

AB-410: Build Intelligent Applications

Course Summary Document

Course Overview

AB-410 is a hands-on Microsoft Power Platform course that guides learners through the end-to-end design and build of a business solution for a fictional company, Contoso Field Services. Across twelve connected labs, learners progress from environment setup and AI-assisted solution planning through building a Dataverse data model, security roles, a canvas app, a model-driven app, and an external Power Pages customer portal. The course also develops automation skills using Power Automate for notifications and manager approvals, and applies generative AI through Copilot prompt engineering, AI Builder grounded prompts, and a custom Copilot Studio agent. Learners build practical skills in low-code application development, business process automation, data security, and applied AI, while also developing judgment around evaluating and refining AI-generated designs. By the end of the course, learners have built a complete, connected Power Platform solution and can compare it against an AI-generated blueprint to understand where automated planning succeeds and where human expertise remains essential.

Detailed Lab Summaries

Lab 0: Set Up Your Lab Environment

- **Objective:** To activate and verify the Power Platform, Power Automate, Power Pages, and AI Builder trial services required for the course.
- **Key Topics Covered:** Power Platform environments, Microsoft 365 licensing, Dataverse-enabled environments, Power Automate premium connectors, and AI Builder credits.
- **Hands-On Activity:** Signed in to Power Apps, selected the Dev One environment, activated the Power Apps and Power Pages trials, confirmed access to automated cloud flows in Power Automate, and verified AI Builder credit availability in the AI hub.
- **Real-World Application:** Provisioning and validating a properly licensed environment is a standard first step for administrators and consultants before any Power Platform solution development begins.

Lab 1: Write and Test Prompts

- **Objective:** To practice prompt engineering techniques using Microsoft Copilot to help service agents generate accurate, professional customer responses.
- **Key Topics Covered:** Prompt specificity, persona and system-level context, output constraints (length, format, audience), and few-shot prompting.
- **Hands-On Activity:** Compared basic and specific prompts, established a persona for a support assistant, constrained responses by length and format, and used few-shot examples to guide tone and structure for new customer scenarios.
- **Real-World Application:** These prompt engineering fundamentals carry directly into building Copilot Studio topics and AI Builder prompt actions, and apply broadly to any role using generative AI for business communication.

Lab 2: Use Plans to Design a Solution

- **Objective:** To use AI-powered Plans in Power Apps to generate a structured solution blueprint from a written description of a business problem.
- **Key Topics Covered:** AI-assisted solution design, requirements gathering, business process mapping, and data/technology component recommendations.
- **Hands-On Activity:** Described Contoso's service request problem to Plans, then reviewed and approved the AI-generated Requirements, Processes, Data, and Technology sections, mapping each recommended component to the labs ahead.
- **Real-World Application:** Consultants and business analysts use AI-assisted planning tools to accelerate solution discovery and translate business needs into an actionable Power Platform architecture before development starts.

Lab 3: Build the Data Model

- **Objective:** To create the Dataverse solution and Work Order table that underpins every app, flow, and portal built later in the course.
- **Key Topics Covered:** Dataverse solutions, table and column design, primary columns, choice columns, and lookup relationships.
- **Hands-On Activity:** Created the Contoso Field Services solution, built the Work Order table with Customer Name, Customer Email, Issue Description, Priority, Request Status, Resolved Date, and an Assigned Technician lookup, and added three sample records.
- **Real-World Application:** A clean, well-structured Dataverse data model is the foundation of any Power Platform solution, since every app and automation in production depends on it.

Lab 4: Configure Security Roles

- **Objective:** To create Dataverse security roles that control what field technicians and service managers can see and do with Work Order data.
- **Key Topics Covered:** Dataverse security roles, privilege scopes (User versus Organization), and table-level privileges including Create, Read, Write, Delete, Assign, and Share.
- **Hands-On Activity:** Created a Contoso Field Technician role scoped to the technician's own records and a Contoso Service Manager role with full organization-wide privileges on the Work Order table.
- **Real-World Application:** Enforcing least-privilege, role-based access is essential in production Dataverse environments to protect business data and meet organizational compliance requirements.

Lab 5: Build a Canvas App

- **Objective:** To build a mobile canvas app that lets field technicians view their assigned Work Orders, update job status, and receive an AI-generated priority suggestion.
- **Key Topics Covered:** Canvas app screens and galleries, data source connections, Power Fx formulas, Copilot-assisted formula creation, and AI Builder integration through Power Automate.
- **Hands-On Activity:** Built a list screen and detail screen connected to the Work Order table, added Back and Save navigation, and created a Power Automate flow using an AI Builder prompt action to classify issue priority and display it on a Suggest Priority button.
- **Real-World Application:** Mobile canvas apps with embedded AI suggestions are widely used in field service, retail, and logistics to give frontline workers fast, guided access to business data.

