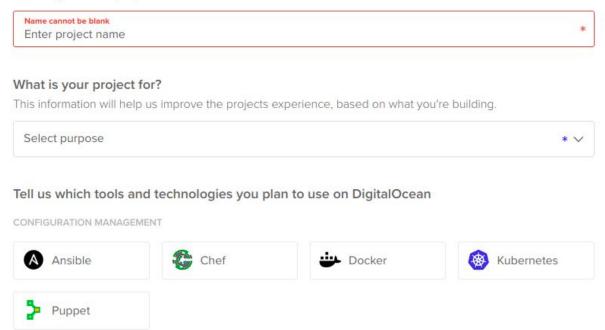
DigitalOcean: https://cloud.digitalocean.com/registrations/new

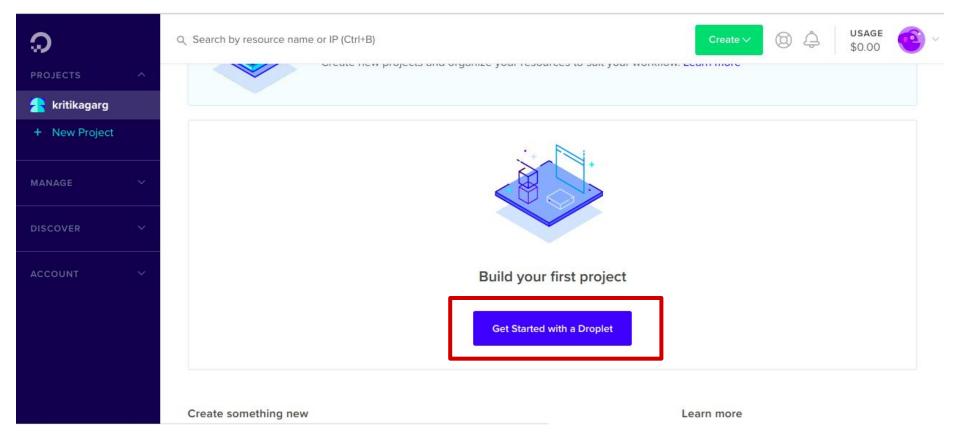
Welcome, kritikagarg!

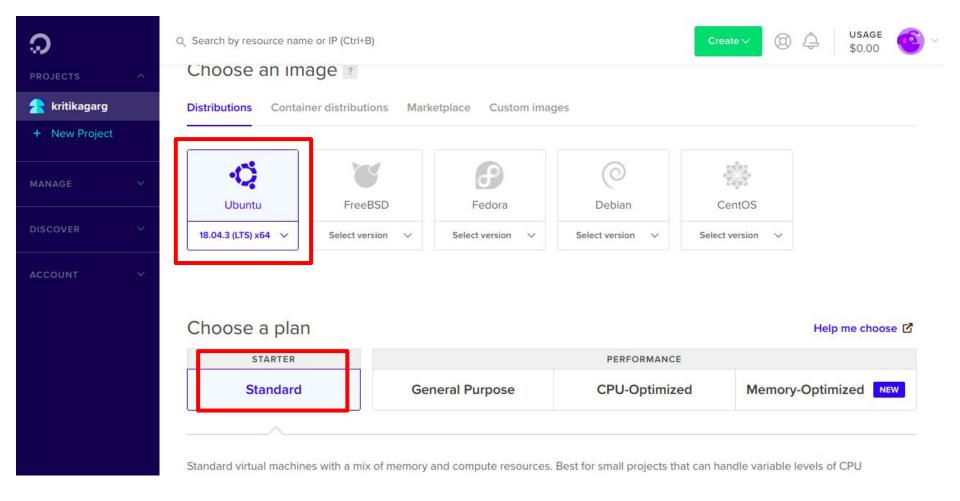
To begin, let's create a new project. Projects help you organize your resources by environment, workload, client - however you or your team like to work.

