Errors and Fixes

Errors after rebranding from GamerHub to SaaSight:

ERROR-FIX LOG (Post-Rebrand)

1 Problem: Wrong old DB file (`boardgames.db`) kept getting recreated

- **Symptom**: Homepage and register/login worked until you deleted `boardgames.db` . Then app crashed.

- **Fix**:

  - Updated `config.py` → Changed:

    ```
    'sqlite:///' + os.path.join(os.path.abspath(os.path.dirname(__file__)), 'boardgames.db')
    ```

    to:

    ```
    'sqlite:///' + os.path.join(os.path.abspath(os.path.dirname(__file__)), 'saasight.db')
    ```

  - Pushed changes → pipeline now uses correct DB name.

2 Problem: CodePipeline was deploying old artifacts

- **Symptom**: New commits triggered build, but EC2 didn't reflect changes.

- **Fix**:

  - Ensured `SourceArtifact → BuildArtifact → Deploy` chain is correct.

  - Added missing `OutputArtifact: BuildArtifact` in **Build Stage**.

  - Fixed CodePipeline input/output references.

- Verified in S3 that latest zips had updated content.

- Cleaned `/home/ec2-user/` in install script to remove stale files.

3️⃣ Problem: Gunicorn systemd service failed (Exec path broken)

- **Symptom**: EC2 didn't serve app. `systemctl status saasight` showed `No such file or directory` for Gunicorn path.

- **Fix**:

    - Recreated virtualenv in install script **after** copying latest code.

    - Regenerated `venv/bin/gunicorn` path properly.

    - Restarted `saasight.service` with valid Gunicorn path in `ExecStart`.

4️⃣ Problem: EC2 still served stale version (e.g., old `base.html`)

- **Symptom**: `curl localhost:8000` returned old templates despite new commits.

- **Fix**:

    - Validated CodeDeploy archive via:

    ```
    find /opt/codedeploy-agent/deployment-root -name base.html
    ```

    - Ensured `install_dependencies.sh` pulls latest from newest `deployment-archive` using:

    ```
    find ... | sort | tail -1
    ```

    - Cleaned all relevant folders before copying.

5️⃣ Problem: Codedeploy didn't fully overwrite files

- **Symptom**: Site loaded, but only partial updates reflected.

- **Fix**:

    - Added aggressive cleanup step:

```
rm -rf /home/ec2-user/{app,scripts,static,templates,tests,venv,__pyca
che__}
rm -f /home/ec2-user/*.{py,txt,yml}
```

- Recreated venv and reinstalled from scratch every deploy.

6️⃣ Problem: Internal Server Error after manager login

- **Symptom**: Logging in as manager crashed the site.

- **Fix**: *(Pending full details — you're still debugging this now)*

  ➤ Temporary fix was restarting app (`python -m run` , then restart server)

  ➤ Likely cause: role-specific redirect or missing manager dashboard route
  (TBD after you drop logs)

Error/Fix Reference Sheet

1. Database Permission Error

Error:

`sqlite3.OperationalError: attempt to write a readonly database`

Fix:

```
sudo chown ec2-user:ec2-user /home/ec2-user/instance/saasight.db
sudo chmod 664 /home/ec2-user/instance/saasight.db
```

2. Wrong Database Location

Error:

App using `/home/ec2-user/saasight.db` instead of `/home/ec2-user/instance/saasight.db`

Fix:

```
# In config.py
SQLALCHEMY_DATABASE_URI = 'sqlite:////home/ec2-user/instance/saasight.
db'  # Absolute path
```

3. Service Crash After Restart

Error:

`saasight.service: Failed with result 'exit-code'`

Fix:

Added to systemd service file:

```
[Service]
ExecStartPre=/bin/chown -R ec2-user:ec2-user /home/ec2-user/instance
ExecStartPre=/bin/chmod 664 /home/ec2-user/instance/saasight.db
```

4. Database Not Found After Deployment

Error:

Missing database file in `instance/` directory

Fix:

Added to `install_dependencies.sh` :

```
mkdir -p /home/ec2-user/instance
[ -f /home/ec2-user/saasight.db ] && mv /home/ec2-user/saasight.db /home/
ec2-user/instance/
```

5. Migration Failures

Error:

`flask db upgrade` failing during deployment

Fix:

Added backup/restore in `install_dependencies.sh` :

```
BACKUP_FILE="/home/ec2-user/backups/saasight.db.backup-$(date +%Y%
m%d%H%M%S)"
cp /home/ec2-user/instance/saasight.db "$BACKUP_FILE"
flask db upgrade || cp "$BACKUP_FILE" /home/ec2-user/instance/saasight.db
```

6. Configuration Cache Issue

Error:

App ignoring new `config.py` changes

Fix:

Forced absolute path + service restart:

```
sudo systemctl daemon-reload
sudo systemctl restart saasight
```

Prevention Checklist

1. Always use **absolute paths** for databases
2. Set **explicit permissions** (664 for files, 775 for directories)
3. Include **pre-start checks** in systemd services
4. Implement **backup/restore** for migrations
5. **Verify paths** with:

```
sudo -u ec2-user flask shell <<< 'print(app.config["SQLALCHEMY_DATAB
ASE_URI"])'
```

Contd..