Lab 6: Build a Model-Driven App

- **Objective:** To build a model-driven app that gives service managers a complete interface for viewing, filtering, and managing all Work Orders.
- **Key Topics Covered:** Model-driven app pages and forms, views and Advanced Find filtering, charts, and dashboards.
- **Hands-On Activity:** Added the Work Order table to a new app, customized the form layout, created a High Priority Work Orders view, built a pie chart of requests by priority, and combined both into a Service Manager Dashboard set as the app's landing page.
- **Real-World Application:** Model-driven apps and dashboards are the standard tool for operational managers who need consolidated, data-driven visibility into a business process across an organization.

Lab 7: Create a Power Pages Portal

- **Objective:** To build an external-facing Power Pages portal that lets Contoso customers submit Work Orders and check request status without a Power Platform license.
- **Key Topics Covered:** Copilot-assisted site generation, audience-scoped forms, table permissions for anonymous users, and autonumber and formula columns.
- **Hands-On Activity:** Generated a portal site with Copilot, refined the home page, created a scoped Customer Portal form, configured anonymous submission permissions, added a Work Order Number autonumber column and an Estimated Resolution formula column, and tested the full submit-and-track customer journey.
- **Real-World Application:** Self-service customer portals reduce support workload and are a common requirement for organizations that need to expose internal business data securely to external users.

Lab 8: Automate a Cloud Flow

- **Objective:** To build an automated cloud flow that emails a technician automatically when they are assigned to a new Work Order.
- **Key Topics Covered:** Dataverse triggers, conditional logic, the Get a row by ID action, and the Office 365 Outlook connector.
- **Hands-On Activity:** Configured a Dataverse trigger and a condition to check for an assigned technician, retrieved the technician's user record, and sent a dynamic email notification, then tested the flow end-to-end by creating a Work Order and confirming delivery.
- **Real-World Application:** Automated notification flows remove manual communication steps and represent a foundational automation pattern used across countless business processes in Power Automate.

Lab 9: Build an Approval Flow

- **Objective:** To build an approval flow that routes Critical priority Work Orders to a manager for review before a technician is assigned.
- **Key Topics Covered:** Dataverse choice value integers, the Approvals connector, conditional branching, and record updates driven by approval outcomes.
- **Hands-On Activity:** Configured a trigger and condition matching the Critical priority value, added a Start and wait for an approval step, and built True and False branches that update the Work Order status on approval or reset priority and notify the requester on rejection.
- **Real-World Application:** Approval-based automation is a standard governance pattern for high-risk or high-cost business transactions that require human sign-off before proceeding.

Lab 10: AI Builder Grounded Prompts

- **Objective:** To create an AI Builder grounded prompt and a Copilot row summary that let agents query and summarize Work Order history in natural language.
- **Key Topics Covered:** Grounded prompts, Dataverse data sources for AI Builder, input variables, and Copilot row summaries.
- **Hands-On Activity:** Built a grounded prompt instructed to answer customer history questions using Work Order data, added a CustomerName input variable, tested it against sample records, and configured a row summary on the Work Order table for on-demand Copilot summaries in the model-driven app.
- **Real-World Application:** Grounded AI prompts let organizations surface AI-generated insights from their own business data rather than general knowledge, improving accuracy and agent productivity.

Lab 11: Build and Evaluate a Copilot Studio Agent

- **Objective:** To build and evaluate two Copilot Studio agents: a Work Order-grounded service assistant and a Plan Comparison assistant that contrasts the AI-generated Lab 2 plan with the solution actually built.
- **Key Topics Covered:** Copilot Studio agent creation, Dataverse knowledge grounding, suggested prompts, custom topics, and plan-versus-build comparison analysis.
- **Hands-On Activity:** Created the Contoso Service Assistant agent grounded on the Work Order table with suggested prompts and an escalation topic, tested it, then built a second Plan Comparison Assistant grounded on the Lab 2 plan tables and the Work Order table to analyze differences between the planned and actual solution.
- **Real-World Application:** Conversational agents grounded in live business data give managers self-service access to insights, while structured plan-versus-build reviews mirror real project retrospectives used to refine solution architecture.