
AWS
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PowerShell on AWS Lambda: The best of both worlds

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An even easier way to run Lambda functions written in PowerShell

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PowerShell?

- Previously only “Windows PowerShell”
- Now PowerShell Core
  - Cross-platform (Windows, Linux, and macOS)
  - Scripting language
  - Command shell
  - Automation and configuration tool/framework

PowerShell loves reacting to events!

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Why Lambda?

Fastest way to build, lowest cost of ownership

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Benefits of AWS Lambda



- Run code without provisioning infrastructure or servers
- Scales automatically
- Invoke directly via Lambda API, or in response to events
- Only pay for compute time you use

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PowerShell runtime for Lambda

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Existing .NET solution

- Available since 2018, open source
- Uses .NET Core runtime
- Uses AWSLambdaPSCore modules for development and publishing
- Compiles the PowerShell code into C# .NET binaries
- Specify PowerShell version with Microsoft.PowerShell.SDK NuGet package
- #Requires statement to import other required modules
- Publish function using PowerShell tooling
- Returns only last output from pipeline
- Cannot view code in Lambda console

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Lambda runtimes

Managed runtimes

- Based on Amazon Linux/Amazon Linux 2
- .NET, Node.js, Python, Ruby, Java, Go

Custom runtimes

- Based on any Linux distribution
- Any language
- Shell script, language script, compiled binary executable
- Runtime client to interact with Lambda

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Native PowerShell runtime

- Runtime environment matches a standard PowerShell session
- No compilation step required
- Simplifies development, deployment, and testing
- Better control over function output, error messages, and logging

```
# pwsh
PowerShell 7.2.1
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https://aka.ms/powershell
Type 'help' to get help.

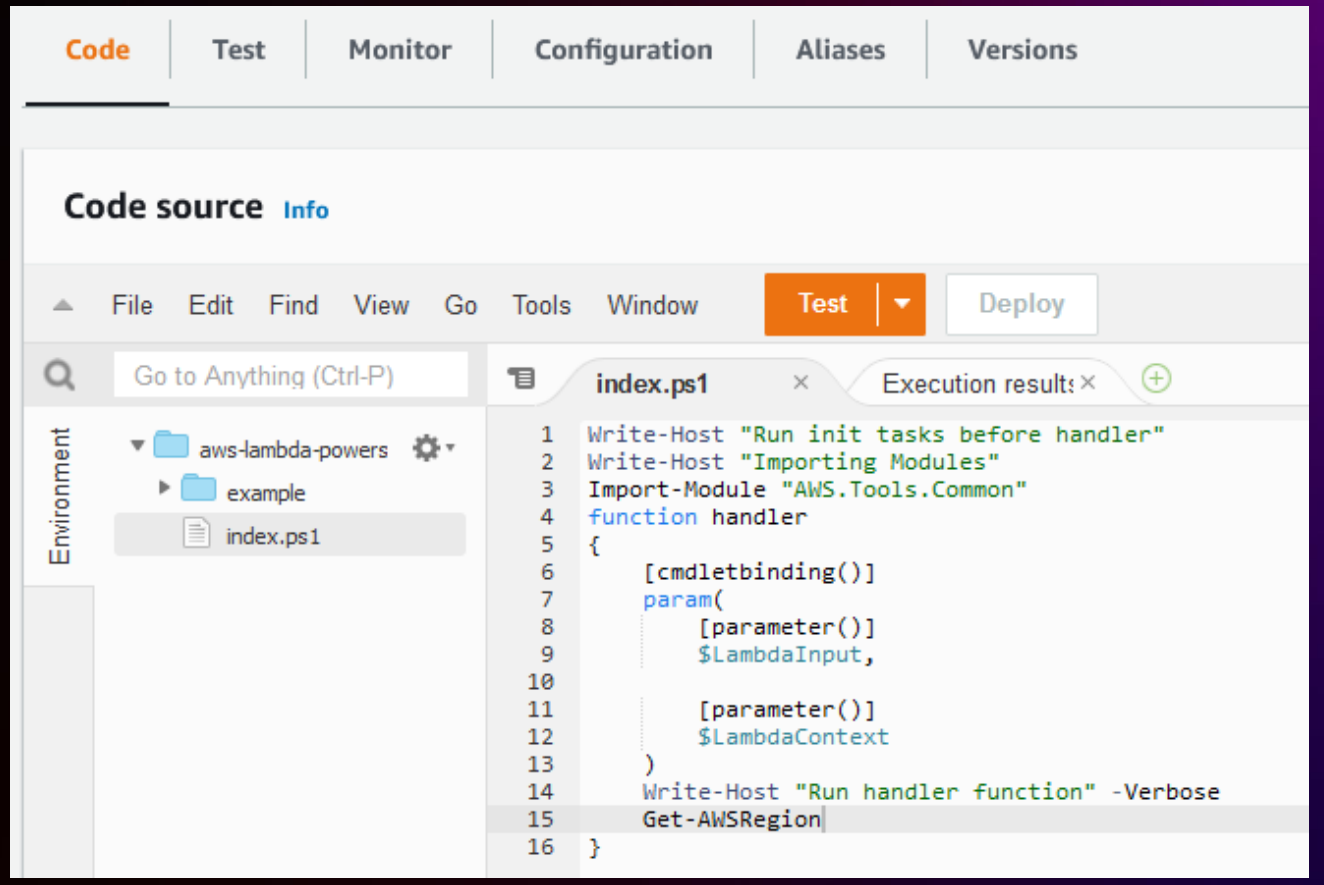
PS /mnt/c> Get-AWSRegion

Region         Name                           IsShellDefault
------         ----                           --------------
af-south-1     Africa (Cape Town)                      False
ap-east-1      Asia Pacific (Hong Kong)                False
ap-northeast-1 Asia Pacific (Tokyo)                    False
ap-northeast-2 Asia Pacific (Seoul)                    False
ap-northeast-3 Asia Pacific (Osaka)                    False
ap-south-1     Asia Pacific (Mumbai)                   False
ap-southeast-1 Asia Pacific (Singapore)                False
ap-southeast-2 Asia Pacific (Sydney)                   False
```

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PowerShell code in the AWS Management console

- View and edit code in the Lambda console
- Test functions
- Embed PowerShell code within CloudFormation/ Infrastructure as Code



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Share code between functions

- Add PowerShell runtime to multiple functions
- Share modules across multiple functions
- Use Lambda layers

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Thank you!

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