PDC

PowerShell | DevOps | Cloud

Managing in Azure - The Portal, the Shell, the API, & the CLI

Mike Nelson

Pure Storage | USA

https://www.linkedin.com/company/pdcconf @PDCConf https://www.facebook.com/pdcconf

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International Conference

Managing in Azure - The Portal, the Shell, the API, & the CLI

PDC

PowerShell | DevOps | Cloud

September 16th & 17th

Online Event

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Meet Mike

PDC
PowerShell | DevOps | Cloud

- 35+ years in tech
- Experience from Helpdesk to Architect
- Scripter, not a coder
- Passion for community, teaching, learning
- Humble awards
- Midwest USA husband & dad
- Beer, BBQ, & EVs

Microsoft MVP Most Valuable Professional

Citrix Technology Advocate CTA

vmware vEXPERT

Agenda

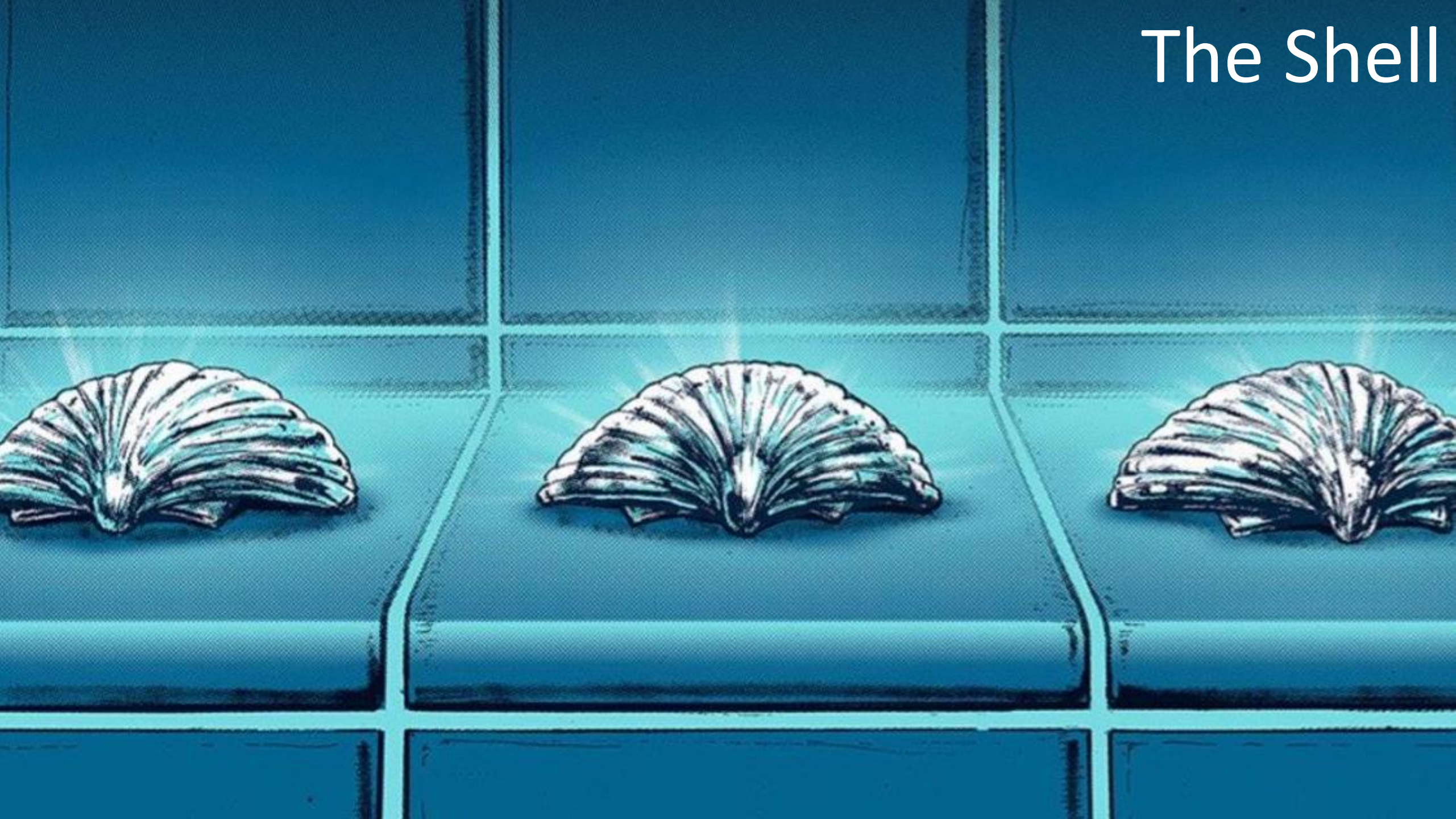
- What each solution means for you
- Walkthroughs

