MERN Stack Server Deployment Guide (PuTTY + PM2 + NGINX)

1. Basic Linux Setup

Update your server's packages:

Command: sudo apt update && sudo apt upgrade -y

Install Node.js, npm, and MongoDB if required.

2. Clone & Install Project

Command: git clone

Then: cd && npm install

3. Create .env File

Command: nano .env

Paste your environment variables (MONGODB_URI, JWT_SECRET, etc).

4. Run Backend with PM2

Install PM2: sudo npm install -g pm2

Start: pm2 start index.js --name backend

Use pm2 list / stop / restart / logs for management.

5. Serve React App with PM2

Build your React app: npm run build

Serve it using PM2:

Command: pm2 start "serve -s build -l 3000" --name frontend

6. Configure NGINX

Install NGINX: sudo apt install nginx

Edit NGINX config: sudo nano /etc/nginx/sites-available/default

Restart: sudo systemctl restart nginx

7. NGINX Config Example

server { listen 80; server_name your_domain_or_ip; location /api/ { proxy_pass
http://localhost:8080/; proxy_http_version 1.1; proxy_set_header Upgrade $http_upgrade;
proxy_set_header Connection 'upgrade'; proxy_set_header Host $host; proxy_cache_bypass
$http_upgrade; } location / { proxy_pass http://localhost:3000/; try_files $uri $uri/ /index.html; } }

8. PM2 Save & Startup

Run these to enable reboot persistence:

pm2 save

pm2 startup

9. UFW Firewall (Optional)

Enable firewall and allow NGINX:

sudo ufw allow OpenSSH

sudo ufw allow 'Nginx Full'

sudo ufw enable