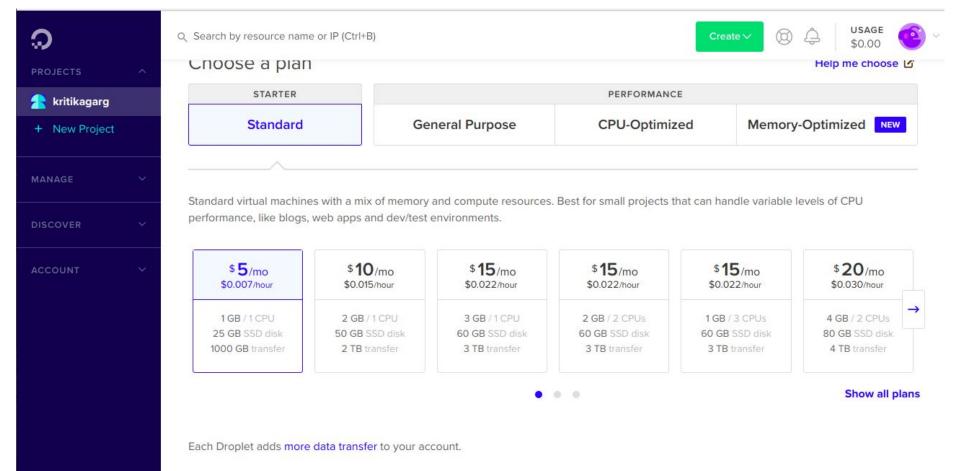
Note: You can change the name, redefine the purpose, and move resources between projects as your needs change.

