



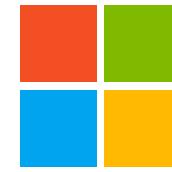
#ga2021kr #GlobalAzure



Put Your Bicep on ARM  
ARM에 Bicep 끼얹기



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Microsoft

화려한 조명이



나를  
감싸줄게

유저스틴

Senior Cloud Advocate  
Microsoft



@justinchronicle



@justinyoo



@aliencube.community



# 배경



# 애저에 리소스 프로비저닝 하는 방법

# Azure Resource Manager 애저 리소스 매니저

# 명령형 vs 선언형

명령형 방식

선언형 방식

## 명령형 방식

리소스별 명령어 실행

## 선언형 방식

전체 리소스 한번에 정의

## 명령형 방식

리소스별 명령어 실행  
리소스 실행상태 알아야 함

## 선언형 방식

전체 리소스 한번에 정의  
리소스 실행상태 몰라도 됨

## 명령형 방식

리소스별 명령어 실행  
리소스 실행상태 알아야 함  
상태 저장 필요

## 선언형 방식

전체 리소스 한번에 정의  
리소스 실행상태 몰라도 됨  
상태 저장 불필요

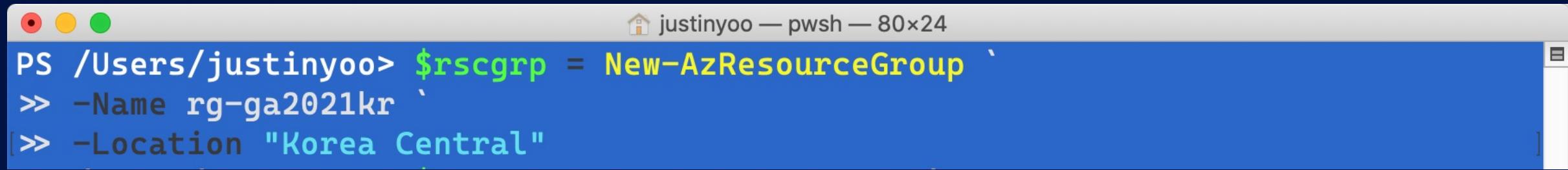
## 명령형 방식

애저 CLI  
애저 파워셸  
애저 SDK

## 선언형 방식

ARM 템플릿

# 명령형 방식



```
PS /Users/justinyoo> $rscgrp = New-AzResourceGroup  
  >> -Name rg-ga2021kr  
[>> -Location "Korea Central"]
```

# 명령형 방식

```
PS /Users/justinyoo> $rscgrp = New-AzResourceGroup  
  >> -Name rg-ga2021kr  
[>> -Location "Korea Central"  
PS /Users/justinyoo> $st = New-AzStorageAccount  
  >> -Name stga2021kr  
  >> -ResourceGroupName $rscgrp.ResourceGroupName  
  >> -Location $rscgrp.Location  
  >> -Kind StorageV2  
[>> -SkuName Standard_LRS  
PS /Users/justinyoo>
```

# 선언형 방식

```
87 "variables": {  
88     "metadata": {  
89         "longName": "[format('{0}-{0}-{1}{2}', parameters('name'), parameters('locationCode'), if>equals(coalesce(parameters('suffix'), ''), ''), '', concat))]",  
90         "shortName": "[format('{0}{0}{1}{2}', replace(parameters('name'), '-', ''), parameters('locationCode'), if>equals(coalesce(parameters('suffix'), ''), '')))]",  
91     },  
92     "storageAccount": {  
93         "name": "[replace(variables('metadata').shortName, '{0}', 'st')]",  
94         "location": "[parameters('location')]"  
95     },  
96 }
```

# 선언형 방식

```
87 "variables": {  
88     "metadata": {  
89         "longName": "[format('{0}-{0}-{1}{2}', parameters('name'), parameters('locationCode'), if>equals(coalesce(parameters('suffix'), ''), ''), '')",  
90         "shortName": "[format('{0}{0}{1}{2}', replace(parameters('name'), '-', ''), parameters('locationCode'), if>equals(coalesce(parameters('suffix'), '  
91     ),  
92     "storageAccount": {  
93         "name": "[replace(variables('metadata').shortName, '{0}', 'st')]",  
94         "location": "[parameters('location')]"  
95     },  
180     "resources": [  
181         {  
182             "type": "Microsoft.Storage/storageAccounts",  
183             "apiVersion": "2019-01",  
184             "name": "[variables('storageAccount').name]",  
185             "location": "[variables('storageAccount').location]",  
186             "kind": "StorageV2",  
187             "sku": {  
188                 "name": "Standard_LRS"  
189             }  
190         },
```

# 명령형이 낳낫나? 선언형이 낳낫나?

# 진리의 케바케



“

ARM 템플릿은  
스러그...  
배우기 힘들다!



“

ARM 템플릿은  
저렇게 배우기 힘들다!

