# TRAINING OFFERING

**You can reach us at:**

Arrow Enterprise Computing Solutions Ltd, Part 1st Floor, Suite 1D/1, Central House, Otley Road, Harrogate, HG3 1UG

Email: education.ecs.baltic@arrow.com
Phone: 0870 251 1000

# PL-400T00: Microsoft Power Platform Developer

**CODE:**          **LENGTH:**          **PRICE:**

MCS_PL-400T00      40 Hours (5 days)      Request Price

## 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.

## 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.

## Prerequisites

Candidates should have an introductory knowledge of Power Platfom
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

## Programme

Modules 1. How to build your first model-driven app with Dataverse
Do you want to quickly build apps with little to no code? This module focuses on the building blocks of Dataverse and model-driven apps. These key components will help you build quick business apps in your organization.
                    Discover the value and key features of Dataverse.
Learning objectives      Learn about the value and key features of model-driven apps.
In this module, you will: Explore sample model-driven template apps.
2. Get started with model-driven apps in Power Apps
Model-driven app design is an approach that focuses on quickly adding components to your apps. These components include dashboards, forms, views, and charts. With little or no code, you can make apps that are simple or complex.
                                                      Learning objectives
Ten moduł pomaga w przygotowaniu się do egzaminu Exam PL-100: Microsoft Power Platform App Maker. In this module, you will: Learn about model-driven app design
Create a model-driven app          3. Manage tables in Dataverse
Dataverse tables are similar to tables in a database. Every instance of a Dataverse database includes a base set of tables that provide structure for data that is commonly used by business applications.
                    Tables in Dataverse.
                    Types of tables that are available in Dataverse.
                    Creating a custom table.
Learning objectives      Enabling attachments within a table.
In this module, you'll learn about: Which licensing requirements to apply to use each type of table.
4. Create and manage columns within a table in Dataverse
Do you want to create new data columns or use existing standardized columns for your business solutions? This module will show you how to manage or create new columns within a table in Dataverse.
                                                      Learning objectives
Ten moduł pomaga w przygotowaniu się do egzaminu Exam PL-100: Microsoft Power Platform App Maker. In this module, you will:

Learn what a column is in Dataverse.
Learn about the types of columns that are available in Dataverse.
Add a column to a table.
Learn what a primary name column is in Dataverse.
Identify restrictions that are associated with columns.
Create an auto-numbering column.
Create an alternate key.                                    5. Working with choices in Dataverse
Do you want to create standardized choice lists that you can use across all of your Power Apps? This module will show you how to create new or use standard choice lists called choices in Dataverse.
                              Learn about choices.
Learning objectives      Explore the standard choices.
In this module, you will: Create a new choice or modify an existing one. 6. Create a relationship between tables in Dataverse
Do you need to create relationships between tables? This module will show how and why you can separate data into tables and how to relate between tables to build complex and robust business solutions. It will also explain the different kinds of relationships that you can define 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.
Learning objectives      How to build relationships between tables.
In this module, you'll learn: How to select the proper relationship type when you're building solutions with Dataverse.
7. Define and create business rules in Dataverse
The ability to build business rules that ensure consistent business logic whatever app is accessing that data set is imperative to a successful business operation. This module will show you how you can build business rules that are triggered anytime they're used within Dataverse.
Learning objectives                Define business rules in Dataverse.
In this module, you'll learn how to: Create and manage business rules in Dataverse.
8. Create and define calculation or rollup columns in Dataverse
Do you want to use rollup or calculation columns? This module shows you how to build calculations or rollups that are defined and triggered within the data in Dataverse, regardless of the app that accesses that data set.
                              Define a rollup column.
                              Create a rollup column.
Learning objectives                Identify a calculation column.
In this module, you'll learn how to: Create a calculation column. 9. Get started with security roles in Dataverse
Do you want to use security roles to limit user permissions? This module will show you how you can set permissions to limit access to an environment. Or limit which users can view, edit, or delete data in an environment within Dataverse.
                                                            Learning objectives
Ten moduł pomaga w przygotowaniu się do egzaminu Exam PL-100: Microsoft Power Platform App Maker. In this module, you will:
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        10. Get started with Power Apps canvas apps
                                                            Learning objectives
Learn the basics of Power Apps and how you can use it in your organization. In this module, you will:
Explore how Power Apps can make your business more efficient.
Learn how to use different technologies to perform different tasks in Power Apps.
Learn about the different ways to build an app in Power Apps.
Create your first app from data in an Excel workbook.                          11. Customize a canvas app in Power Apps
                                                            Learning objectives
Learn how to customize an app by adding controls, images, and logic. In this module, you will:
Change the layout of a gallery.
Change the data that a control shows.
Change the order in which fields appear.
Change the control with which a user provides information.
Explore controls on each screen of an app.
Format a number as a price.
Color prices based on their values.
Explore formulas in a generated app.                          12. Manage apps in Power Apps
                                                            Learning objectives
Manage app versions, app sharing, and environments in Power Apps. In this module, you will:
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.
13. Navigation in a canvas app in Power Apps
App users can only navigate through the navigation options provided by an app developer, and this module is designed to help you build a good navigation experience for your canvas app.

