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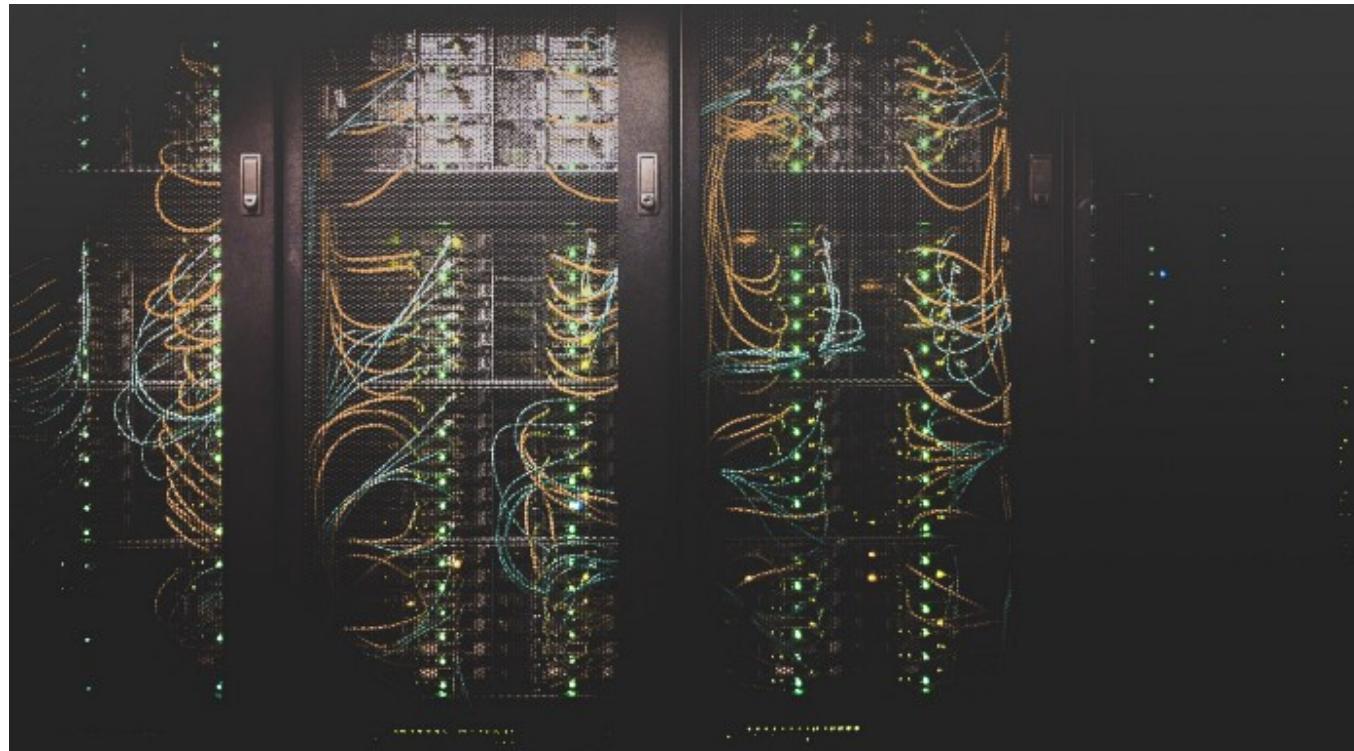
Best Way To Set Up Django 3 with Nginx, Unit, and MariaDB on CentOS 7