The Portal

Blades & Pop-outs

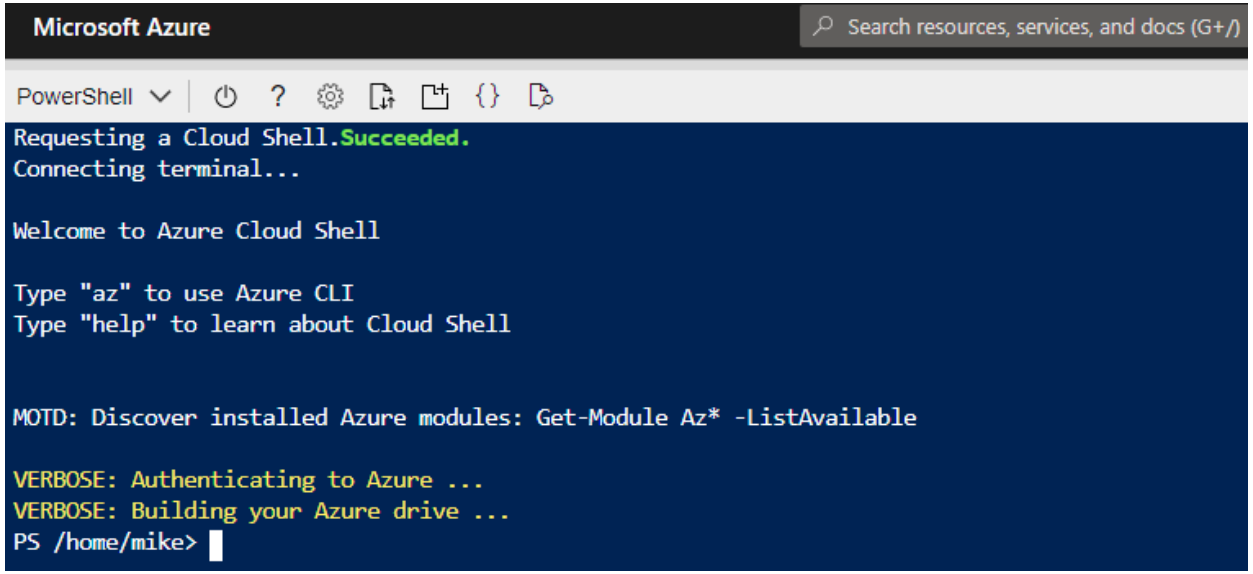
- Very well organized <> massive volume
- Clickety, click, click
- Lookups are awesome
- Check my work
- Dupe it
- Learn the code
- Dashboard lover
- What went wrong?

