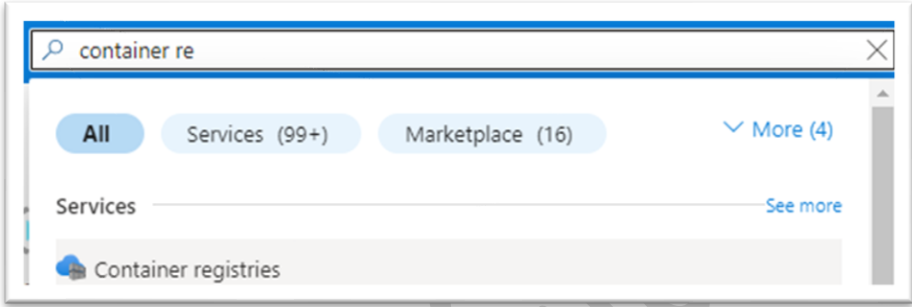
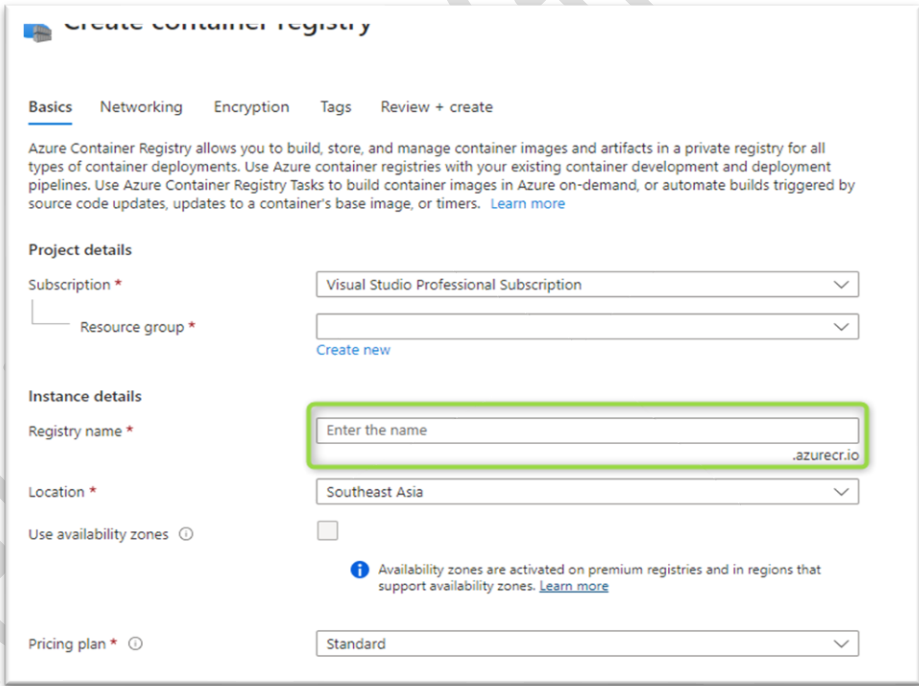


Azure Container App Lab

1. [Task 1: Create Azure Container Registry](#)

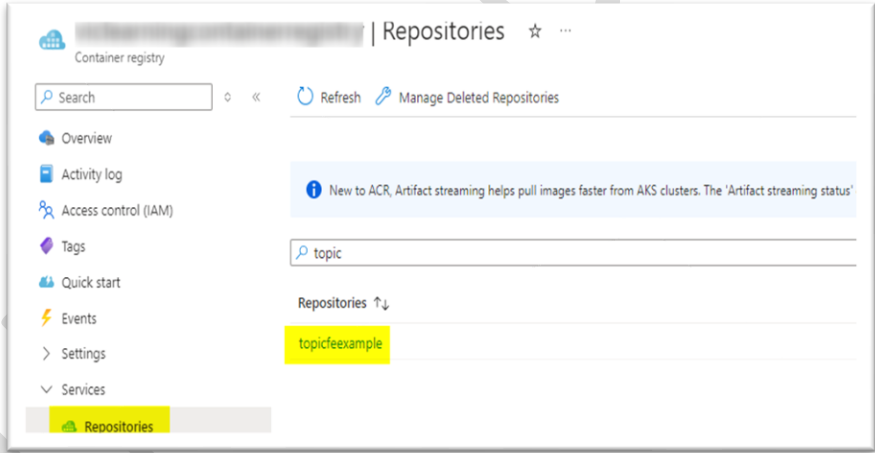
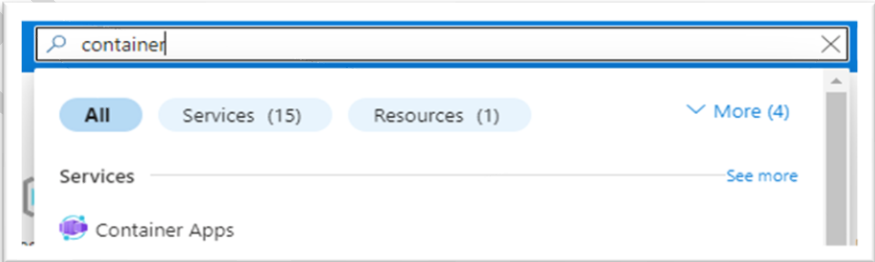
| Step | Demonstration |
|---|---|
| Go to Azure portal, Search "Container Registries" |  A screenshot of the Azure portal search interface. The search bar contains the text 'container re'. Below the search bar, there are tabs for 'All', 'Services (99+)', and 'Marketplace (16)'. Under the 'Services' tab, the search results show 'Container registries' as a primary result. |
| Create New "Container Registry" |  A screenshot of the 'Create container registry' page in the Azure portal. The page has tabs for 'Basics', 'Networking', 'Encryption', 'Tags', and 'Review + create'. The 'Basics' tab is selected. The page contains sections for 'Project details' (Subscription and Resource group), 'Instance details' (Registry name, Location, and Use availability zones), and 'Pricing plan'. The 'Registry name' field is highlighted with a green border and contains the placeholder text 'Enter the name'. The 'Location' is set to 'Southeast Asia' and the 'Pricing plan' is set to 'Standard'. A watermark 'M2' is visible in the background. |

