Webspark CRM Testing Plan

Model Layer

- **Purpose**: Test constructors, properties, validation, and edge cases.
- **Tools**: Jest for test cases
- **Key Focus**:
    - Test default and parameterized constructors.
    - Validate required fields and edge cases (e.g., empty or max-length values).
    - Ensure errors are thrown when necessary.

Service Layer

- **Purpose**: Validate business logic and interactions with mocked database responses.
- **Tools**: Jest for assertions, Sinon.js for mocking DynamoDB SDK responses.
- **Key Focus**:
    - Mock database responses (success, failure).
    - Test data transformations and business logic.
    - Handle error and edge case scenarios.

Controller Layer

- **Purpose**: Ensure API routes return correct HTTP responses.
- **Tools**: Postman for manual testing, Jest with Supertest for automated testing.
- **Key Focus**:
    - Mock service layer to isolate API responses.
    - Verify HTTP status codes (200, 400, 404, 500).
    - Ensure correct request handling (route parameters, request body).

View Layer

- **Purpose**: Validate Vue components and form interactions.
- **Tools**: Jest and Vue Test Utils for component testing, Postman for testing API integration.
- **Key Focus**:
    - Test form validation and error messages.
    - Ensure API calls update UI correctly with mock responses.