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# ArcGIS Online Development Plan

## Week 1: Practical Tasks – Web Maps & Field Operations

### Project Title:

Design and Deploy a Smart Field Data Collection System using ArcGIS Online

### Project Description:

In this project, the trainee will design and publish a complete GIS workflow using ArcGIS Online's web mapping tools and Field Maps to support a field data collection mission (for example, inspecting streetlights, monitoring trees, or surveying utility poles). The trainee must demonstrate skills in map design, symbology, pop-up configuration, smart forms, and offline field operations.

### Detailed Tasks:

#### 1. Data Preparation

- Prepare a hosted feature layer in ArcGIS Online for the target assets (e.g., trees, signs, buildings).
- Create a well-structured attribute schema (including domains, coded values, and default fields).
- Apply field aliases and descriptions to enhance data usability.

#### 2. Web Map Design (Map Viewer)

- Create a modern Web Map using the new Map Viewer.
- Apply advanced symbology (Graduated Colors, Arcade Expressions, Smart Mapping).
- Configure Pop-ups with media (images, charts) and formatted text.
- Add Filters and Layer Views to control visibility for specific users.
- Test Feature Editing and ensure appropriate sharing permissions within the organization.

#### 3. Classic Map Comparison (Map Viewer Classic)

- Rebuild the same map using Map Viewer Classic.
- Use the Heat Map, Clustering, and Time Animation options to explore visualization differences.
- Compare map performance and usability between the two viewers.

#### 4. Field Maps Integration

- Enable the Web Map for Field Maps mobile use.
- Design Smart Forms inside Field Maps (required fields, defaults, and constraints).
- Configure Offline Areas and test data synchronization.

- Enable Location Tracking and snapping options.
- Assign editing roles to different users (field worker vs data editor).

#### 5. Testing & Validation

- Deploy the project to a mobile device (tablet or phone).
- Collect at least 10 sample records in Field Maps.
- Synchronize updates and verify changes appear in the Web Map.
- Perform data validation and generate a short summary of field findings.

#### Deliverables:

- Hosted feature layer with complete schema.
- Web Map (modern viewer) with pop-ups, filters, and symbology.
- Smart Form configured in Field Maps.
- Offline area successfully tested.
- Short report (1-2 pages) explaining workflow, screenshots, and issues faced.