



Azure Bicep – das neue ARM?



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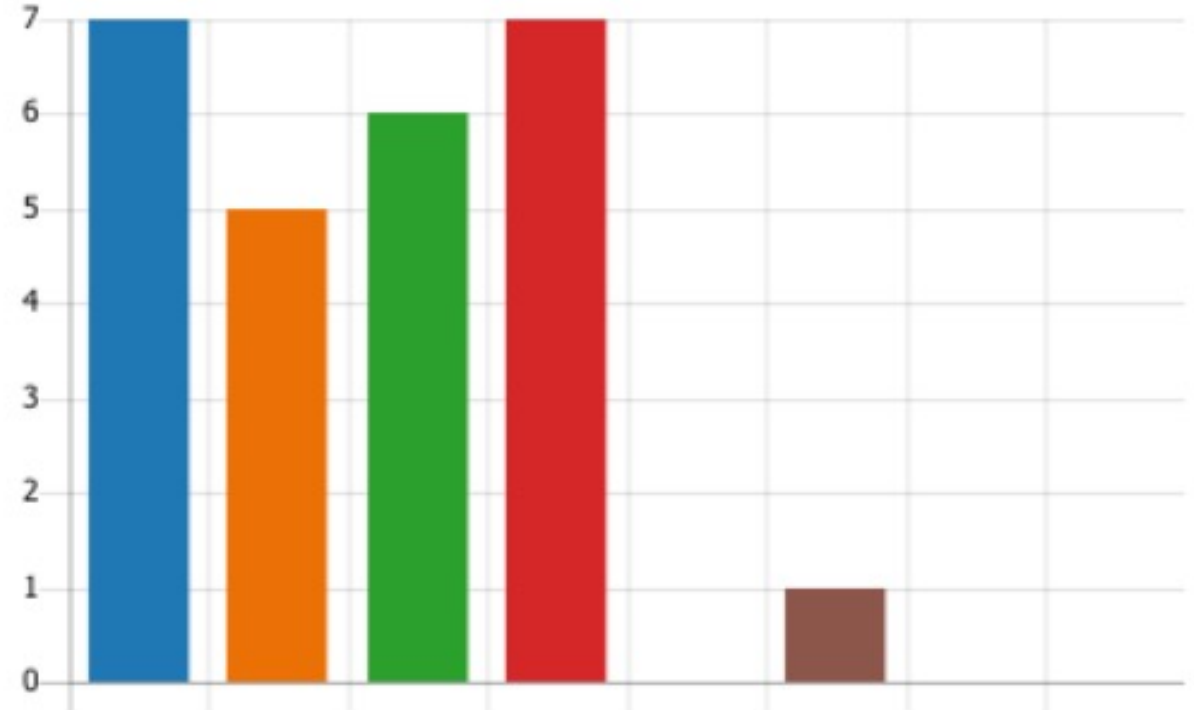
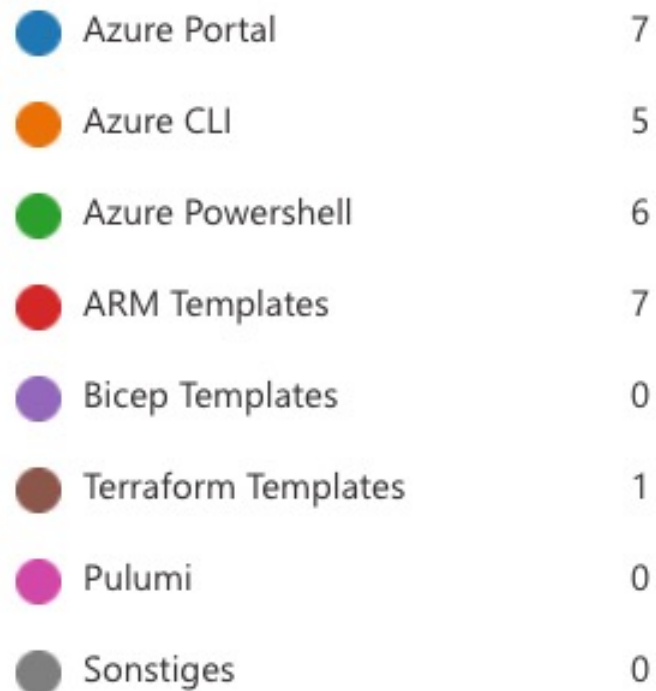


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How do you (usually) manage your Azure resources?

