CEREO Living Atlas

Handover Report

Center for Environmental Research, Education, and Outreach (CEREO)

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CptS 423 Software Design Project II

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I. Introduction

This document outlines all of the services necessary for the continued operation of the Living Atlas website and how to maintain, deploy, and manage those services.

This handover document is intended for future development and maintenance teams and follows the same structure as the previous upkeep report, with updates reflecting the migration to Microsoft Azure and SendGrid.

II. Services Used

Netlify: Used to host and deploy the frontend (React application).

Render: Used to host and run the FastAPI backend service.

Microsoft Azure (PostgreSQL Flexible Server): Used to host the production PostgreSQL database.

Mapbox: Used for map rendering, geospatial layers, and interactive map UI.

SendGrid: Used to send system emails such as password recovery and notifications.

Bitly: Used to shorten long password reset URLs sent via email.

ArcGIS REST Services (external): Used as external data sources for map layers shown in the upload panel (not stored in the database).

III. Maintenance Guide

III.1. Frontend Deployment

This process is used for updating the frontend.

1. Open a terminal and navigate to the frontend client directory:

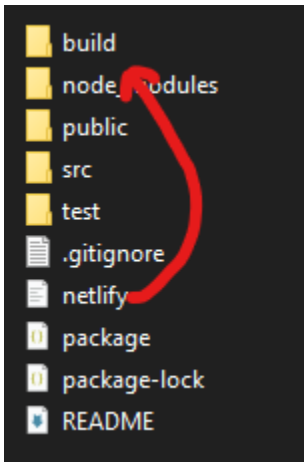
   cd LivingAtlas1-main/client

2. Build the frontend:

   npm run build

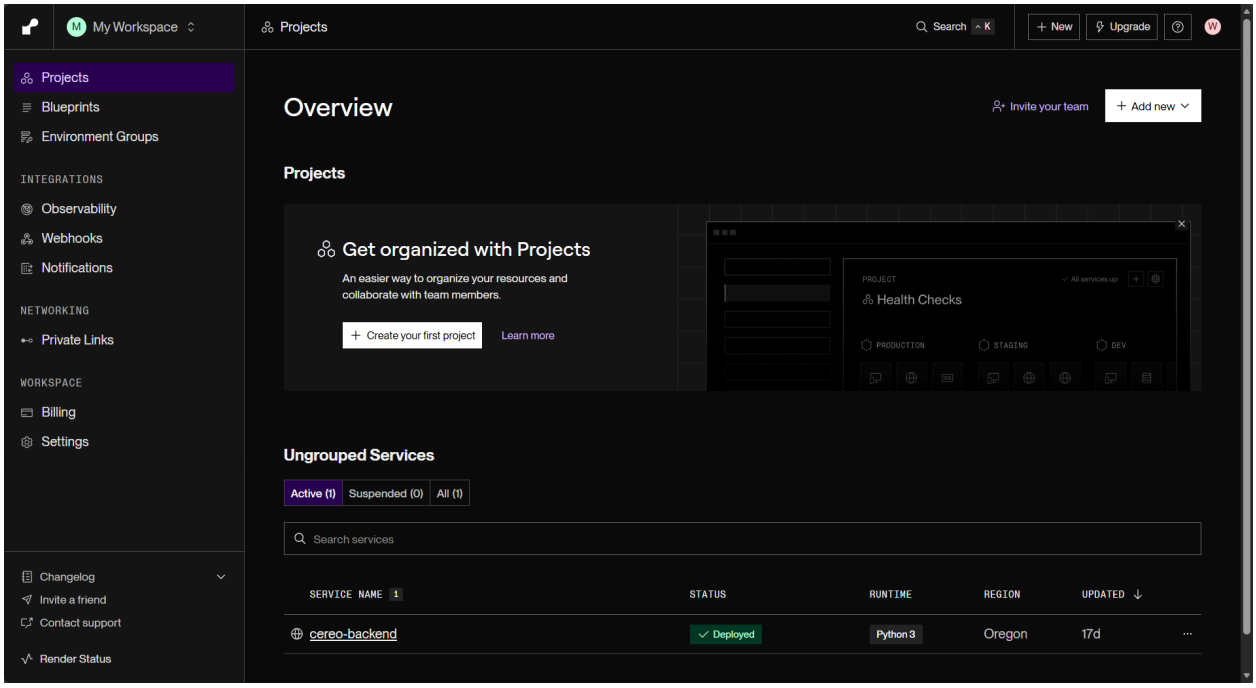
```
s-> cd .\LivingAtlas1-main\
s-\LivingAtlas1-main> cd .\client\
s-\LivingAtlas1-main\client> npm run build
```

3. After the build completes, log in to Netlify and go to the project's Deploys page.
4. Select the build folder into the Netlify deployment area to deploy the new version.

