



Infrastructure as Code with Bicep

Road show!



Esther Barthel

@virtuEs_IT

github.com/cognitionit

Microsoft MVP



Freek Berson

@fberson

github.com/fberson

Microsoft MVP

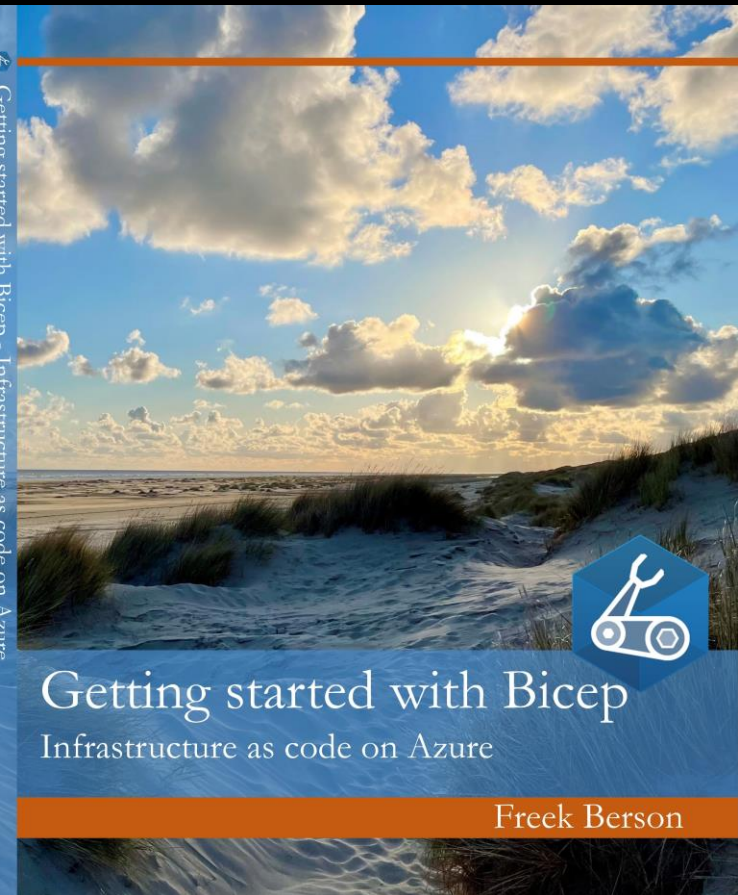
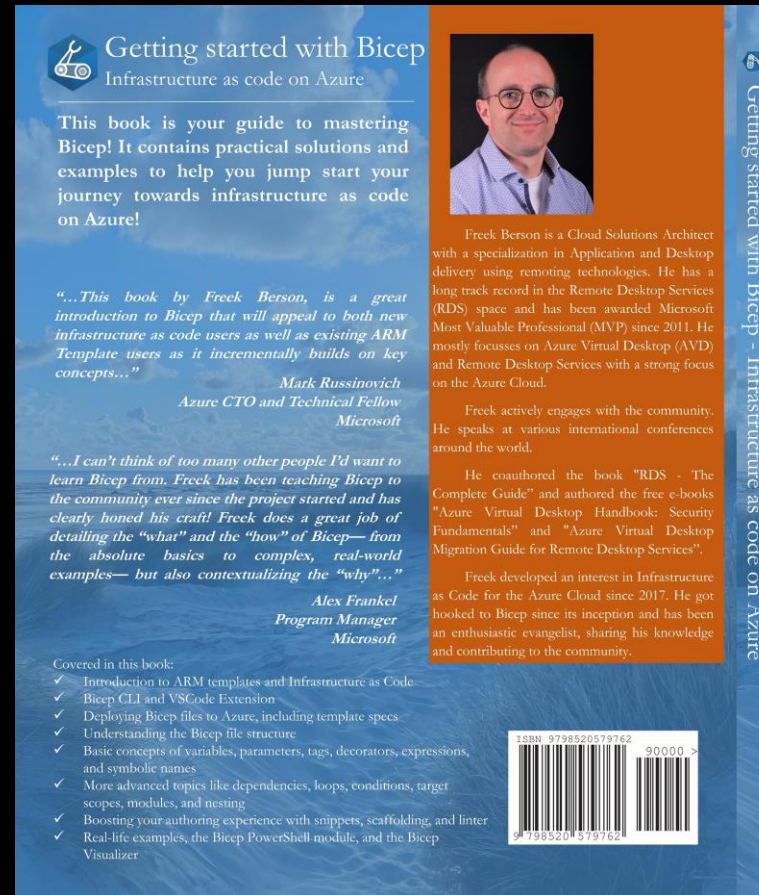


Create a [Tweet](#) or [LinkedIn](#) post about this session and [win](#) a copy of the *Getting started with Bicep* book!



