

# Windows PowerShell: Tool Building

## WorkshopPLUS

**Focus Area:** Operations and Monitoring

**Duration:** 3 Days

**Difficulty:** 400 - Expert

### Overview

The WorkshopPLUS provides attendees with a deep dive using PowerShell. It covers various topics that are designed to enable the attendee to create advanced content with PowerShell. Modules are organized by scenario and designed to provide participants with expertise, tools and hands-on experience with Windows PowerShell version 5.0 and above.

### Objectives

After completing this training, students will be able to:

- Create advanced functions
- Create Classes in PowerShell
- Work with the debugger
- Work with code in GIT repositories
- Create GUI based PowerShell code

### Key Takeaways

#### Course Material

- Advanced PowerShell Programming
- Working with the GUI

#### Hands-on Labs

- Most of the concepts covered above will be supported by hands-on labs and demos
- Access to resources and labs for up to 6 months post class completion.

### Agenda

#### Day 1

- Knowledge Refresh
- Developing Advanced Functions
- Mastering Parameters
- Classes

#### Day 2

- Error Handling
- Debugging
- Git Introduction
- Git Intermediate

#### Day 3

- Runspaces
- Create a GUI in PowerShell
- Final Great Lab - Apply learnings

Plan for 3 full days. Early departure on any day is not recommended.

## Course Details

### Module 1: Knowledge Refresh

- Script Basics, Flow Control and Functions
- Object Models and Regular Expressions

### Module 2: Advanced Functions

- Basic functions and parameters
- CmdletBinding attribute and properties
- Returning Objects and pipeline
- Dynamic parameters

### Module 3: Mastering Parameters

- Attributes and special parameters
- Validation and risk mitigation
- Comment-based help
- OutputType()

### Module 4: Classes

- What is a class
- Work with Methods and advanced object features

### Module 5: Error Handling

- Introduction
- Streams and Write-Host
- Working with the ErrorRecord Object
- Terminating and Non-Terminating Errors
- Try-Catch

## Recommended Qualifications

Target experience, expectations and qualifications, for example:

- IT staff who have taken the PowerShell Foundation Skills course.
- Work with PowerShell on a day to day basis.

### Module 6: Debugging

- Introduction and Basics
- Console and ISE debugging
- Advanced Debugging

### Module 7: Git Introduction

- DevOps and Git
- Source Control and Changes
- Git Repository

### Module 8: Git Intermediate

- Push and Pull
- Branch/Merging

### Module 9: Runspaces

- Overview and Commands
- Classes and Methods
- Creation and Initialization
- Invoke and Remoting
- Debugging and Pools

### Module 10: Create a GUI in PowerShell

- The presentation Framework
- Visual Studio
- Graphical User Interface and GUI Design
- Code behind a Form and Advanced Techniques

## Hardware Requirements

- An Intel Core-i5-based PC
- USB port
- Microsoft/Windows Live ID to connect to the virtual environment
- 4 GB RAM
- 128 GB HDD
- Windows 7 SP1 or later
- Office 2013 Professional Plus
- Internet access with at least 1 Mbps bandwidth per student.

## For more information

Contact your Microsoft Account Representative for further details.