

From PowerShell Function to Serverless code with Azure Functions

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Agenda

Introduction to Cloud Automation

Azure Automation

Microsoft Flow

Azure Functions

Demos!

Cloud Automation



Microsoft Flow

Code

Events + data

Azure Functions



Azure Automation

Azure Automation Capabilities

Runbook Authoring in Azure:

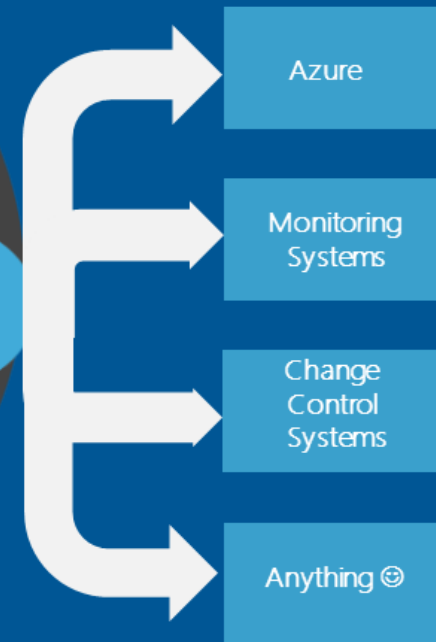
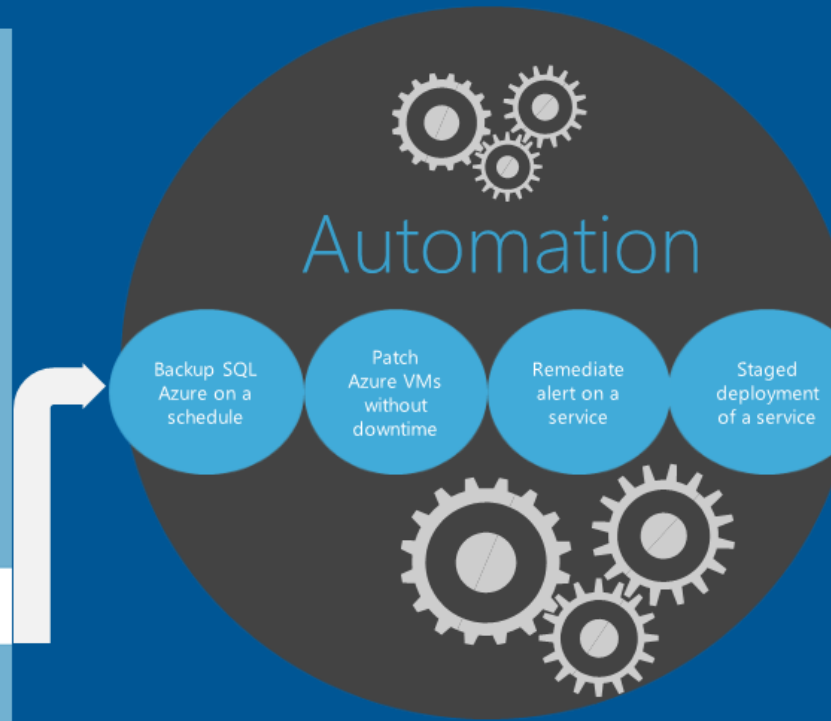
Create runbooks to automate all aspects of cloud operations, from deployment, monitoring, and optimizations

