

IaC COFOMO TEAM 20 Doc

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Comments

All files can be find under main branch and under COFOMO Bicep. The challenge was not 100% completed

Implemented tasks:

- Vnet.bicep
- App.bicep
- Keyvault.bicep

Partially Implemented tasks:

- Github Pipelines

Debt:

- DB.bicep

VNet Bicep File

Source

app.bicep

Preview

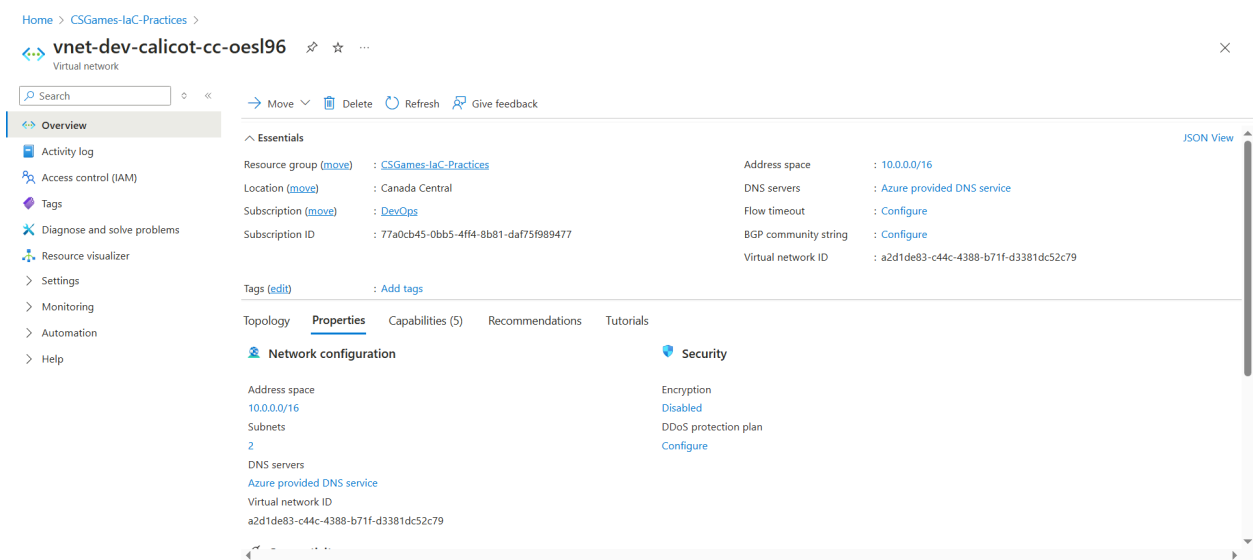
```
resource vnet 'Microsoft.Network/virtualNetworks@2022-01-01' = {
  name: 'vnet-dev-calicot-cc-oesl96'
  location: 'Canada Central'
  properties: {
    addressSpace: {
      addressPrefixes: [
        '10.0.0.0/16'
      ]
    }
    subnets: [
      {
        name: 'snet-dev-web-cc-oesl96'
        properties: {
          addressPrefix: '10.0.1.0/24'
          networkSecurityGroup: null // This is the correct property to assign a
Network Security Group (NSG)
          routeTable: null
        }
      }
      {
        name: 'snet-dev-db-cc-oesl96'
        properties: {
          addressPrefix: '10.0.2.0/24'
          networkSecurityGroup: null // Corrected here too
          routeTable: null
        }
      }
    ]
  }
}
```

```
output vnetId string = vnet.id
```

Testing

The code deploys vnet using bicep. The code was tested using Azure DevOps (developer personal account) as Bicep is native to Azure, and the dev did not have resources in laptop to install Azure tools. Sample pipeline run in Azure to deploy code.