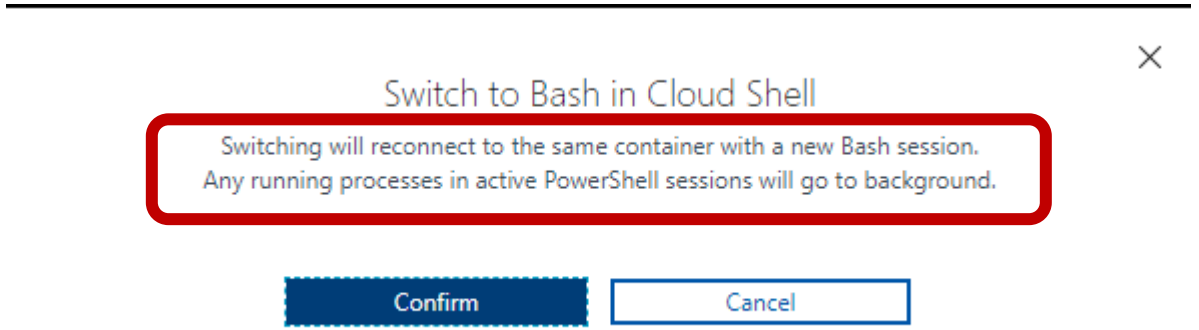
The Shell



Cloud Shell

- Bash & PoSH
- 40+ apps/languages
- Azure:
- VSCode mini-me
- Shell-as-a-Service (no control)
- Not for big or long jobs
- Take it with you
- Terminal, VSCode, Docker
- Free as in “free beer”

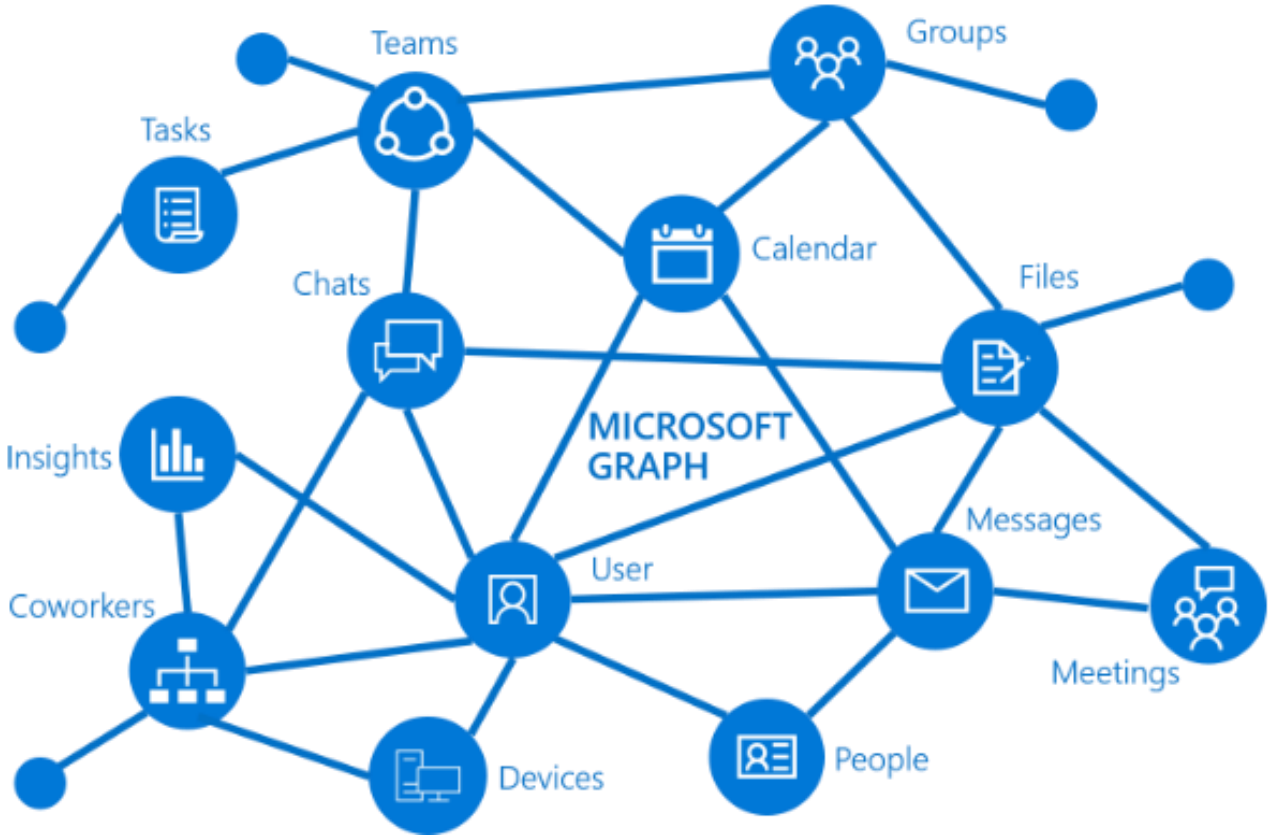




The API

Graph API

- 17 SDKs
- PowerShell SDK - 6428+
- Endpoints to infinity
- VSCode, Postman, etc.
- Azure, M365, & beyond
- Keeping up with changes