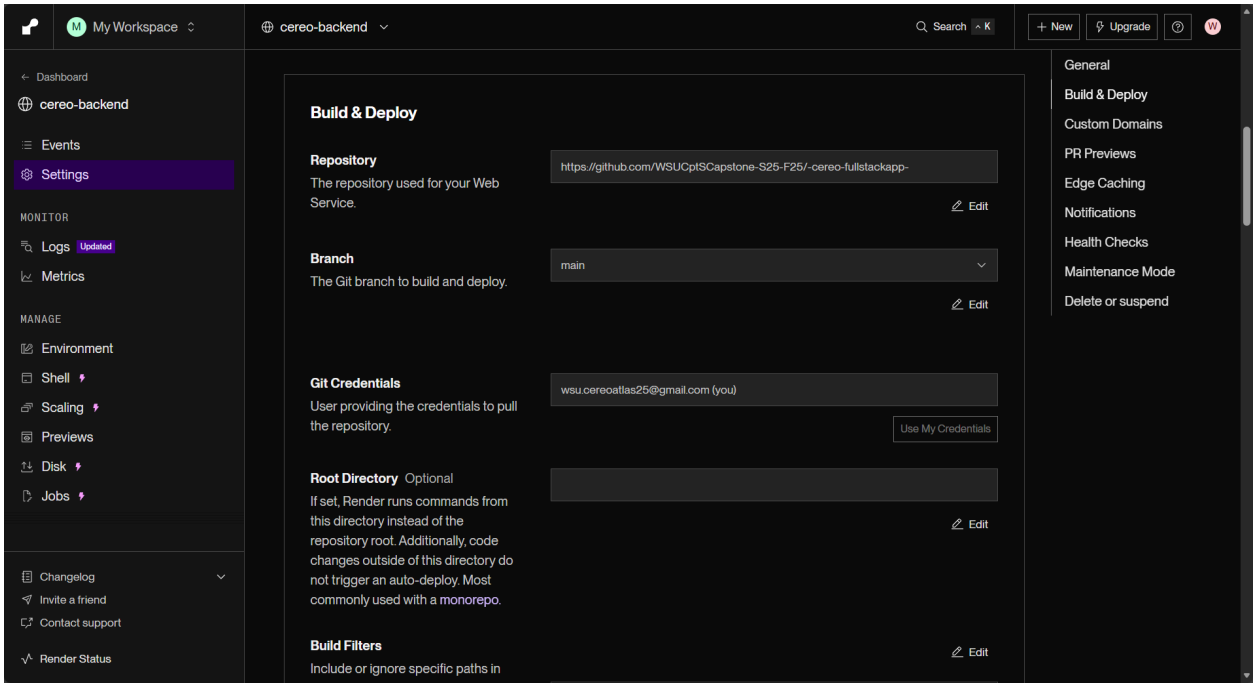


III.2. Changing Target Git Repository (Backend)

1. Log in to Render.
2. Select the cereo-backend service.



3. Navigate to Settings → Build & Deploy.



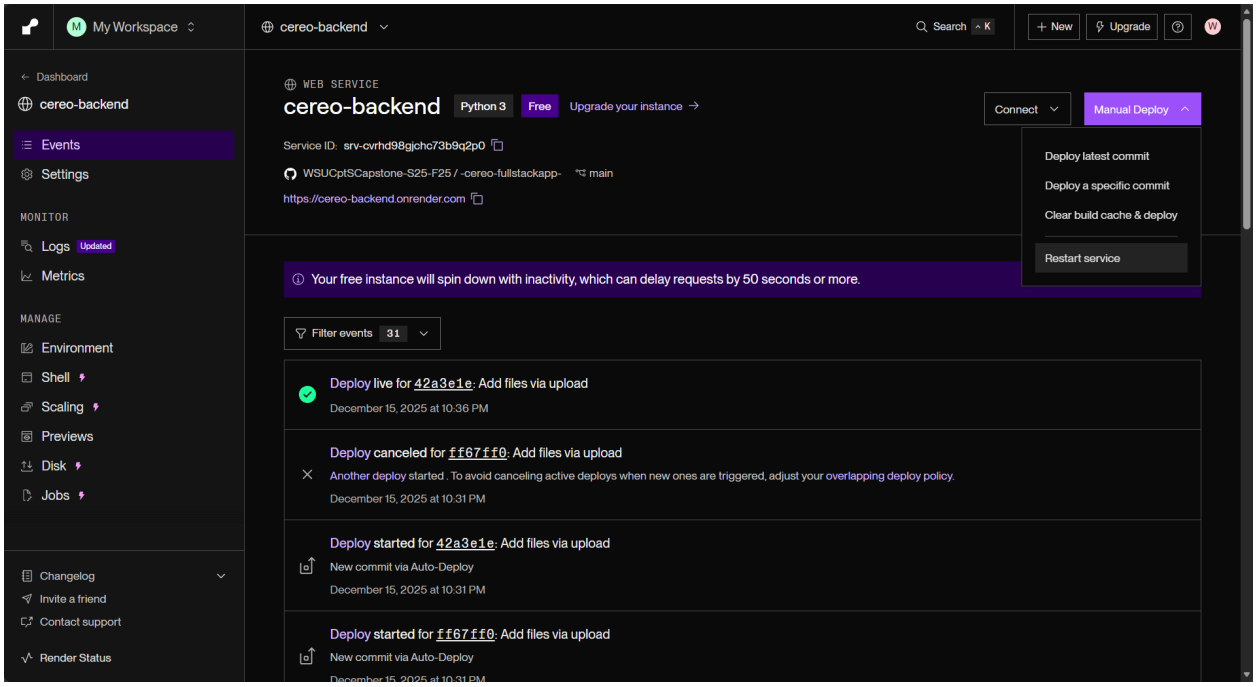
4. Update:
    - GitHub repository URL
    - Branch name
    - Root directory (if applicable)