@fberson

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Infrastructure as Code with Bicep

Roadshow

2021

January	Azure Lowlands
February	Azure Thursday
February	Ask Wortell Live Stream
April	Dutch DevOps Community
April	Detron knowledge event
April	Technine User Group
May	Belgium AVD User Group
June	Azure Meetup Oslo
July	US AVD User Group
August	Azure User Group Norway

2022

February	Azure User Group Iceland
March	MC2MC Belgium
April	AVD Tech Fest, Amsterdam
June	Scottish Summit, Glasgow



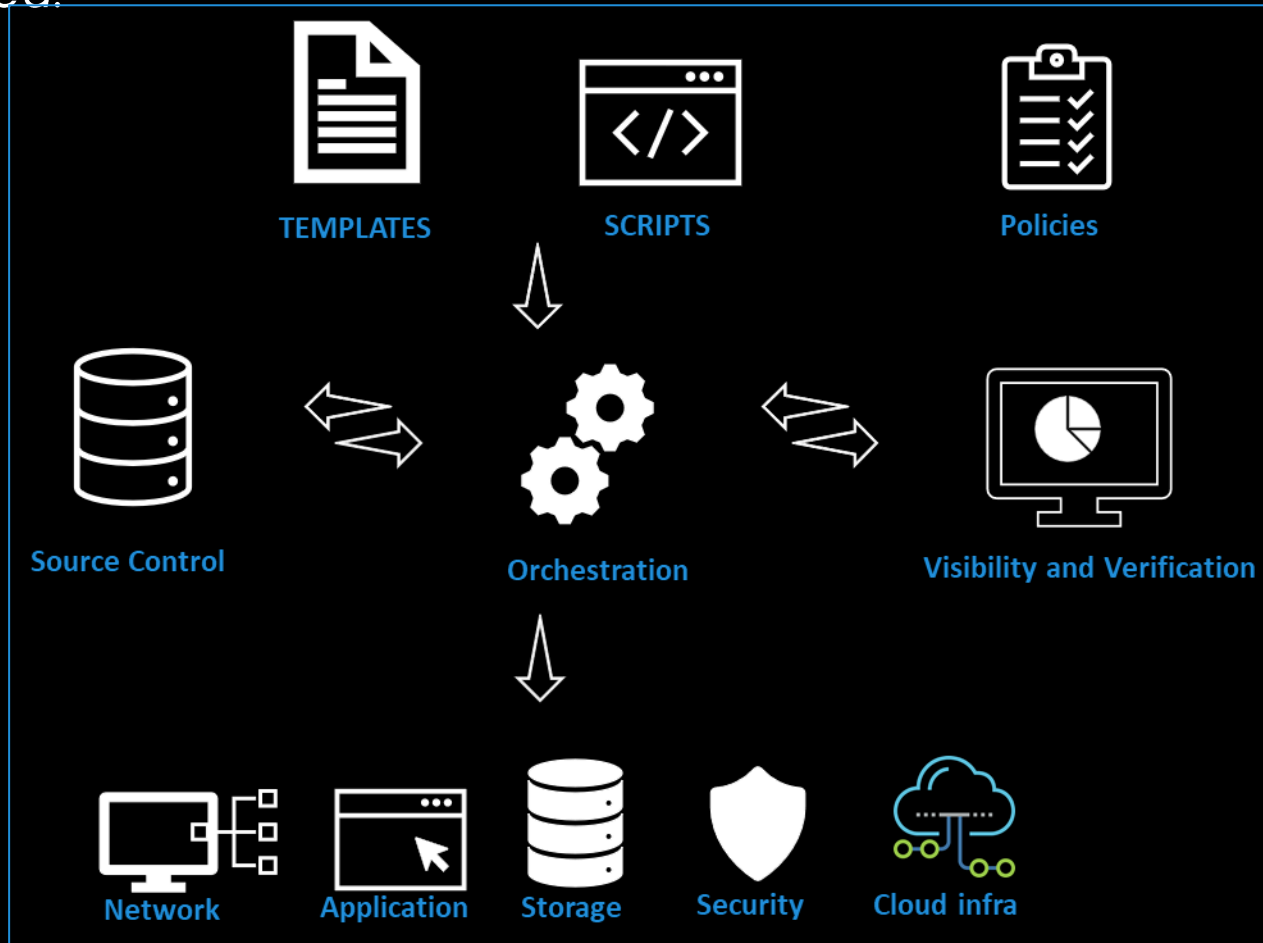
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Infrastructure as Code (IaC)

"..the process of *provisioning infrastructure resources* similar to how software is deployed."