Outputs



Resource Deployed in Azure

App Deployment

Source

vnet.bicep

Preview

```
param location string = 'Canada Central'  
param appServicePlanName string = 'StandardPlan'
```

```

resource appServicePlan 'Microsoft.Web/serverfarms@2021-02-01' = {
  name: appServicePlanName
  location: location
  sku: {
    name: 'S1' // Standard pricing tier
    tier: 'Standard'
    capacity: 1
  }
}

resource webApp 'Microsoft.Web/sites@2021-02-01' = {
  name: 'app-calicot-dev-001'
  location: location
  properties: {
    httpsOnly: true
    siteConfig: {
      alwaysOn: true
      minTlsVersion: '1.2'
      http20Enabled: true
      appSettings: [
        {
          name: 'ImageUrl'
          value: 'https://stcalicotprod000.blob.core.windows.net/images/'
        }
      ]
    }
  }
  identity: {
    type: 'SystemAssigned'
  }
}

resource autoScale 'Microsoft.Insights/autoscaleSettings@2021-05-01-preview' = {
  name: 'autoscale-webapp'
  location: location
  properties: {
    enabled: true
    targetResourceUri: appServicePlan.id // Reference the App Service Plan here
    profiles: [
      {
        name: 'default'
        capacity: {
          minimum: '1' // Use strings here
          maximum: '2' // Use strings here
          default: '1' // Use strings here
        }
      }
    ]
  }
}

```

```

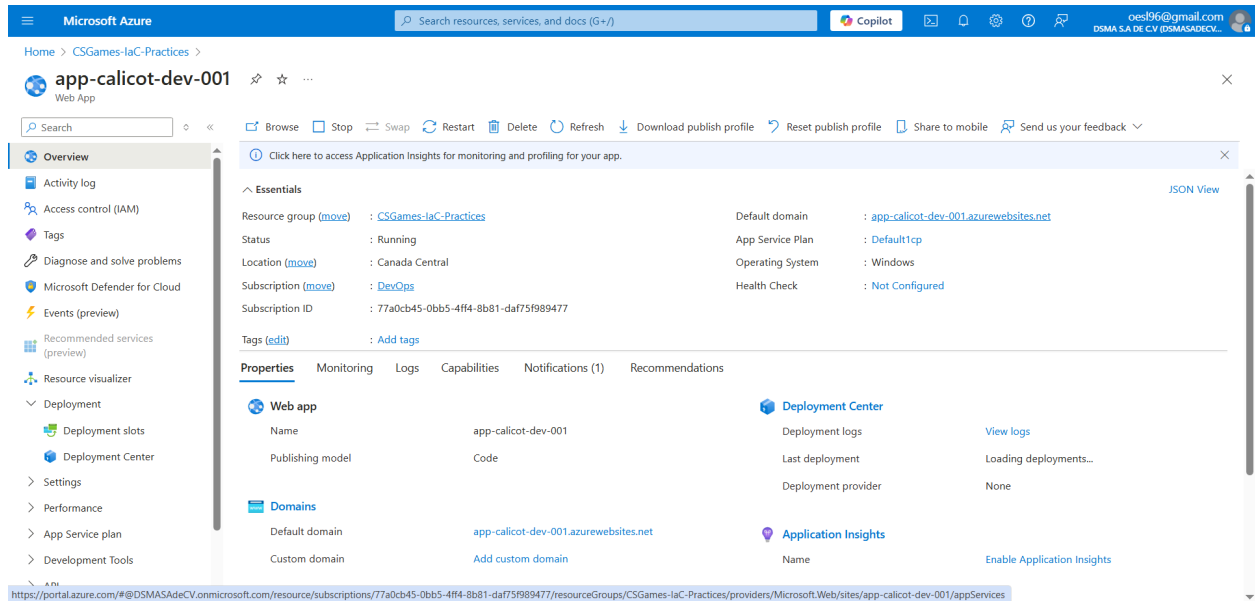
rules: [
  {
    metricTrigger: {
      metricName: 'CpuPercentage'
      operator: 'GreaterThan'
      threshold: 70
      timeAggregation: 'Average'
      metricNamespace: 'Microsoft.Web/serverfarms'
      timeGrain: 'PT1M'
      metricResourceUri: appServicePlan.id // Ensure the metric resource is
referenced correctly
      statistic: 'Average' // Add statistic
      timeWindow: 'PT5M' // Add timeWindow
    }
    scaleAction: {
      direction: 'Increase'
      type: 'ChangeCount'
      value: '1' // Use string here
      cooldown: 'PT5M'
    }
  }
]
}
}
}
}
}
}
}

```

Testing

The code deploys the application using bicep. The code was tested using Azure DevOps (developer personal account) as Bicep is native to Azure, and the dev did not have resources in laptop to install Azure tools. Sample pipeline run in Azure to deploy code.

