

Script Programming

Windows Power Shell

Slide 1

Script Programming

Course Objectives

1. Structuring and development of **scripts**.
2. Knowledge of **scripting language's** basic structure.
3. **Testing, debugging** documentation own scripts.
4. Design a structure for **data management**
5. Insertion, updating and deleting data in a database using **SQL commands**.

Script Programming

Setup Requirement: (Three Machines)

1. WINDOWS SERVER 2012
2. SQL SERVER 2012
3. WINDOWS 8

Primary Tool:

Powershell ISE

Script Programming

Specific Objectives

Powershell

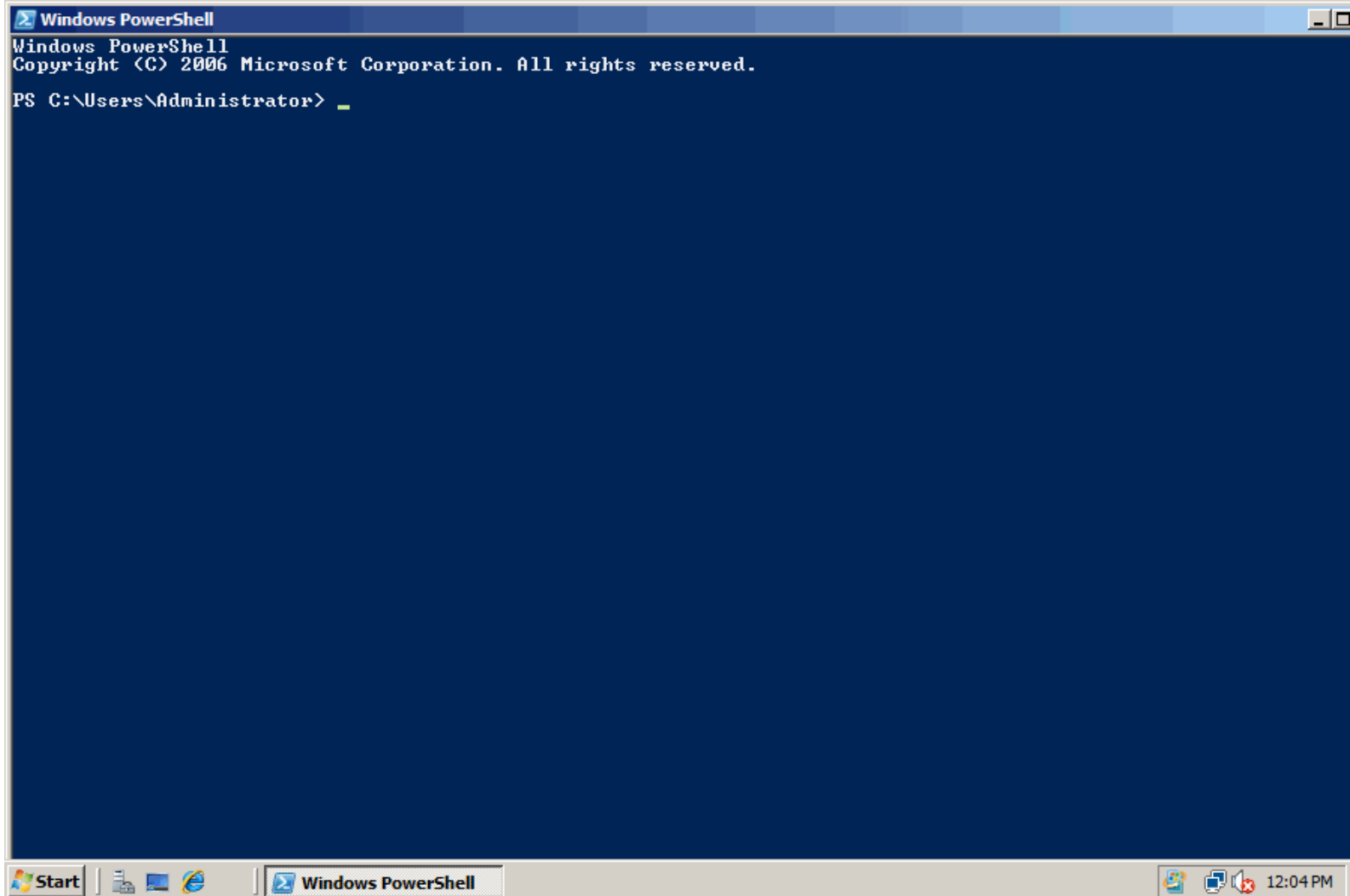
- Scripting basics
- Tools
- Logic
- Error handling and Debugging
- SQLPS