Tokyo Developers

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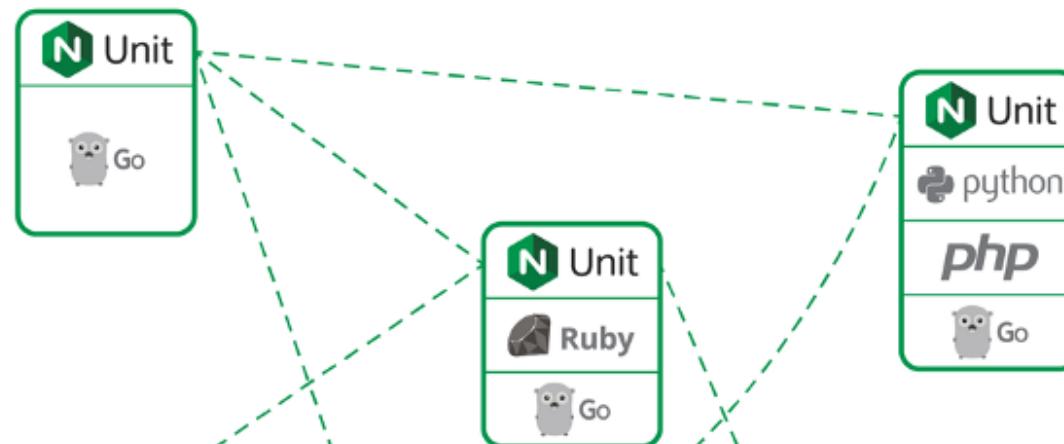
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Reunat/centos way, or if you are SICK OF USING Gunicorn.

What Is NGINX Unit?

NGINX Unit is a dynamic application server, capable of running beside NGINX Plus and NGINX Open Source or standalone. Unit supports a RESTful JSON API, deploys configuration changes without service disruptions, and runs apps built with multiple languages and frameworks. Designed from scratch around the needs of your distributed applications, it lays the foundation for your service mesh.



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Ruby



python

Nginx Unit 1.15.0 was the latest version released on February 6, 2020. It is a new application server written by the Nginx team.

Some features are really interesting, such as:

- Fully dynamic reconfiguration using RESTful JSON API
- Multiple language versions run simultaneously
- Application processes scale on demand
- SSL/TLS support is built-in (OpenSSL 1.0.1 and later)
- Extensive request routing capabilities and static content support
- Built-in WebSocket server implementation for Node.js and Java
- Application namespace isolation

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and configure.



1.lets install some packages

first, we must have installed some packages.

the first packages are epel. epel let You to easily install various packages by configuring a CentOS 7.x or RHEL 7.x system to use Fedora EPEL repos and

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su
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EPEL (*Extra Packages for Enterprise Linux*) is an open-source and free community-based repository project from the Fedora team which provides 100% high-quality add-on software packages for Linux distribution including *RHEL* (*Red Hat Enterprise Linux*), *CentOS*, and *Scientific Linux*.

```
sudo yum install -y epel-release
```

then install **yum-utils**. **yum-utils** is a collection of tools and programs for managing **yum** repositories, installing debug packages, source packages, extended information from repositories and administration.you'll also need to enable the optional channel.

```
yum install -y yum-utils
```

before we get the start, let's prepare for installing the unit. To configure the Unit repository, create the following file named

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2

```
3 baseurl=https://packages.nginx.org/unit/centos/$releasever/$basearch/  
4 gpgcheck=0  
5 enabled=1
```

unit_repo hosted with ❤ by GitHub

[view raw](#)

now let's install almost every package we need. including python 3, python2, MariaDB, letsencrypt, unit, wget, and some other necessary stuff

```
sudo yum install python3-devel mysql-devel yum-utils certbot  
python2-certbot-nginx python-pip python-devel gcc mariadb-server  
mariadb-devel wget curl unzip gcc-c++ pcre-devel zlib-devel docker  
unit unit-devel unit-go unit-jsc8 unit-perl unit-php unit-python27  
unit-python37 unit-jsc11 unit-php unit-python36
```



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MARIADB

2. starting and configure database

to enable MariaDB :

```
sudo systemctl start mariadb  
sudo systemctl enable mariadb
```

and lets setup the MariaDB credentials :

```
sudo mysql_secure_installation
```

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and now create a database for your Django page :

```
CREATE DATABASE YOUR_DATABASE_NAME CHARACTER SET UTF8;
```

now create user and password on a database for your Django project

```
CREATE USER YOUR_MARIADB_USER@localhost IDENTIFIED BY  
'YOUR_MARIADB_PASSWORD';
```

now add privilege to a user :

```
GRANT ALL PRIVILEGES ON YOUR_DATABASE_NAME.* TO  
YOUR_MARIADB_USER@localhost;
```

