

FurBabies MERN Stack Deployment Guide

Environment Configuration

Root `.env` file:

```
env

# Database
MONGODB_URI=mongodb://localhost:27017/furbabies
MONGODB_URI_PRODUCTION=your_mongodb_atlas_connection_string

# JWT Secret
JWT_SECRET=your_super_secret_jwt_key_here

# API Configuration
NODE_ENV=development
PORT=5000

# Client Configuration
REACT_APP_API_URL=http://localhost:5000/api
```

Client `.env` file (client/.env):

```
env

REACT_APP_API_URL=http://localhost:5000/api
GENERATE_SOURCEMAP=false
```

Production `.env` file:

```
env

MONGODB_URI=your_mongodb_atlas_connection_string
JWT_SECRET=your_production_jwt_secret
NODE_ENV=production
PORT=5000
REACT_APP_API_URL=https://your-app-name.onrender.com/api
```

Root package.json

json

```
{
  "name": "furbabies-petstore",
  "version": "1.0.0",
  "description": "FurBabies Pet Store MERN Stack Application",
  "main": "server/server.js",
  "scripts": {
    "start": "node server/server.js",
    "server": "nodemon server/server.js",
    "client": "cd client && npm start",
    "dev": "concurrently \"npm run server\" \"npm run client\"",
    "build": "cd client && npm run build",
    "seed": "node server/scripts/seed.js",
    "heroku-postbuild": "npm install --prefix client && npm run build --prefix client"
  },
  "dependencies": {
    "express": "^4.18.2",
    "mongoose": "^7.5.0",
    "cors": "^2.8.5",
    "dotenv": "^16.3.1",
    "bcryptjs": "^2.4.3",
    "jsonwebtoken": "^9.0.2",
    "express-validator": "^7.0.1",
    "helmet": "^7.0.0"
  },
  "devDependencies": {
    "nodemon": "^3.0.1",
    "concurrently": "^8.2.1"
  },
  "engines": {
    "node": "18.x",
    "npm": "9.x"
  }
}
```

Quick Setup Instructions

1. Project Setup

```
bash
```

```
# Clone/create project directory
```

```
mkdir furbabies-petstore
```

```
cd furbabies-petstore
```

```
# Initialize root package.json
```

```
npm init -y
```

```
# Install dependencies
```

```
npm install express mongoose cors dotenv bcryptjs jsonwebtoken express-validator helmet
```

```
npm install -D nodemon concurrently
```

```
# Create React app in client folder
```

```
npx create-react-app client
```

```
cd client
```

```
npm install react-router-dom react-bootstrap bootstrap axios react-router-bootstrap
```

```
cd ..
```

```
# Create directory structure
```

```
mkdir -p server/{controllers,models,routes,middleware,config,scripts}
```

2. Copy Your Assets

```
bash
```

```
# Copy your existing assets to client/public/assets/
```

```
cp -r your_existing_assets/* client/public/assets/
```

3. Database Setup

Option A: Local MongoDB

```
bash
```

```
# Install MongoDB Locally or use Docker
```

```
docker run -d -p 27017:27017 --name mongoddb mongo:latest
```

Option B: MongoDB Atlas (Recommended for production)

1. Create account at <https://mongodb.com/atlas>
2. Create a new cluster
3. Get connection string

4. Add to `.env` file

4. Environment Variables

Create `.env` file in root:

```
env

MONGODB_URI=mongodb://localhost:27017/furbabies
JWT_SECRET=your_super_secret_jwt_key_here_make_it_long_and_random
NODE_ENV=development
PORT=5000
```

5. Seed Database

```
bash

npm run seed
```

6. Development

```
bash

# Run both server and client
npm run dev

# Or run separately:
# Terminal 1: npm run server
# Terminal 2: npm run client
```

Deployment to Render

1. Prepare for Production

Update server.js for production:

javascript

```
// Add after other middleware
if (process.env.NODE_ENV === 'production') {
  app.use(express.static(path.join(__dirname, '../client/build')));

  app.get('*', (req, res) => {
    res.sendFile(path.join(__dirname, '../client/build', 'index.html'));
  });
}
```

Create render.yaml:

yaml

```
services:
- type: web
  name: furbabies-petstore
  env: node
  plan: free
  buildCommand: npm install && npm run build
  startCommand: npm start
  envVars:
    - key: MONGODB_URI
      fromDatabase:
        name: furbabies-db
        property: connectionString
    - key: JWT_SECRET
      generateValue: true
    - key: NODE_ENV
      value: production
```

2. Deploy Steps

1. Push to GitHub:

bash

```
git init
git add .
git commit -m "Initial commit"
git branch -M main
git remote add origin your-github-repo-url
git push -u origin main
```

2. **Create Render Account:** Go to <https://render.com>

3. **Create MongoDB Database:**

- Create new PostgreSQL database (or use MongoDB Atlas)
- Note connection string

4. **Create Web Service:**

- Connect GitHub repository
- Select Node.js environment
- Build command: `npm install && npm run build`
- Start command: `npm start`
- Add environment variables

5. **Environment Variables on Render:**

```
MONGODB_URI=your_mongodb_atlas_connection_string
JWT_SECRET=auto_generated_secret
NODE_ENV=production
```

File Structure Summary

```
furbabies-petstore/
├── client/                # React frontend
│   ├── public/assets/    # Your existing images
│   ├── src/
│   │   ├── components/   # Reusable components
│   │   ├── pages/        # Page components
│   │   ├── contexts/     # React contexts
│   │   ├── services/     # API services
│   │   └── App.js
│   └── package.json
├── server/               # Express backend
│   ├── controllers/      # Route controllers
│   ├── models/           # Mongoose models
│   ├── routes/           # API routes
│   ├── middleware/       # Custom middleware
│   ├── scripts/          # Utility scripts
│   └── server.js
├── .env                  # Environment variables
├── package.json          # Root dependencies
└── README.md
```

SOW Requirements Checklist

✓ MVP Requirements:

- ✓ MongoDB database for pet data
- ✓ Express.js API server
- ✓ React frontend (converted from your HTML)
- ✓ Node.js backend
- ✓ Dynamic list of pets from database
- ✓ Home, About, Contact pages
- ✓ Ready for deployment to Render

✓ Additional Features:

- ✓ User authentication (register/login)
- ✓ Add new pets to database (authenticated users)
- ✓ Contact form that stores messages in MongoDB
- ✓ Pet voting system (upvote/downvote)
- ✓ Pet ratings with comments
- ✓ Individual pet detail pages with route parameters
- ✓ Pet filtering (type, size, price range)
- ✓ Responsive design (preserved from your original)
- ✓ User profiles and favorites

🎯 Ready to Add:

- ☐ Weather API integration
- ☐ Pet-related news API integration
- ☐ Email notifications
- ☐ Admin dashboard
- ☐ Advanced search features

Timeline Completion

Based on your SOW deadlines:

- **Local hosting completion:** Ready now (4/7/25 deadline ✓)
- **Deployment to Render:** Can be completed in 1 day (4/10/25 deadline ✓)
- **Presentation readiness:** All code documented and demo-ready (4/11/25 ✓)

Next Steps

1. **Set up the project structure** using the files provided
2. **Copy your assets** to the client/public/assets folder
3. **Run the seed script** to populate your database
4. **Test locally** with `npm run dev`
5. **Deploy to Render** following the deployment guide
6. **Prepare presentation** showcasing your features

Your existing design and content are preserved while adding full MERN stack functionality!