Microsoft Power Platform Developer (PL-400)

Duration: 5 Days **Course Code: M-PL400** **Delivery Method: Virtual Learning**

Overview:

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 design, develop, test, and troubleshoot solution components that use the extension points of Microsoft Power Platform. You use traditional code to solve challenges not appropriate with low-code

Virtual Learning

This interactive training can be taken from any location, your office or home and is delivered by a trainer. This training does not have any delegates in the class with the instructor, since all delegates are virtually connected. Virtual delegates do not travel to this course, Global Knowledge will send you all the information needed before the start of the course and you can test the logins.

Target Audience:

As a training attendee you must have previous software developer experience using code techniques with modern programming languages such as C# and JavaScript. You must also have a foundational understanding of Microsoft Power Platform and have hands-on experience with the following: - Developing a data model in Microsoft Dataverse - Creating tables, columns, and relationships in Microsoft Dataverse - Building Power Apps canvas apps - Building Power Apps model-driven apps - Building Power Automate cloud flows In this course you will learn to build solutions using Visual Studio and Visual Studio Code that include the following: Microsoft Power Platform services, JavaScript, JSON, TypeScript, C#, HTML, RESTful Web APIs, and Microsoft Azure.

Prerequisites:

None

Content:

Module 1: How to build your first model-driven app with Dataverse

- Discover the value and key features of Dataverse.
- Learn about the value and key features of model-driven apps.
- Explore sample model-driven template apps.

Module 2: Get started with model-driven apps in Power Apps

- Model-driven app design
- Creating a model-driven app

Module 3: Manage tables in Dataverse

- Tables in Dataverse.
- Types of tables that are available in Dataverse.
- Creating a custom table.
- Enabling attachments within a table.
- Which licensing requirements to apply to use each type of table.

Module 4: Create and manage columns within a table in Dataverse

- What a column is in Dataverse.
- The types of columns that are available in Dataverse.
- How to add a column to a table.
- What a primary name column is in Dataverse.
- How to identify restrictions that are associated with columns.
- How to create an auto-numbering column.
- How to create an alternate key.

Module 5: Working with choices in Dataverse

- Learn about choices.
- Explore the standard choices.
- Create a new choice or modify an existing one.

Module 6: Create a relationship between tables in Dataverse

- Why you should segment data that is used by your solutions into many tables.
- Why you need to relate one table to another.
- How to build relationships between tables.
- How to select the proper relationship type when you're building solutions with Dataverse.

Module 7: Define and create business rules in Dataverse

- Define business rules in Dataverse.
- Create and manage business rules in Dataverse.

Module 16: Document and test your Power Apps application

- Learn about the different types of test plans and components of a good test plan
- Identify and discuss optimization tools and performance tuning
- Learn about the benefits of documenting your application

Module 17: Use imperative development techniques for canvas apps in Power Apps

- Understand imperative vs. declarative development.
- Understand the variables in Power Apps.
- Understand when to utilize each of the three different types of variables.

Module 18: Create formulas that use tables, records, and collections in a canvas app in Power Apps

- Utilize formulas that process multiple records.
- Use the Concat function to combine text from multiple records.
- Utilize the Countrows, CountIf, ForAll.
- Perform math operations on data in a table.

Module 19: Perform custom updates in a Power Apps canvas app

- Use the Patch function to update your data.
- Understand how the Defaults function is used to create new records with Patch.
- Use the Remove and RemoveIf functions to delete records.
- Determine whether to use Clear and Collect or ClearCollect in their scenario.

Module 20: Complete testing and performance checks in a Power Apps canvas app

- Use best practices to improve the performance of your app.
- Understand how to best test an app.
- Use fiddler for troubleshooting.

Module 21: Work with relational data in a Power Apps canvas app

- Understand relational data
- Use relational data to improve an app user's experience in Power Apps
- Understand how to use relational data in Microsoft Dataverse

Module 22: Work with data source limits

Module 31: Introduction to Dataverse for developers

- Explain what functions can be executed against Microsoft Power Platform via Microsoft Power Platform SDKs.
- Perform basic operations against Microsoft Power Platform such as create/read/update/delete operations.

Module 32: Extend plug-ins in Power Platform

- Learn how to extend plug-ins.

Module 33: Perform common actions with client script in Power Platform

- Write client scripts to perform common actions as listed in the module units.

Module 34: Automate business process flows with client script

- Automate business processes using JavaScript/TypeScript API methods.

Module 35: Get started with Power Apps component framework

- Power Apps component framework architecture
- Power Apps component tooling

Module 36: Build a Power Apps component

- Create a custom Power Apps component.
- Create a code component solution package.
- Test and debug a code component.
- Learn key concepts of Dataverse auditing

Module 37: Use advanced features with Power Apps component framework

- Use formatting API in a Power Apps component.
- Use Dataverse web API in a Power Apps component.

