

Project 'Bicep'

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“We’ve seen two years’ worth of digital transformation in two months”

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Update #2 on Microsoft cloud services continuity

Posted on March 28, 2020



Microsoft Azure

Since last week's update, the global health pandemic continues to impact every organization—large or small—their employees, and the customers they serve. Everyone is working tirelessly to support all our customers, especially critical health and safety organizations across the globe, with the cloud services needed to sustain their operations during this unprecedented time. Equally, we are hard at work providing services to support hundreds of millions of people who rely on Microsoft to stay connected and to work and play remotely.

As Satya Nadella [shared](#), *"It's times like this that remind us that each of us has something to contribute and the importance of coming together as a community"*. In these times of great societal disruption, we are steadfast in our commitment to help everyone get through this.

For this week's update, we want to share common questions we're hearing from customers and partners along with insights to address these important inquiries. If you have any immediate needs, please refer to the following resources.

[Azure Service Health](#) – for tracking any issues impacting customer workloads and understanding Azure Service Health

[Microsoft 365 Service health and continuity](#) – for tracking and understanding M365 Service health

[Xbox Live](#) – for tracking game and service status

What have you observed over the last week?

In response to health authorities emphasizing the importance of social distancing, we've seen usage increases in services that support these scenarios—including Microsoft Teams, Windows Virtual Desktop, and Power BI.

- We have seen a 775 percent increase of our cloud services in regions that have enforced social distancing or shelter in place orders.
- We have seen a 775 percent increase in Teams' calling and meeting monthly users in a one month period in Italy, where social distancing or shelter in place orders have been enforced.
- We have seen a very significant spike in Teams usage, and now have more than 44 million daily users. Our users generated over 900 million meeting and calling minutes on Teams daily in a single week. [You can read more about Teams data here.](#)
- Windows Virtual Desktop usage has grown more than 3x.
- Government use of public Power BI to share COVID-19 dashboards with citizens has surged by 42 percent in a week.

"Windows Virtual Desktop usage has grown more than 3x!"

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Question:

What is the main driver behind automation in Azure?



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2017
Orlando, FL

RECAP, WHAT HAS BEEN CREATED? #1/2

- 6 Managed Disks
- 6 NIC's
- 6 VM's
- 3 Availability
- Azure SQL
- Static publi
- 2 load bala

RECAP, WHAT HAS BEEN CREATED? #2/2

- All VM's joined to AD Domain
- Anti-virus & Anti Malware configured
- Bginfo configured
- Full HA RDS Deployment
- 2 RD Connection Broker / Licensing
- 2 RD Gateway / Web Access
- 2 RD Session Host
- SSL Certificates configured for all roles
- Session Collection created
- Sample RemoteApp published
- RD Web Access branding
- RD CAP / RAP Policies
- Session Time Out settings configured

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TheMicrosoftPlatform.net



Question:

What is the main driver behind automation in Azure?