Save changes to retarget the backend to a new repository.

III.3. Restarting / Deploying Render

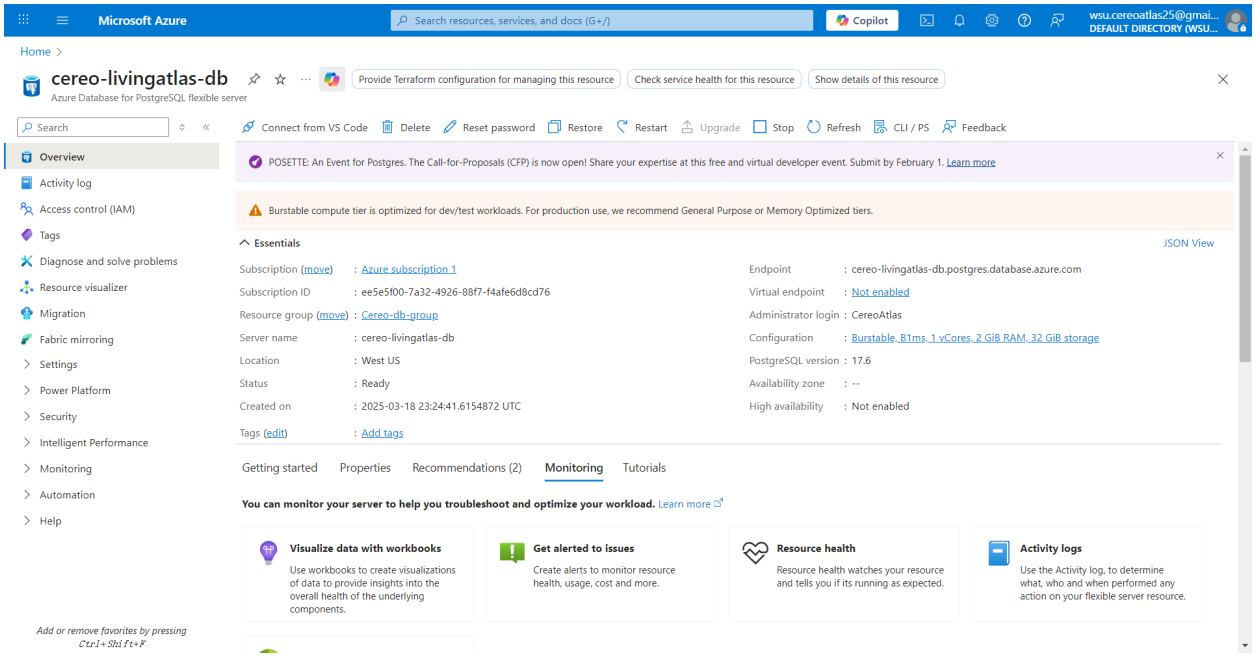
If the backend stops responding or data is not loading:

1. Open the Render dashboard.
2. Select the backend service.
3. Go to Events or Deploy.
4. Click Restart service or Deploy latest commit.



III.4. Azure Database

The PostgreSQL database is hosted on Microsoft Azure.