1. How do you (usually) manage your Azure resources?

[Weitere Details](#)



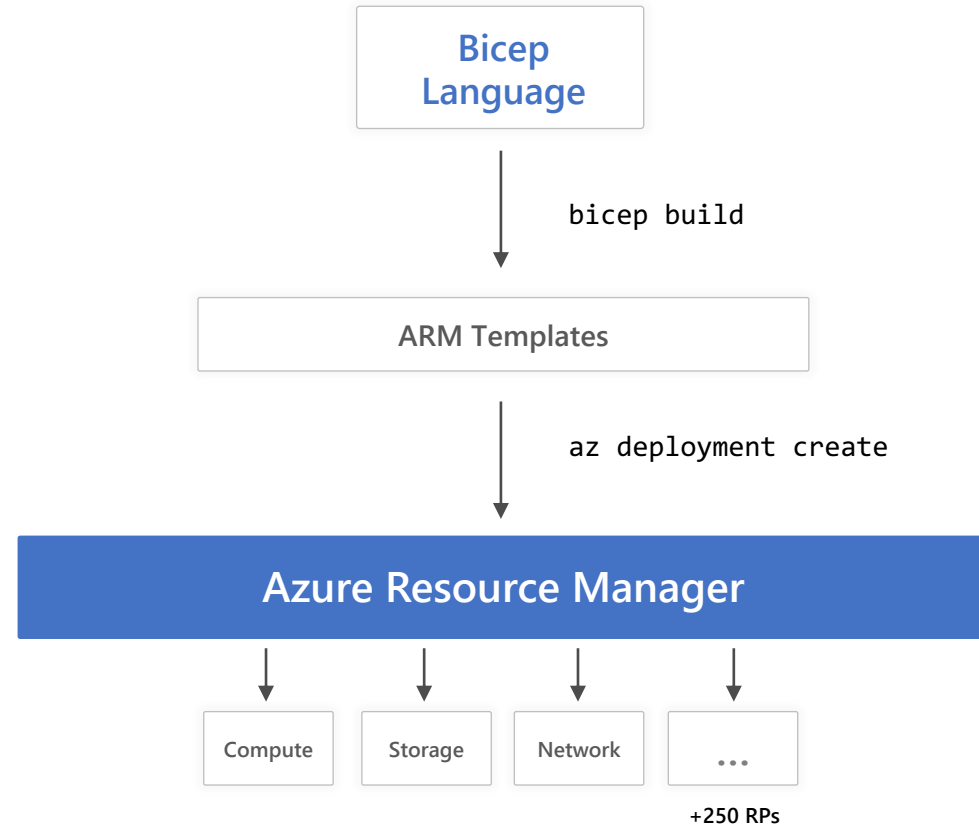
What is Bicep?

Simple declarative language to provision infrastructure on Azure

Transpiles to ARM Templates: Leverage ARM template knowledge and investments.

Modular: Abstract common blocks of config into reusable elements

Open Source: Transparency and community



Why 'Bicep'

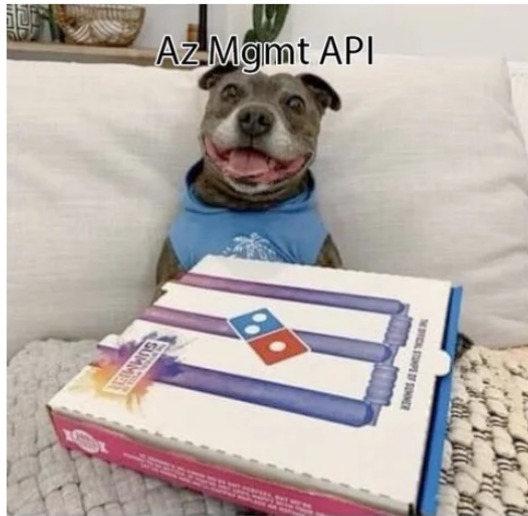
"We want customers experiencing Azure for the first time or using Azure as their primary cloud to have a best-in-class deployment experience."

