

Southern Haulers Deployment Guide

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Prerequisites

Before deploying Southern Haulers, ensure you have:

- **Node.js:** v18+ or v20+ (LTS recommended)
 - **pnpm:** v8+ (package manager)
 - **Git:** For version control
 - **Supabase Account:** For database and authentication
 - **Vercel/Netlify Account:** For hosting (recommended)
 - **Domain:** Custom domain (optional but recommended)
-

Environment Setup

1. Clone the Repository

```
git clone https://github.com/your-org/SouthernHaulers.git
cd SouthernHaulers
```

2. Install Dependencies

```
# Install pnpm if not already installed
npm install -g pnpm

# Install project dependencies
pnpm install
```

3. Environment Variables

Create a `.env.local` file in `apps/web/` :

```
# apps/web/.env.local

# Supabase
NEXT_PUBLIC_SUPABASE_URL=your_supabase_url
NEXT_PUBLIC_SUPABASE_ANON_KEY=your_supabase_anon_key
SUPABASE_SERVICE_ROLE_KEY=your_supabase_service_role_key

# Application
NEXT_PUBLIC_APP_URL=http://localhost:3000
NEXT_PUBLIC_API_URL=http://localhost:3000/api

# Analytics (Optional)
NEXT_PUBLIC_GA_MEASUREMENT_ID=G-XXXXXXXXXX
NEXT_PUBLIC_HOTJAR_ID=your_hotjar_id

# Contact Form
RESEND_API_KEY=your_resend_api_key
CONTACT_EMAIL=dispatch@southern-haulers.com

# Quote System
QUOTE_NOTIFICATION_EMAIL=quotes@southern-haulers.com

# Tracking System
TRACKING_API_KEY=your_tracking_api_key
```

Installation

Development Dependencies

```
# Install all dependencies
pnpm install

# Install Tailark components (if needed)
pnpm dlx shadcn@latest add button input card navigation-menu

# Install additional packages
pnpm add framer-motion @tanstack/react-query
```

Development

Running the Development Server

```
# Navigate to web app
cd apps/web

# Start development server
pnpm dev
```

The application will be available at `http://localhost:3000`.

Development Commands

```
# Run development server
pnpm dev

# Run type checking
pnpm type-check

# Run linting
pnpm lint

# Run tests
pnpm test

# Format code
pnpm format
```

Building for Production

1. Run Production Build

```
# Build the application
pnpm build

# Test production build locally
pnpm start
```

2. Optimize Images

Before building, ensure all images are optimized:

```
# Install sharp for image optimization
pnpm add sharp

# The build process will automatically optimize images
```

3. Analyze Bundle Size

```
# Install bundle analyzer
pnpm add -D @next/bundle-analyzer

# Analyze bundle
pnpm analyze
```

Deployment Platforms

Vercel (Recommended)

Vercel provides the best experience for Next.js applications.

Automatic Deployment

1. Connect Repository:

- Go to vercel.com (<https://vercel.com>)
- Click “New Project”
- Import your Git repository

2. Configure Build Settings:

- Framework Preset: Next.js
- Build Command: `pnpm build`
- Output Directory: `.next`
- Install Command: `pnpm install`

3. Environment Variables:

- Add all variables from `.env.local`
- Mark sensitive variables as encrypted

4. Deploy:

- Click “Deploy”
- Vercel will automatically build and deploy

Manual Deployment

```
# Install Vercel CLI
pnpm add -g vercel

# Login
vercel login

# Deploy
vercel

# Deploy to production
vercel --prod
```

Custom Domain Setup

```
# Add domain via Vercel CLI
vercel domains add southern-haulers.com

# Or via Vercel Dashboard:
# 1. Go to Project Settings > Domains
# 2. Add your custom domain
# 3. Configure DNS records
```

Netlify

Netlify Configuration

Create `netlify.toml` in project root:

```
[build]
  command = "pnpm build"
  publish = "apps/web/.next"

[[plugins]]
  package = "@netlify/plugin-nextjs"

[[headers]]
  for = "/*"
  [headers.values]
    X-Frame-Options = "DENY"
    X-Content-Type-Options = "nosniff"
    Referrer-Policy = "strict-origin-when-cross-origin"
```

Deploy to Netlify

```
# Install Netlify CLI
pnpm add -g netlify-cli

# Login
netlify login

# Initialize site
netlify init

# Deploy
netlify deploy

# Deploy to production
netlify deploy --prod
```

Self-Hosted (Docker)

Dockerfile

```
# apps/web/Dockerfile

FROM node:20-alpine AS base
RUN npm install -g pnpm

FROM base AS dependencies
WORKDIR /app
COPY package.json pnpm-lock.yaml ./
RUN pnpm install --frozen-lockfile

FROM base AS build
WORKDIR /app
COPY . .
COPY --from=dependencies /app/node_modules ./node_modules
RUN pnpm build

FROM base AS deploy
WORKDIR /app
ENV NODE_ENV production
COPY --from=build /app/.next/standalone ./
COPY --from=build /app/.next/static ./next/static
COPY --from=build /app/public ./public
EXPOSE 3000
CMD ["node", "server.js"]
```

Build and Run Docker Container

```
# Build image
docker build -t southern-haulers:latest -f apps/web/Dockerfile .

# Run container
docker run -p 3000:3000 \
  -e NEXT_PUBLIC_SUPABASE_URL=your_url \
  -e NEXT_PUBLIC_SUPABASE_ANON_KEY=your_key \
  southern-haulers:latest
```

