

# Vercel Deployment Guide for CreditSea

---

This guide will help you deploy your CreditSea application to Vercel.

---

## Prerequisites

Before deploying, ensure you have:

1. ☒ A GitHub account with your CreditSea repository
  2. ☒ A Vercel account (sign up at [vercel.com](https://vercel.com))
  3. ☒ MongoDB Atlas account for cloud database
  4. ☒ All code pushed to GitHub
- 

## Part 1: Set Up MongoDB Atlas (Database)

### Step 1: Create MongoDB Atlas Account

1. Go to [mongodb.com/cloud/atlas](https://mongodb.com/cloud/atlas)
2. Sign up or log in
3. Create a **FREE cluster** (M0 Sandbox)

### Step 2: Configure Database

1. Click **"Database Access"** → Add Database User
  - Username: `creditsea_user`
  - Password: Generate a strong password (save it!)
  - Database User Privileges: `Read and write to any database`
2. Click **"Network Access"** → Add IP Address
  - Click **"Allow Access from Anywhere"** (0.0.0.0/0)
  - This is needed for Vercel to connect
3. Click **"Database"** → **"Connect"**
  - Choose: **"Connect your application"**
  - Driver: Node.js
  - Copy the connection string (looks like):

```
mongodb+srv://creditsea_user:<password>@cluster0.xxxxx.mongodb.net/?
retryWrites=true&w=majority
```

- Replace `<password>` with your actual password
- Replace the database name (after `.net/`) with `creditsea`:

```
mongodb+srv://creditsea_user:YOUR_PASSWORD@cluster0.xxxxx.mongodb.net/creditsea?retryWrites=true&w=majority
```

---

## 🔑 Part 2: Prepare Your Code for Deployment

### Step 1: Update Backend for Production

Create a `vercel.json` file in your **backend** folder:

```
{
  "version": 2,
  "builds": [
    {
      "src": "server.js",
      "use": "@vercel/node"
    }
  ],
  "routes": [
    {
      "src": "/*",
      "dest": "server.js"
    }
  ]
}
```

### Step 2: Update CORS in Backend

Edit `backend/server.js` to allow your frontend domain:

```
// Update CORS configuration
const corsOptions = {
  origin: [
    "http://localhost:5173",
    "http://localhost:3000",
    "https://your-frontend-domain.vercel.app", // Add after frontend deployment
    "https://*.vercel.app", // Allow all Vercel preview deployments
  ],
  credentials: true,
};

app.use(cors(corsOptions));
```

### Step 3: Update Frontend API URL

Edit `frontend/src/services/api.js`:

```
const API_BASE_URL =  
  import.meta.env.VITE_API_URL || "http://localhost:3000/api";
```

## Step 4: Create Environment Variable Files

**Backend** - Create `backend/.env.example`:

```
PORT=3000  
MONGODB_URI=your_mongodb_connection_string_here  
NODE_ENV=production
```

**Frontend** - Create `frontend/.env.example`:

```
VITE_API_URL=your_backend_url_here/api
```

## Step 5: Commit and Push Changes

```
git add .  
git commit -m "Prepare for Vercel deployment"  
git push origin master
```

---

# Part 3: Deploy Backend to Vercel

## Step 1: Import Backend Project

1. Go to [vercel.com/dashboard](https://vercel.com/dashboard)
2. Click **"Add New..."** → **"Project"**
3. Import your GitHub repository: `badal0raon-06/CreditSea`
4. Click **"Import"**

## Step 2: Configure Backend Deployment

### Important Settings:

- **Project Name:** `creditsea-backend` (or your preferred name)
- **Framework Preset:** Other
- **Root Directory:** `backend` ⚠ **IMPORTANT!**
- **Build Command:** Leave empty or `npm install`
- **Output Directory:** Leave empty
- **Install Command:** `npm install`

## Step 3: Add Environment Variables

Click **"Environment Variables"** and add:

Name	Value
MONGODB_URI	Your MongoDB Atlas connection string
PORT	3000
NODE_ENV	production

Step 4: Deploy Backend

1. Click **"Deploy"**
2. Wait for deployment to complete (2-3 minutes)
3. Copy your backend URL (e.g., <https://creditsea-backend.vercel.app>)

---

## Part 4: Deploy Frontend to Vercel

Step 1: Import Frontend Project

1. Go back to Vercel dashboard
2. Click **"Add New..."** → **"Project"**
3. Import the **same repository** again: [badal0raon-06/CreditSea](#)

Step 2: Configure Frontend Deployment

**Important Settings:**

- **Project Name:** [creditsea-frontend](#) (or your preferred name)
- **Framework Preset:** Vite ☒
- **Root Directory:** [frontend](#) ⚠ **IMPORTANT!**
- **Build Command:** `npm run build`
- **Output Directory:** `dist`
- **Install Command:** `npm install`

