






Deployment Guide - Publishing Your System Online with Render.com

This guide will help you deploy your betting analysis system to the internet using Render.com, so you can access it from anywhere! Render.com offers a free tier that's perfect for personal projects.

Why Render.com?

-  **Free tier available** - No credit card required to start
-  **Automatic deployment** - Updates automatically when you push code
-  **Built-in database** - PostgreSQL included
-  **Easy to use** - Much simpler than AWS or other platforms
-  **HTTPS included** - Secure connections built-in

Prerequisites

Before you begin, you need:

1. **A GitHub account** (free) - Sign up at <https://github.com>
2. **Your code in a GitHub repository** - We'll help you set this up below
3. **A Render.com account** (free) - Sign up at <https://render.com>

Step 1: Push Your Code to GitHub

If you already have Git installed:

1. **Open Terminal/Command Prompt**

- Navigate to your project folder (the parent folder containing both `betting_backend` and `betting_dashboard`)

2. **Initialize Git** (if not already done)

```
bash
git init
git add .
git commit -m "Initial commit - betting analysis system"
```

3. **Create a GitHub repository**

- Go to <https://github.com> and click the "+" icon → "New repository"
- Name it something like "betting-analysis-system"
- Don't initialize with README (you already have code)
- Click "Create repository"

4. **Push your code**

GitHub will show you commands to run. They'll look like:

```
bash
git remote add origin https://github.com/YOUR_USERNAME/betting-analysis-system.git
git branch -M main
```

```
git push -u origin main
```

Replace YOUR_USERNAME with your actual GitHub username.

If you're not comfortable with Git:

1. Go to <https://github.com> and create a new repository
2. Use GitHub Desktop (download from <https://desktop.github.com/>)
3. Drag your project folder into GitHub Desktop
4. Click "Publish repository"

Step 2: Sign Up for Render.com

1. **Go to Render.com**
 - Visit <https://render.com>
 - Click "Get Started"
2. **Sign up with GitHub**
 - Click "Sign up with GitHub"
 - This automatically connects your GitHub account
 - Authorize Render to access your repositories
3. **You're done!** No credit card needed for the free tier.

Step 3: Deploy the Database

1. **Create a new PostgreSQL database**
 - In Render dashboard, click "New +"
 - Select "PostgreSQL"
2. **Configure the database**
 - **Name:** betting-db (or any name you like)
 - **Database:** betting_analysis
 - **User:** betting_user (or any username)
 - **Region:** Choose the closest to you
 - **Plan:** Free
3. **Create the database**
 - Click "Create Database"
 - Wait for it to deploy (takes 1-2 minutes)
 - **Important:** Copy the "Internal Database URL" - you'll need this!
4. **Load the schema**
 - Click on your database in the Render dashboard
 - Click "Connect" → "External Connection"
 - You'll see connection commands
 - Use a PostgreSQL client to connect and run the `schema.sql` file
 - OR: Use Render's web shell to paste and run the schema

Step 4: Deploy the Backend API

1. **Create a new Web Service**
 - In Render dashboard, click "New +"

- Select “Web Service”
- Click “Connect” next to your GitHub repository

2. Configure the service

Fill in these settings:

- **Name:** betting-api (or any name you like)
- **Region:** Same as your database
- **Branch:** main
- **Root Directory:** betting_backend
- **Runtime:** Python 3
- **Build Command:** `pip install -r api/requirements.txt`
- **Start Command:** `cd api && gunicorn server:app`
- **Plan:** Free

1. Add environment variables

Click “Advanced” → “Add Environment Variable” and add these:

Key	Value
FLASK_ENV	production
PORT	5000
DATABASE_URL	(Paste the Internal Database URL from Step 3)
CORS_ORIGINS	https://YOUR-DASHBOARD-NAME.onrender.com

Note: For CORS_ORIGINS, you’ll need to come back and update this after you deploy the dashboard (Step 5).