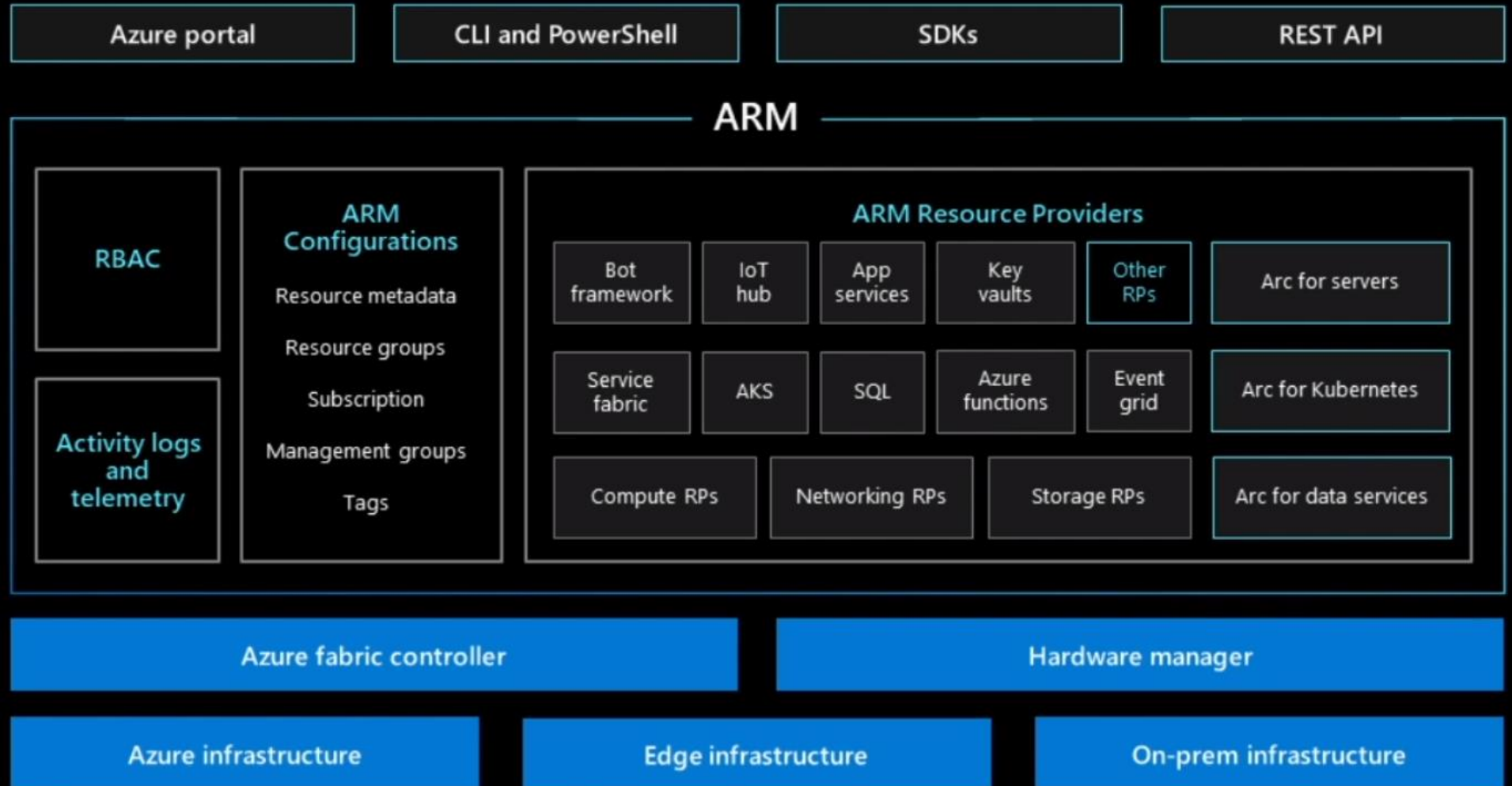


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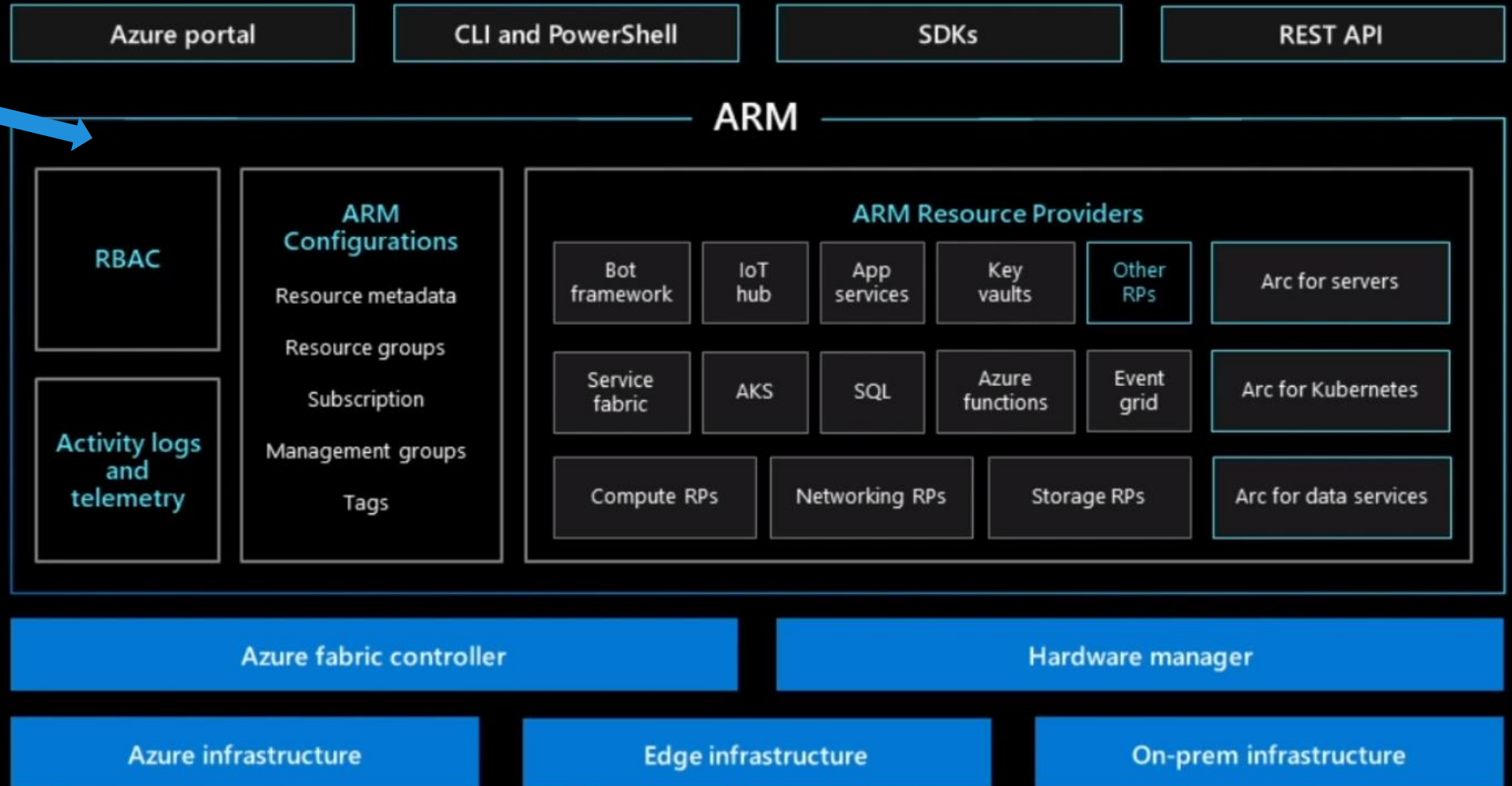
Azure Resource Manager



Azure Resource Manager



ARM Template




Infrastructure as code

Template format

In its simplest structure, a template has the following elements:

JSON

 Copy

```
{
  "$schema": "https://schema.management.azure.com/schemas/2019-04-01/deploymentTemplate.json#",
  "contentVersion": "",
  "apiProfile": "",
  "parameters": {  },
  "variables": {  },
  "functions": [  ],
  "resources": [  ],
  "outputs": {  }
}
```