– Microsoft Product Team

Posted by u/etzoln 1 year ago

Working with ARM templates

General



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r/AZURE

The Microsoft Azure community subreddit
 | Join us on Microsoft Q&A - <https://aka.ms/MicrosoftQandA> | Join us on Discord - <https://discord.com/invite/6kHvm7N>

64.0k
Members

265
Online

Created Mar 10, 2010

Join

Benefits of Bicep

Simpler Syntax. No JSON noise.

main.bicep

docs > examples > 101 > cosmosdb-free > main.bicep > {} cosmosdb

```
1 param appName string = uniqueString(resourceGroup().id)
2 param accountName string = toLower('cosmos-${appName}')
3 param location string = resourceGroup().location
4 param dbName string = toLower('db-${appName}')
5
6 resource cosmos 'Microsoft.DocumentDB/databaseAccounts@2020-04-01' = {
7   name: accountName
8   location: location
9   properties: {
10     enableFreeTier: true
11     databaseAccountOfferType: 'Standard'
12     consistencyPolicy: {
13       defaultConsistencyLevel: 'Session'
14     }
15     locations: [
16       {
17         locationName: location
18       }
19     ]
20   }
21 }
22
23 resource cosmosdb 'Microsoft.DocumentDB/databaseAccounts/sqlDatabases@2020-04-01' = {
24   name: '${cosmos.name}/${dbName}'
25   properties: {
26     resource: {}
27     id: dbName
28   }
29   options: {
30     throughput: 400
31   }
32 }
33
34
```

main.json

docs > examples > 101 > cosmosdb-free > main.json

```
1 {
2   "$schema": "https://schema.management.azure.com/schemas/2019-04-01/deploymentTemplate.json#",
3   "contentVersion": "1.0.0.0",
4   "parameters": {
5     "appName": {
6       "type": "string",
7       "defaultValue": "[uniqueString(resourceGroup().id)]"
8     },
9     "accountName": {
10      "type": "string",
11      "defaultValue": "[toLower('cosmos-${appName}')]"]"
12    },
13    "location": {
14      "type": "string",
15      "defaultValue": "[resourceGroup().location]"
16    },
17    "dbName": {
18      "type": "string",
19      "defaultValue": "[toLower('db-${appName}')]"]"
20    }
21  },
22  "functions": [],
23  "resources": [
24    {
25      "type": "Microsoft.DocumentDB/databaseAccounts",
26      "apiVersion": "2020-04-01",
27      "name": "[parameters('accountName')]",
28      "location": "[parameters('location')]",
29      "properties": {
30        "enableFreeTier": true,
31        "databaseAccountOfferType": "Standard",
32        "consistencyPolicy": {
33          "defaultConsistencyLevel": "Session"
34        },
35        "locations": [
36          {
37            "locationName": "[parameters('location')]"
38          }
39        ]
40      },
41    },
42    {
43      "type": "Microsoft.DocumentDB/databaseAccounts/sqlDatabases",
44      "apiVersion": "2020-04-01",
45      "name": "[format('{0}/{1}', parameters('accountName'), parameters('dbName'))]",
46      "properties": {
47        "resource": {
48          "id": "[parameters('dbName')]"
49        },
50        "options": {
```


Why is Bicep better ?

JSON 1:

```
{
  "Environment": {
    "D": "Dev",
    "I": "Int",
    "U": "UAT",
    "P": "PROD",
    "S": "SBX"
  },
}
```

Bicep 1:

```
var Environment_var = {
  D: 'Dev'
  I: 'Int'
  U: 'UAT'
  P: 'PROD'
  S: 'SBX'
  T: 'TEST'
}
```

JSON 2:

```
{
  "parameters": {
    "Prefix": {
      "type": "string",
      "defaultValue": "AZE2",
      "allowedValues": [
        "AZE2",
        "AZC1",
        "AEU2",
        "ACU1"
      ]
    }
  },
}
```