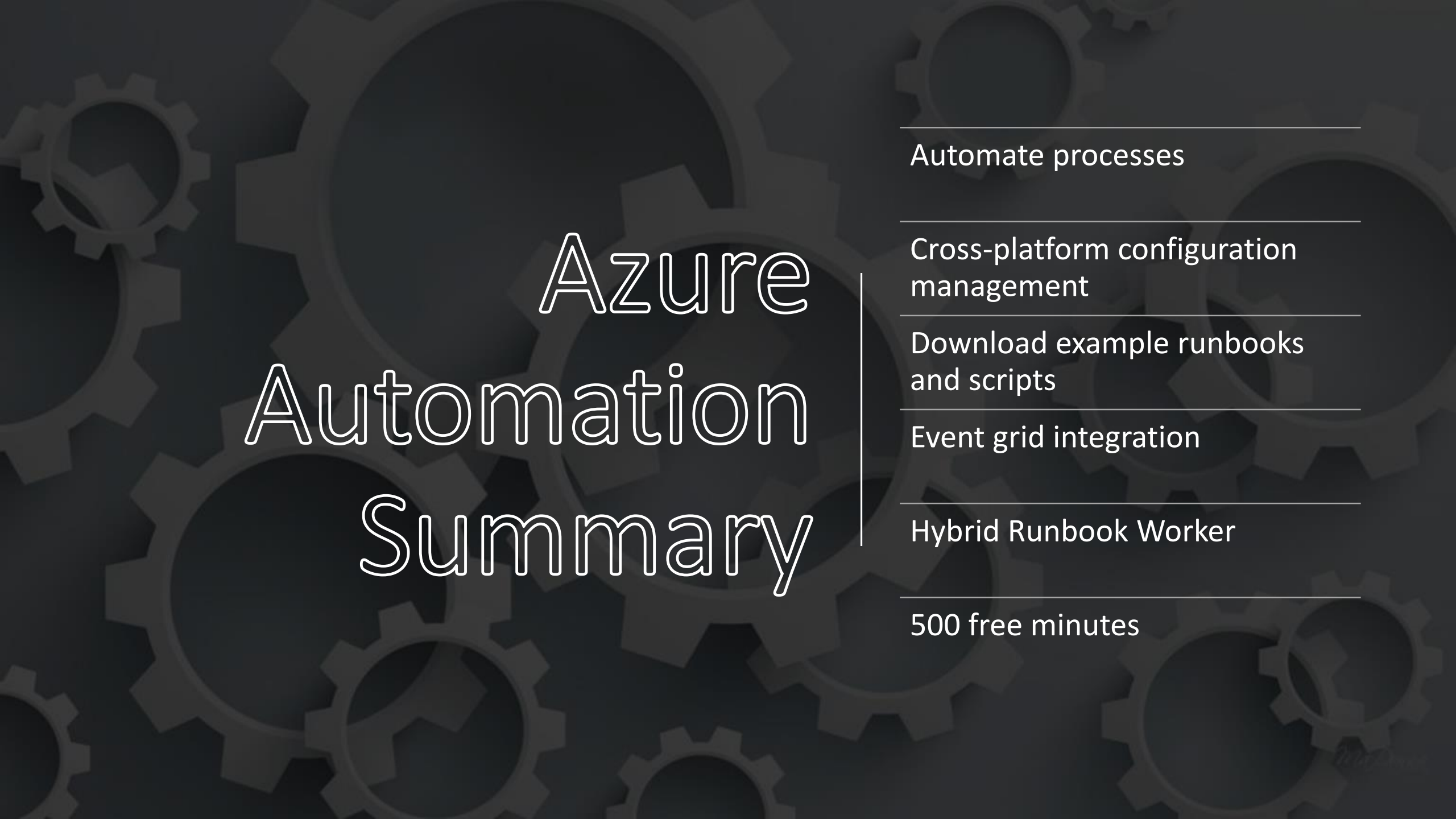
Highly Available Engine:

Support requirements for scale and H/A. Built on PowerShell Workflow. Isolation for runbook jobs

Integration into other systems:

Import PS modules and create additional modules and runbooks for Azure services or to connect into 3rd party systems





Azure Automation Summary

Automate processes

Cross-platform configuration
management

Download example runbooks
and scripts

Event grid integration

Hybrid Runbook Worker

500 free minutes

What is
Microsoft
Flow



Microsoft Flow

Connectors



Office 365 Outl...



OneDrive for B...



Office 365 Users



SharePoint



Twitter



Notifications



RSS



Outlook.com

Recently added connectors



AtBot Admin



Marketing Cont...



Pitney Bowes T...



Excel Online (B...




Excel Online (O...



Azure SQL Data...