Script Programming

Three styles of administration:

1. GUI
2. Interactive
3. Script

PowerShell



What is PowerShell ??

- Relatively a New** Scripting language
- General purpose** programming language
- Interactive shell
- Same **architectural principles** as Unix shells, small command strung together with **pipes**.
- Not passing text, though, passing **live objects**
- Interactive shell
- New automation engine for the Windows platform

To begin working...

- Commands are built with logic
 - Verb-noun
- Pipeline “ | ”
- Some good starters
 - Get-Help
 - Get-Command | more
 - Get-Command | sort-object noun | format-table -group noun
 - Get-Alias | more
 - Get-Help stop-service -detailed | more

5 key commands

- Get-Help
- Get-Command
- Get-Member
- Get-Psdrive
- Format-List

Powershell as a programming language

- File extension PS1
- Example: Reformat.PS1

Script Programming

Programming language structure:

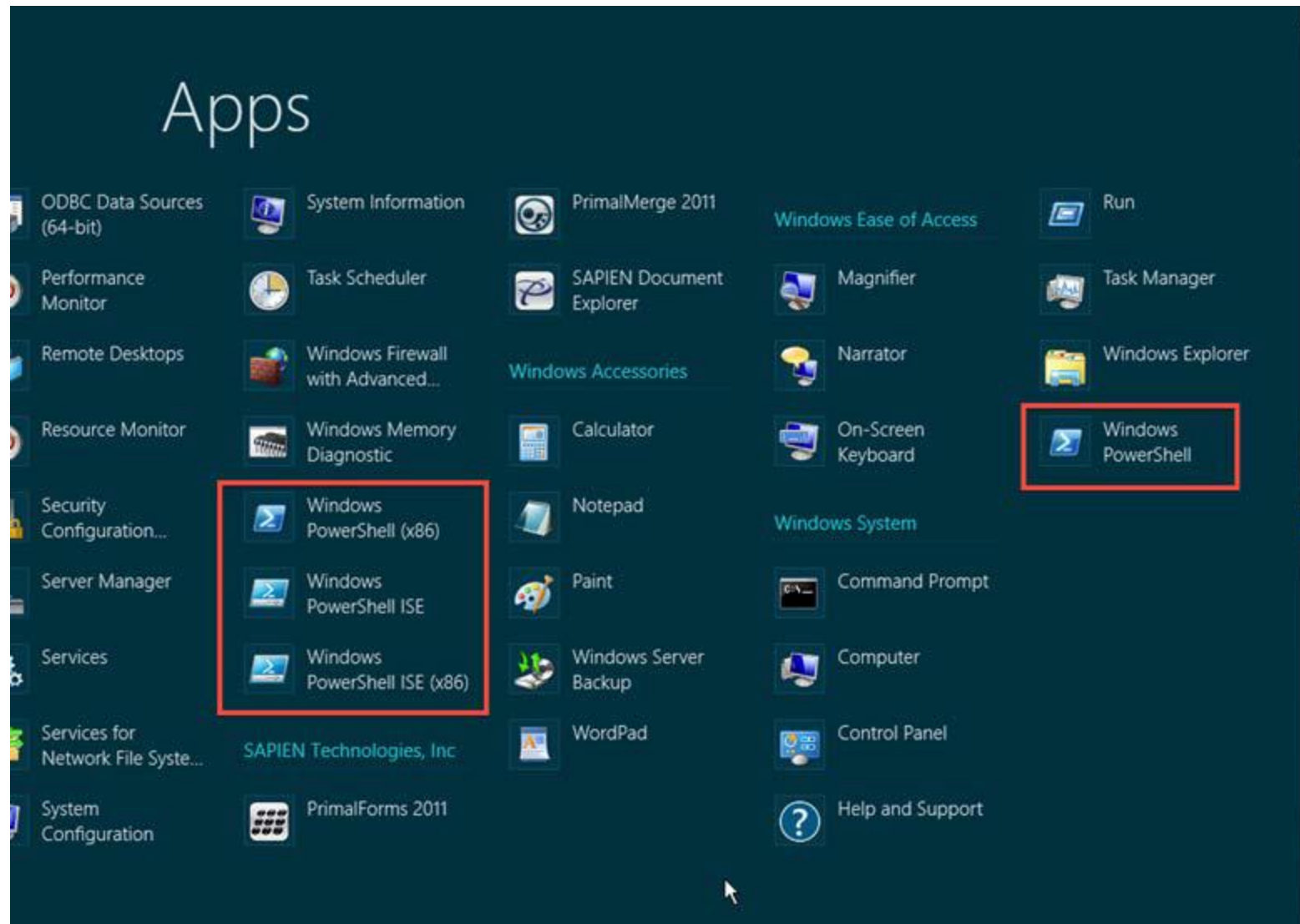
1. Variables
2. Arrays
3. Loops
4. Branching Logic
5. Functions

