POWERSHELL JUMPSTART FOR SQL SERVER DBAS
SQL Server

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Ground Rules

Don’t focus on the code, focus on the concepts.
Ask questions!
The What and Why of Powershell
Language Basics
Working with SQL Server
And Then What?
What is Powershell?
The Facts

Released as Powershell RC 1 – April 2006

Originally called Project “Monad”

Current available version: 4.0

(5.0 preview available)
But for what?
Why PowerShell?

.NET Libraries

SQL Server
File System
Operating System

Invoke-SqlCmd -ServerInstance $srvr -Query "BACKUP DATABASE $db TO DISK=`'$backuplocation'""
Pieces and Parts

Hosts

Powershell.exe

System.Management.Automation

Powershell ISE
Demo – The ISE
Fundamental unit of “getting stuff done”

- Get-Help
- New-Item
- Remove-Module

Verb-Noun

Limited by Microsoft

Unlimited values, Should be descriptive

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Learn Within Powershell

**Get-Command**
- List Commands:
  - *New*
  - -Module SQLPS

**Get-Help**
- Show help info:
  - man, help
  - -ShowWindow

**Get-Member**
- Methods and properties:
Everything is a .Net object!

– Properties (attributes)
– Methods (functions, do things)

[string] $Tea = 'Hot'
(System.String)

$Tea.Length = 3

$Tea.IndexOf('o') = 2
‘$’ indicates a variable

[string]$Tea = ‘Hot’
$Tea = ‘Hot’
$TeaTime = Get-Date
Demo – CMDLETS and Objects

Diagram:
- Server
  - ConnectionContext
  - Databases
    - Database
    - Tables
      - Table
  - Alerts
- JobServer
  - Jobs
    - Job
  - Alerts
The SQL Server Module

```
Import-Module SQLPS (SQL 2012+ client)
```

SQL Server cmdlets  SQL Server Provider

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Agent Jobs

SQL 2008+

Job step type

Execute as ‘Run as’
### Demo – Working with SQL Server

```powershell
PS SQLSERVER:
> Get-Command -Module SQLPS
```

<table>
<thead>
<tr>
<th>CommandType</th>
<th>Name</th>
<th>ModuleName</th>
</tr>
</thead>
<tbody>
<tr>
<td>Function</td>
<td>SQLSERVER:</td>
<td>SQLPS</td>
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<tr>
<td>Cmdlet</td>
<td>Add-SqlAvailabilityDatabase</td>
<td>SQLPS</td>
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<tr>
<td>Cmdlet</td>
<td>Add-SqlAvailabilityGroupListenerStaticIp</td>
<td>SQLPS</td>
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<tr>
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<td>Backup-SqlDatabase</td>
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<tr>
<td>Cmdlet</td>
<td>Convert-UrnToPath</td>
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<tr>
<td>Cmdlet</td>
<td>Decode-SqlName</td>
<td>SQLPS</td>
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<tr>
<td>Cmdlet</td>
<td>Disable-SqlAlwaysOn</td>
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<tr>
<td>Cmdlet</td>
<td>Get-SqlCredential</td>
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<tr>
<td>Cmdlet</td>
<td>Get-SqlDatabase</td>
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<td>Cmdlet</td>
<td>Get-SqlInstance</td>
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<td>Get-SqlSmartAdmin</td>
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<td>Cmdlet</td>
<td>Invoke-PolicyEvaluation</td>
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<td>Join-SqlAvailabilityGroup</td>
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<tr>
<td>Cmdlet</td>
<td>New-SqlAvailabilityGroup</td>
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<td>New-SqlAvailabilityGroupListener</td>
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<td>Cmdlet</td>
<td>New-SqlAvailabilityGroupReplica</td>
<td>SQLPS</td>
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<td>Cmdlet</td>
<td>New-SqlBackupEncryptionOption</td>
<td>SQLPS</td>
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<td>Cmdlet</td>
<td>New-SqlNADBPEndpoint</td>
<td>SQLPS</td>
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</table>
So now what?
Books

- **Powershell In A Month of Lunches**
- **Powershell in Depth, 2nd Edition**

![Books Image]
Bloggers

- **Ben Miller**  

- **Allen White**  

- **Kendal Van Dyke**  

- **Laerte Junior**  
  [https://www.simple-talk.com/author/laerte-junior/](https://www.simple-talk.com/author/laerte-junior/)
Microsoft Virtual Academy
PluralSight ($$)
https://github.com/MikeFal

– Powershell repository (all my scripts, including WIP)
Find tasks to automate
Manage the file system ONLY through Powershell
Rewrite a T-SQL or other task using Powershell
And so on...
HUH?

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