

# Power Automate

## Course Overview – 1-day course

### Efficiency in Office 365 through automation

Microsoft's Office 365 is an expansive eco-system of applications extending beyond the traditional word processor and accounting spread sheet. These traditional (and critical) systems sit alongside a new wave of computing power within reach of end-users, in a way that has never been available before.

Taking advantage of the tools at our disposal has never been so obvious of a competitive advantage as it is now. This course will enable advanced end-users, who have started their journey of increased integration using Power Automate, to raise their skills and knowledge to the next level. It is focused on automation and workflow for increased capabilities in using these tools.

## Detailed Content

### Introduction

- Course Objectives
- How this manual is organised
- What is Office 365?
- Office 365 Subscriptions

### Power Automate – Error

#### Handling

- Introduction to Error Handling
- Error Handling in Power Automate
- Error Types in Power Automate
- Create an error free Flow in Power Automate
- Cause the Flow to error
- View successful actions & triggers
- View failed actions & triggers
- Error handling techniques
- Configuring Run Conditions
- Handle the error with a parallel branch
- Add an action after the parallel branches
- Handle the outcome of all branches
- Use Terminate to successfully end a Flow
- More complex but efficient alternative error handling

### Power Automate –

#### Debugging

- Debugging in Power Automate
- View the output of an action

- Using Compose to see data
- Variables for debugging
- Using a variable to capture debug information
- Variables versus Compose
- View a complex output from an action
- Debugging with Static Results
- Causing an error with Static Results
- Advice for Debugging and Error Handling

### Power Automate – Data and JSON

- Basic data Types in Power Automate
- Object and Array data types
- What is JSON
- JSON examples
- How to handle JSON
- How a Flow is defined (JSON)
- A string of JSON in a Flow
- An Object of JSON in a Flow
- Handling data in JSON format
- Parse JSON data
- Extended Topic – JSON Schemas
- More complex JSON data
- Accessing an array of JSON data

### Power Automate – Expressions

- What is the Workflow Definition Language

- The Workflow Definition Language Schema
- The functions reference for Workflow Definition Language
- Writing Expressions in Power Automate
- The expression pane

### Power Automate – String Expressions

- A Basic String function
- Combining String functions together

### Power Automate –

#### Variables in expressions

- Variable naming conventions
- The variables() function
- Referencing a variable in another function

### Power Automate – Arrays & Collections

- What is an array
- What is a collection
- Defining an array
- Looping through an array
- Filtering an array
- The length of an array
- Find if an element exists in an array
- Accessing an array element by index

### Power Automate – Data & Math Expressions

- Arithmetic Functions

# Power Automate

Conversion functions

## Power Automate – Date/Time types and expressions

The Date and Time data type  
Date and Time functions  
Time Zone functions  
Formatting Dates and Times

## Power Automate – Advanced Functions

The workflow() function  
Data from the trigger  
The dot (.) operator  
Data from an action  
Operators to access data  
fields  
Avoiding errors with NULL or  
missing fields  
The ? operator  
Have a default if value is null  
Other function groups

## Power Automate – Configuration

Introduction to limits  
Trigger Conditions  
Tracked Properties  
Create a Tracked Property  
Accessing Tracked Properties  
A calculation from a Tracked  
Property  
Extended Exercise – Using a  
calculated output for Tracked  
Property  
Other Power Automate  
settings  
Secure Inputs and Outputs  
Concurrency Control  
Timeouts and Retries  
Other settings

## SharePoint Automation

Power Automate and  
SharePoint  
SharePoint Triggers  
SharePoint Actions  
SharePoint caution with  
actions and triggers  
Perform an action on an item  
using Power Automate  
Share a SharePoint Flow  
Select file and initiate the  
Flow  
Use SharePoint metadata to  
advise user  
Expand the SharePoint Flow  
functionality

Content Approval in  
SharePoint  
SharePoint Approval Process  
SharePoint Workflows  
Using Power Automate to  
manage SharePoint  
Approvals  
Create a Flow to Approve  
SharePoint files  
Add an approval action to the  
SharePoint Flow  
The approval response  
handling  
Testing the approval Flow

## Advanced SharePoint

### Actions via API

The magic behind Power  
Automate  
About Application  
Programming Interfaces  
API Methods  
Other API considerations  
The SharePoint API action  
The SharePoint API via a web  
browser  
Finding the site Title from the  
API  
Filter only needed data using  
ODATA format  
Accessing the property only  
Use the Title in our approval  
Flow  
More ODATA query examples  
ODATA filters  
Format of a response  
References for the SharePoint  
API

## Teams – Adaptive Cards

Types of Teams Apps  
What are Adaptive Cards  
Uses for Adaptive Cards in  
Teams  
Structure of an Adaptive Card  
Templates in Adaptive Cards  
A basic Adaptive Card sample  
Modify the sample Adaptive  
Card JSON  
Populate an Adaptive Card  
with data from the Flow  
Adaptive Card Schema  
Text Formatting a Card  
Adaptive Card Designer  
Create an Adaptive Card in  
designer  
Test run the new card with  
Power Automate

Add dynamic fields to the  
custom card  
Modify the card in designer  
with fields intact  
Adding inputs to the trigger  
Extended Topic – Actions on  
an Adaptive card  
Action buttons on cards  
Action on elements  
Adding actions to a card  
Other types of card elements  
At mentions in cards  
(alternative)

## Power Platform in SharePoint

Why is the Power Platform so  
useful  
What are Power Apps  
Power Apps and Data  
(SharePoint)  
Create a SharePoint list  
Manage the list with a 3-  
screen Power App  
Trying to break the Power  
App  
Modify the SharePoint column  
Add an option to the column  
Modifying the Power App  
Saving, Sharing and  
Publishing the Power App  
Housekeeping to clean-up our  
environment

## Cognitive Services

Traditional Computing  
What is Artificial Intelligence  
What is Machine Learning  
Uses for Artificial Intelligence  
Microsoft Cognitive Services  
What is Azure  
Text Analysis  
Image Analysis  
Computer Vision  
Facial Recognition  
Face Verification  
Face Detection  
Emotion Recognition  
Artificial Intelligence in Office  
365  
Artificial Intelligence in the  
Power Platform  
AI Builder in Power Platform  
Where to from here