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now exit from MariaDB shell :

exit



3. let get Django ready

at first, we recommend to go inside a well-permissioned directory :

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let

```
python3 -m venv oncloudenv
```

activate the environments

```
source oncloudenv/bin/activate
```

install python packages we need :

```
pip install django mysqlclient
```

create a Django project:

```
django-admin startproject YOUR_PROJECT_NAME
```

go

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```
cd YOUR_PROJECT_NAME
```

now time to edit your Django settings file

A. edit your Django settings to use MariaDB backend

B. change allowed

```
ALLOWED_HOSTS = ['*']
```

C. set static-file-related settings

now go back to main Django dir :

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```
python manage.py makemigrations
```

lets Django do he's migrations

```
python manage.py migrate
```

force Django to collect static files

```
python manage.py collectstatic
```

let's create superuser for Django

```
python manage.py createsuperuser
```

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4. start and configure the unit

let's start and enable unit :

```
systemctl start unit
```

```
systemctl enable unit
```

```
systemctl status unit
```

Prepare Unit configuration for your update. To obtain an initial template, query the control API:

```
curl --unix-socket /var/run/unit/control.sock \
```

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The project settings as follows.

Suppose you use a basic directory structure for your Django project:

```
/home/django/project/
|--- manage.py
|--- app1/
|   |--- ...
|--- app2/
|   |--- ...
|--- project/
|   |--- ...
|   --- wsgi.py
```

Edit the JSON, adding a listener entry to point to a Unit app with your *project's* WSGI module; the project and its apps will run on the listener's IP and port. If you use a virtual environment, reference it as `home`. In order to configure the Unit, you need to write a JSON file and post it to the Unit socket file on your server.

Here is my JSON configuration:

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wsgi.py in it are imported via `module`. If you reorder your directories, set up path and `module` accordingly.

Upload the updated configuration:

```
curl -X PUT --data-binary @config.unit.json --unix-socket \
/var/run/unit/control.sock http://localhost/config
```

After a successful update, your project and apps should be available on the listener's IP address and port:

`http://YOUR_SERVER_IP:8400`

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5. nginx and all

now time to install one last package we need

```
yum install nginx
```

let's generate our SSL cert files using letsencrypt

Run this command to get a certificate for *make the changes to your Nginx configuration by hand*

```
sudo certbot certonly --nginx -d tokyodevs.com
```

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```
echo "0 0,12 * * * root python -c 'import random; import time; time.sleep(random.random() * 3600)' && certbot renew" | sudo tee -a /etc/crontab > /dev/null
```

now make a file like this `/etc/nginx/conf.d/YOUR_DOMAIN_NAME.conf` and add this line into it:

if you have domain and need ssl:

OR if you don't have a domain use this one :

fix the main Nginx configuration . for that, go to main nginx configuration file at `/etc/nginx/nginx.conf` and remove or comment the entire section that uses port 80

check Nginx configuration syntax to be ok

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re:

```
service nginx restart
```

if you got an error in this step, do remove/comment usage of port 80 in nginx.conf and then kill the process that uses 80 port via this command :

```
sudo fuser -k 80/tcp
```

now start Nginx service

```
service nginx start
```

now check Nginx status again

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6.

now that everything works fine, time to change allowed hosts in django settings to YOUR_DOMAIN_NAME and WWW.YOUR_DOMAIN_NAME