Flow Templates



Save Office 365 email attachments to OneDrive for Business

By Microsoft
Used 235650 times

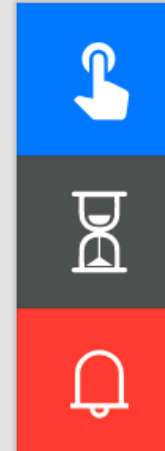
This flow template features a blue header with an Office 365 icon, a blue body with a cloud icon, and a blue footer with a bell icon.



Get a push notification when you receive an email from your...

By Microsoft
Used 136809 times


This flow template features a blue header with an Office 365 icon, an orange body with a OneDrive icon, and a red footer with a bell icon.



Send myself a reminder in 10 minutes

By Microsoft
Used 95634 times


This flow template features a blue header with a hand icon, a dark gray body with a sandglass icon, and a red footer with a bell icon.



Get today's weather forecast for my current location

By Microsoft
Used 83902 times


This flow template features a blue header with a hand icon, a blue body with a sun icon, and a red footer with a bell icon.



Save Outlook.com email attachments to your OneDrive

By Microsoft Flow Community
Used 64359 times

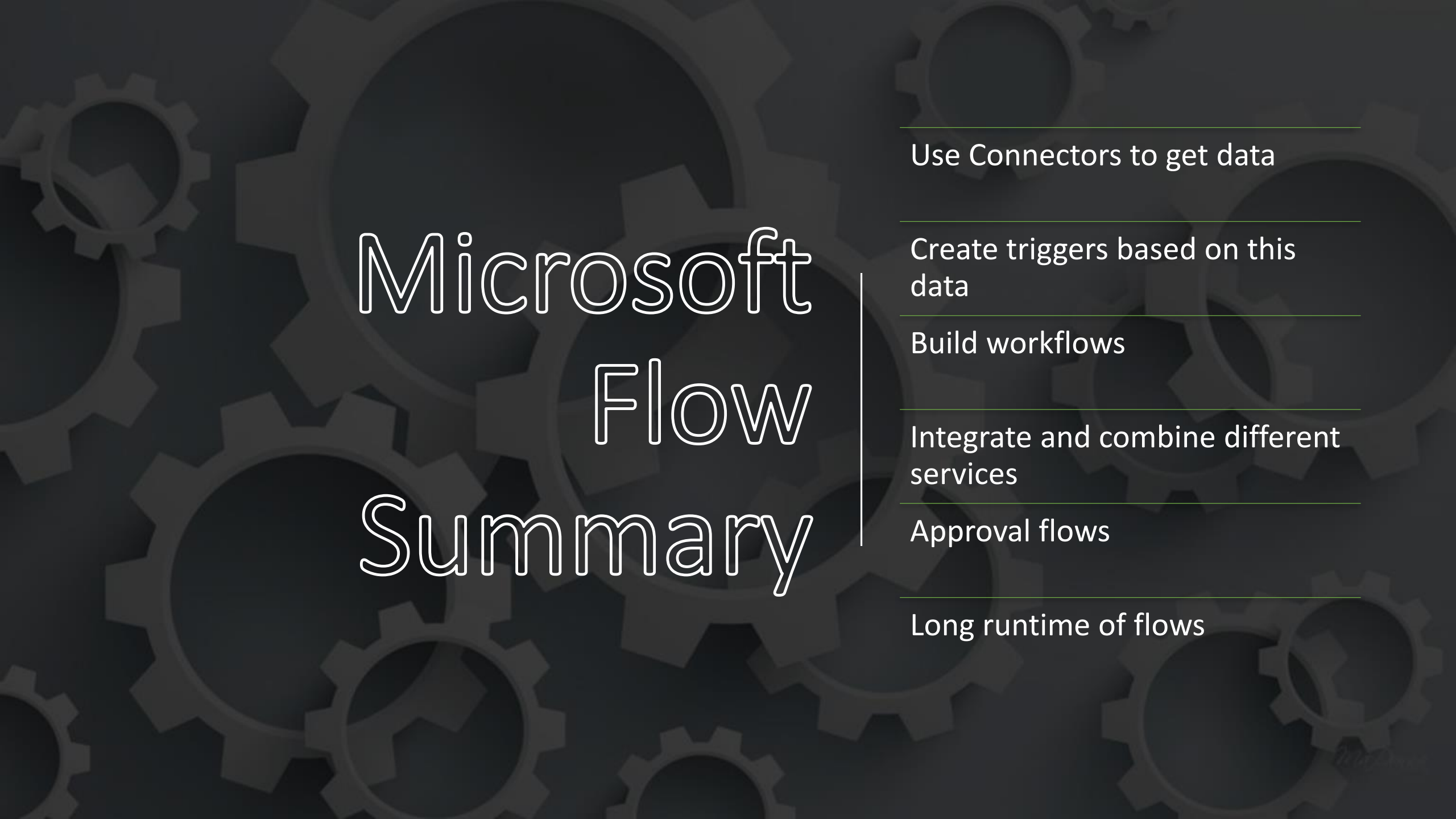
This flow template features a blue header with an Office 365 icon, a blue body with a cloud icon, and a blue footer with a bell icon.