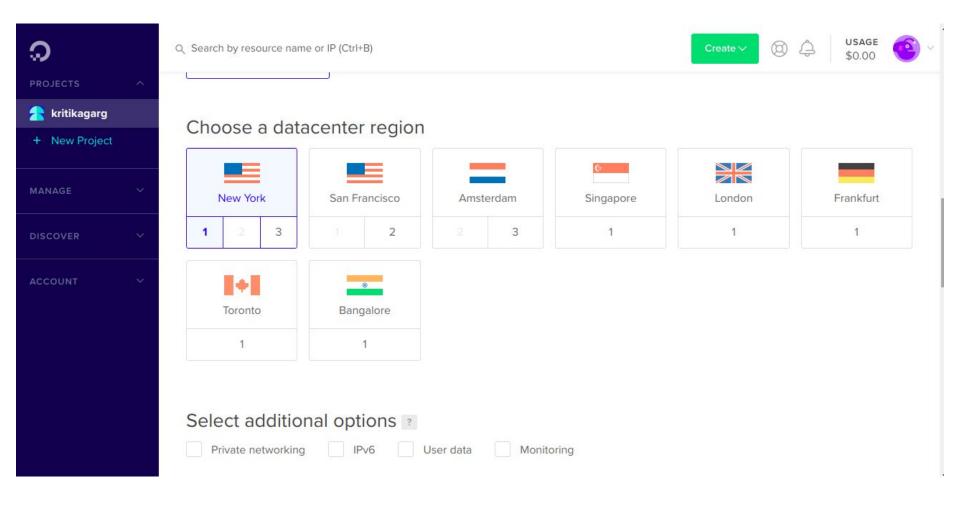
Create your first project

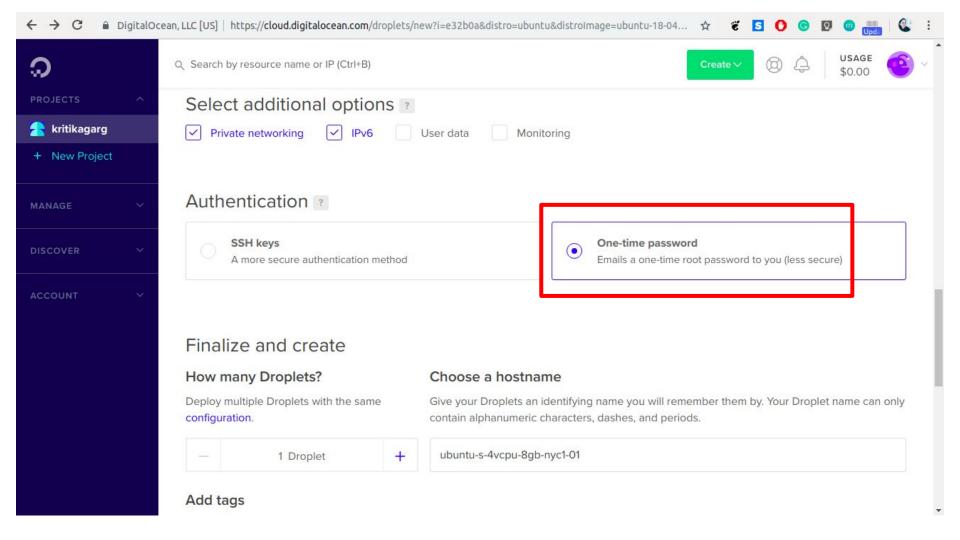


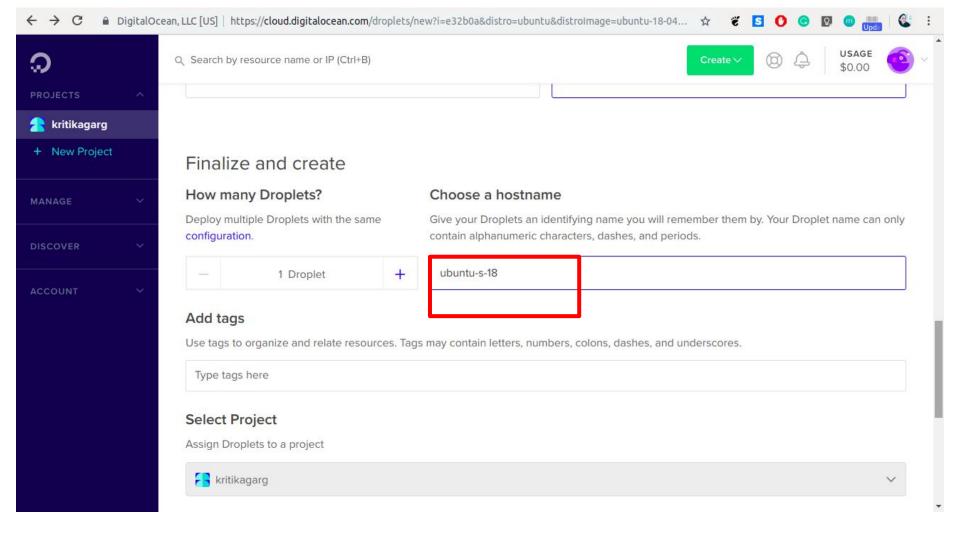


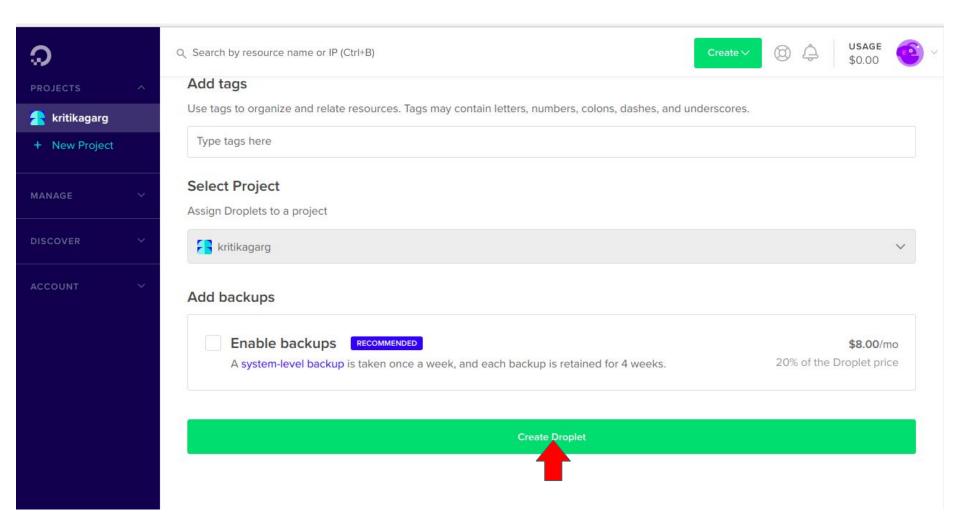












Your New Droplet: ubuntu-s18 Inbox ×







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

2. Run a service(echo-server) on the

cloud.

[base] kritika@kritika-E6430:~\$ ssh root@192.81.211.229

In terminal,

Ssh root@Public.IP.address

to access your new ubuntu server

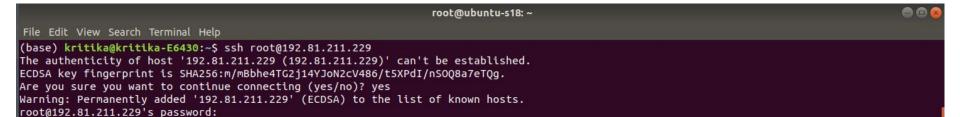
kritika@kritika-E6430: ~

File Edit View Search Terminal Help

(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/nS0Q8a7eTQg.