Outputs



App Deployed in Azure

Keyvault

Source

keyvault.bicep

Preview

```
// Parameters
param location string = 'Canada Central'
param keyVaultName string = 'kv-calicot-dev-001'
param webAppName string = 'app-calicot-dev-001'

// Create Key Vault
resource kv 'Microsoft.KeyVault/vaults@2023-07-01' = {
  name: keyVaultName
  location: location
  properties: {
    enabledForDeployment: true // Set to true if you want to enable deployment via
    Key Vault
  }
}
```

```

enabledForDiskEncryption: true // Set to true if needed
enabledForTemplateDeployment: true // Set to true if needed
tenantId: subscription().tenantId // Use the tenant ID from the subscription
enableSoftDelete: true
softDeleteRetentionInDays: 90 // Retain soft-deleted vaults for 90 days
accessPolicies: [
  {
    objectId: webApp.identity.principalId // The Web App's Managed Identity
objectId
    tenantId: subscription().tenantId
    permissions: {
      certificates: ['get', 'list'] // Add permissions for certificates
      keys: ['get', 'list'] // Add permissions for keys
      secrets: ['get', 'list'] // Add permissions for secrets
      storage: ['get', 'list'] // Add permissions for storage
    }
  }
]
sku: {
  name: 'standard' // SKU type (can change based on requirements)
  family: 'A'
}
networkAcls: {
  defaultAction: 'Allow' // Set to 'Deny' if you want to restrict access
  bypass: 'AzureServices' // Allow Azure Services to bypass network rules
}
}

// Get the Web App Managed Identity (assumes it has a Managed Identity)
resource webApp 'Microsoft.Web/sites@2024-04-01' existing = {
  name: webAppName
}

```

Testing

The code deploys a keyvault using bicep. The code was tested using Azure DevOps (developer personal account) as Bicep is native to Azure, and the dev did not have resources in laptop to install Azure tools. Sample pipeline run in Azure to deploy code.

Outputs

Microsoft Azure

Search resources, services, and docs (G+/I)

Copilot

oes196@gmail.com
DSMA S.A DE C.V

Home > CSGames-IaC-Practices >

kv-calicot-dev-001

Key vault

✂ ☆ ...

✕

Search

◊ ◀

Delete

→ Move

↻ Refresh

📱 Open in mobile

Overview

Activity log

Access control (IAM)

Tags

Diagnose and solve problems

Access policies

Resource visualizer

Events

Objects

Settings

Monitoring

Automation

Help

Essentials

Resource group (move) : CSGames-IaC-Practices

Location : Canada Central

Subscription (move) : DevOps

Subscription ID : 77a0cb45-0bb5-4ff4-8b81-daf75f989477

Vault URI : https://kv-calicot-dev-001.vault.azure.net/

Sku (Pricing tier) : Standard

Directory ID : ca284a08-a341-4a1a-94d4-b14915721917

Directory Name : DSMA S.A de C.V

Soft-delete : Enabled

Purge protection : Disabled

Tags (edit) : Add tags

JSON View

Get started

Properties

Monitoring

Tools + SDKs

Tutorials

Access configuration

Permission model : Vault access policy

Resource access : Azure Virtual Machines for deployment
Azure Resource Manager for template deployment
Azure Disk Encryption for volume encryption

Networking

Public network access : Enabled

Firewalls and virtual networks : Access allowed from all networks

Private endpoint connections : Not configured

Keyvault Deployed in Azure