

# Windows PowerShell: Tool Building



## WorkshopPLUS

**Duration:** 3 Days [Remote / Onsite]

**Difficulty:** 400 - Expert

## Description

Windows PowerShell Tool Building WorkshopPLUS provides you with a deep dive using PowerShell. It covers various topics that are designed to enable you to create advanced content with PowerShell.

## Objectives

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

## Outcomes

- Participants will be equipped with the skills to create advanced PowerShell scripts and tools, enhancing their ability to automate and streamline IT processes.
- Attendees can expect to achieve a higher level of proficiency in PowerShell, enabling them to develop complex solutions for various IT challenges.
- The workshop will prepare participants to effectively utilize PowerShell for building robust tools, contributing to the overall productivity and technical agility of their IT teams.

## Methodology

### Course Material

- Advanced PowerShell Programming.
- Working with the GUI.

### Learn by example

- Participate in group discussions and learn from presentations and demonstrations.

### Hands-on

- Use a ready environment for a hands-on experience.
- Access to resources and labs for up to six months after the workshop.

## 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.

# Delivery Outline

## Requirements

<p><b>Participants</b></p> <ul style="list-style-type: none"> <li>IT staff working on PowerShell Foundation Skills courses.</li> </ul> <p><b>Skill Requirements</b></p> <ul style="list-style-type: none"> <li>Fundamentals on PowerShell.</li> </ul> <p><b>Time Commitment</b></p> <ul style="list-style-type: none"> <li>Three full-days engagement with relevant roles.</li> </ul>	<p><b>Delivery Requirements</b></p> <ul style="list-style-type: none"> <li>Microsoft/Windows Live ID to connect to the virtual environment.</li> <li>Hardware running:             <ul style="list-style-type: none"> <li>Supported version of Windows.</li> <li>Supported version of Office.</li> <li>Modern browser, such as Microsoft Edge (or equivalent).</li> <li>Internet access.</li> </ul> </li> </ul>
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## Education

<p><b>Day 1</b></p> <ul style="list-style-type: none"> <li>Knowledge Refresh</li> <li>Developing Advanced Functions</li> <li>Mastering Parameters</li> <li>Classes</li> </ul>	<p><b>Module 1: Knowledge Refresh:</b> Script Basics, Flow Control and Functions, Object Models and Regular Expressions</p> <p><b>Module 2: Advanced Functions:</b> Basic functions and parameters, CmdletBinding attribute and properties, Returning Objects and pipeline, Dynamic parameters</p> <p><b>Module 3: Mastering Parameters:</b> Attributes and special parameters, Validation and risk mitigation, Comment-based help, OutputType()</p> <p><b>Module 4: Classes:</b> What is a class, Work with Methods and advanced object features</p>
<p><b>Day 2</b></p> <ul style="list-style-type: none"> <li>Error Handling</li> <li>Debugging</li> <li>Git Introduction</li> <li>Git Intermediate</li> </ul>	<p><b>Module 5: Error Handling:</b> Introduction, Streams and Write-Host, Working with the ErrorRecord Object, Terminating and Non-Terminating Errors, Try-Catch</p> <p><b>Module 6: Debugging:</b> Introduction and Basics, Console and ISE debugging, Advanced Debugging</p> <p><b>Module 7: Git Introduction:</b> DevOps and Git, Source Control and Changes, Git Repository</p> <p><b>Module 8: Git Intermediate:</b> Push and Pull, Branch/Merging</p>
<p><b>Day 3</b></p> <ul style="list-style-type: none"> <li>Runspaces</li> <li>Create a GUI in PowerShell</li> <li>Final Great Lab - Apply learnings</li> </ul>	<p><b>Module 9: Runspaces:</b> Overview and Commands, Classes and Methods, Creation and Initialization, Invoke and Remoting, Debugging and Pools</p> <p><b>Module 10: Create a GUI in PowerShell:</b> Presentation Framework, Visual Studio, Graphical User Interface and GUI Design, Code behind a Form and Advanced Techniques</p>

**For more information:** Contact your Microsoft Representative for more details.