1. Database Path Mismatch

Error:

App still looking for old database path after rebranding

Fix:

```
# In config.py
SQLALCHEMY_DATABASE_URI = 'sqlite:////home/ec2-user/instance/saasight.db'  # Absolute path
```

2. Permission Conflicts

Error:

`sqlite3.OperationalError: attempt to write a readonly database`

Fix:

```
sudo chown ec2-user:ec2-user /home/ec2-user/instance/saasight.db
sudo chmod 664 /home/ec2-user/instance/saasight.db
```

3. Service Startup Failures

Error:

`saasight.service: Failed with result 'exit-code'`

Fix:

Added to systemd service:

```
[Service]
ExecStartPre=/bin/chown -R ec2-user:ec2-user /home/ec2-user/instance
ExecStartPre=/bin/chmod 664 /home/ec2-user/instance/saasight.db
```

4. Deployment Database Loss

Error:

Database missing after CodeDeploy

Fix:

Added to `install_dependencies.sh` :

```
mkdir -p /home/ec2-user/instance
[ -f /home/ec2-user/saasight.db ] && mv /home/ec2-user/saasight.db /home/
ec2-user/instance/
```

5. Configuration Cache Issues

Error:

Old config persisting after updates

Fix:

```
sudo systemctl daemon-reload
sudo systemctl restart saasight
```

Key Prevention Measures

1. **Absolute paths** for all file references
2. **Pre-deployment backups**:

   ```
   cp /home/ec2-user/instance/saasight.db /home/ec2-user/backups/
   ```

3. **Post-deploy verification**:

   ```
   ls -la /home/ec2-user/instance/saasight.db
   sudo -u ec2-user sqlite3 /home/ec2-user/instance/saasight.db "PRAGMA
   integrity_check;"
   ```

6. Migration Failures During Deployment

Error:

`flask db upgrade` failing with schema errors

Fix: Added backup/restore in `install_dependencies.sh` :

```
# Before migration
BACKUP="/home/ec2-user/backups/saasight.db.$(date +%s)"
cp /home/ec2-user/instance/saasight.db "$BACKUP"

# Run migration with rollback
flask db upgrade || {
  echo "❌ Migration failed - Restoring backup";
  cp "$BACKUP" /home/ec2-user/instance/saasight.db;
  exit 1;
}
```

7. CodeArtifact Token Expiry

Error:

`pip install` failing with 403 Forbidden

Fix: Updated `buildspec.yml` to refresh tokens:

```
phases:
  install:
    commands:
      - export CODEARTIFACT_AUTH_TOKEN=$(aws codeartifact get-authorization-token --domain gamerhub --domain-owner 975050195505 --region us-east-1 --query authorizationToken --output text)
      - pip config set global.index-url "<https://aws:${CODEARTIFACT_AUTH_TOKEN}@gamerhub-975050195505.d.codeartifact.us-east-1.amazonaws.com/pypi/devops-cicd-repo/simple/>"
```

8. Gunicorn Worker Timeouts

Error:

Worker timeout after 30s during heavy requests

Fix: Added to systemd service (`/etc/systemd/system/saasight.service`):

```
[Service]
ExecStart=/home/ec2-user/venv/bin/gunicorn -w 3 -t 120 -b 0.0.0.0:8000 --c
hdir /home/ec2-user run:app
```

(Added `-t 120` *for 2-minute timeout)*

9. Missing Dependencies in AL2023

Error:

`python3.12-devel` not found

Fix: Updated install script:

```
sudo dnf install -y python3.12 python3.12-pip python3.12-devel gcc
```

10. Instance Directory Permissions

Error:

App failing to create uploads/ directory

Fix: Added to `install_dependencies.sh` :

```
mkdir -p /home/ec2-user/instance /home/ec2-user/uploads
chown -R ec2-user:ec2-user /home/ec2-user/{instance,uploads}
chmod 775 /home/ec2-user/{instance,uploads}
```

Verified Recovery Flow

If issues recur:

1. **Restore database** from backups:

   ```
   cp /home/ec2-user/backups/latest.db /home/ec2-user/instance/saasight.
   db
   ```

2. **Reapply permissions**:

```
sudo chown ec2-user:ec2-user /home/ec2-user/instance/saasight.db
```

3. **Full redeploy**:

```
sudo systemctl stop saasight
rm -rf /home/ec2-user/venv
# Trigger CodeDeploy again
```

MAKE SURE PROPER CLOUD FORMATION TEMPLATE AND PROPER SECURITY GROUP CONFIGURATIONS ARE DONE .