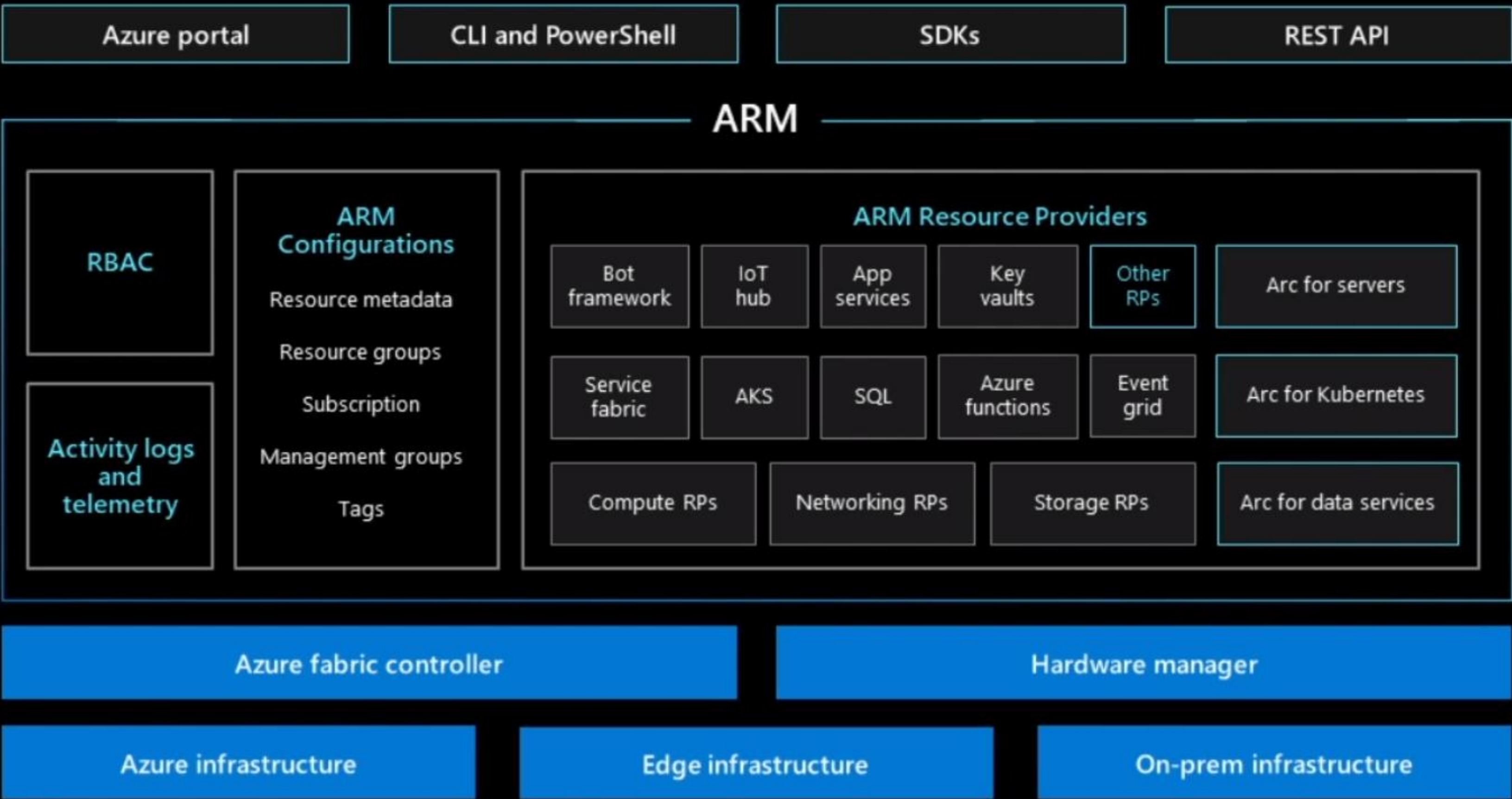


+

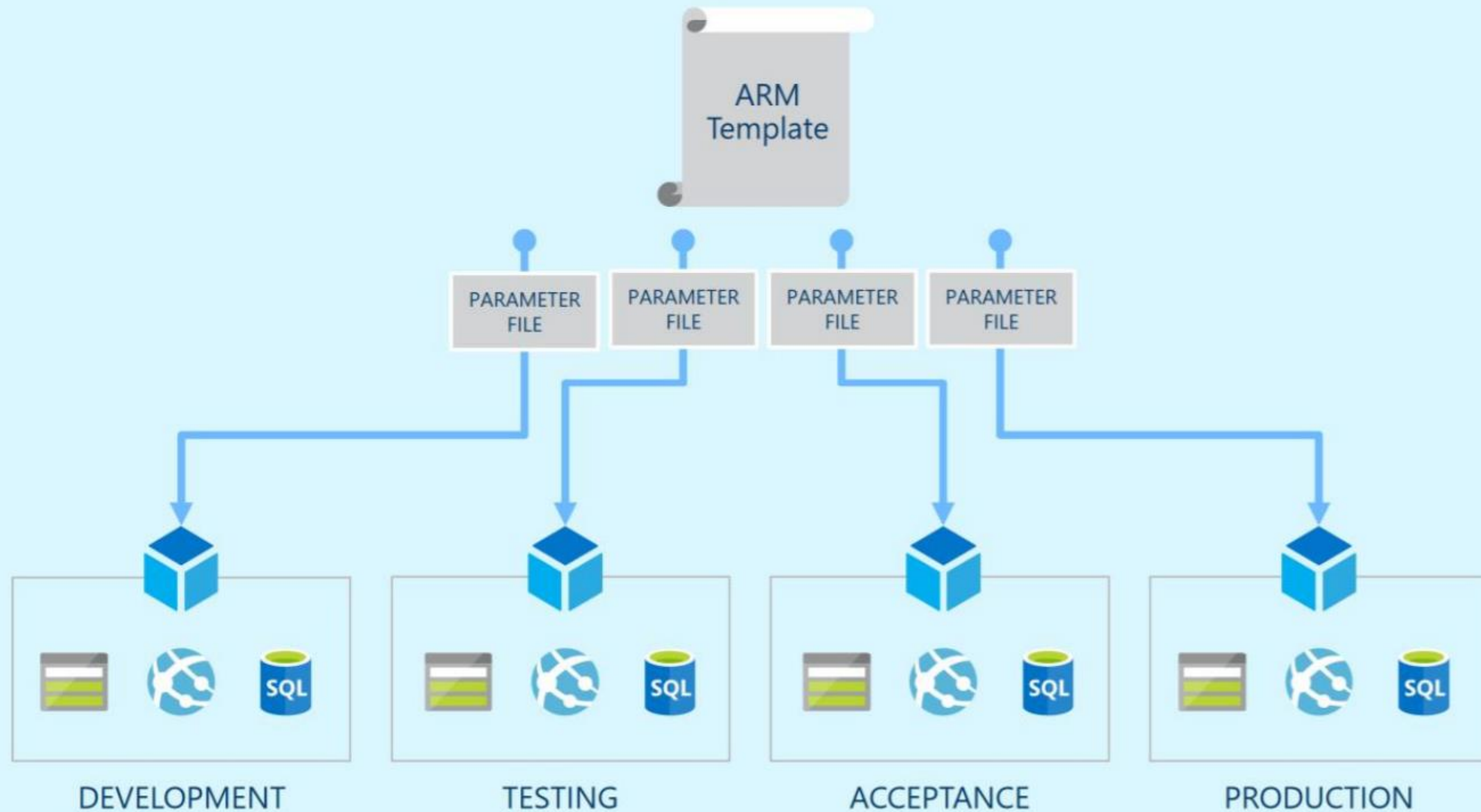
Having fast, and consistent yet customizable deployments that are reproducible in any Azure Subscription in exactly the same way.