Get a push notification with updates from the Flow blog

By Microsoft
Used 47714 times

This flow template features an orange header with a RSS icon, an orange body with a RSS icon, and a red footer with a bell icon.



Microsoft Flow Summary

Use Connectors to get data

Create triggers based on this data

Build workflows

Integrate and combine different services

Approval flows

Long runtime of flows

What are Azure Functions

Code

Events + data

Azure Functions





What is
serverless?

Azure Web Apps



Advantages of Azure Functions

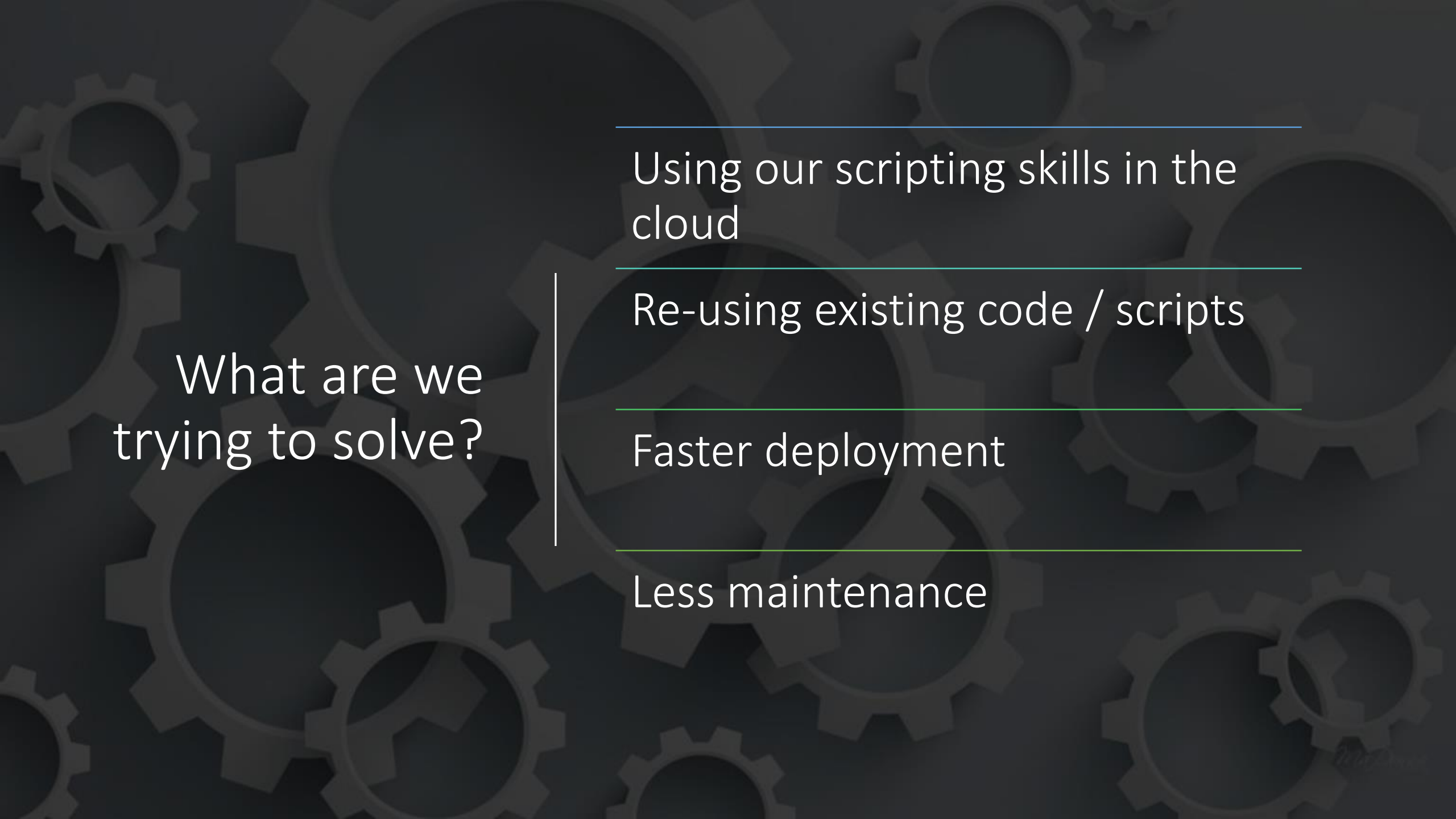
Pay for what you use

No Infrastructure to manage

No maintenance of servers

Can be placed in existing subscriptions

Simplify code writing



What are we
trying to solve?

Using our scripting skills in the
cloud

Re-using existing code / scripts

Faster deployment

Less maintenance

The background of the image is a dark blue gradient with a pattern of falling binary code (0s and 1s) in a lighter blue color, reminiscent of the 'Matrix' effect.

Demo 1

Exploring Azure Functions

Demo Summary

- Triggers available
- Scenarios available
- Experimental flag
- How to create Azure Function
- Delete Azure Function



Experimental Language Support: ☒ Enabled

PowerShell language support is still experimental

The background of the image is a dark blue gradient with a pattern of falling binary code (0s and 1s) in a lighter blue color, reminiscent of the 'Matrix' digital rain effect. The text is centered and rendered in a white, outlined font.