# 러닝 커브가 높음

# ARM 템플릿 런닝 커브를 낮춰보자!

# ARM 템플릿의 DSL을 만들어보자!

# ARM 템플릿을 추상화 시켜보자!



“

Project Bicep

# Project Bicep



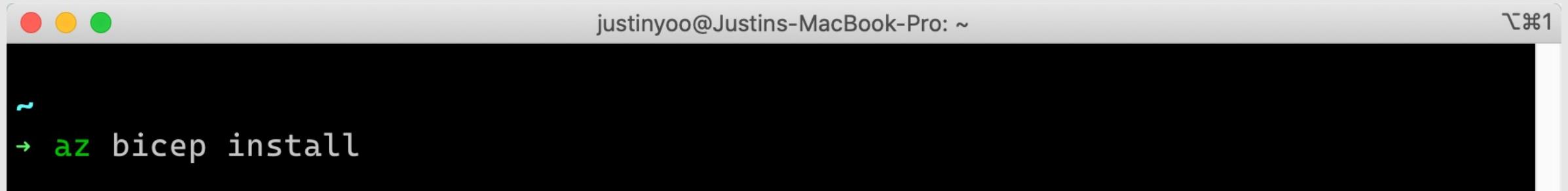
# v0.3x: 프로덕션 사용 가능

# ARM 템플릿 보다 자유도 높음

# Bicep 파일 컴파일시 문법 오류 체크

- 컴파일: Bicep → ARM 템플릿
- 디컴파일: ARM 템플릿 → Bicep

# 크로스 플랫폼 지원



A screenshot of a macOS terminal window. The title bar shows the user's name and computer: justinyoo@Justins-MacBook-Pro: ~. The window is dark-themed. In the center, there is a command line interface with a prompt (~) followed by the command 'az bicep install'. The command 'az' is highlighted in green, while 'bicep install' is in white.

# az bicep install



# Bicep

[Preview](#)**Microsoft**

| ↓ 9,319 installs | ★★★★★ (6)

| Free

Bicep language support for Visual Studio Code

[Install](#)[Trouble Installing?](#)[Overview](#)[Version History](#)[Q & A](#)[Rating & Review](#)

## Key features of the Bicep VS Code extension

The [bicep VS Code extension](#) is capable of many of the features you would expect out of other language tooling.

Here is a comprehensive list of the features that are currently implemented.

## Validation

The bicep compiler validates that your code is authored correctly. We always validate the syntax of each file and whenever possible also validate the return types of all expressions (functions, resource bodies, parameters, outputs, etc.). Depending on the type of validation, you will see either a warning in yellow which will successfully compile with `bicep build` or you will see an error in red which will fail to compile either. Bicep is more restrictive than

## Categories

[Programming Languages](#)[Azure](#)

## Tags

[ARM Template](#)[Azure](#)[Azure Resource Manager](#)[Bicep](#)

## Resources

[Issues](#)[Repository](#)

# 작성 방법



parameters  
variables  
resources  
outputs

# parameters

*param name string*

# parameters

```
param name string
```

```
// comment
```

```
param location string
```

# parameters

```
param name string  
  
// comment  
param location string = resourceGroup().Location
```

# parameters

```
param name string  
  
// comment  
param location string = resourceGroup().location  
  
@allowed([  
    'Standard_LRS'  
    'Standard_GRS'  
)  
param sku string
```

# parameters

```
param name string  
  
// comment  
param location string = resourceGroup().location  
  
@allowed([  
    'Standard_LRS'  
    'Standard_GRS'  
)  
param sku string = 'Standard_LRS'
```

# variables

```
var metadata = {
```

```
}
```

# variables

```
var metadata = {  
    longName: '{0}-${name}-${env}-${locationCode}'  
    shortName: '{0}${name}${env}${locationCode}'  
}
```

# variables

```
var metadata = {  
    longName: '{0}-${name}-${env}-${locationCode}'  
    shortName: '{0}${name}${env}${locationCode}'  
}
```

```
var servicePlan = {  
    name: format(metadata.longName, 'csplan')  
}
```

# variables

```
var metadata = {  
    longName: '{0}-${name}-${env}-${locationCode}'  
    shortName: '{0}${name}${env}${locationCode}'  
}
```

```
var servicePlan = {  
    name: format(metadata.LongName, 'csplan')  
}
```

# variables

```
var metadata = {  
    longName: '{0}-${name}-${env}-${locationCode}'  
    shortName: '{0}${name}${env}${locationCode}'  
}
```

```
var servicePlan = {  
    name: format(metadata.longName, 'csplan')  
    location: Location  
}
```

# resources

*resource csplan*

# resources

```
resource csplan 'Microsoft.Web/serverfarms
```

# resources

```
resource csplan 'Microsoft.Web/serverfarms@2020-12-01' = {  
}  
}
```

# resources

```
resource csplan 'Microsoft.Web/serverfarms@2020-12-01' = {  
    name: servicePlan.name  
    location: servicePlan.Location  
    sku: {  
        ...  
    }  
}
```

# resources

```
resource csplan 'Microsoft.Web/serverfarms@2020-12-01' = {  
    name: servicePlan.name  
    location: servicePlan.location  
    sku: {  
        ...  
    }  
}  
  
resource fncapp 'Microsoft.Web/sites@2020-12-01' = {  
}  
}
```

# resources

```
resource csplan 'Microsoft.Web/serverfarms@2020-12-01' = {  
    name: servicePlan.name  
    location: servicePlan.location  
    sku: {  
        ...  
    }  
}  
  
resource fncapp 'Microsoft.Web/sites@2020-12-01' = {  
    ...  
    properties: {  
        serverFarmId: csplan.id  
        ...  
    }  
}
```

# outputs

*output fncappUrls*

# outputs

output fncappUrls *array*

# outputs

```
output fncappUrls array = fncapp.properties.hostNames
```

데모



# 애저 평션 리소스 프로비저닝



aka.ms/ga2021kr/demo-bicep

# 정리



# Bicep 출현 배경

# Bicep 출현 배경

# Bicep 소개

# Bicep 출현 배경

## Bicep 소개

# Bicep 작성 방법

Bicep 출현 배경  
Bicep 소개  
Bicep 작성 방법  
**Bicep 데모**



aka.ms/ga2021kr/bicep



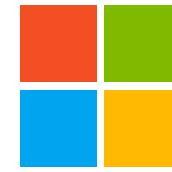
aka.ms/ga2021kr/try-bicep



aka.ms/ga2021kr/blog-bicep



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