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Azure Resource Manager



Infrastructure as code



Infrastructure as code

Language Azure Resource Manager accepts JavaScript Object Notation (JSON) templates that comply with a JSON schema. JSON is an industry standard, human readable language.

```
{
  "$schema": "https://schema.management.azure.com/schemas/2015-01-01/deploymentTemplate.json#",
  "contentVersion": "1.0.0.0",
  "parameters": {},
  "variables": {},
  "resources": [],
  "outputs": {}
}
```

Tooling Although it is possible to create a template for a complete application in simple text editor, there is sophisticated tooling available that provides you with a better authoring experience for Azure Resource Manager templates.

ARM Templates from portal

Home > New > Windows Virtual Desktop - Provision a host pool > Create Windows Virtual Desktop - Provision a host pool > Template

Template

Download Add to library (preview) Deploy

i Automate deploying resources with Azure Resource Manager templates in a single, coordinated operation. Define resources and configurable input parameters and deploy with script or code. [Learn more about template deployment.](#)

☒ Include parameters ⓘ

Template Parameters Scripts

> ⚙ Parameters (35)
> 📄 Variables (17)
✓ 📁 Resources (6)
 🔗 pid-836bce42-d18b-4b20-9725...
 🔗 [concat(variables('rdshPrefix'), 'a...
 🔗 [variables('vmCreation-linkedTe...
 🔗 [concat(variables('rdshPrefix'), c...
 🔗 [concat(variables('rdshPrefix'), '0...
 🔗 [concat(variables('rdshPrefix'), c...

```
1 {  
2   "$schema": "https://schema.management.azure.com/schemas/2015-01-01/deploymentTemplate.json#",  
3   "contentVersion": "1.0.0.0",  
4   "parameters": {  
5     "_artifactsLocation": {  
6       "type": "string",  
7       "metadata": {  
8         "description": "The base URI where artifacts required by this template are located."  
9       },  
10      "defaultValue": "[deployment().properties.templateLink.uri]"  
11    },  
12    "_artifactsLocationSasToken": {  
13      "type": "securestring",  
14      "metadata": {  
15        "description": "The sasToken required to access _artifactsLocation when they're located in a storage account with private access."  
16      },  
17      "defaultValue": ""  
18    },  
19    "rdshImageSource": {  
20      "type": "string",  
21      "metadata": {  
22        "description": "Select the image source for the session host vms. VMs from a Gallery image will be created with Managed Disks."  
23      },  
24      "defaultValue": "Gallery",  
25      "allowedValues": [  
26        "CustomVHD",  
27        "CustomImage",
```

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ARM Templates from portal

Sort by:

Date updated

Template name

Author name

Most popular

Resource Types:

All

Microsoft.Aad (1)

Microsoft.Analysisservices (1)

Microsoft.Authorization (5)

Microsoft.Automation (8)

Microsoft.Backup (1)

Microsoft.Cdn (11)

Microsoft.Compute (394)

Microsoft.Consumption (1)

Microsoft.Containerinstance (15)

Microsoft.Resources (153)


Microsoft.Web (81)

Search

872 templates match your filter.