ARM Template complexity



```
605     "hostPoolArmPath": "[resourceId('Microsoft.DesktopVirtualization/hostPools', format('{0}-REMOTEAPP', parameters('hostpoolName')))]"
606   },
607   "dependsOn": [
608     "[resourceId('Microsoft.DesktopVirtualization/hostPools', format('{0}-REMOTEAPP', parameters('hostpoolName')))]"
609   ]
610 },
611 {
612   "type": "Microsoft.DesktopVirtualization/workspaces",
613   "apiVersion": "2019-12-10-preview",
614   "name": "[parameters('workspaceName')]",
615   "location": "[parameters('AVDbackplaneLocation')]",
616   "properties": {
617     "friendlyName": "[parameters('workspaceNameFriendlyName')]",
618     "applicationGroupReferences": [
619       "[resourceId('Microsoft.DesktopVirtualization/applicationGroups', parameters('appgroupName'))]",
620       "[if(parameters('createRemoteAppHostpool'), resourceId('Microsoft.DesktopVirtualization/applicationGroups', format('{0}-REMOTEAPP', parameters('appgroupName'))), '')]"
621     ]
622   },
623   "dependsOn": [
624     "[resourceId('Microsoft.DesktopVirtualization/applicationGroups', parameters('appgroupName'))]",
625     "[resourceId('Microsoft.DesktopVirtualization/applicationGroups', format('{0}-REMOTEAPP', parameters('appgroupName')))]"
626   ]
627 }
628 ]
629 }
630 },
631 "dependsOn": [
632   "[subscriptionResourceId('Microsoft.Resources/resourceGroups', format('{0}BACKPLANE{1}', parameters('resourceGroupProdPrefix'), parameters('resourceGroupPostfix')))]"
633 ]
634 },
635 {
636   "type": "Microsoft.Resources/deployments",
637   "apiVersion": "2020-06-01",
```



Project 'Bicep'



Mark Russinovich ✓
@markrussinovich

We're working on an open source domain specific language for ARM codenamed Bicep that will greatly simplify Azure declarative modelling: "Microsoft flexes Bicep to strengthen ARM"



infoworld.com

Microsoft flexes Bicep to strengthen ARM

Azure gets a new infrastructure as code language that can help deploy and manage complex architectures

10:23 PM · Sep 8, 2020 · TweetDeck

162 Retweets 21 Quote Tweets 458 Likes



Infrastructure as Code with Bicep - on tour!

What is Bicep?



"..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.



What is Bicep?

Simple declarative language to provision infrastructure to Azure.