Script Programming

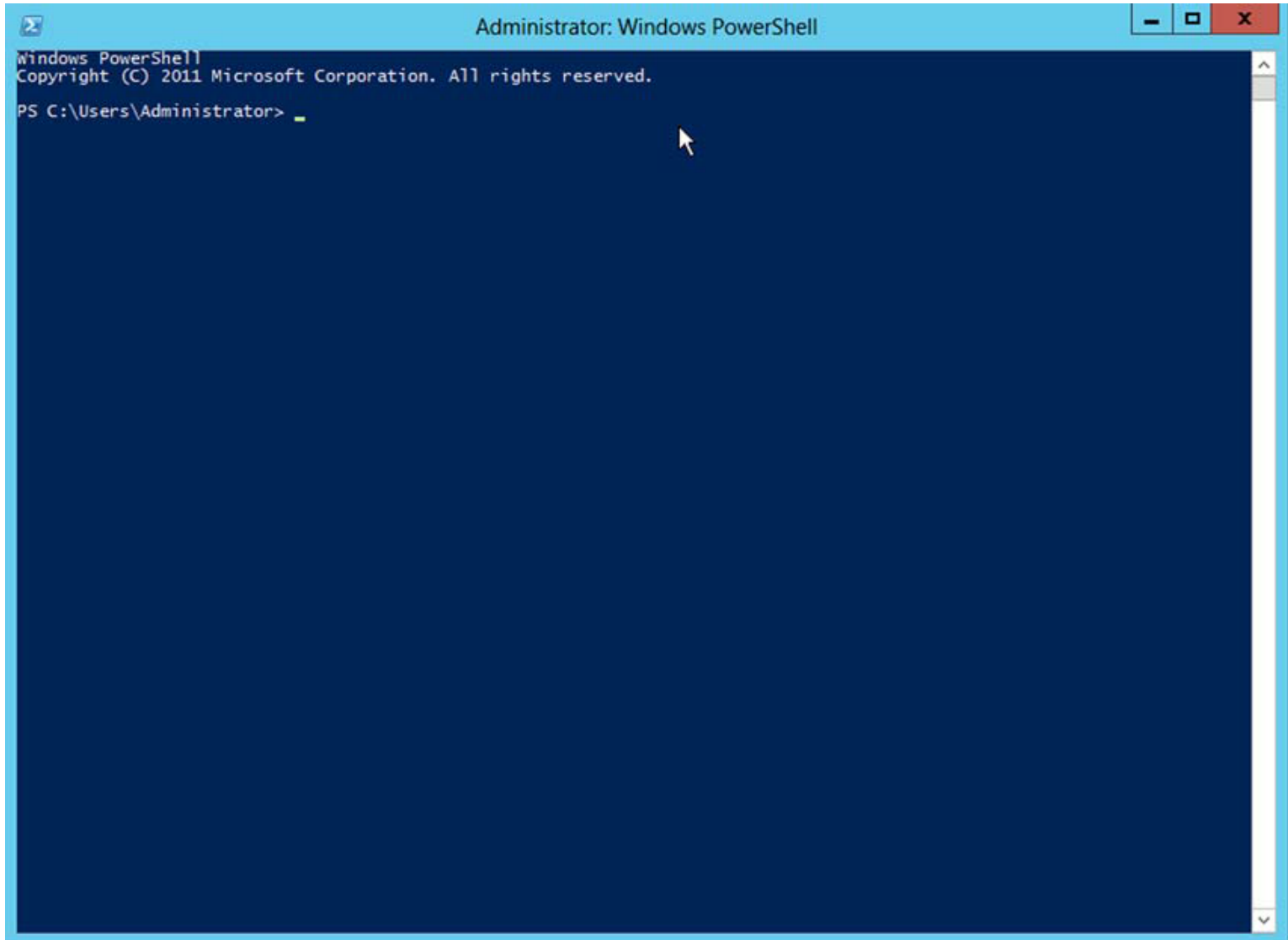
All scripting languages need to be able to perform a common set of actions:

- | Store data—variables and arrays
 - | Repeat actions—loops
 - | Control logic flow—branches
 - | Reuse sections of code—functions
 - | Output results
- able to accept input

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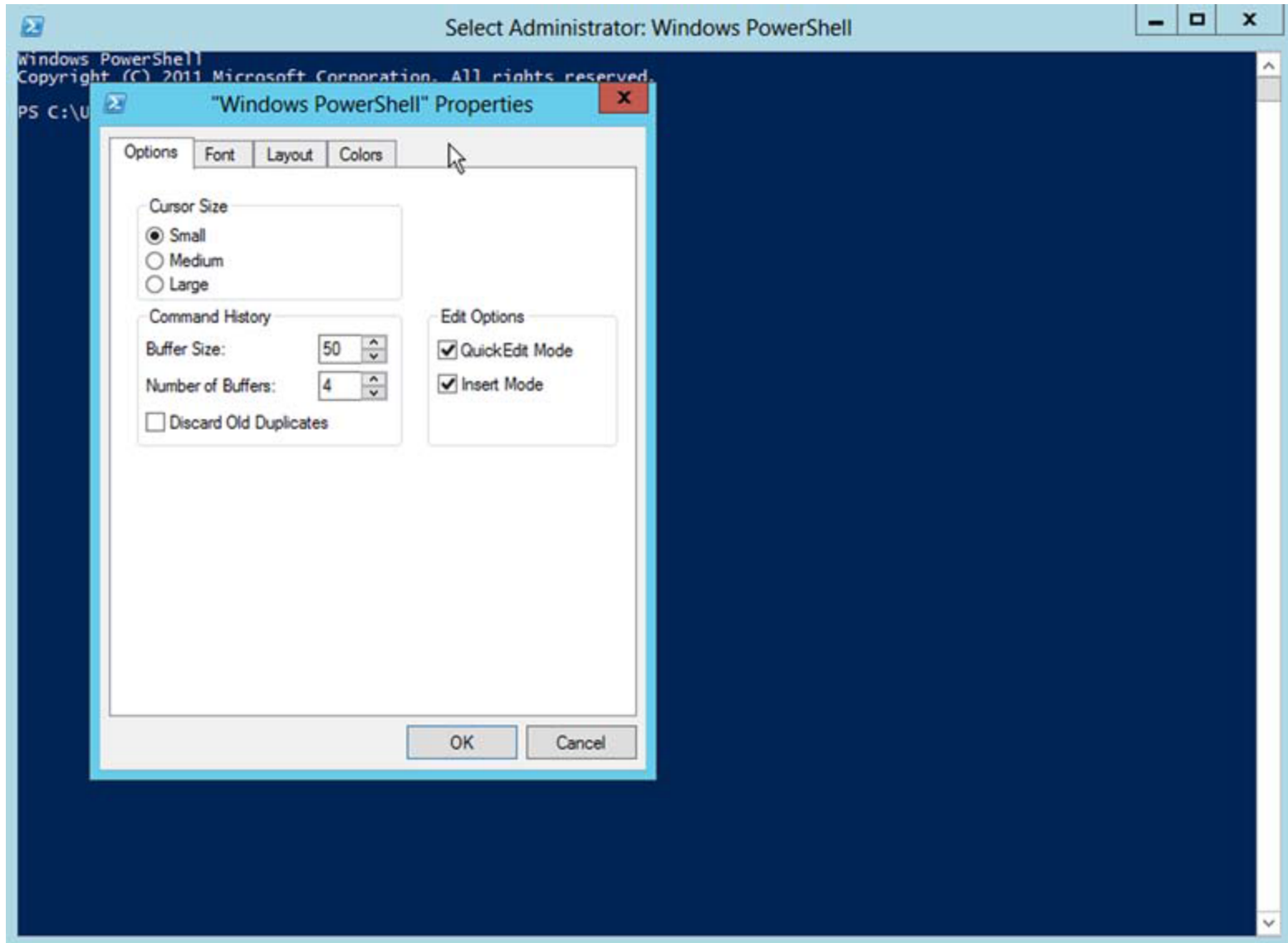