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



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.
Changing password for root.
                                                 Create new password
(current) UNIX password:
```

Enter new UNIX password: Retype new UNIX password:

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



```
File Edit View Search Terminal Help

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:~#

root@ubuntu-s18:~#
```

Run your echo server in your cloud server

File Edit View Search Terminal Help

(base) kgarg@E-3102-16:~\$

```
(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=8 ttl=48 time=12.7 ms
64 bytes from 192.81.211.229: icmp_seq=9 ttl=48 time=12.7 ms
```

--- 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

Ping your I.P. address in other terminal

```
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) kgarq@E-3102-16:~$ telnet 192.81.211.229 80
Trying 192.81.211.229...
Connected to 192.81.211.229.
```

Escape character is '^]'.

telnet your_IP_address port_no.

3. Set up a Domain Name

Set up your domain name



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

name.com

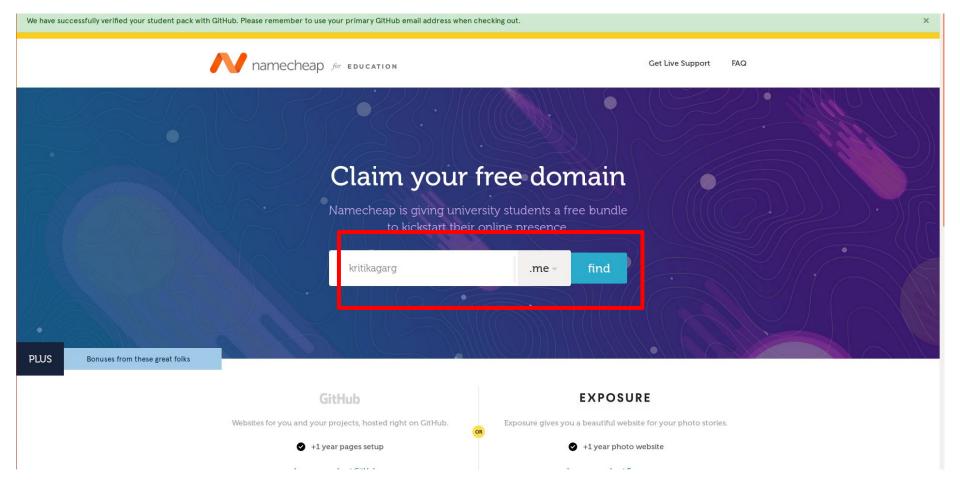
Domain names, web hosting, and websites. Unicorns and rainbows come standard with our customer support.

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