1. Create the service

- Click “Create Web Service”
- Wait 3-5 minutes for deployment
- Once it says “Live”, copy the URL (something like <https://betting-api.onrender.com>)

2. Test the API

- Visit <https://YOUR-API-URL.onrender.com/api/health>
- You should see a health check response
- If you see an error, check the logs in Render

Step 5: Deploy the Dashboard

1. Create another Web Service

- Click “New +”
- Select “Web Service”
- Connect your GitHub repository again

2. Configure the service

Fill in these settings:

- **Name:** betting-dashboard (or any name you like)
- **Region:** Same as your database and API
- **Branch:** main
- **Root Directory:** betting_dashboard
- **Runtime:** Node
- **Build Command:** `npm install && npm run build`
- **Start Command:** `npm start`
- **Plan:** Free

1. Add environment variables

Click “Advanced” → “Add Environment Variable”:

Key	Value
NEXT_PUBLIC_API_URL	https://YOUR-API-URL.onrender.com
NODE_ENV	production

Replace YOUR-API-URL with the actual URL from Step 4.

1. Create the service

- Click “Create Web Service”
- Wait 5-10 minutes (Next.js takes longer to build)
- Once it says “Live”, copy the URL

Step 6: Update CORS Settings

Now that you have your dashboard URL, go back and update the API:

1. **Go to your betting-api service in Render**
2. **Click “Environment”**
3. **Find CORS_ORIGINS variable**
4. **Update it to:** `https://YOUR-DASHBOARD-URL.onrender.com`
5. **Click “Save Changes”**
6. The API will automatically redeploy (takes 2-3 minutes)

Step 7: Verify Everything Works

1. **Visit your dashboard URL**
 - Open `https://YOUR-DASHBOARD-URL.onrender.com`
 - You should see your betting analysis dashboard
2. **Check the connection**
 - Click around the different pages
 - If you see data loading errors, check the browser console (F12)
 - Make sure the API URL in environment variables is correct

3. Test the API directly

- Visit <https://YOUR-API-URL.onrender.com/api/health>
- Should return a healthy status

Important Notes

Free Tier Limitations

- **Spin down:** Free services “sleep” after 15 minutes of inactivity
- **Spin up time:** Takes 30-60 seconds to wake up when you visit
- **Solution:** Upgrade to paid plan (\$7/month per service) for always-on

Database Limitations

- **Free tier:** 90 days, then you need to upgrade
- **Storage:** 1GB limit on free tier
- **Upgrade:** Only \$7/month for PostgreSQL Starter (unlimited time, 10GB storage)

Automatic Deployments

Every time you push code to GitHub:

- Render automatically detects the changes
- Rebuilds and redeploys your services
- Takes 3-10 minutes depending on the service

Cost Summary

- **Free:** Database (90 days) + API + Dashboard = \$0
- **After 90 days:** \$7/month for database
- **Always-on (optional):** \$7/month per service (API + Dashboard = \$14/month)
- **Recommended:** \$21/month total (database + always-on API + always-on dashboard)

Updating Your Deployed System

To update your system after making changes:

1. **Make your changes locally**
2. **Commit and push to GitHub:**

```
bash
git add .
git commit -m "Description of changes"
git push
```

3. **Render automatically deploys!**
4. Wait 3-10 minutes for the deployment to complete

Monitoring Your System

View Logs

1. Go to your service in Render
2. Click “Logs” tab
3. See real-time logs of your application

Check Status

1. Dashboard shows service status (Live/Failed/Deploying)
2. Set up email alerts for failures (in service settings)

View Metrics

1. Click on a service
2. See CPU, memory, and bandwidth usage
3. Free tier includes basic metrics





Need Help?

- **Render Docs:** <https://render.com/docs>
- **Community:** <https://community.render.com>
- **Support:** support@render.com (paid plans get priority)

Troubleshooting

See TROUBLESHOOTING.md for common deployment issues and solutions.

Security Reminder

-  Never commit `.env` files to GitHub
-  Use environment variables in Render for secrets
-  The `.env.example` files are safe to commit (no real passwords)
-  Render automatically provides HTTPS for security