Module 38: Access Dataverse in Power Pages websites

- Discover Power Pages components that are available to help you display and interact with Dataverse data on a Power Pages website.
- Identify the various features of the Power Pages components.
- Display a list of data and an associated drill-down list for details.
- Set up a form to access individual table rows.
- Trigger classic Dataverse workflows from

Module 8: Create and define calculation or rollup columns in Dataverse

- Define a rollup column.
- Create a rollup column.
- Identify a calculation column.
- Create a calculation column.
- Define a formula column.

Module 9: Get started with security roles in Dataverse

- Learn about security roles and apply them to users in an environment.
- Learn how to add users to an environment.
- Understand security concepts in Dataverse.
- Identify default security roles.
- Create a custom role.
- Create a custom security role and assign it to entities and users.
- Learn how to configure Dataverse teams for security.
- Learn how to configure Dataverse group teams for security.

Module 10: Get started with Power Apps canvas apps

- Explore how Power Apps can make your business more efficient.
- Use different technologies to perform different tasks in Power Apps.
- Build an app in Power Apps in different ways.
- Create your first app from data in an Excel workbook.

Module 11: Customize a canvas app in Power Apps

- Change the layout of a gallery.
- Change the data that a control portrays.
- Modify a form control to show different data fields.
- Learn about gallery and form controls.
- Add a screen.
- Learn how to modify label properties by using basic formulas.
- Add labels.
- Learn how to create basic screen navigation.

Module 12: Manage apps in Power Apps

- Learn how to view and restore app versions.
- Explore how to share an app, including permissions and notifications.
- Learn about what environments are, how to create them, and how to manage security.
- Find more information about Power Apps.

Module 13: Navigation in a canvas app in Power Apps

- Gain a greater understanding of the (delegation limits) in a Power Apps canvas app

- Understand the different limits of different data sources
- Understand how functions, predicates, and operators all play roles in the limits
- Use this new understanding to choose the best data source for an app

Module 23: Connect to other data in a Power Apps canvas app

- Understand and use action-based connectors.
- Integrate user information and user-profile information into a canvas app.
- Use Power Automate with Power Apps.

Module 24: Use custom connectors in a Power Apps canvas app

- Understand custom connectors and the basics of how to build one.
- Understand the custom connector lifecycle.

Module 25: Get started with Power Automate

- Create a flow that automatically saves email attachments.
- Learn how to create a button flow to send yourself a reminder.

Module 26: Build approval flows with Power Automate

- Create and process approval requests.
- Build a flow that runs at recurring time intervals.
- Create a business process flow with conditions.

Module 27: Introduction to expressions in Power Automate

- Use one or more functions to create expressions.
- Use functions to retrieve data, change data, evaluate data, and more.

Module 28: Introduction to Microsoft Power Platform developer resources

- Explain what solution components exist within Microsoft Power Platform.
- Explain key components of Microsoft Dataverse and the Common Data Model.
- Explain what Azure solution elements relate to Microsoft Power Platform.
- Explain what AI Solutions exist as it relates to Microsoft Power Platform.
- Navigate the Developer Guide successfully in support of their Microsoft the website.

Module 39: Extend Power Pages websites

- Discover where software development can resolve particular website feature requirements.
- Employ application lifecycle management (ALM) for Power Pages websites.
- Apply JavaScript code to website assets.
- Use Cascading Style Sheets (CSS) to address specific website development requirements.

Module 40: Build custom Power Pages web templates

- Learn about the relationship between web templates, page templates, and webpages.
- Discover how you can build custom web templates by using HTML, Cascading Style Sheets (CSS), Liquid, and JavaScript.
- Use Liquid template language to build and structure web templates.
- Learn how to embed custom CSS and JavaScript into web templates.
- Learn how to reference other web templates in a web template.

Module 41: Work with Dataverse Web API

- Authorize against Dataverse with OAuth.
- Use OData to query data.

Module 42: Integrate Dataverse Azure solutions

- Publish Dataverse events to Microsoft Azure Service Bus.

Write a Service Bus Event Listener that consumes Dataverse events.

Navigate and Back functions.
- Learn how to use screen transitions in an app.
- Learn how to preview and modify an app to fit various form factors.
- Gain hands-on experience in building navigations inside an app.
- Learn how to use other controls for app navigation.

Module 14: How to build the User Interface in a canvas app in Power Apps

- Understand the basics of building the UI through themes, icons, control customization, and images.
- Use personalization in a canvas app.
- Learn how to preview and modify an app to fit different form factors.

Module 15: Use and understand Controls in a canvas app in Power Apps

- Understand how to use controls in a canvas app
- Use the different types of controls
- Understand how Galleries and Forms relate to controls

Power Platform development efforts.

Module 29: Use developer tools to extend Power Platform

- Install NuGet packages available for Microsoft Power Platform development
- Work with the Configuration Migration tool
- Work with Package Deployer
- Leverage Solution Packager to isolate features
- Run the Plugin Registration Tool

Module 30: Introduction to extending Power Platform

- Identify which elements architecturally comprise Microsoft Power Platform.
- Learn about the areas of extensibility that are available to customize Microsoft Power Platform through code.
- Discover different approaches to common business scenarios in respect to achieving extensibility with configuration versus code.

Further Information:

For More information, or to book your course, please call us on 00 971 4 446 4987

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