This is a detailed and comprehensive practical evaluation, requiring a systematic approach to manage the various tasks within the 8-hour timeframe. Below is a structured plan to help organize and execute the evaluation efficiently:

**Preparation (8:45 AM - 9:00 AM)**

1. **Review the Requirements**: Quickly skim through the document and attached Excel sheets to understand the key tasks.
2. **Set Up the Environment**:
   * Ensure the development tools (PyCharm, Postman, Android Studio) and database (PostgreSQL/MySQL) are ready.
   * Clone or initialize a GitHub repository for version control.

**Execution Plan**

**1. Backend Development (9:00 AM - 10:30 AM)**

1. **Database Design**:
   * Design the PostgreSQL schema, ensuring normalization and relationships between tables (campaigns, UCs, vaccination data, user roles).
   * Implement foreign key constraints for linking data.
2. **API Development**:
   * Set up a Flask/Django project.
   * Implement APIs for:
     + Campaign creation.
     + Data submission (intra-campaign and catch-up coverage).
   * Ensure data validation, RBAC, and secure error handling.
3. **API Testing**:
   * Test endpoints using Postman to verify correct responses and error handling.

**2. Web Application (10:30 AM - 12:30 PM)**

1. **Admin Panel**:
   * Design a responsive form using Bootstrap for campaign creation (Admin Reqs [1]).
   * Add JavaScript/jQuery validation for mandatory fields and date validation.
   * Integrate API calls for submitting form data.
2. **User Web Form**:
   * Create a web interface for intra-campaign data entry.
   * Include form validation and API integration for data submission.

**3. Mobile Application (12:30 PM - 2:30 PM)**

1. **Android Development**:
   * Design an XML-based form for catch-up day data entry.
   * Use Java to implement API integration for data submission.
   * Test the app on an emulator to ensure functionality.
2. **Cross-Platform Synchronization**:
   * Ensure the mobile app and web app share the same API for data submission.

**4. Dashboard Development (2:30 PM - 4:00 PM)**

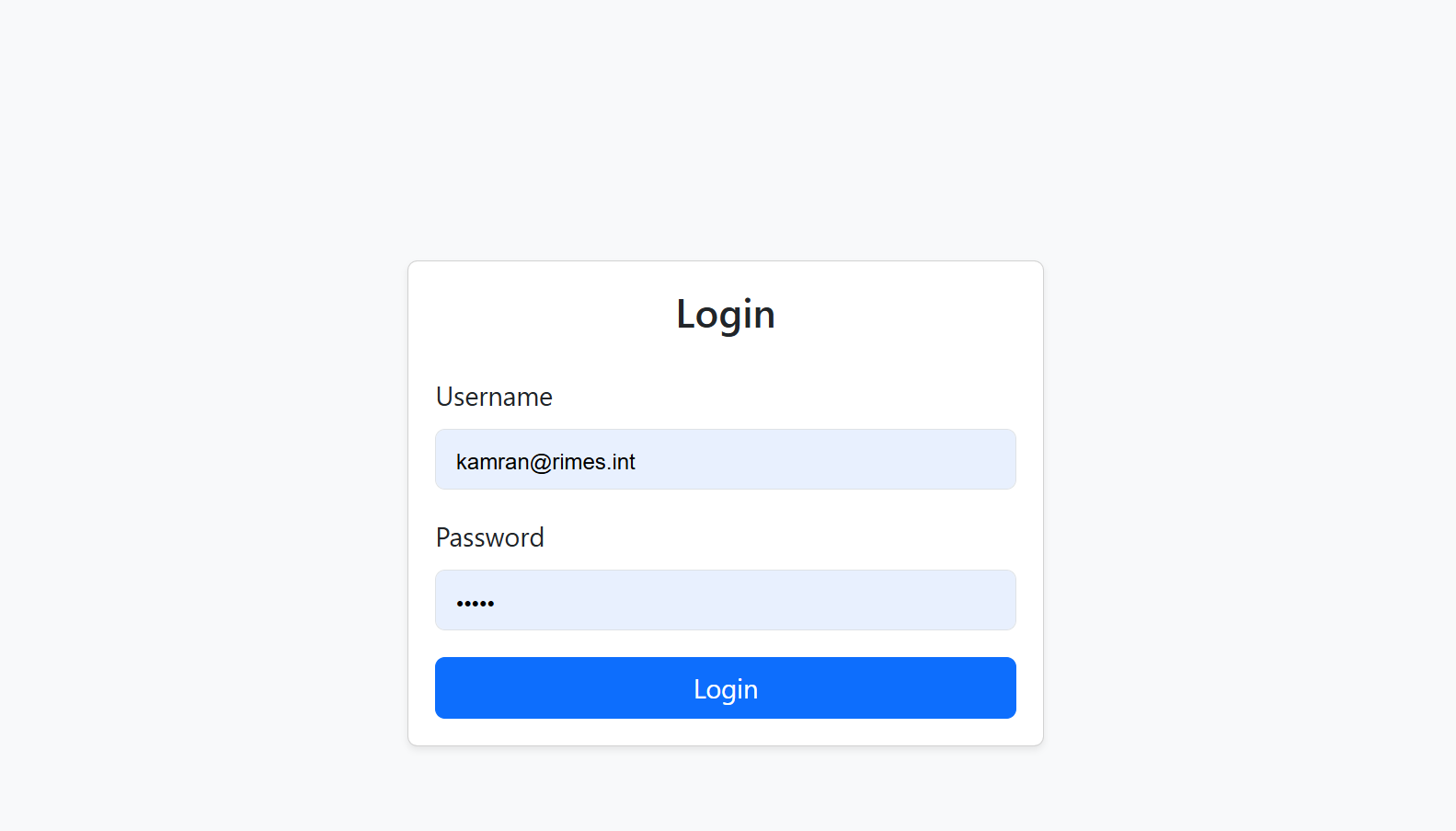
1. **Visualization Setup**:
   * Create interactive visualizations using Chart.js or Plotly:
     + Vaccination coverage vs. target.
     + Missed children stats (NA + Refusals).
   * Add filters for geographic exploration.
2. **Backend Integration**:
   * Develop endpoints for real-time data retrieval.
   * Test the dashboard with sample data.