Resources

- Definitive:
  - https://developer.microsoft.com/en-us/graph
  - https://github.com/microsoftgraph

- Azure REST
  - https://docs.microsoft.com/en-us/rest/api/
  - https://docs.microsoft.com/en-us/rest/api/azure/

Android | Angular | ASP.NET MVC | iOS Swift | iOS Objective-C | Node.js

PHP | Python | React | Ruby | Universal Windows Platform (.NET) | Xamarin

The CLI

Az & PowerShell CLI's

PowerShell | DevOps | Cloud

Azure CLI

- Cross-platform, shell, & docker
- Cmd, bash, or PoSH
- Bash-friendly
- Shell script for batch
- JSON output

Feature Parity

Flexibility

Familiarity

Try something new

PowerShell

- Cross-platform PoSH
- AzureRM*& Az
- Mega modules & cmdlets
- Object output
- PoSH is PoSH

**AureRM is EOL 2/2024*

But, what about…

- ARM ---- Bicep?
- Lighthouse?
- The other folks?

Bicep

Domain Specific Language (DSL) that uses declarative syntax to set up Azure resources.

ARM code

```
1  {
2    "$schema": "https://schema.management.azure.com/schemas/2019-04-01/deploymentTemplate.json#",
3    "contentVersion": "1.0.0.0",
4    "functions": [],
5    "variables": {
6      "dfname": "kph-test-df-bicep-001"
7    },
8    "resources": [
9      {
10       "type": "Microsoft.Resources/deployments",
11       "apiVersion": "2019-10-01",
12       "name": "pf",
13       "properties": {
14         "expressionEvaluationOptions": {
15           "scope": "inner"
16         },
17         "mode": "Incremental",
18         "parameters": {
19           "dataFactoryName": {
20             "value": "[variables('dfname')]"
21           }
22         },
23         "template": {
24           "$schema": "https://schema.management.azure.com/schemas/2019-04-01/deploymentTemplate.json#",
25           "contentVersion": "1.0.0.0",
26           "parameters": {
27             "dataFactoryName": {
28               "type": "string"
29             },
30             "location": {
31               "type": "string",
32               "defaultValue": "[resourceGroup().location]"
33             }
34           },
35           "functions": [],
36           "resources": [
37             {
38               "type": "Microsoft.DataFactory/factories",
39               "apiVersion": "2018-06-01",
40               "name": "[parameters('dataFactoryName')]",
41               "location": "[parameters('location')]",
42               "identity": {
43                 "type": "SystemAssigned"
44               },
45               "tags": {
46                 "CreatedBy": "cardowo",
47                 "Application": "Bicep"
48               },
49               "properties": {
50                 "publicNetworkAccess": "Disabled"
51               }
52             }
53           ]
54         }
55       }
56     }
57   ]
58 }
```

Bicep code

```
1  param dataFactoryName string
2  param location string = resourceGroup().location
3
4  resource dataFactory 'Microsoft.DataFactory/factories@2018-06-01' = {
5    name: dataFactoryName
6    location: location
7    identity: {
8      type: 'SystemAssigned'
9    }
10   tags: {
11     'CreatedBy': 'cardowo'
12     'Application': 'Bicep'
13   }
14   properties: {
15     publicNetworkAccess:'Disabled'
16   }
17 }
```

MORE DEMOS

- The API is enormous, has everything, & complex
- Cloud Shell is not a dev platform & is the most inclusive
- PowerShell script is king
- Azure CLI gets love from its roots & adapts quicker than PoSH
- Bicep is a lifecycle tool, not a management tool
- Choose for you & your goals, not just because

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Thank you!

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