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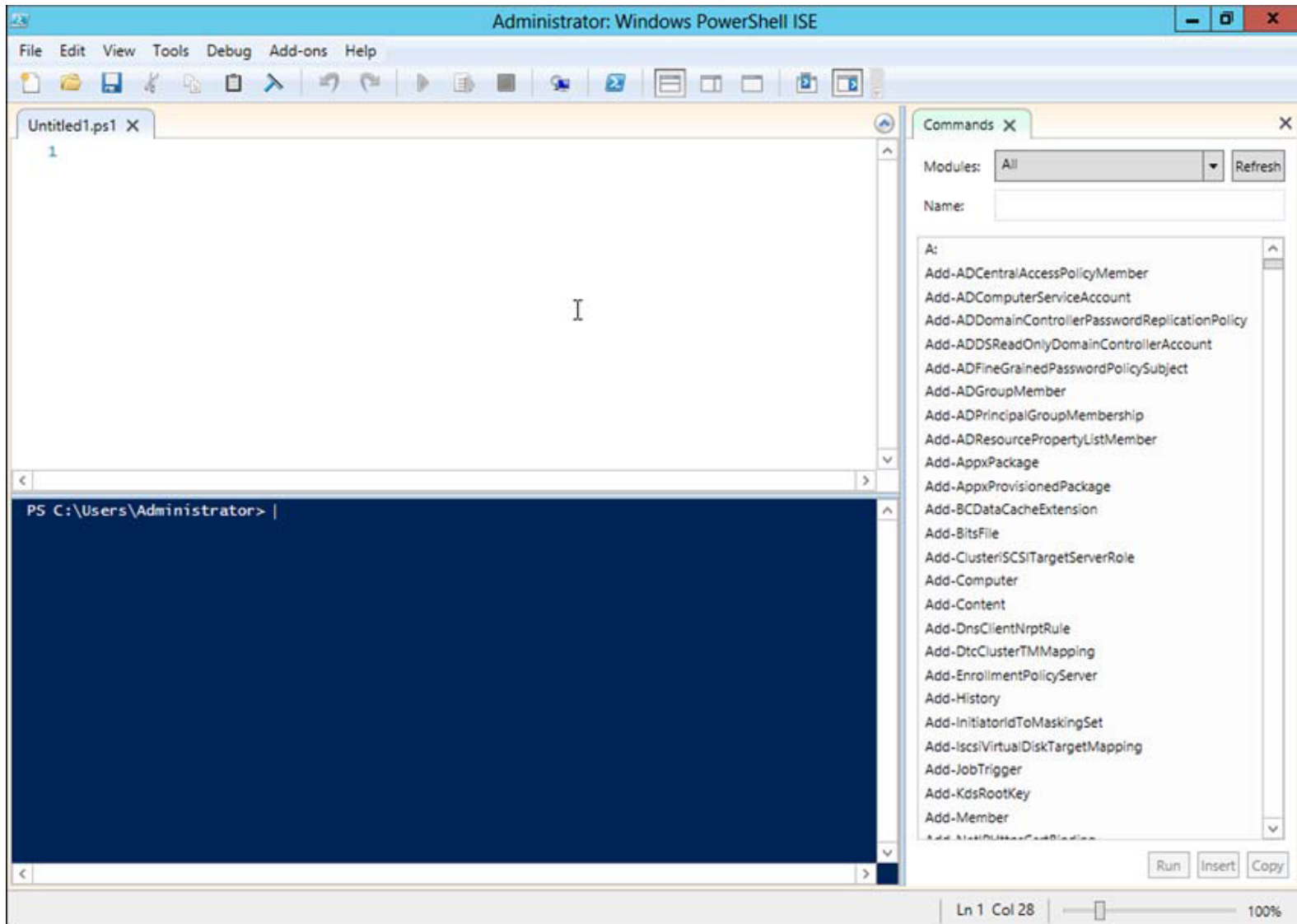


```
Administrator: Windows PowerShell
Windows PowerShell
Copyright (C) 2011 Microsoft Corporation. All rights reserved.
PS C:\Users\Administrator> _
```