Ten moduł pomaga w przygotowaniu się do egzaminu Exam PL-100: Microsoft Power Platform App Maker. In this module, you will:
Understand how navigation works in a canvas app
Use the Navigate and Back functions
Understand the different ways these functions can be invoked 14. How to build the UI in a canvas app in Power Apps
Do you want to build a better UI for app users? This module helps you do that using themes, icons, images, personalization, different form factors, and controls.

Ten moduł pomaga w przygotowaniu się do egzaminu Exam PL-100: Microsoft Power Platform App Maker. In this module, you will:
Understand the basics of building the UI through themes, icons, control customization, and images.
Use personalization in a canvas app
Understand the differences between the Tablet and Mobile form factors
15. Use and understand Controls in a canvas app in Power Apps
Controls help create a better experience for the user and collect the appropriate data. This module will help you understand and use Controls.

Ten moduł pomaga w przygotowaniu się do egzaminu Exam PL-100: Microsoft Power Platform App Maker. In this module, you will:
Understand how to use controls in a canvas app
Use the different types of controls
Understand how Galleries and Forms related to controls 16. Document and test your Power Apps application
In this module, you'll learn best practices around testing and documenting your Power Apps application.

Ten moduł pomaga w przygotowaniu się do egzaminu Exam PL-100: Microsoft Power Platform App Maker. In this module, you will:
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
17. Use imperative development techniques for canvas apps in Power Apps
Imperative development techniques can help you achieve the goal for your app. You will learn about different development methods and different variables in Power Apps.

Understand imperative vs. declarative development
Learning objectives    Understand the variables in Power Apps
In this module, you will: Understand when to utilize each of the three different types of variables
18. Create formulas that use tables, records, and collections in a canvas app in Power Apps

Learning objectives
Do you have need for complex formulas in your app? This module can help you write those formulas. In this module, you will:
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                19. Perform custom updates in a Power Apps canvas app
With some Power Apps canvas apps a form is not the solution. This module will focus on how to perform custom updates when your data is not in a form.

Use the Patch function to update your data
Understand how the Defaults function is used to create new records with Patch
Learning objectives    Utilize the Remove and RemoveIf functions to delete records
In this module, you will: Determine whether to use Clear and Collect or ClearCollect in their scenario
20. Complete testing and performance checks in a Power Apps canvas app
Do you want to test your app and improve it's performance? This module will help you understand how to test an app and improve performance.

Use best practices to improve the performance of your app
Learning objectives    Understand how to best test an app
In this module, you will: Use fiddler for troubleshooting
21. Work with relational data in a Power Apps canvas app
Do you want to improve a user's experience in your canvas app? This module will show you how to work with relational data to provide a good experience for app users.

Understand relational data
Learning objectives    Use relational data to improve an app user's experience in Power Apps
In this module, you will: Understand how to use relational data in Microsoft Dataverse
22. Work with data source limits (delegation limits) in a Power Apps canvas app
It's important to learn how to work with data source limits. You need to understand the various limits and variables that go into those limits to best work with data in Power Apps. This will help you chose the best data source for an app to meet your requirements.

Understand the different limits of different data sources
Learning objectives    Understand how functions, predicates, and operators all play roles in the limits
In this module, you will: Use this new understanding to choose the best data source for an app
23. Connect to other data in a Power Apps canvas app
Do you need to connect to data that isn't tabular? This module will help with that. It includes discussion of action-based connectors, Flow, and user data.

Understand and use action-based connectors
Learning objectives   Integrate user information and user-profile information into a canvas app
In this module, you'll: Use Power Automate with Power Apps

24. Use custom connectors in a Power Apps canvas app

Custom connectors can be used with your canvas app when a built-in connector is not available. This module focuses on using custom connectors.

Understand custom connectors and the basics of how to build one

Learning objectives    Understand the custom connector lifecycle

In this module, you will: Use postman with a custom connector        25. Get started with Power Automate

Power Automate is an online workflow service that automates actions across the most common apps and services.