Deploy a simple Windows VM

This template allows you to deploy a simple Windows VM using a few different options for the Windows version, using the latest patched version. This will deploy an A2 siz...

 by Brian Moore,
Last updated: 10/31/2019


Deploy a simple Ubuntu Linux VM 18.04-LTS.

This template deploy a Ubuntu Server with a few options for the VM. You can provide the VM Name, OS Version, VM size, admin username and password. As default the V...

 by Brian Moore,
Last updated: 3/7/2020


Deploy an Ubuntu VM with Docker Engine

This template allows you to deploy an Ubuntu VM with Docker (using the Docker Extension). You can later SSH into the VM and run Docker containers.

 by Corey Sanders,
Last updated: 12/11/2019


Create an Azure VM with a new AD Forest

This template creates a new Azure VM, it configures the VM to be an AD DC for a new Forest

 by Simon Davies,
Last updated: 4/6/2019


Deploy a simple Windows VM with tags

This template allows you to deploy a simple Windows VM with tags using a few different options for the Windows version, using the latest patched version. This will deploy in ...

 by Meagan McCrory,
Last updated: 11/13/2019

Joins an existing Windows VM to AD Domain

This template allows you to join an already exitsing Windows virtual machine into an existing Active Directory Domain. For this template to work you need an existing virt...

 by Paulo Marques,
Last updated: 4/24/2017

Azure Quickstart Templates

Deploy Azure resources through the Azure Resource Manager with community contributed templates to get more done. Deploy, learn, fork and contribute back.



<https://azure.microsoft.com/en-us/resources/templates/>

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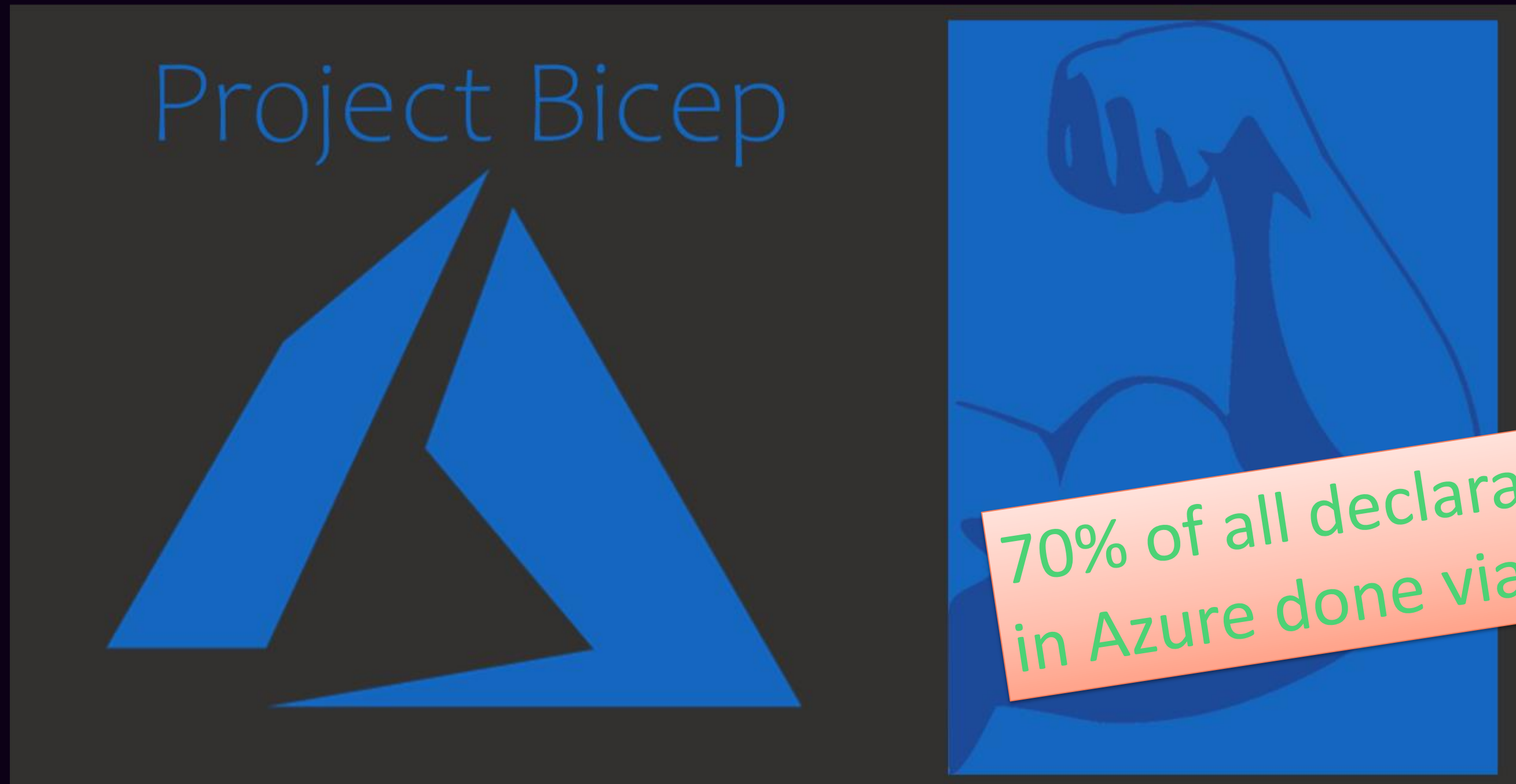
DEMO