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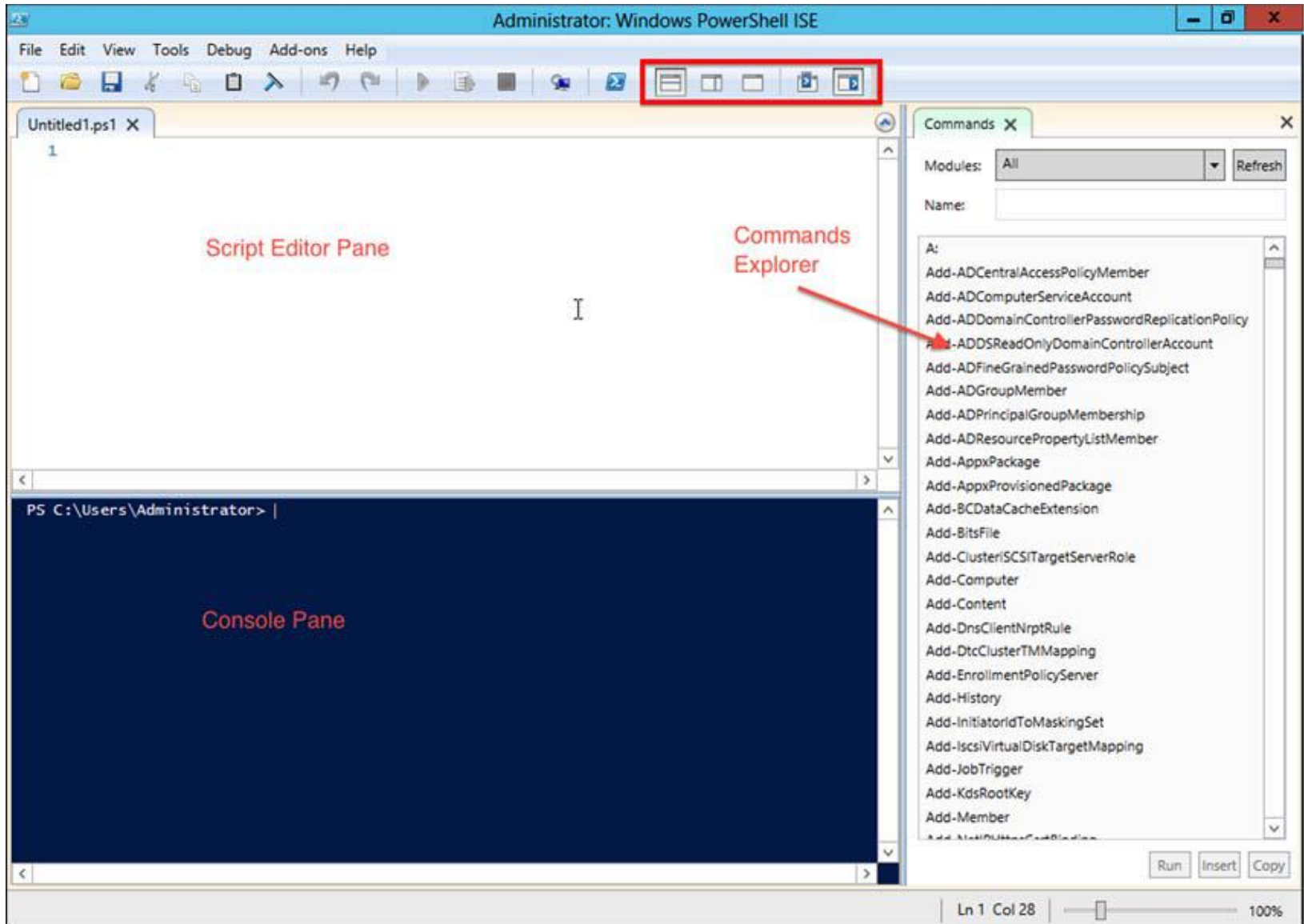