Bicep 2:

```
@allowed([
  'AZE2'
  'AZC1'
  'AEU2'
  'ACU1'
])
param Prefix string = 'ACU1'
```

JSON 3:

```
"[listKeys(resourceid('Microsoft.Storage/storageAccounts/',variables('storageaccountname')), '2016-01-01').keys[0].value]"
```

Bicep 3:

```
resource SADIag 'Microsoft.Storage/storageAccounts@2021-04-01' existing = {
  name: SADIagName
}

output Identifier string = SADIag.listKeys().key1
```

Bicep 5:

```
var locationLookup = json(loadTextContent('prefix.json'))
output myLocation string = locationLookup[Prefix].location
```

Bicep 4:

```
{
  name: 'DOCKER_REGISTRY_SERVER_URL'
  value: ACR[index].properties.loginServer
}
{
  name: 'DOCKER_REGISTRY_SERVER_USERNAME'
  value: ACR[index].name
}
```


Day Zero support for all Azure resource types & API versions

Azure Services Overview

Overview of Azure services. Linked directly to Azure Service 360° for service summary information.

FOCUS: ALL SERVICES

AI + Machine Learning	Analytics	Compute	Databases	Development	Identity + Security	IoT + MR	Integration	Management + Governance	Media + Comms	Migration	Networking	Storage
 Bot Service	 Analysis Services	 App Service	 Blockchain Service	 App Configuration	 Azure Active Directory	 Azure Maps	 API Management	 Automation	 Azure CDN	 Azure Migrate	 Application Gateway	 Avere vFXT
 Cognitive Search	 Azure Purview	 App Service (Linux)	 Cosmos DB	 Azure DevOps	 Azure AD B2C	 Azure Sphere	 Azure API for FHIR	 Azure Advisor	 Communication Services	 Data Box	 Azure Bastion	 Azure NetApp Files
 Cognitive Services	 Data Catalog	 Azure Batch	 Database for MariaDB	 Azure Spring Cloud	 Azure AD DS	 Digital Twins	 Event Grid	 Azure Arc	 Media Services	 DB Migration Service	 Azure DNS	 Azure Storage
 Machine Learning	 Data Explorer	 Azure Functions	 Database for MySQL	 DevTest Labs	 Azure Defender	 IoT Central	 Logic Apps	 Azure Automanage		 Site Recovery	 Azure Firewall	 Data Lake Storage
 Microsoft Genomics	 Data Factory	 Azure VMware Solutions	 Database for PostgreSQL	 Lab Services	 Azure Key Vault	 IoT Edge	 Notification Hubs	 Azure Backup			 Azure Front Door	 Data Share
 Open Datasets	 Data Lake Analytics	 Cloud Services	 Redis Cache	 SignalR Service	 Azure Sentinel	 IoT Hub	 Service Bus	 Azure Blueprints			 Azure Orbital	 Managed Disks
	 Databricks	 Container Instances	 SQL Database	 Visual Studio App Center	 DDoS Protection	 Remote Rendering		 Azure Lighthouse			 ExpressRoute	 StorSimple
	 Event Hubs	 Container Registry	 SQL Server Stretch DB		 Dedicated HSM	 Spatial Anchors		 Azure Monitor			 Azure Confidential Computing	

