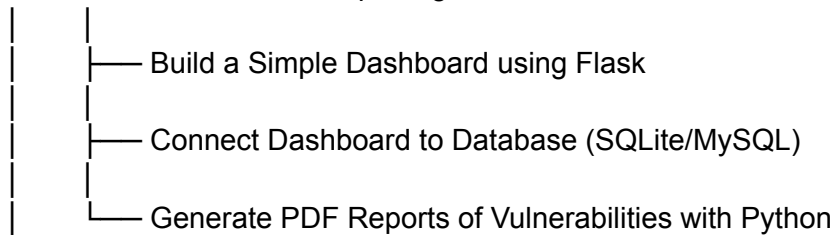


## Phase 4

### Phase 4: Dashboard and Reporting



```
.....

from flask import Flask, render_template, request
from flask_sqlalchemy import SQLAlchemy
from reportlab.lib.pagesizes import letter
from reportlab.pdfgen import canvas

# Initialize Flask app and database
app = Flask(__name__)
app.config['SQLALCHEMY_DATABASE_URI'] = 'sqlite:///vulnerabilities.db'
db = SQLAlchemy(app)

# Database model for storing vulnerabilities
class Vulnerability(db.Model):
    id = db.Column(db.Integer, primary_key=True)
    scan_name = db.Column(db.String(100), nullable=False)
    status = db.Column(db.String(50), nullable=False)
    severity = db.Column(db.String(50), nullable=False)

# Route to display vulnerability scan results
@app.route('/')
def home():
    vulnerabilities = Vulnerability.query.all() # Fetch all vulnerabilities from database
    return render_template('index.html', vulnerabilities=vulnerabilities)

# Route to generate PDF report of vulnerabilities
@app.route('/generate_report', methods=["POST"])
def generate_report():
    vulnerabilities = Vulnerability.query.all() # Get all vulnerabilities from the database
    generate_pdf(vulnerabilities) # Call function to generate the PDF
    return "Report Generated", 200

# Function to generate a PDF report using ReportLab
def generate_pdf(vulnerabilities):
    c = canvas.Canvas("vulnerability_report.pdf", pagesize=letter)
    c.drawString(100, 750, "Vulnerability Report")
    c.drawString(100, 730, "-----")
```

```
y_position = 710
```

```
for vuln in vulnerabilities:
```

```
    c.drawString(100, y_position, f"Scan Name: {vuln.scan_name}")
```

```
    c.drawString(100, y_position-20, f"Status: {vuln.status}")
```

```
    c.drawString(100, y_position-40, f"Severity: {vuln.severity}")
```

```
    y_position -= 60
```

```
c.save() # Save the PDF file
```

```
# Initialize the database and create tables
```

```
@app.before_first_request
```

```
def create_tables():
```

```
    db.create_all() # Create database tables if not already created
```

```
# HTML template for displaying vulnerability results (index.html)
```

```
@app.route('/index.html')
```

```
def index_html():
```

```
    return ""
```

```
<!DOCTYPE html>
```

```
<html>
```

```
<head>
```

```
    <title>Vulnerability Dashboard</title>
```

```
</head>
```

```
<body>
```

```
    <h1>Vulnerability Scan Results</h1>
```

```
    <table border="1">
```

```
        <tr>
```

```
            <th>Scan Name</th>
```

```
            <th>Status</th>
```

```
            <th>Severity</th>
```

```
        </tr>
```

```
        {% for vuln in vulnerabilities %}
```

```
        <tr>
```

```
            <td>{{ vuln.scan_name }}</td>
```

```
            <td>{{ vuln.status }}</td>
```

```
            <td>{{ vuln.severity }}</td>
```

```
        </tr>
```

```
        {% endfor %}
```

```
    </table>
```

```
    <form action="/generate_report" method="POST">
```

```
        <button type="submit">Generate PDF Report</button>
```

```
    </form>
```

```
</body>
```

```
</html>
```

```
""
```

```
# Start the Flask web app
if __name__ == "__main__":
    app.run(debug=True)
```