ARM Templates & JSON code



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Project 'Bicep'



70% of all declarative resource created
in Azure done via ARM Templates!

"..Bicep is a *Domain Specific Language* (DSL) for deploying Azure resources declaratively. It aims to *drastically simplify the authoring experience* with a cleaner syntax and better support for modularity and code re-use. Bicep is a transparent abstraction over ARM and ARM templates.

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Project 'Bicep'

Simple declarative language to provision infrastructure on Azure

INTUITIVE

Easy to read as it is to author

TRANSPILES TO ARM TEMPLATES

Leverage ARM template knowledge and investments

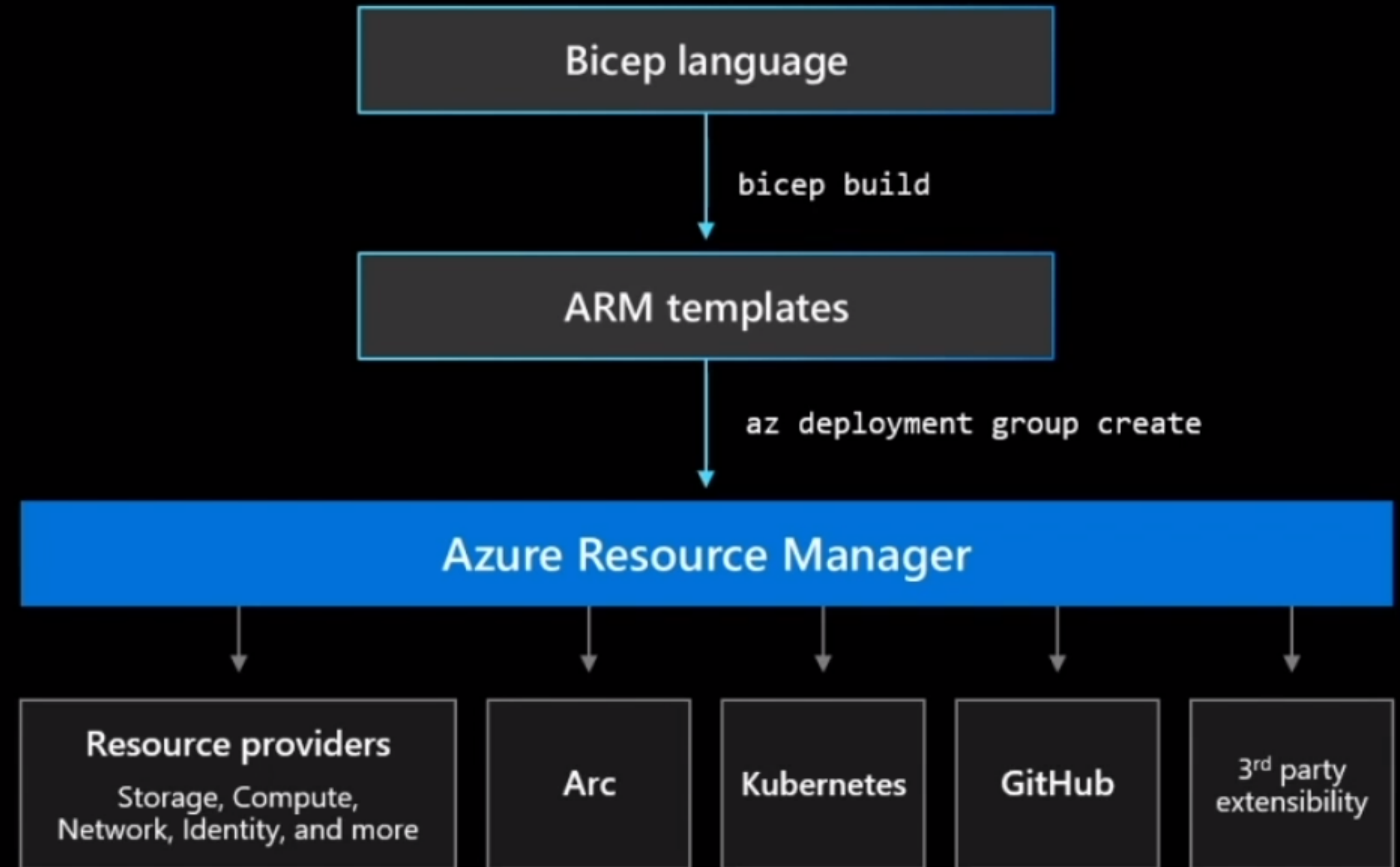
MODULAR

Abstract common blocks of config into reusable elements

OPEN SOURCE

Transparency and community

aka.ms/Bicep



Goals & non goals

GOALS

- Reduce current pain
- Ease of adoption
- Compatible with exiting templates
- Transparent Abstraction: Leverage all the benefits of the platform
- Modular: Abstract common blocks of config into reusable elements

NON-GOALS

- One language to rule them all
- General purpose language to meet any need
- Invent new technology

Installing Project 'Bicep'

1. Install the Bicep CLI (required)

```
# Create the install folder
$installPath = "$env:USERPROFILE\.bicep"
$installDir = New-Item -ItemType Directory -Path $installPath -Force
$installDir.Attributes += 'Hidden'
# Fetch the latest Bicep CLI binary
(New-Object Net.WebClient).DownloadFile("https://github.com/Azure/bicep/releases/latest/download/bicep-win-x64.exe", "$installPath\bicep.exe")
# Add bicep to your PATH
$currentPath = (Get-Item -path "HKCU:\Environment" ).GetValue('Path', '', 'DoNotExpandEnvironmentNames')
if (-not $currentPath.Contains("%USERPROFILE%.bicep")) { setx PATH ($currentPath + ";%USERPROFILE%.bicep") }
if (-not $env:path.Contains($installPath)) { $env:path += ";$installPath" }
# Verify you can now access the 'bicep' command.
bicep --help
# Done!
```

2. Install the Bicep VS Code extension(optional)

```
# Fetch the latest Bicep VSCode extension
$vsixPath = "$env:TEMP\vscode-bicep.vsix"
(New-Object Net.WebClient).DownloadFile("https://github.com/Azure/bicep/releases/latest/download/vscode-bicep.vsix", $vsixPath)
# Install the extension
code --install-extension $vsixPath
# Clean up the file
Remove-Item $vsixPath
# Done!
```