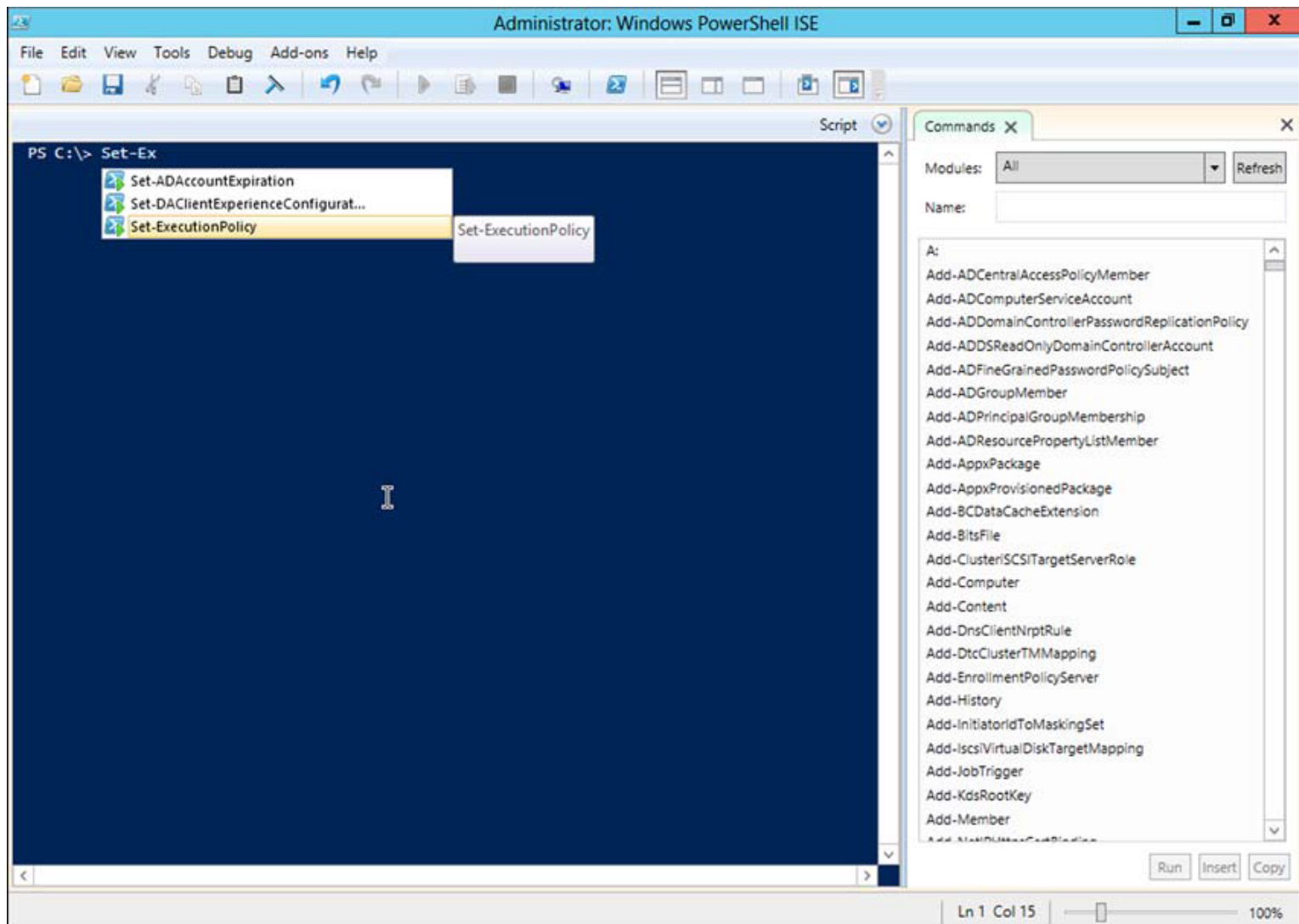
Script Programming



The PowerShell ISE (PowerShell_ISE.exe)

Script Programming





IntelliSense works like tab completion in the ISE

Script Programming

```
$PSVersionTable
```

```
Name Value
```

```
-----
```

```
PSVersion 3.0
```

```
WSManStackVersion 3.0
```

```
SerializationVersion 1.1.0.1
```

```
CLRVersion 4.0.30319.17379
```

```
BuildVersion 6.2.8250.0
```

```
PSCompatibleVersions {1.0, 2.0, 3.0}
```

```
PSRemotingProtocolVersion 2.2
```

```
PS C:\> help Get-Service
```

```
NAME
```

```
Get-Service
```

```
SYNTAX
```

```
Get-Service [[-Name] <string[]>] [-ComputerName <string[]>]
```

```
[-DependentServices] [-RequiredServices] [-Include <string[]>]
```

```
[-Exclude <string[]>] [<CommonParameters>]
```

```
Get-Service -DisplayName <string[]> [-ComputerName <string[]>]
```

```
[-DependentServices] [-RequiredServices] [-Include <string[]>]
```

```
[-Exclude <string[]>] [<CommonParameters>]
```

```
Get-Service [-ComputerName <string[]>] [-DependentServices]
```

```
[-RequiredServices] [-Include <string[]>] [-Exclude <string[]>]
```

```
[-InputObject <ServiceController[]>] [<CommonParameters>]
```

```
ALIASES
```

```
gsv
```

```
REMARKS
```

```
Get-Help cannot find the Help files for this cmdlet on this computer.
```

```
It is displaying only partial help.
```

```