Intuitive

Easy to read and to author

Transpiles to ARM Templates

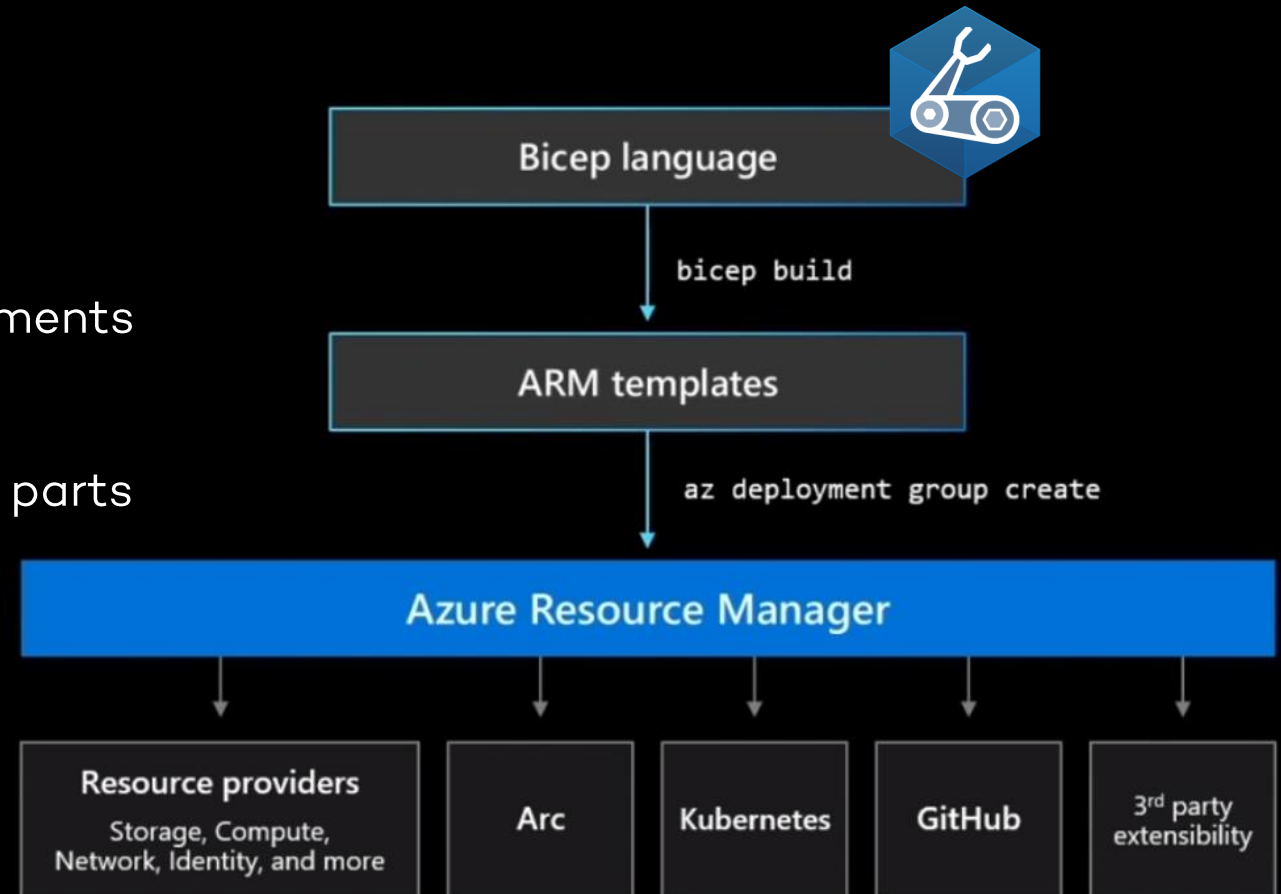
Leverage ARM template knowledge and investments

Modular

Abstract common blocks of code into reusable parts

Open Source

Transparency and community



Get started with Bicep

(<https://aka.ms/bicep>)