Step 3: Add Environment Variables

Click **"Environment Variables"** and add:

Name	Value
VITE_API_URL	<a href="https://creditsea-backend.vercel.app/api">https://creditsea-backend.vercel.app/api</a>

⚠ **Replace with your actual backend URL from Part 3, Step 4**

Step 4: Deploy Frontend

1. Click **"Deploy"**
2. Wait for deployment to complete (2-3 minutes)
3. Your app is now live! 🎉

## Part 5: Update Backend CORS

Now that you have your frontend URL, update the backend CORS:

- 1. Go to backend Vercel project
- 2. Go to **Settings** → **Environment Variables**
- 3. Add a new variable:

Name	Value
FRONTEND_URL	https://creditsea-frontend.vercel.app

- 4. Update `backend/server.js`:

```
const corsOptions = {
  origin: process.env.FRONTEND_URL || "http://localhost:5173",
  credentials: true,
};
```

- 5. Commit and push changes - Vercel will auto-deploy

---

## Part 6: Test Your Deployment

Test Checklist:

- 1. ☒ Visit your frontend URL
- 2. ☒ Try uploading an XML file
- 3. ☒ Check if report list loads
- 4. ☒ Click on a report to view details
- 5. ☒ Test all navigation

If Issues Occur:

**Check Vercel Logs:**

- 1. Go to your project in Vercel
- 2. Click "**Deployments**"
- 3. Click on the latest deployment
- 4. Check "**Function Logs**" or "**Build Logs**"

**Common Issues:**

Issue	Solution
404 errors on API calls	Check <code>VITE_API_URL</code> is correct
CORS errors	Update backend CORS settings
Database connection failed	Verify MongoDB Atlas IP whitelist

Issue	Solution
Build failed	Check Node.js version compatibility

## Part 7: Custom Domain (Optional)

Add Custom Domain:

1. Go to your project in Vercel
2. Click **"Settings"** → **"Domains"**
3. Add your domain (e.g., `creditsea.com`)
4. Follow Vercel's DNS instructions
5. Update environment variables with new domain

## Part 8: Continuous Deployment

Vercel automatically deploys when you push to GitHub:

```
# Make changes to your code
git add .
git commit -m "Update feature"
git push origin master
```

Vercel will automatically:

- Build your project
- Run tests (if configured)
- Deploy to production
- Update the live site

## Security Best Practices

For Production:

1. ☒ Never commit `.env` files
2. ☒ Use environment variables for all secrets
3. ☒ Restrict MongoDB IP access (whitelist Vercel IPs)
4. ☒ Enable HTTPS (Vercel does this automatically)
5. ☒ Set up proper CORS origins
6. ☒ Add rate limiting to your API
7. ☒ Validate file uploads properly

## Monitoring

Vercel Analytics:

1. Go to project dashboard
2. Click "**Analytics**"
3. Monitor:
  - Page views
  - Performance metrics
  - Error rates

### MongoDB Atlas Monitoring:

1. Go to Atlas dashboard
2. Check:
  - Database performance
  - Connection count
  - Storage usage

---

## Troubleshooting Guide

### Backend Issues

#### **Problem: Functions timeout**

Solution: Optimize database queries or increase timeout in vercel.json

```
{
  "functions": {
    "server.js": {
      "maxDuration": 60
    }
  }
}
```

#### **Problem: MongoDB connection fails**

Solution:

1. Check MongoDB Atlas IP whitelist (0.0.0.0/0)
2. Verify connection string in environment variables
3. Check database user permissions

### Frontend Issues

#### **Problem: Environment variables not working**

Solution:

1. Ensure variables start with VITE\_
2. Redeploy after adding variables
3. Variables set at build time, not runtime

---

**Problem: API calls fail with CORS error**

Solution: Update backend CORS to include frontend domain

---

## Additional Resources

- [Vercel Documentation](#)
- [Vite Deployment Guide](#)
- [MongoDB Atlas Documentation](#)
- [Express.js Production Best Practices](#)

---

## Success!

Your CreditSea application should now be live on Vercel!

### Share your deployment:

- Frontend: <https://your-app.vercel.app>
- Backend: <https://your-api.vercel.app>

Remember to:

- Monitor your application regularly
- Check Vercel and MongoDB free tier limits
- Keep your dependencies updated
- Back up your database regularly

---

### Need Help?

- Vercel Support: [vercel.com/support](https://vercel.com/support)
- Community Discord: [vercel.com/discord](https://vercel.com/discord)

**Happy Deploying!** 