

Microsoft Power Platform Developer

Duration: 5 Days

Course Description:

The Microsoft Power Platform helps organizations optimize their operations by simplifying, automating and transforming business tasks and processes. In this course, students will learn how to build Power Apps, Automate Flows and extend the platform to complete business requirements and solve complex business problems.

Target Audience:

Candidates for this course design, develop, secure, and troubleshoot Power Platform solutions. Candidates implement components of a solution that include application enhancements, custom user experience, system integrations, data conversions, custom process automation, and custom visualizations. Candidates will gain applied knowledge of Power Platform services, including in-depth understanding of capabilities, boundaries, and constraints. Candidates should have development experience that includes JavaScript, JSON, TypeScript, C#, HTML, .NET, Microsoft Azure, Microsoft 365, RESTful Web Services, ASP.NET, and Power BI.

Course Outline:

Get started with security roles in Dataverse

- Introduction to environment roles
- Understand environment roles
- Adding or disabling an environment user
- Understand security concepts in Dataverse
- Understand user security roles and security role defaults
- Exercise - Create a custom role
- Check the roles that a user belongs to
- Configure Dataverse teams for security
- Configure Dataverse group teams for security

Get started with Power Apps canvas apps

- Introduction to Power Apps
- Start Power Apps
- Exercise - Create your first app in Power Apps
- Power Apps data sources
- Exercise - Create an app from Excel using Copilot
- Use Power Apps with Power Automate and Power BI
- Designing a Power Apps app

Customize a canvas app in Power Apps

- Improve your app by making basic customizations
- Explore controls and screens in canvas apps
- Exercise - Introduction to formulas in canvas apps
- Exercise - Create basic screen navigation for a canvas app

Manage apps in Power Apps

- Exercise - Manage app versions in Power Apps
- Exercise - Share apps in Power Apps
- Exercise - Understand environments in Power Apps
- Power Apps review

Navigation in a canvas app in Power Apps

- Understanding navigation
- The Navigate and Back functions
- More ways to use the Navigate function
- Exercise - App navigation practice

How to build the User Interface in a canvas app in Power Apps

- Use themes to quickly change the appearance of your app
- Brand a control
- Icons
- Images
- Personalization
- Build for phones or tablets
- Exercise - Create and adjust UI for a new canvas app

Use and understand Controls in a canvas app in Power Apps

- Introduction to controls
- Core properties of controls
- Entering and displaying data with text controls
- Additional controls for enhancing your app's usability
- Media
- Modern controls
- Work with component libraries
- Lab - Create a canvas app with unique controls
- Exercise - Upload file to SharePoint document library

Document and test your Power Apps application

- Create test plans
- User interface testing
- Performance optimization
- Diagnostics and analytics
- Documentation and the customer

Use imperative development techniques for canvas apps in Power Apps

- Imperative versus declarative development
- The three types of variables in Power Apps
- Global variables
- Contextual variables
- Collections
- Additional variable concepts
- Exercise - Using the variables and collections
- Interact with Microsoft Dataverse Web API using Postman
- Use OData to query data
- Use FetchXML to query data

Create formulas that use tables, records, and collections in a canvas app in Power Apps

- Formulas that process multiple records
- Math operations on tables
- Combine and separate records
- The ForAll function
- Lab - Using the ForAll function in a gallery

Perform custom updates in a Power Apps canvas app

- Sometimes you need something more than forms
- Using the Patch function to create and edit records
- Deleting record(s) from data sources and collections
- Using Patch function to update a Gallery

Complete testing and performance checks in a Power Apps canvas app

- The importance of thinking about performance
- Improve performance with data sources
- Testing and troubleshooting your app
- Exercise - Using the Concurrent function to test performance

Work with relational data in a Power Apps canvas app

- What is relational data?
- Work with relationships in Power Apps
- Exercise - Work with relational data
- Microsoft Dataverse for apps makes relationships even easier

Work with data source limits (delegation limits) in a Power Apps canvas app

- Delegation overview
- Functions, predicates, and data sources combine to determine delegation
- Delegation warnings, limits, and non-delegable functions