Demo 2

Create timed function

Demo Summary

- Create PowerShell function
- Used cron notation



Demo 3

Azure PowerShell Function

Demo Summary

- Which PowerShell version
- What variables are defined
- Saw the variables & files
- Reconfigured function.json
- Used Invoke-RestMethod to run

run.ps1

Save

Save and run

</> Get function

```

1 this does not run

```

```

2018-04-23T13:31:48.958 [Error] this : The term 'this' is not recognized as the name of a
ps1: line 1

+ CategoryInfo          : ObjectNotFound: (this:String) [], CommandNotFoundException
+ FullyQualifiedErrorId : CommandNotFoundException

2018-04-23T13:31:48.973 [Error] Exception while executing function: Functions.HttpTriggerP
2018-04-23T13:31:49.005 [Error] Function completed (Failure, Id=abbf3cc1-b7c2-4d19-8358-32

```

Error handling

Invocation log

Refresh

Status: 500 Internal Server Error

Function	Status	Message
HttpTriggerPowerShell2 (Method: POST, Uri: ...)	✖	2fd84265-3137-4bd3-a077-f548272d3704", Id": "7b3168a5-7494-4825-9ef6-73764f3f4ab7", Code": 500, Code": 0, Message": "An error has occurred. For more information, please the logs for error ID 2fd84265-3137-4bd3-a077-f548272d3704"
HttpTriggerPowerShell2 (Method: POST, Uri: ...)	✖	



Demo 4

Azure Function Errors

Demo Summary

- Had our function fail
- Looked at different error logs
- Fixed the code based on output



Other Deployment methods

Summary

Use existing PowerShell skills

Develop serverless code

Interact with other services

Free tier

functions.azure.com



Questions? |