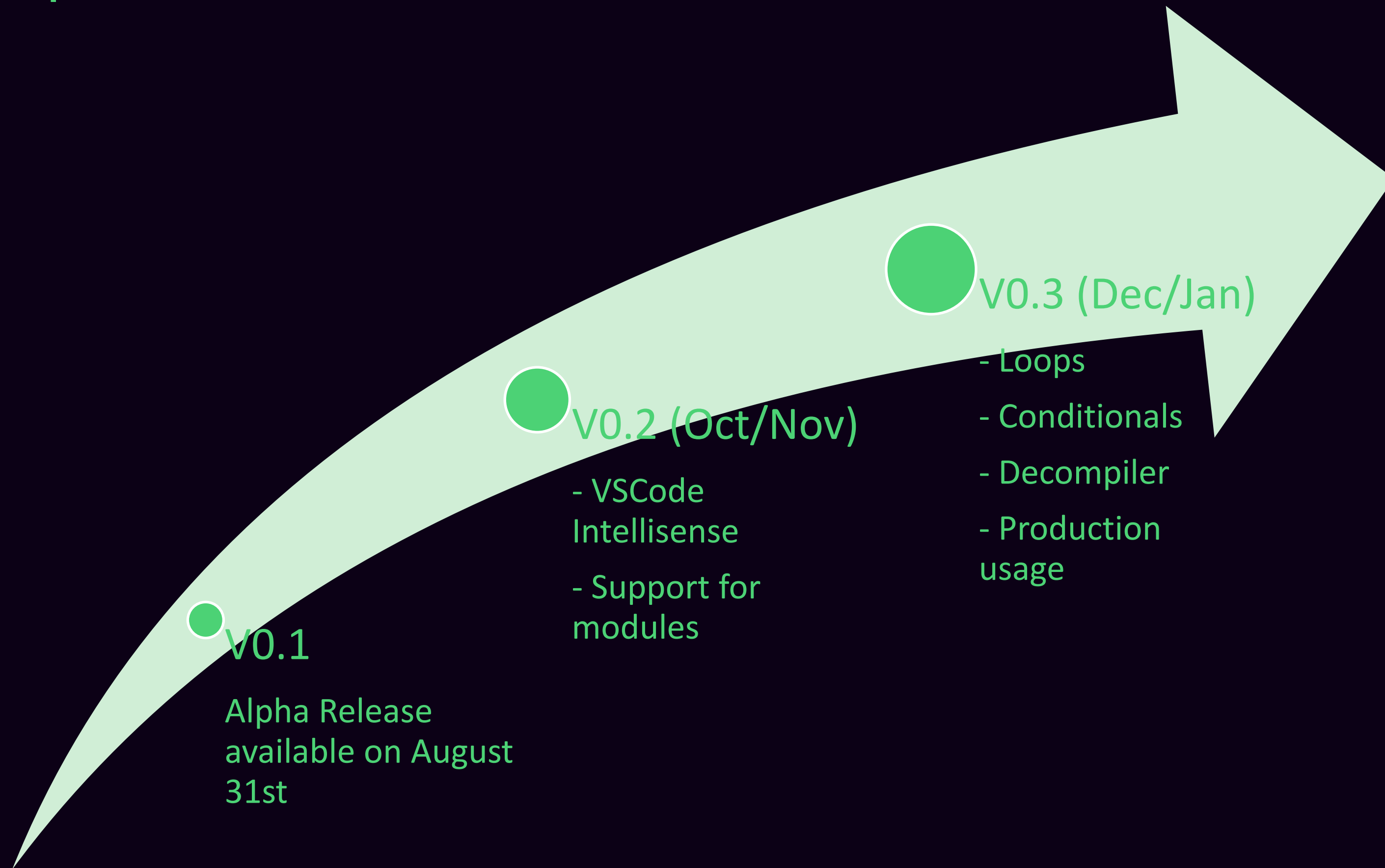
DEMO

Using Bicep to generate ARM code

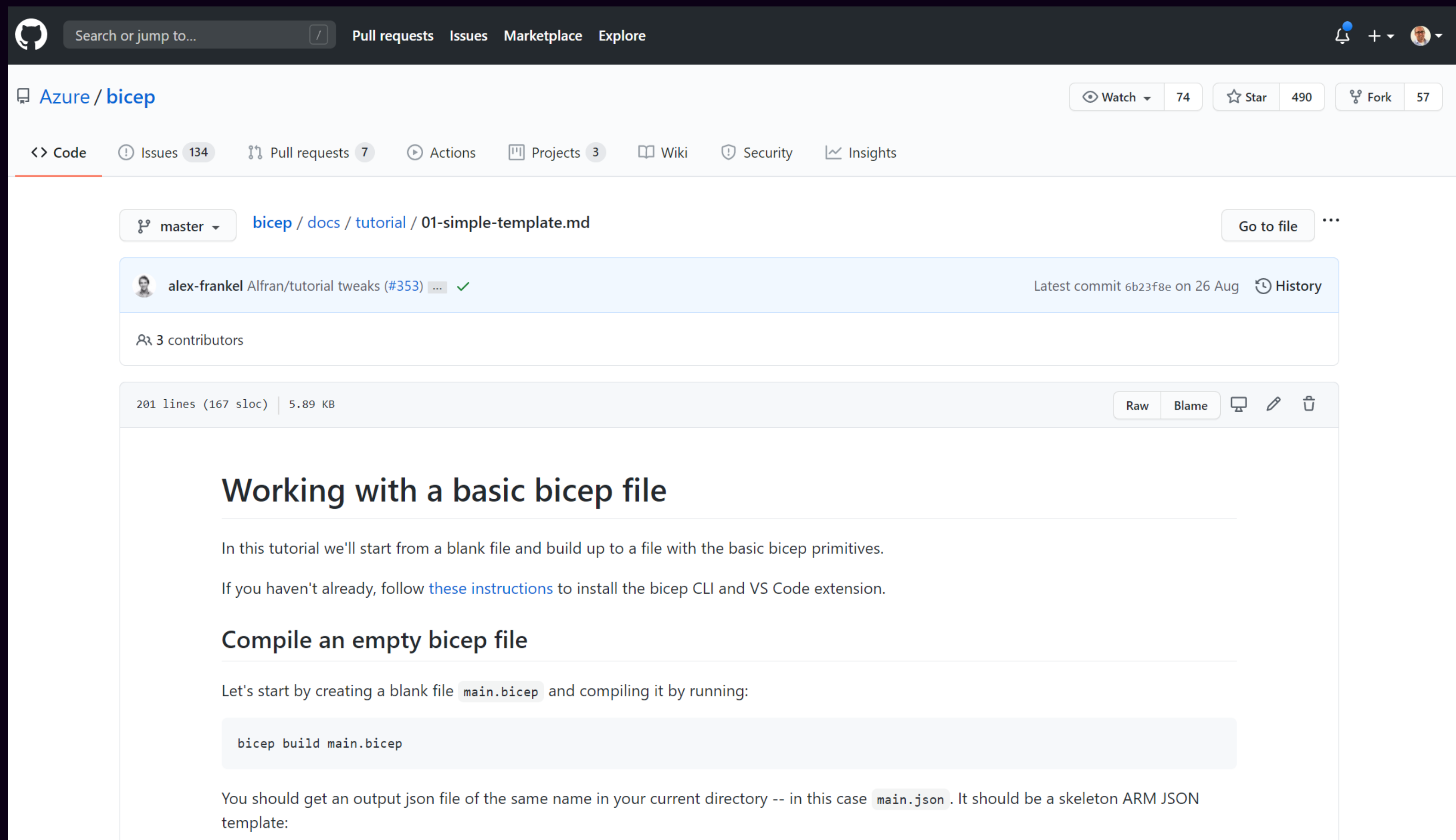


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Road map



Where to get started?



The screenshot shows the GitHub repository page for `Azure/bicep`. The repository has 74 watches, 490 stars, and 57 forks. The file `01-simple-template.md` is selected, showing its commit history and contributors. The file content is a tutorial titled "Working with a basic bicep file".

Working with a basic bicep file

In this tutorial we'll start from a blank file and build up to a file with the basic bicep primitives.

If you haven't already, follow [these instructions](#) to install the bicep CLI and VS Code extension.


Compile an empty bicep file

Let's start by creating a blank file `main.bicep` and compiling it by running:

```
bicep build main.bicep
```

You should get an output json file of the same name in your current directory -- in this case `main.json`. It should be a skeleton ARM JSON template:



 master ▾

wvd / Add-WVDHostToHostpoolSpring.ps1



fberson Token ExpirationTime ...

🔗 1 contributor

Add-WVDHostToHostpoolSpring.ps1

This script adds an WVD Session Host to an existing WVD Hostpool by performing the following steps:

- Download the WVD PowerShell Extension
- Download the WVD PowerShell Extension
- Install the WVD PowerShell Extension
- Install the WVD PowerShell Extension
- Set the WVD Hostpool Name
- Create the WorkSpace and Hostpool



fberson New Upload ...

🔗 1 contributor

Create-WVD-Backplane.bicep

This Azure .bicep file (based on 0.1.1 Alpha Preview release) creates the following resources:

- A WVD Workspace
- A WVD Host pool
- A WVD App Group And connect the AppGroup with the Host pool



fberson Removed trailing newlines and corrected minor typo in comments area

🔗 1 contributor

WVD-Rest-API-Functions.ps1

This script contains the following functions that use REST API for WVD

- Get-WorkSpace
- Get-Hostpool
- Get-AppGroup
- Get-Apps
- New-WorkSpace
- New-Hostpool
- New-AppGroup
- New-App

<https://github.com/fberson/wvd>

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Thank you!

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<https://github.com/fberson/wvd>

<https://www.linkedin.com/in/freekberson>