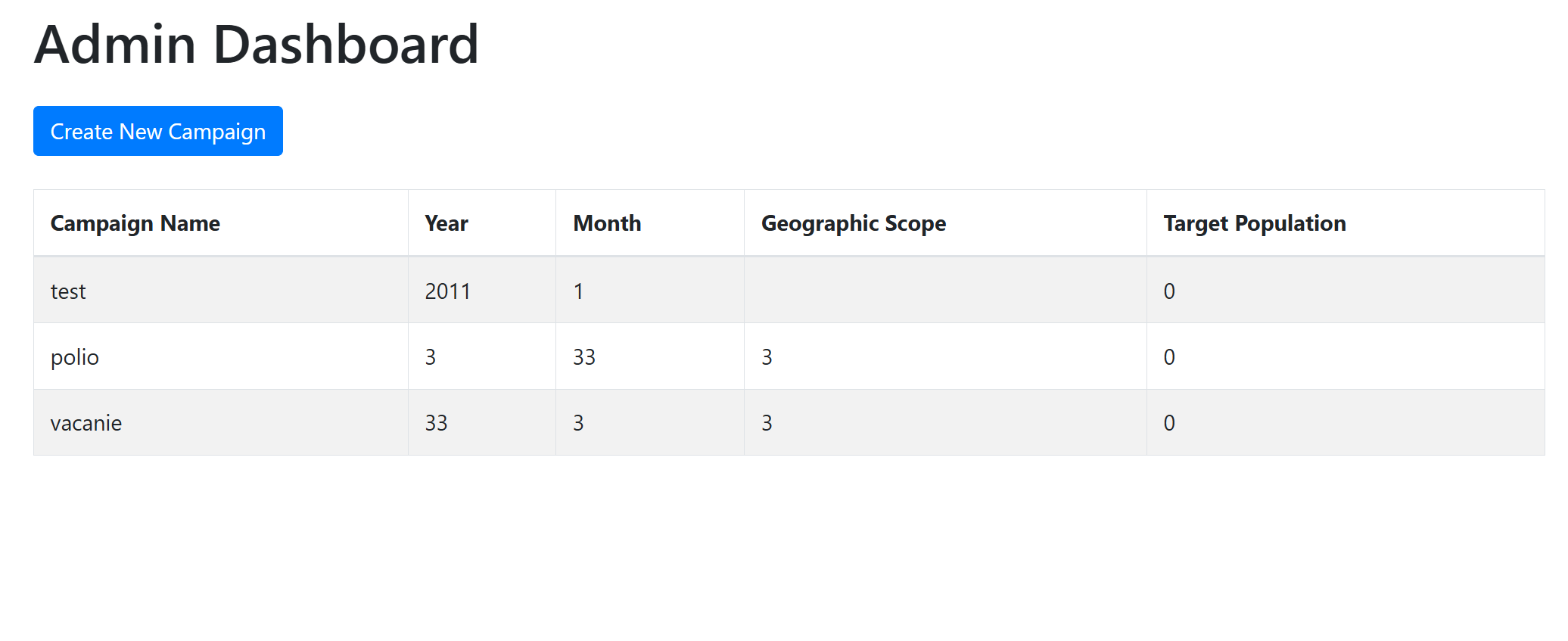
**5. CI/CD Setup (4:00 PM - 4:30 PM)**

1. **GitHub Repository**:
   * Push all code, database schema, and configurations to GitHub.
   * Set up GitHub Actions for automated testing and deployment.
2. **Deployment**:
   * Use Docker to containerize the project.
   * Deploy to a local Linux environment, optimizing for concurrency.

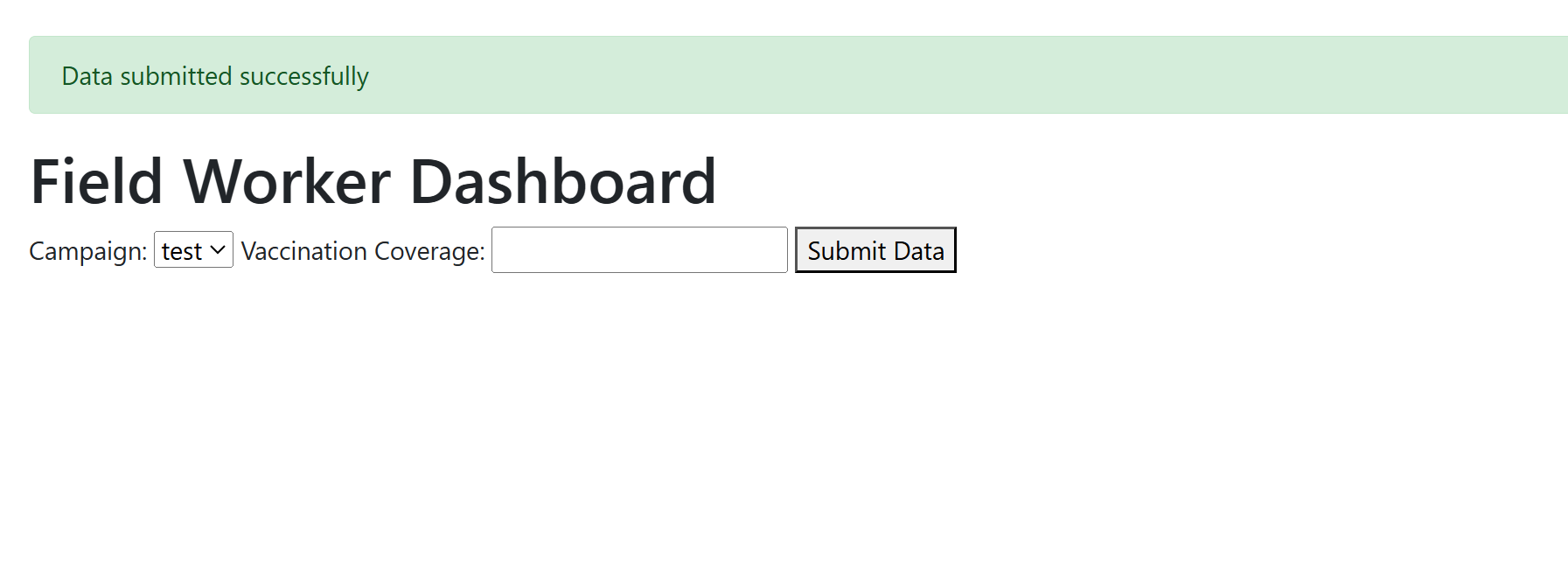
**6. Final Submission (4:30 PM - 5:00 PM)**

1. **Demo Video**:
   * Record a walkthrough of the web app, mobile app, and dashboard.
   * Demonstrate API functionality and CI/CD pipeline.
2. **Prepare Submission**:
   * Share the GitHub repository link.
   * Upload the demo video to Google Drive and share the link.
   * Respond to the evaluation email with the necessary details.

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