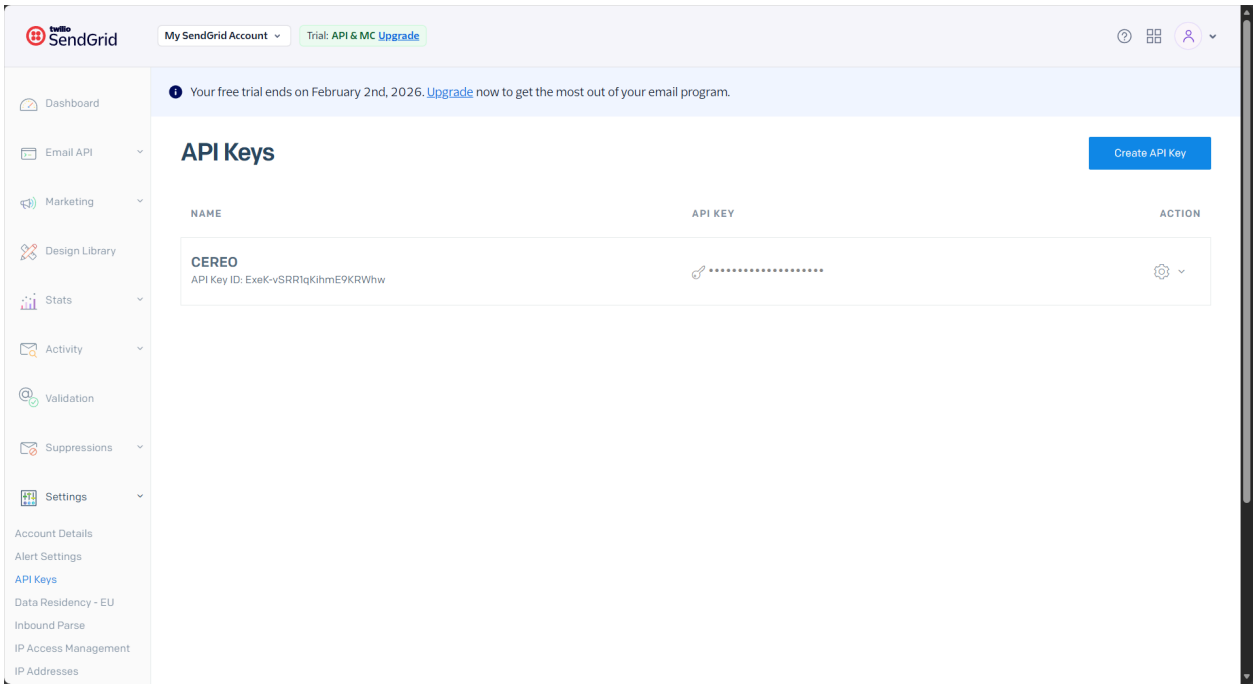
Connection information is stored in database.py and includes:

- Host
- Port

- Database name
- Username
- Password
- SSL mode requirement

III.5. SendGrid

SendGrid is used for password reset emails and notifications.



Configuration values are stored in account.py:

- Email
- Password
- Recovery code
- API key

```
# SendGrid Email: wsu.cereoatlas26@gmail.com
# SendGrid Password: LivingAtlas25$
# SendGrid Recovery Code: 8W6JXAUWQZWSNVJXA4VH2CXV
# SendGrid API Key: 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
```

III.6. Local ArcGIS Data Editing

Editing ArcGIS services only affects the frontend display and does not modify the database.

The full process is documented in:

“**CEREO Living Atlas – Editing Local ArcGIS Data**”

including locating JSON files, renaming services, deleting items, rebuilding, and redeploying.

IV. Service Account Information

Service	Email / Username	Password	Notes
Netlify	cereo.atlas@gmail.com	CereoAtlas5689!	Used for frontend deployment
Render	wsu.cereoatlas25@gmail.com	LivingAtlas25$	Used for backend hosting
Azure PostgreSQL	wsu.cereoatlas25@gmail.com	LivingAtlas25$	Azure database user
PostgreSQL Database	CereoAtlas	LivingAtlas25$	Used in database.py
SendGrid	wsu.cereoatlas26@gmail.com	LivingAtlas25$	Send password resetting Email; more info in account.py
Mapbox	livingatlas	L1v1ngAtl@s	Map API

V. Future Work

The following improvements are suggested:

User-friendliness: Add an in-app tutorial/onboarding and AI assistant chatbot to help users navigate the application.

Performance: Improve the loading speed when displaying ArcGIS data

Security: Strengthen authentication, encryption, and overall data protection measures (e.g. add 2FA and MFA, etc.)

Usability: Explore additional types of interactive ArcGIS data besides MapServer (e.g. FeatureServer).

Accessibility: Make sure the app complies with UPPM 10.45 and USER-01 Accessibility Policy

VI. Contact Information

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Jonathan Simmons - jonathan.j.simmons@wsu.edu

For questions related to:

- Azure database access, Render login, or billing issues, contact Zachary.
- SendGrid email issues or Bitly link/token issues, contact Yaru.