# **TEST PLAN FOR DEPLOY FUSION**

## **1. Test Plan Overview**

* **Project Name:** Deploy Fusion
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* **Date:** 24 September 2024
* **Version:** 1.0

## **2. Objectives**

* Validate the functionality of the Deploy Fusion web application.
* Ensure the CI/CD pipeline operates smoothly.
* Confirm deployment processes on Vercel and GitHub Actions are reliable.

## **3. Scope**

* **In Scope:**
  + Functional Testing
  + Integration Testing
  + Performance Testing
  + Security Testing
* **Out of Scope:**
  + User Experience Testing (unless specific feedback is collected)

## **4. Test Environment**

* **Development Environment:** Local development setup.
* **Staging Environment:** Deployed version on Vercel.
* **Production Environment:** Live version on Vercel.

## **5. Testing Types**

### **5.1 Functional Testing**

* **Test Cases:**
  + Verify all endpoints respond correctly (GET, POST, etc.).
  + Validate user authentication and authorization.
  + Check form validations and error messages.
  + Ensure UI components render correctly.

### **5.2 Integration Testing**

* **Test Cases:**
  + Test interactions between front-end and back-end services.
  + Verify third-party API integrations.
  + Confirm data persistence in the database.

### **5.3 Performance Testing**

* **Test Cases:**
  + Measure load times for key pages.
  + Test response times under heavy load.
  + Check for memory leaks or resource hogs.

### **5.4 Security Testing**

* **Test Cases:**
  + Verify protection against SQL injection, XSS, and CSRF attacks.
  + Ensure secure handling of user credentials.
  + Check for proper HTTPS implementation.

## **6. Test Execution**

* **Responsibility:** Testing will be performed by the development team (including you).
* **Tools:**
  + Automated Testing Frameworks
  + Performance Testing Tools
  + Security Testing Tools

## **7. CI/CD Pipeline Verification**

* Verify that all tests are automated in the GitHub Actions workflow.
* Ensure that builds succeed with no errors.
* Confirm that successful deployments trigger post-deployment tests.

## **8. Reporting**

* Document test results and log any defects found.
* Provide a summary report to stakeholders upon completion of testing.