-- To download and install Help files for the module that
```

Script Programming

Help *log*

Help *event*

Help Get-EventLog -online

help about_common_parameters

Script Programming

Good Scripting Practice

Number of stages:

1. Working interactively
2. Writing a function
3. Writing a script
4. Make the script production ready
5. Possibly create a cmdlet

Script Programming

GROUP DOCUMENTATION:

Make a log book of each day with self written description of each task.

▪ Day 1:

▪ Task 1

- I did this and that ... Bla bla
- I am still trying

▪ Task 2

▪ Day 3

▪ Task 3

▪ Task 4

▪ Task 5

.....

Reference for group talk !!!

BOOKS:

For Task 1 to 7:

- **Windows PowerShell 3.0 First Steps Ed Wilson , Microsoft Press**

For Task 8:

- **Windows Server 2012 Automation with PowerShell Cookbook**
 - (Chapter 2) , Packt Publishing

For Task 9 and 10:

- **SQL Server 2012 with PowerShell V3 Cookbook**
 - (Chapter 2 and 3) Packt Publishing

Supplementary Material:

Windows PowerShell Quick Reference

<http://www.microsoft.com/en-us/download/details.aspx?id=7097>

Windows PowerShell Scripting

<https://technet.microsoft.com/en-us/scriptcenter/powershell.aspx>

Microsoft Script Center

<https://technet.microsoft.com/en-us/scriptcenter/bb410849.aspx>

MCQ Test on Tasks and Book

25 Questions (Mostly Scripts)

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