1. Install the tools (bicep.exe, Visual Studio Code, PowerShell/az cli)



+



+



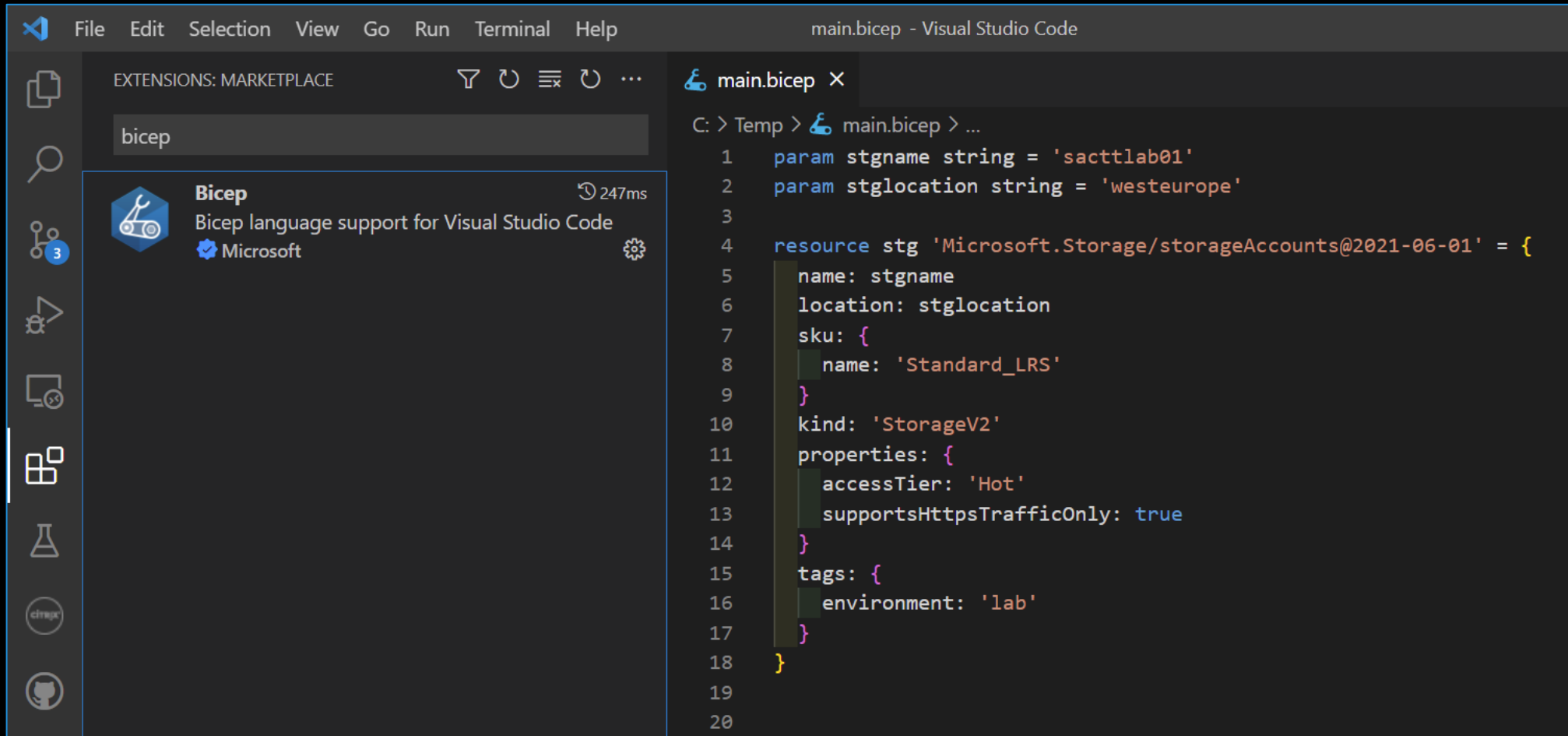
Visual Studio Code



Get started with Bicep

(<https://aka.ms/bicep>)

2. Create a Bicep template



Get started with Bicep

(<https://aka.ms/bicep>)

3. Deploy the resources in Azure (using PowerShell/az cli)

```
DeployBicepTemplate.ps1 1 X
C: > Temp > DeployBicepTemplate.ps1 > ...
1  # Authenticate into your Azure subscription
2  $azSession = Connect-AzAccount
3
4  # create a parameter object for the template input parameters
5  $templateParameterInput = @{
6      stgname = 'sactt08'
7      stglocation = 'westeurope'
8  }
9
10 # Create parameter object for deployment
11 $cmdletParamInput = @{
12     "ResourceGroupName" = "rg-lab-storage"
13     "TemplateFile" = "main.bicep"
14     "TemplateParameterObject" = $templateParameterInput
15 }
16
17 # Deploy the resource group with a bicep template directly
18 New-AzResourceGroupDeployment @cmdletParamInput
```



Demo!



Road map

v0.1
(aug '20)
Alpha Release
available on August
31st

v0.2
(Oct '20)
- VSCode
Intellisense
- Support for
modules

v0.3
(March '21)
- Loops
- Conditionals
- Decompiler
- Production usage


v0.4
- Quality release
- Learn module
- Linter (TTK successor)
- Snippets & resource scaffolding
- Merging ARM Quickstarts & bicep
- IncludeFile() support

NOV '21
v0.5
- Public & private
Module Registry
- Linter vNext
- Passing resource to
module
- LoadTextContent(...)

March 2022
V1.0
- Strict change policy
- Separate type & core
updates
- Bicep Extensibility
preview





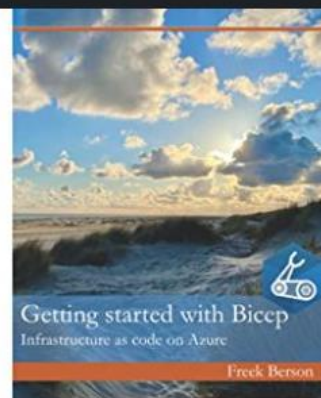
 **Frank Vanhamel** • 2nd
Business Strategy & People Consultant at Wortell. Helping people a...
27m • 🌐

Ready to create some great BICEPS after corona ;) ? Read this.

<https://lnkd.in/dcfuYpNS>.

Great session currently from [Freek Berson](#) and [Esther Barthel](#) at the MC2MC March event 2022.

#Bicep #Azure #Microsoft #mc2mc



★★★★★ 9

Getting started with Bicep: Infrastructure as code on Azure

amazon.com





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Thank you!



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Microsoft MVP



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github.com/fberson

Microsoft MVP

