# Loop-x Django Project — Server Deployment & Maintenance Guide

## Server Overview

Server Provider: AWS EC2  
Instance Type: Ubuntu 22.04 LTS  
Public IP: 13.60.231.139  
Project Directory: /home/ubuntu/Loop-x/  
Main Django App: hotelmenu  
Django Environment: /home/ubuntu/Loop-x/venv  
Domain: loop-x.duckdns.org  
SSL Certificate: Let's Encrypt (via DuckDNS)  
Web Server: Nginx  
App Server: Gunicorn

## Directory Structure

/home/ubuntu/Loop-x/  
├── venv/  
├── hotelmenu/  
├── menuapp/  
├── staticfiles/  
├── media/  
├── manage.py  
└── gunicorn.sock

## Gunicorn Configuration

File: /etc/systemd/system/gunicorn.service  
  
[Unit]  
Description=Gunicorn for Django Loop-x  
After=network.target  
  
[Service]  
User=ubuntu  
Group=www-data  
WorkingDirectory=/home/ubuntu/Loop-x  
Environment="PATH=/home/ubuntu/Loop-x/venv/bin"  
ExecStart=/home/ubuntu/Loop-x/venv/bin/gunicorn --workers 3 --bind unix:/home/ubuntu/Loop-x/hotelmenu.sock Loop\_x.wsgi:application  
UMask=007  
  
[Install]  
WantedBy=multi-user.target  
  
Commands:  
sudo systemctl daemon-reload  
sudo systemctl enable gunicorn  
sudo systemctl restart gunicorn  
sudo systemctl status gunicorn

## Nginx Configuration

File: /etc/nginx/sites-available/hotelmenu  
  
server {  
 listen 80;  
 server\_name loop-x.duckdns.org 13.60.231.139;  
 return 301 https://$host$request\_uri;  
}  
  
server {  
 listen 443 ssl;  
 server\_name loop-x.duckdns.org 13.60.231.139;  
  
 ssl\_certificate /etc/letsencrypt/live/loop-x.duckdns.org/fullchain.pem;  
 ssl\_certificate\_key /etc/letsencrypt/live/loop-x.duckdns.org/privkey.pem;  
 include /etc/letsencrypt/options-ssl-nginx.conf;  
 ssl\_dhparam /etc/letsencrypt/ssl-dhparams.pem;  
  
 location /static/ {  
 alias /home/ubuntu/Loop-x/staticfiles/;  
 }  
 location /media/ {  
 alias /home/ubuntu/Loop-x/media/;  
 }  
 location / {  
 include proxy\_params;  
 proxy\_pass http://unix:/home/ubuntu/Loop-x/hotelmenu.sock;  
 }  
}  
  
Commands:  
sudo nginx -t  
sudo systemctl reload nginx

## SSL Configuration (DuckDNS)

DuckDNS credentials file: /etc/letsencrypt/duckdns.ini  
dns\_duckdns\_token = YOUR\_DUCKDNS\_TOKEN  
  
Issue certificate:  
sudo certbot certonly --authenticator dns-duckdns --dns-duckdns-credentials /etc/letsencrypt/duckdns.ini --dns-duckdns-propagation-seconds 180 -d loop-x.duckdns.org  
  
Verify:  
sudo certbot certificates  
  
Renew (dry run):  
sudo certbot renew --dry-run

## Updating Server After Code Changes

cd /home/ubuntu/Loop-x  
source venv/bin/activate  
python manage.py makemigrations  
python manage.py migrate  
python manage.py collectstatic --noinput  
sudo systemctl restart gunicorn  
sudo systemctl reload nginx

## Troubleshooting Commands

Gunicorn Logs: sudo journalctl -u gunicorn -n 50  
Nginx Errors: sudo tail -n 50 /var/log/nginx/error.log  
Certbot Logs: sudo cat /var/log/letsencrypt/letsencrypt.log

## SSL Reapply (if deleted)

sudo certbot delete --cert-name loop-x.duckdns.org  
sudo certbot certonly --authenticator dns-duckdns --dns-duckdns-credentials /etc/letsencrypt/duckdns.ini --dns-duckdns-propagation-seconds 180 -d loop-x.duckdns.org

## Permissions Fix

sudo chown -R ubuntu:www-data /home/ubuntu/Loop-x  
sudo chmod -R 775 /home/ubuntu/Loop-x  
sudo chmod 755 /home /home/ubuntu  
sudo systemctl restart gunicorn  
sudo systemctl restart nginx