Connect to other data in a Power Apps canvas app

- Overview of the different data sources
- Work with action-based data sources
- Power Automate is a companion to Power Apps

Use custom connectors in a Power Apps canvas app

- Overview of custom connectors
- Overview of the custom connector lifecycle
- Use postman for your custom connector

How to build your first model-driven app with Dataverse

- Introduction to Dataverse
- Introduction to model-driven apps
- Model-driven apps, powered by Microsoft Dataverse
- Explore sample apps

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COURSE OUTLINE

Get started with Power Automate

- Introducing Power Automate
- Create your first flow
- Exercise - Create recurring flows
- Exercise - Monitor incoming emails
- Exercise - Share flows
- Troubleshoot flows

Build approval flows with Power Automate

- Provide solutions to real-world scenarios.
- Exercise - Build an approval request
- Exercise - Create a business process flow
- Exercise - Create a business process flow that has conditions

Introduction to expressions in Power Automate

- Introduction to expressions
- Get started with expressions
- Notes make things easier
- Types of functions
- Write complex expressions
- Exercise - Creating a manual flow and using expressions

Introduction to Microsoft Power Platform developer resources

- Introduction to Microsoft Power Platform for developers
- Overview of Dataverse and the Common Data Model
- Extending Power Platform with Azure
- Power Platform environments

Build a Power Apps component

- Introduction to creating a code component
- Create a code component solution package
- Test and debug code components

Use advanced features with Power Apps component framework

- Introduction to using React within a Power Apps component
- Use the formatting API in a Power Apps component
- Use the Microsoft Dataverse web API in a Power Apps component
- Write a pop-up Power Apps component
- Introduction to using React within a Power Apps component

Work with Dataverse Web API

- Introduction to the Microsoft Dataverse Web API
- Authenticate against Microsoft Dataverse using OAuth

Integrate Dataverse Azure solutions

- Microsoft Dataverse Azure Solutions overview
- Expose Microsoft Dataverse data to Azure Service Bus
- Write a Service Bus Event Listener that consumes Microsoft Dataverse messages
- Publish Microsoft Dataverse events with webhooks
- Write an Azure Function that processes Microsoft Dataverse events

Perform common actions with client script in Power Platform

- Introduction to client-side scripting
- Upload scripts
- Event handlers
- Context objects
- Client scripting common tasks
- Exercise - Use client script to hide a form section

Automate business process flows with client script

- Introduction to conducting global operations with the client API Xrm object
- Client scripting best practices
- Debugging client script
- Exercise - Use table data from client script

Get started with Power Apps component framework

- Introduction to Power Apps component framework
- Power Apps component framework architecture
- Power Apps component tooling
- Component manifest
- Demo of the Power Apps code component

Create and manage columns within a table in Dataverse

- Define columns in Microsoft Dataverse
- Column types in Microsoft Dataverse
- Add a column to a table
- Primary name column
- Restrictions that apply to columns in a table
- Create an auto numbering column
- Create an alternate key
- Exercises

Build a Power Apps component

- Relate one or more tables - Introduction
- Relationship types that are available in Microsoft Dataverse
- Create a one-to-many relationship between tables

Get started with model-driven apps in Power Apps

- Introducing model-driven apps
- Components of model-driven apps
- Design model-driven apps
- Exercise
- Exercise - Control security when sharing model-driven apps
- Incorporate business process flows
- Exercise - Create a model-driven app

Manage tables in Dataverse

- Identify tables and table types in Dataverse
- Create a custom table
- Enable attachments within a table
- Licensing requirements for each table type
- Lab - Create a new custom table and enable attachments

Working with choices in Dataverse

- Define choice column
- Choice columns
- Standard choices column
- Lab - Create a new choice or modify an existing choice

Create a relationship between tables in Dataverse

- Relate one or more tables - Introduction
- Relationship types that are available in Microsoft Dataverse
- Create a one-to-many relationship between tables
- Create a many-to-many relationship between tables
- Edit or delete relationships
- Exercise - Create two tables and relate them by using a one-to-many relationship

Define and create business rules in Dataverse

- Define business rules - Introduction