

About me

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Welcome to a new session about

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Azure Biceps development

Video type: Full Session

Video category: Level-400

Session Agenda

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- What is Azure biceps
- Why should I use biceps
- The structure
- Biceps functions
- Demo
- Deploy biceps



What is Azure biceps

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- Is a new Domain specific language for ARM deployments
 - IMPORTANT, it doesn't replace JSON!
 - It produce JSON
 - Less verbose than JSON

Why biceps?

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- Simpler syntax
 - First-class authoring experience in VSCode
 - Break your Bicep code into manageable parts (modules)
 - It's completely free
 - Bicep automatically manage dependencies

Bicep functions

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Name	Details
Any function	Helps to resolve issues around data type warnings
Array functions	Functions to work with arrays (first, skip, min,...)
Date functions	Functions to work with date (utcNow,..)
Deployment value functions	Function to get deployment values (deployment, environment)
Logical function	Function to work with conditions (bool)
Numeric functions	Function to work with numbers (int, min,...)
Object functions	Functions to work with object (contains, length,...)
Resource functions	Functions to work with resources (getSecret, pickZones,...)
Scope functions	Define the deployment scope (Tenant, subscription,..)
String functions	Functions to work with string (last, split,...)

The structure



```
Git > YouTubeChannel > 36_ARM Templates (Powershell UserGroup) > ARM Template > deployment.json
1 {
2   "$schema": "https://schema.management.azure.com/schemas/2019-04-01/deploymentTemplate.json#",
3   "contentVersion": "1.0.0.0",
4   "parameters": {
5     "DeploymentType": { ...
15   },
16   "VMName": { ...
24   },
25   },
26   "functions": { ...
44   },
45   "variables": {
46     //Variables using the function 'uniqueName'
47     "virtualNetworks_vnetwe_name": "[functiondemo.uniqueName('arm-vnet-')]",
48     "networkSecurityGroups_NSGFrontendWE_name": "[functiondemo.uniqueName('arm-nsg-')]",
49     "publicIPAddresses_demovmwe_ip_name": "[functiondemo.uniqueName('arm-pip-')]",
50     "nicname_vm_we": "[functiondemo.uniqueName('arm-nic-')]",
51     "demovmwe01VnetID": "[resourceId(resourceGroup().name, 'Microsoft.Network/virtualNetworks/subnets', variables('v
52     "dscurl": "<Define the DSC URL>"
53   },
54   "resources": [ ...
55   ]
56 }
353
354 }
```

ARM Template


```
Git > YouTubeChannel > 36_ARM Templates (Powershell UserGroup) > Bicep Template > deployment.bicep
1 @allowed([
2   'NetworkOnly'
3   'FullDeployment'
4 ])
5 @description('NetworkOnly deploys the network components and the FullDeployment the whole solution')
6 param DeploymentType string = 'FullDeployment'
7
8 @minLength(5)
9 @maxLength(15)
10 @description('Minimum 5 chars, maximum 15 chars are allowed!')
11 param VMName string = 'bicep-vm01'
12
13 var virtualNetworks_vnetwe_name = 'bicep-vnet-${uniqueString(toLower(resourceGroup().id))}'
14 var networkSecurityGroups_NSGFrontendWE_name = 'bicep-nsg-${uniqueString(toLower(resourceGroup().id))}'
15 var publicIPAddresses_demovmwe_ip_name = 'bicep-pip-${uniqueString(toLower(resourceGroup().id))}'
16 var nicname_vm_we = 'bicep-nic-${uniqueString(toLower(resourceGroup().id))}'
17
18 var dscurl = '<Define the DSC URL>'
19
20
21 //Get existing resource
22 //=====
23 > resource SecredDemoKV 'Microsoft.KeyVault/vaults@2019-09-01' existing = { ...
24 }
25 //=====
26
27
28
29
30
31 > resource NSG 'Microsoft.Network/networkSecurityGroups@2021-02-01' = { ...
32 }
33
34
35 > resource VNET 'Microsoft.Network/virtualNetworks@2021-02-01' = { ...
36 }
37
38
39 > resource PIP 'Microsoft.Network/publicIPAddresses@2021-02-01' = { ...
40 }
41
42
43 > resource VMNIC 'Microsoft.Network/networkInterfaces@2021-02-01' = if (DeploymentType == 'FullDeployment') { ...
44 }
45
46 module deployvm 'deployment.bicep' = { ...
47 }
48 }
```

Bicep Template

Switch to the Live Demo!

A rectangular button with a dark background and the word "APPLAUSE" in white capital letters. A hand is visible at the bottom right corner, appearing to press the button. The button is set against a background of colorful, out-of-focus circles.

APPLAUSE

- 
- A decorative graphic on the left side of the slide. It features a stylized key shape composed of blue binary code (0s and 1s). The key is oriented horizontally, with the head on the left and the shaft extending to the right. The shaft ends in a circular lock mechanism with concentric rings and a small handle.
- Create an Azure bicep template
 - Deployment ways