

KOENIG SOLUTIONS · COURSE OUTLINE

Power Platform Developer with CI/CD

Learn to build, extend and deploy Power Platform solutions with Dataverse, Canvas and model-driven apps, PCF, Azure integrations and CI/CD pipelines.

10 Days

40 HOURS

40

TOPICS

11

HANDS-ON ACTIVITIES

COURSE OVERVIEW

This course covers Power Platform development starting with Dataverse tables, security and business rules, then progresses through building model-driven apps and canvas apps, including advanced performance and offline scenarios. It continues with Power Pages, Power BI embedding, Power Automate flows and custom connectors, followed by client-side scripting and Power Apps Component Framework controls. Server-side topics cover plug-ins, custom APIs and Azure Function integrations, external integration patterns with virtual tables, and the CoE Starter Kit. The course concludes with application lifecycle management and CI/CD pipelines using Azure DevOps and GitHub Actions, culminating in a capstone project combining these components.

WHO THIS COURSE IS FOR

Power Platform Developers

Dynamics 365 Developers

Dataverse Developers

Power Apps Developers

DevOps Engineers

Software Developers

LEARNING OBJECTIVES

- Configure Dataverse tables, relationships, security and business rules
- Build model-driven apps with forms, views and dashboards
- Develop canvas apps using controls, data sources and Power Fx
- Optimise canvas apps for performance, delegation and offline use
- Embed Power BI reports within model-driven and canvas apps
- Build Power Automate flows with custom connectors and error handling
- Develop PCF controls and client-side form scripting
- Implement plug-ins, custom APIs and CI/CD pipelines

40 Topics

DAY 1 Microsoft Power Platform & Dataverse Deep Dive

TOPICS

[Hands-on](#)

- Overview of Microsoft Power Platform and PL-400
- **Developer environment setup:** Environments, Solutions, Layers, Security Model, Licenses
- Dataverse Tables, Columns (Calculated, Rollup), Relationships
- **Security:** Role-based access, Field-level, Team security
- Business Rules, Auditing, Compliance controls

DAY 2 Model-Driven App Development

TOPICS

[Hands-on](#)

- Create Model-Driven App with navigation and sitemap
- **Configure Forms:** Main, Quick View, Multi-tab, Conditional visibility
- Configure Views, Charts and Dashboards
- Command bar customization using JavaScript and Power Fx
- BPF, Form Customization, Lab work

DAY 3 Canvas App Development - Fundamentals

TOPICS

[Hands-on](#)

- Introduction to Canvas Apps and Power Fx
- **UI design:** Responsive layouts, Themes, Accessibility
- **Controls:** Galleries, Forms, Dropdowns, Custom layouts
- **Data sources:** Dataverse, SharePoint, SQL Server
- Collections and Variables for app state management

DAY 4 Canvas App Advanced Development

TOPICS

[Hands-on](#)

- Component libraries and reuse strategies
- Role-based UI, Conditional formatting, Offline support (SaveData/LoadData)
- Delegation limits and large data performance
- App performance profiling using App Checker and Monitor

DAY 5 Power Pages and Power BI for Developers

TOPICS

Hands-on

- **Power Pages:** Site structure, Web Roles, Permissions, Form/Lists
- **Power BI for Developers:** Datasets, Embedding in MDA and Canvas Apps
- Paginated reports and dynamic filtering via Power BI APIs
- Security and real-time data in Power BI visuals

DAY 6 Power Automate Deep Dive

TOPICS

Hands-on

- Dataverse Triggers and Actions
- Advanced Expressions, Error Handling, Parallel Branching
- Approvals, Adaptive Cards in Teams
- Custom Connectors with OAuth2 and Swagger

DAY 7 Client-side and PCF Development

TOPICS

Hands-on

- JavaScript client scripting for Model-driven Apps
- **Form event handling:** OnLoad, OnChange, OnSave
- Introduction to Power Apps Component Framework (PCF)
- PCF control lifecycle and manifest configuration

DAY 8 Server-side and Azure Integrations

TOPICS

Hands-on

- **Dataverse Plug-ins:** Pre/Post, Secure Configs, Error Handling
- Custom APIs, Business Events, Azure Function integrations
- Using Dataverse Web API and C# SDK for CRUD operations

DAY 9 Integration, Virtual Tables & CoE Starter Kit

TOPICS

Hands-on

- **External Integration Patterns:** Logic Apps, Virtual Tables
- **Authentication strategies:** OAuth2, Azure AD, API Permissions
- Overview of CoE Starter Kit and key components (Audit, Nurture, Monitor)

TOPICS

- **Application Lifecycle Management:** Managed vs Unmanaged, Layering
- Environment Variables, Connection References, Solution Checker
- CI/CD Pipelines with Azure DevOps and GitHub Actions

Hands-on

Capstone Project

HANDS-ON ACTIVITIES

Practise What You Learn

MODULE	ACTIVITY
Microsoft Power Platform & Dataverse Deep Dive	Hands-on: Create tables, columns, relationships and business rules
Model-Driven App Development	Hands-on: Build a functional model-driven app from scratch
Canvas App Development - Fundamentals	Hands-on: Build Canvas App with multiple screens and connected data
Canvas App Advanced Development	Hands-on: Optimize a complex canvas app with performance and offline capabilities
Power Pages and Power BI for Developers	Hands-on: Embed Power BI dashboard in a model-driven app and Power Page
Power Automate Deep Dive	Hands-on: Build a robust approval workflow using Dataverse and Custom Connector
Client-side and PCF Development	Hands-on: Create and deploy a PCF control
Server-side and Azure Integrations	Hands-on: Build a plug-in, call an Azure Function from Dataverse
Integration, Virtual Tables & CoE Starter Kit	Hands-on: Connect Virtual Table to external data source, Install and configure CoE Starter Kit dashboards
CI/CD, ALM and Capstone Project	Hands-on: Setup a full DevOps pipeline for Power Platform Capstone Project: Build end-to-end Power Platform solution (Canvas + MDA + Power BI + Flow + PCF)

WHAT IS INCLUDED

Everything You Need to Succeed

- Koenig course material for every module
- Delivery by certified instructors and subject matter experts
- Hands-on exercises throughout the course
- Course completion certificate from Koenig

ABOUT KOENIG

Who We Are

Established in 1993, Koenig Solutions is a globally recognised training provider with 35+ technology partnerships, 5,000+ training programmes and a network of certified instructors and subject matter experts, supporting individuals and enterprise teams worldwide.

FLEXIBLE DELIVERY

Learn the Way That Suits You

Classroom Training

Live Online Classes (ILO)

Fly-Me-A-Trainer (FMAT)

Flexi (Self-Paced)

1-on-1 Training

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