Learning objectives

Ten moduł pomaga w przygotowaniu się do egzaminu Exam PL-100: Microsoft Power Platform App Maker. In this module, you will:

Create a flow that automatically saves email attachments

Learn how to create a button flow to send yourself a reminder 26. Build approval flows with Power Automate

Power Automate is an online workflow service that automates actions across the most common apps and services. In this module, you'll build approval flows to streamline your business, save time, and work more efficiently.

Create and process approval requests

Learning objectives    Build a flow that runs at recurring time intervals

In this module, you will: Create a business process flow with conditions 27. Introduction to expressions in Power Automate

Learning objectives

Get the most out of your data using functions to create expressions. In this module, you will:

Use one or more functions to create expressions.

Use functions to retrieve data, change data, evaluate data, and more.

28. Introduction to Microsoft Power Platform developer resources

The goal of this module is to give a broad-scoped overview of the developer experience as it relates to Microsoft Power Platform. It will cover a high-level introduction how the ecosystem is represented, with the intended audience being a software developer with limited experience in working with Microsoft Power Platform.

Learning objectives

In this module you'll be able to:

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 Power Platform development efforts.

29. Use developer tools to extend Microsoft Power Platform

This module will focus on the available developer tools that can help you perform development activities with Microsoft Power Platform.

Install NuGet packages available for Microsoft Power Platform development

Work with the Configuration Migration tool

Work with Package Deployer

Learning objectives    Leverage Solution Packager to isolate features

In this module, you will: Run the Plugin Registration Tool

30. Introduction to extending Microsoft Power Platform

This module will focus on the underlying solution architecture from a technical perspective and what extensibility options exist. It will also cover the ever-important element of Microsoft Power Platform development, which is the decision-making process of determining when to use configuration versus code.

Learning objectives

In this module, you will:

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 by means of configuration versus code.

31. Introduction to Dataverse for developers

The goal of this module is to give an introductory overview of Microsoft Power Platform SDKs that are available from Microsoft via NuGet.

Learning objectives

In this module, you will:

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.        32. Extend plug-ins

The purpose of this module is to provide an in-depth overview of plug-ins as it relates to Microsoft Power Platform development. This module will review how and when plug-ins are implemented, how they are registered and deployed, and the various configuration options that are available during plug-in registration.

Learning objectives

In this module, you will: Learn how to extend plug-ins. 33. Performing common actions with client script

The goal of this module is to review how to achieve common user experience automation procedures through Client Script. This module is intended to serve as a practical guide for how to solve real-world scenarios that are frequently encountered during Microsoft Power Platform implementations.

Learning objectives

In this module, you will: Write client script to perform common actions as listed in the module units.

34. Automate business process flows with client script

This module will focus on educating developers on how to perform common techniques in regard to automating business process flows, along with explaining the context of when these scenarios might be applied.

Learning objectives

In this module, you will: Automate business process flow actions by using JavaScript/TypeScript API methods.

35. Get started with Power Apps component framework Learn how to get started with Microsoft Power Apps component framework.

Learning objectives      Learn about Power Apps component framework architecture.

In this module, you will: Learn about Power Apps component tooling.                36. Build a Power Apps component

Build a custom Power Apps component, create a code component solution package, and then test and debug a code component.

                Create a custom Power Apps component.

                Create a code component solution package.

Learning objectives      Test and debug a code component.

In this module, you will: Learn key concepts of Dataverse auditing

37. Use advanced features with Power Apps component framework

Get details on how to address more complex scenarios as it applies to a Power Apps component framework. This module covers how to use client frameworks such as React and Angular within a component, along with how to address scenarios such as file upload, localization, and integration with Microsoft Dataverse Web API.

Learning objectives      Use formatting API in a Power Apps component.

In this module, you will: Use Dataverse web API in a Power Apps component. 38. Work with Dataverse Web API

                Interact with Dataverse Web API by using Postman.

        Learning objectives      Authorize against Dataverse with OAuth.

Learn about working with the Dataverse Web API. In this module, you will: Use OData to query data.

39. Integrate Dataverse Azure solutions

                Learning objectives

Gain an in-depth overview of options available within Dataverse to integrate data and events to Azure. In this module, you will: Publish Dataverse events to Microsoft Azure Service Bus.

Write a Service Bus Event Listener that consumes Dataverse events.

## Session Dates

On request. Please Contact Us

## Additional Information

This training is also available as onsite training. Please contact us to find out more.