■■ ■■ ■■ ■■ ■■■■

■ ■■ ■■ ■■ ■■ ■■■

■ ■■ ■■■■■

■■ ■■■■

- OS: Ubuntu 20.04+ ■■ CentOS 8+

- RAM: ■■ 1GB (■■ 2GB)

- Storage: ■■ 10GB

- Network: ■■ ■■■■ ■■ ■■

■■ ■■■■■ ■■

```
# Ubuntu/Debian sudo apt update sudo apt install -y python3 python3-pip
python3-venv nginx openssl # CentOS/RHEL sudo yum update -y sudo yum install
-y python3 python3-pip nginx openssl
```

■ ■■ ■■

1. ■■ ■■■■

■■■ ■■ ■■■■■■ ■■■ ■■■■■■:

```
# SCP ■■ ■■ scp -r ProgressReport/ username@192.168.1.100:/tmp/
```

2. ■■ ■■■■ ■■

```
# ■■■■ ■■ cd /tmp/ProgressReport chmod +x deploy_internal.sh # ■■ ■■■■ ■■
(IP: 192.168.1.100) sudo ./deploy_internal.sh # ■■ ■■■ ■■ IP■ ■■ sudo
./deploy_internal.sh 192.168.1.50 # ■■ ■■■ ■■ IP■ ■■■ ■■ sudo
./deploy_internal.sh 192.168.1.50 /opt/progressreport
```

3. ■■ ■■

■■ ■■ ■ ■■ URL■ ■■:

- HTTP: http://192.168.1.100

- HTTPS: https://192.168.1.100 (■■ ■■ ■■■)

> ██ SSL ██: ██ ██ ████ ████ ████ ██ ███ ████. "██" → "████ ████ ██"█ ████ ████.

██ ██ ██

IP ██ ██

nginx_internal.conf ███ server_name ██:

```
server_name progressreport.company.local 192.168.1.100; # ███ ██
```


██ ███ ██

██ DNS█ ██ ███ ██:

```
progressreport.company.local A 192.168.1.100
```


███ ██ *IP ██ ██*

nginx_internal.conf██ ███ IP ██ ██:

```
allow 192.168.0.0/16; # ██ ████ ████ ██ allow 10.0.0.0/8; # ███ ███ ██ deny all;
```


█ ██ ████

███ ██

```
# ██ ██ sudo systemctl status progressreport # ███ sudo systemctl restart progressreport # ██ sudo systemctl stop progressreport # ██ sudo systemctl start progressreport # ██ ██ ████ sudo systemctl disable progressreport
```


██ ██

```
# ██████ ██ (███) sudo journalctl -u progressreport -f # Nginx ██ ██ sudo tail -f /var/log/nginx/error.log # Nginx ███ ██ sudo tail -f /var/log/nginx/access.log
```


████

```
# ██████ ████ cd /var/www/progressreport sudo git pull # Git ███ sudo systemctl restart progressreport # ██ ██ ██ ██ sudo cp /tmp/new_app.py /var/www/progressreport/ sudo systemctl restart progressreport
```


█ ██ ████

██ █████ ██ ██

- Nginx ■■■■ ■■ IP ■■■ ■■

- ■■■■■ ■■ ■■■■■ ■■

■■■■ ■■■■

```
# ■■■ ■■■■ sudo apt update && sudo apt upgrade -y # Ubuntu sudo yum update
-y # CentOS # Python ■■■ ■■■■ cd /var/www/progressreport sudo ./venv/bin/pip
install --upgrade -r requirements.txt sudo systemctl restart progressreport
```

■■

```
# ■■■■■■ ■■ sudo tar -czf /backup/progressreport_$(date +%Y%m%d).tar.gz
/var/www/progressreport # ■■■■■■ ■■ (SQLite) sudo cp
/var/www/progressreport/*.db /backup/
```

■ ■■ ■■

■■■■ ■■■■ ■■

```
# ■■ ■■ sudo journalctl -u progressreport --no-pager # ■■ ■■ ■■ sudo
/var/www/progressreport/venv/bin/python /var/www/progressreport/app.py
```

Nginx ■■

```
# ■■ ■■ ■■ sudo nginx -t # ■■■ sudo systemctl restart nginx
```

■■ ■■

```
# ■■ ■■ ■■ sudo netstat -tlnp | grep :8000 sudo ss -tlnp | grep :8000
```

■ ■■ ■■

■■ ■■■ ■■ ■■■ ■■■■ ■■■■ ■■:

1. ■■ ■■: sudo journalctl -u progressreport --no-pager

2. ■■■ ■■: uname -a && cat /etc/os-release

3. ■■■ ■■: sudo systemctl status progressreport nginx