```
ALLOWED_HOSTS = ['YOUR_DOMAIN_NAME', 'www.YOUR_DOMAIN_NAME']
```

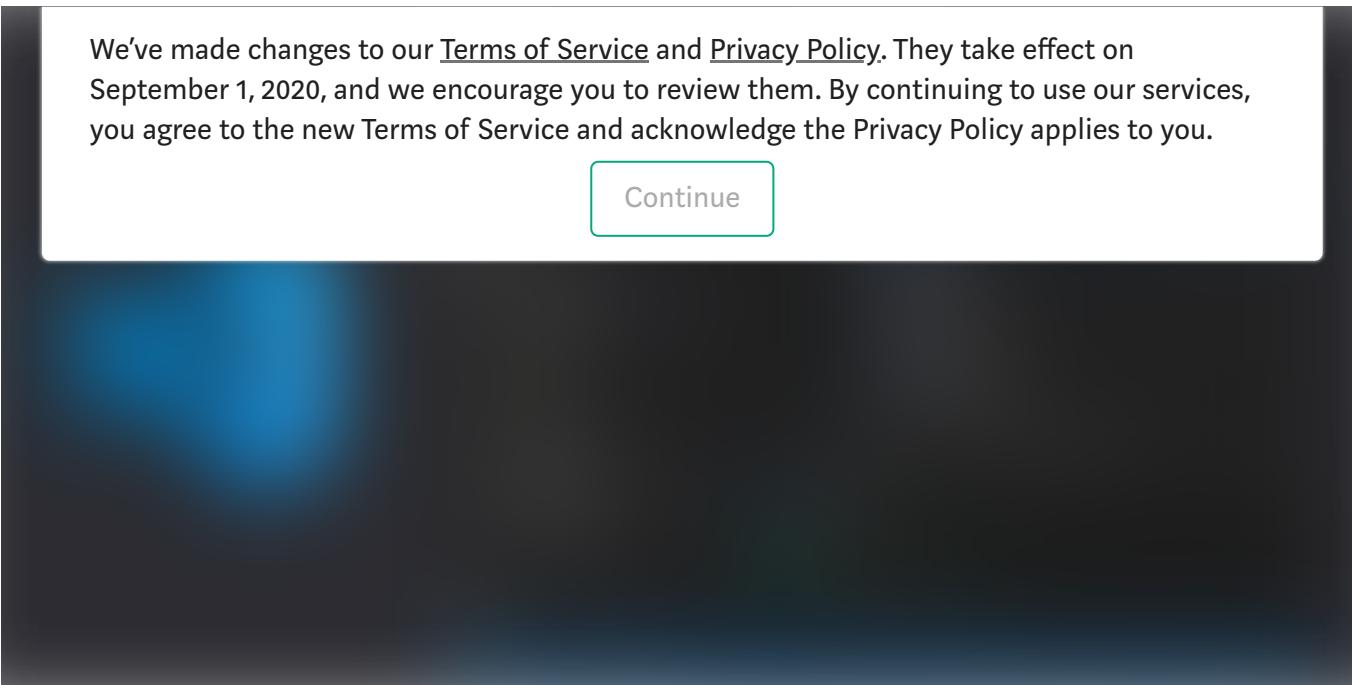
in the end, add permission to this file :

```
chmod +x /etc/rc.d/rc.local
```

at the end of the file add these commands :

```
service unit start
```

```
service nginx start
```



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7. Debug an application running on a remote server or in the cloud from your local IDE.

The **Remote — SSH** extension lets you use any remote machine with an SSH server as your development environment. This can greatly simplify development and troubleshooting in a wide variety of situations. You can:

- Develop on the same operating system you deploy to or use larger, faster or more specialized hardware than your local machine.
- Quickly swap between different, remote development environments and safely make updates without worrying about impacting your local

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or

- Debug an application running somewhere else such as a customer site or in the cloud.

No source code needs to be on your local machine to gain these benefits since the extension runs commands and other extensions directly on the remote machine. You can open any folder on the remote machine and work with it just as you would if the folder were on your own machine.

install from this link

Remote - SSH

The Remote - SSH extension lets you use any remote machine with a SSH server as your development environment. This can...

[marketplace.visualstudio.com](https://marketplace.visualstudio.com/items?itemName=ms-vscode.vscode-remote-ssh-extension)

Conclusion

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About Me

I'm Reza, the CEO of TokyoDevs, a senior developer with 11 years of experience who love to develop and share the experience with other people.

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