Get access by connecting your GitHub account on Name.com

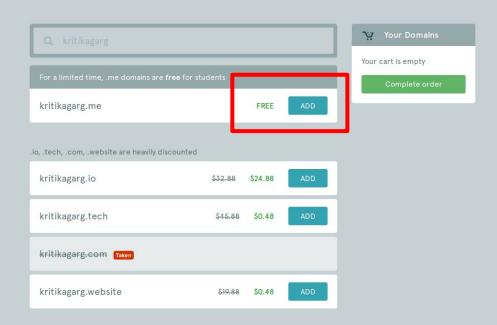
 Help available at Name.com support

GitHub Education Bundle: https://education.github.com/pack



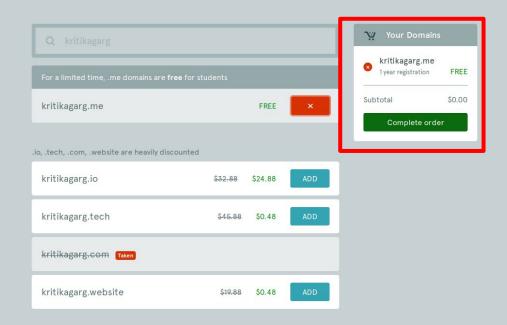
NameCheap: https://www.namecheap.com/



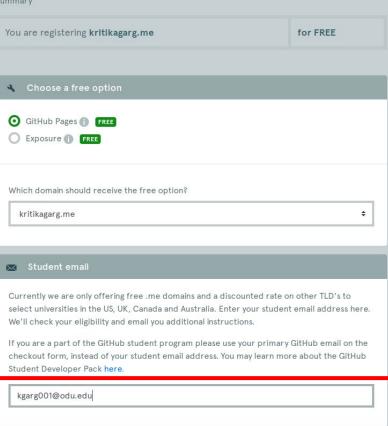


DOMAIN RESULTS









Finish Up

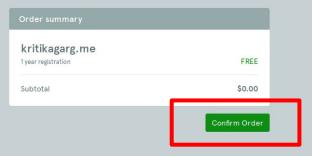


Login or create a new Namecheap account

Login	REGISTER
All fields are required	
KritikaGarg	
	Log In



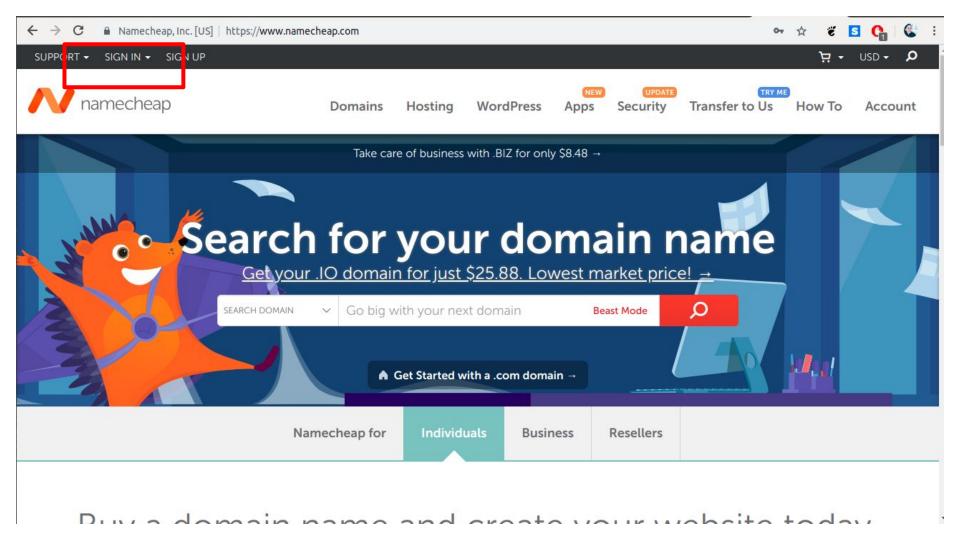
Confirm Order #314558

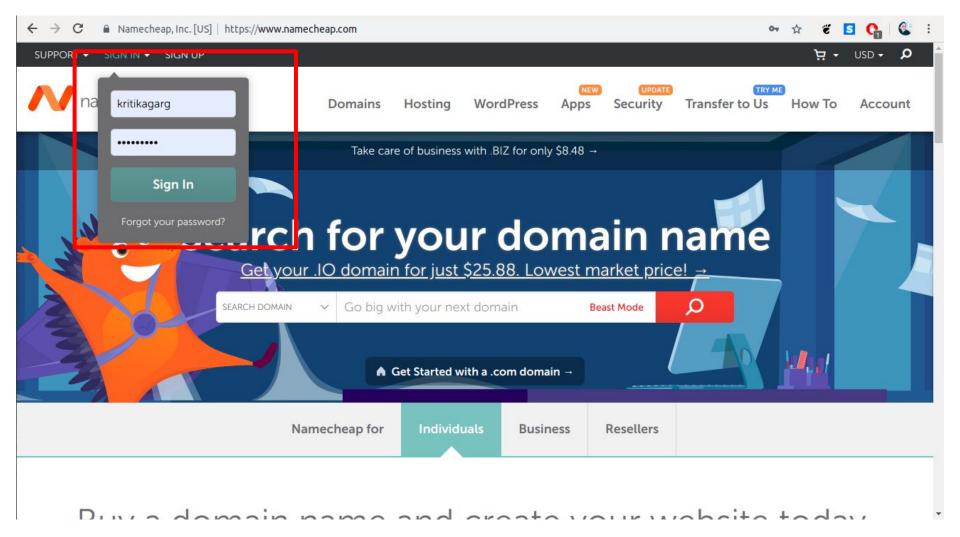


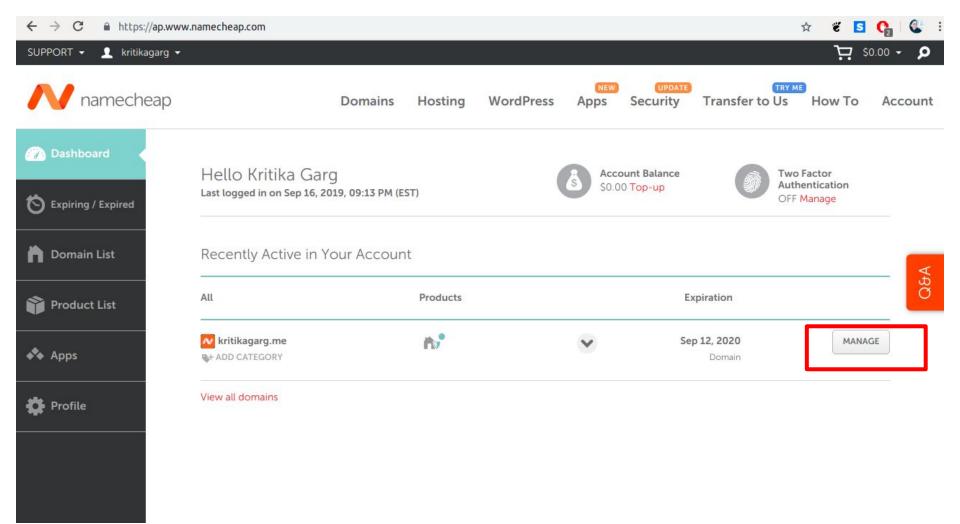


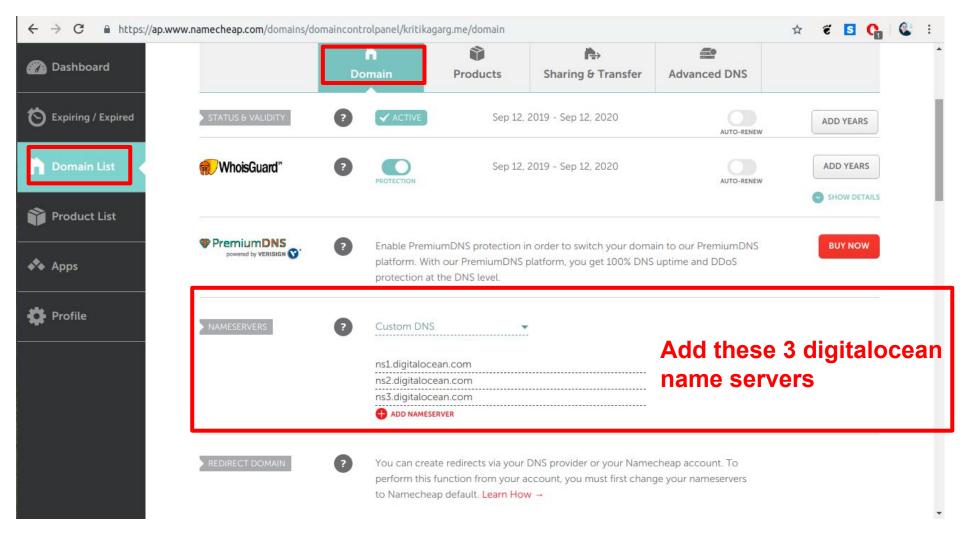
Congratulations!

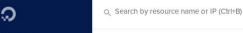
Your GitHub account was successfully setup. You can expect some delay before your GitHub Pages website is fully working.











Go back to your digitalocean



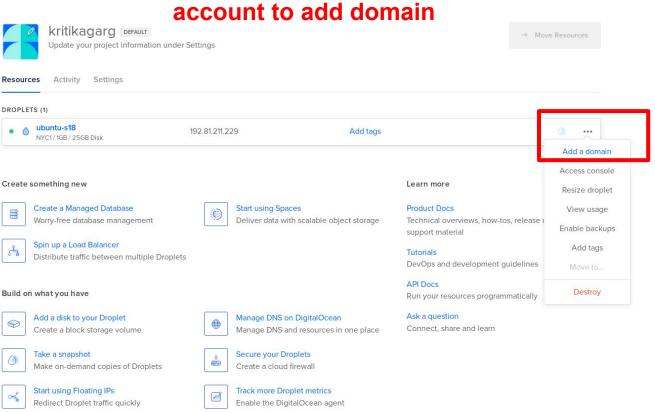








Referrals



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



More ∨





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

Create new record

NS

kritikagarg.me

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.

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

1800

directs to ns3.digitalocean.com.

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

The Late View Secret Terminal Trees
(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
Warning: Desmanently added 'kritikagarg me' (ECDSA) to the list of known hosts.
root@kritikagarg.me's password:

```
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
 * 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.

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)
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 * 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:
O packages can be updated.
O 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

Run your echo server

```
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:~$
                                                           In other terminal,
(base) kgarg@E-3102-16:~$ telnet 192.81.211.229 80
                                                           telnet your domain name port 80
Trying 192.81.211.229...
Connected to 192.81.211.229.
Escape character is '^]'.
send "hello"
send "hello"
hey
                                    Send a message to server and it will
I am echoing back the message
 am echoing back the message
                                    echo back your message
```

```
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
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                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