Environment Variables

Required Variables

Variable	Description	Example
<code>NEXT_PUBLIC_SUPABASE_URL</code>	Supabase project URL	<code>https://abc123.supabase.co</code>
<code>NEXT_PUBLIC_SUPABASE_ANON_KEY</code>	Supabase anonymous key	<code>eyJhbGc...</code>
<code>SUPABASE_SERVICE_ROLE_KEY</code>	Supabase service role key	<code>eyJhbGc...</code>
<code>NEXT_PUBLIC_APP_URL</code>	Application URL	<code>https://southern-haulers.com</code>

Optional Variables

Variable	Description	Default
<code>NEXT_PUBLIC_GA_MEASUREMENT_ID</code>	Google Analytics ID	-
<code>NEXT_PUBLIC_HOTJAR_ID</code>	Hotjar tracking ID	-
<code>RESEND_API_KEY</code>	Email service API key	-
<code>CONTACT_EMAIL</code>	Contact form recipient	-

Database Migrations

Supabase Migrations

```
# Install Supabase CLI
pnpm add -g supabase

# Login to Supabase
supabase login

# Link to your project
supabase link --project-ref your-project-ref

# Run migrations
supabase db push

# Generate TypeScript types
supabase gen types typescript --linked > apps/web/src/types/database.ts
```

CDN and Asset Optimization

Image Optimization

Next.js automatically optimizes images. For additional optimization:

1. Use Next.js Image Component:

```
``typescript
import Image from 'next/image';
```

Hero

...

1. Configure Image Domains:

```
typescript
// next.config.js
module.exports = {
  images: {
    domains: ['images.unsplash.com', 'images.pexels.com'],
    formats: ['image/webp', 'image/avif'],
  },
};
```

Static Asset CDN

For Vercel:

- All static assets automatically served via Vercel Edge Network
- Global CDN with 100+ locations

For self-hosted:

- Use Cloudflare CDN
- Configure caching headers in `next.config.js`

Monitoring and Analytics

Google Analytics

```
// app/layout.tsx
import { GoogleAnalytics } from '@next/third-parties/google'

export default function RootLayout({ children }) {
  return (
    <html>
      <body>{children}</body>
      <GoogleAnalytics gaId={process.env.NEXT_PUBLIC_GA_MEASUREMENT_ID} />
    </html>
  )
}
```


Error Monitoring (Sentry)

```
# Install Sentry
pnpm add @sentry/nextjs

# Initialize Sentry
npx @sentry/wizard@latest -i nextjs
```

Performance Monitoring

Use built-in Next.js analytics:

```
// app/layout.tsx
import { SpeedInsights } from "@vercel/speed-insights/next"
import { Analytics } from "@vercel/analytics/react"

export default function RootLayout({ children }) {
  return (
    <html>
      <body>{children}</body>
      <SpeedInsights />
      <Analytics />
    </html>
  )
}
```

Troubleshooting

Build Failures

Issue: Build fails with “Module not found” error

Solution:

```
# Clear cache and reinstall
rm -rf node_modules .next
pnpm install
pnpm build
```

Image Optimization Errors

Issue: Images not loading or optimization fails

Solution:

1. Ensure `sharp` is installed: `pnpm add sharp`
2. Check image domains in `next.config.js`
3. Verify image paths are correct

Environment Variables Not Working

Issue: Environment variables undefined in production

Solution:

1. Ensure variables are prefixed with `NEXT_PUBLIC_` for client-side access

2. Restart development server after adding new variables
3. Verify variables are set in deployment platform

Supabase Connection Issues

Issue: Cannot connect to Supabase

Solution:

1. Verify Supabase URL and keys are correct
2. Check Supabase project is not paused
3. Ensure RLS policies are correctly configured

Performance Issues

Issue: Slow page loads

Solution:

1. Run bundle analyzer: `pnpm analyze`
2. Implement code splitting for large components
3. Lazy load below-the-fold content
4. Optimize images (use WebP format)
5. Enable caching headers

Post-Deployment Checklist

- ☐ Verify all pages load correctly
- ☐ Test contact form submissions
- ☐ Test quote calculator functionality
- ☐ Verify live container tracking works
- ☐ Check all dynamic routes (services, locations, ports)
- ☐ Test navigation menu on mobile
- ☐ Verify dark mode toggle works
- ☐ Check SEO meta tags on all pages
- ☐ Submit sitemap to Google Search Console
- ☐ Configure analytics tracking
- ☐ Set up error monitoring
- ☐ Test performance with Lighthouse
- ☐ Verify SSL certificate is active
- ☐ Set up automated backups
- ☐ Configure monitoring alerts

Support and Maintenance

Regular Maintenance Tasks

- **Weekly:** Review error logs and fix critical issues
- **Monthly:** Update dependencies and security patches
- **Quarterly:** Review and optimize performance

- **Annually:** Update content and refresh images

Updating Dependencies

```
# Check for updates
pnpm outdated

# Update all dependencies
pnpm update

# Update specific package
pnpm update next

# Update to latest major versions
pnpm update --latest
```

Backup Strategy

1. **Database:** Supabase automatic backups (daily)
2. **Code:** Git repository with branch protection
3. **Environment Variables:** Secure storage in deployment platform
4. **Assets:** Backup images to cloud storage

Additional Resources

- [Next.js Documentation](https://nextjs.org/docs) (https://nextjs.org/docs)
- [Vercel Deployment Docs](https://vercel.com/docs) (https://vercel.com/docs)
- [Supabase Documentation](https://supabase.com/docs) (https://supabase.com/docs)
- [Tailwind CSS Docs](https://tailwindcss.com/docs) (https://tailwindcss.com/docs)
- [ShadCN UI Components](https://ui.shadcn.com) (https://ui.shadcn.com)

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