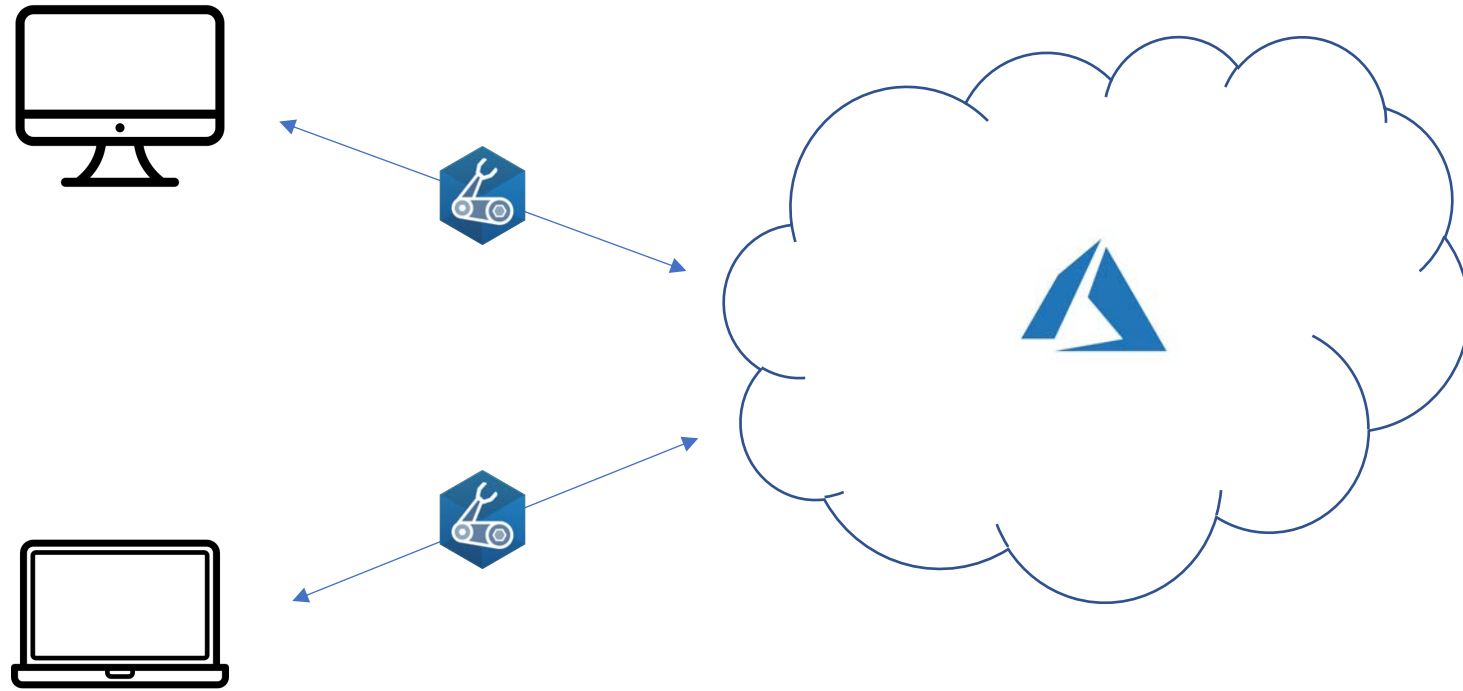
First class modularity and code re-use



Built for tool-ability. Rich IntelliSense and validation.



No state management. Can query the state directly from Azure.



Goals

Improved validation with better tooling

Lower the barrier to entry

Transparent Abstraction – Leverage the entire platform

Modular – first-class code reuse

Non-Goals

One language to rule them all

General purpose language to meet any need

Status

FALL '20

v0.1 + v0.2

Experimental

MARCH

v0.3

Production ready

ARM template parity

TODAY!

v0.4

First post-production
release

Emphasis on quality
and stability

Speeding up the inner
loop

Private module registry

github.com/azure/bicep



Demo

<https://github.com/malantin/ghes-azure-bicep>

Future releases

TODAY

v0.4

Latest release

NOVEMBER

v0.5

Public module registries

Pass `resource` between
module

FEBRUARY

v1.0

Strict breaking change
policy

Type updates separate
from core updates

Preview of bicep
extensibility

- k8s in January
- AAD in March

Getting started

az bicep install

Group

az bicep : Bicep CLI command group.

Commands:

build	: Build a Bicep file.
decompile	: Attempt to decompile an ARM template file to a Bicep file.
install	: Install Bicep CLI.
list-versions	: List out all available versions of Bicep CLI.
upgrade	: Upgrade Bicep CLI to the latest version.
version	: Show the installed version of Bicep CLI.

Try and contribute today

Az CLI

```
> az deployment group create -f ./main.bicep -g my-rg
```

VS Code



Bicep

Preview

Microsoft | 📦 2,962 installs | ★★★★★ (5) | Free

Bicep language support for Visual Studio Code

Install

[Trouble Installing?](#) 📄

github.com/azure/bicep

🐦 Follow @biceplang on twitter for updates

Thank you!