

TreeHub Production Deployment Guide

Prerequisites

1. Domain Configuration

- Ensure treehub.app domain is properly configured
- SSL certificates are set up and valid
- DNS records point to the correct server

2. Environment Variables

- Copy `.env.production` to `.env.local` on production server
- Update `DATABASE_URL` with production database credentials
- Set secure `NEXTAUTH_SECRET` value
- Configure any external API keys (`ABACUSAI_API_KEY`, etc.)

3. Database Setup

- Ensure PostgreSQL is running and accessible
- Run database migrations: `npx prisma migrate deploy`
- Seed initial data if needed: `npx prisma db seed`

Deployment Steps

1. Pre-deployment Checks

```
# Test the build locally
cd /home/ubuntu/treehub/app
yarn build

# Run type checking
yarn type-check

# Test production build
yarn start
```

2. Environment Configuration

```
# Copy production environment file
cp .env.production .env.local

# Update database URL and secrets
nano .env.local
```

3. Database Setup

```
# Generate Prisma client
npx prisma generate

# Deploy database schema
npx prisma migrate deploy

# Seed database (optional)
npx prisma db seed
```

4. Build and Deploy

```
# Install dependencies
yarn install --frozen-lockfile

# Build the application
yarn build

# Start the production server
yarn start
```

5. Post-deployment Verification

- [] Test authentication flows (signup/signin)
- [] Verify all pages load correctly
- [] Check API endpoints functionality
- [] Test database connections
- [] Verify SSL certificates
- [] Check performance metrics
- [] Test mobile responsiveness

Production Configuration Features

Security

- Rate limiting on API routes
- CSRF protection
- Security headers (CSP, HSTS, etc.)
- Authentication middleware
- Input validation and sanitization

Performance

- Image optimization
- Static asset caching
- Compression enabled
- Database connection pooling
- API response caching

SEO & Analytics

- Sitemap generation (/sitemap.xml)

- Robots.txt configuration (`/robots.txt`)
- Structured data markup
- Open Graph meta tags
- Twitter Card support
- Google Analytics ready

Monitoring

- Error logging
- Performance monitoring
- Health check endpoints
- Database query monitoring

Domain-Specific Configuration

treehub.app Features

- Custom domain SSL configuration
- Production-ready authentication URLs
- Professional email addresses (support@treehub.app)
- Branded contact information
- Social media integration

API Configuration

- All API endpoints configured for treehub.app
- CORS settings for production domain
- Rate limiting per IP address
- Secure session management

Troubleshooting

Common Issues

- 1. Database Connection Errors**
 - Check DATABASE_URL format
 - Verify database server is running
 - Ensure proper network connectivity
- 2. Authentication Issues**
 - Verify NEXTAUTH_URL matches domain
 - Check NEXTAUTH_SECRET is set
 - Ensure proper session configuration
- 3. Build Errors**
 - Run `yarn type-check` to identify TypeScript issues
 - Check for missing dependencies
 - Verify environment variables are set

Health Checks

- Application health: `https://treehub.app/api/health`
- Database connectivity: Check admin dashboard

- Authentication: Test login/logout flows

Maintenance

Regular Tasks

- Monitor error logs
- Update dependencies
- Database backups
- Performance optimization
- Security updates

Scaling Considerations

- Database connection pooling
- CDN configuration
- Load balancing
- Caching strategies
- API rate limiting adjustments