2. Task 2: Create front end container app

- **Prerequisite site:** Download code/ Create new Project ASP.Net core MVC (List TODO)

Example code:

```
0 references | 0 changes | 0 authors, 0 changes
public async Task<IActionResult> IndexAsync()
{
    ViewBag.Todos = new List<Todo>
    {
        new Todo
        {
            Id = 1,
            Name = "Viclearning - fix the API"
        },
        new Todo {
            Id = 2,
            Name = "Viclearning - then try again"
        }
    };
    return View();
}
```

| | |
|--|--|
| Step | |
| Publish code to "Container Registry" |  |
| Go to Azure portal, Search "Container Apps" |  |

Create a new "Container App"

Create Container App ...

Basics Container Bindings Ingress Tags Review + create

Azure Container Apps are containerized apps that scale on demand without requiring you to manage cloud infrastructure. You'll need a container and an environment for your first app. Select existing resources, or create them now. [Learn more](#)

Project details

Select a subscription to manage deployed resources and costs. Use resource groups like folders to organize and manage all your resources.

Subscription *

Resource group * [Create new](#)

Container app name *

Deployment source *

☒ Container image
Bring your own container registry or build a container from a Dockerfile

☐ Source code or artifact
Build and deploy your code without using a Dockerfile

Container Apps Environment

The environment is a secure boundary around one or more container apps that can communicate with each other and share a virtual network, logging, and Dapr configuration. [Container Apps Pricing](#)

Show environments in all regions ☐

Region *

Container Apps Environment * [Create new](#)

[Review + create](#) < Previous Next : Container >

Choose your image in previous step.

Container details

Name *

Image source

☒ Azure Container Registry

☐ Docker Hub or other registries

Subscription *

Registry *

Image *


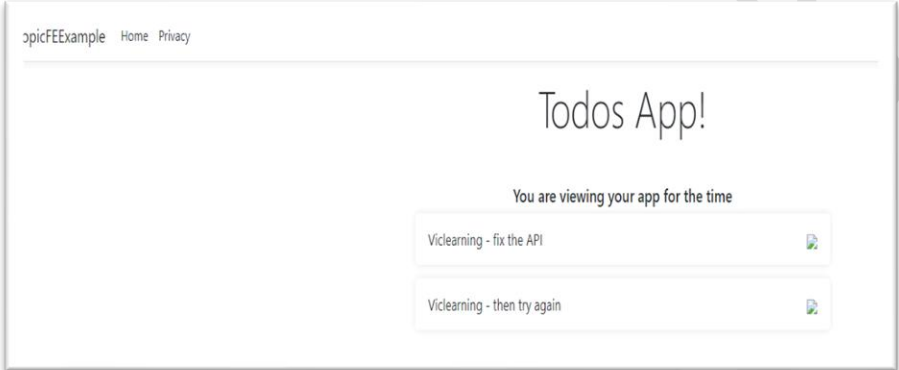
Image tag *

Command override ⓘ

Arguments override ⓘ

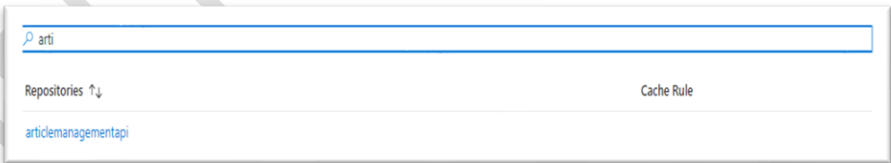
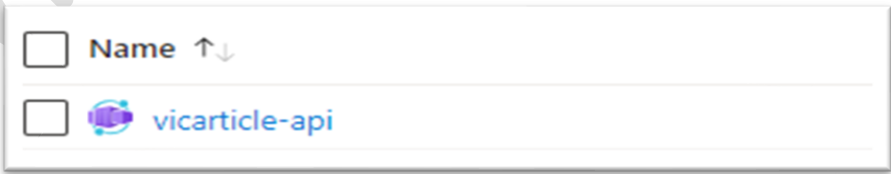
Development stack-specific features

When you select a specific development stack you get additional features tailored to that stack... optimizing Container Apps to perform for

| | |
|--------|--|
| |  |
| Result |  |

3. Task 3: Create BE API.

- Connect to Azure table storage using “system managed identity”
- Integrate FE and BE

| | |
|--|--|
| Step | |
| Publish BE API to Azure Container Registry |  |
| Create Azure Container App for the API |  |

Setting Environment for the ACA

| Properties | | |
|--------------------------|--------------|---------|
| Environment variables | | |
| Health probes | | |
| Volume mounts | | |
| Bindings | | |
| Search | | |
| Name ↑ ▾ | Source ▾ | Value ▾ |
| blobStorage_StorageName | Manual entry | |
| blobStorage_StorageUri | Manual entry | |
| tableStorage_ServiceName | Manual entry | |
| tableStorage_StorageUri | Manual entry | |

Activate Managed Identity for the BE container app. Assign appropriate Azure role to read data from table storage

vicarticle-api | Identity

Container App

Search

Overview

Activity log

Access control (IAM)

Tags

Diagnose and solve problems

Application

Revisions and replicas

Containers

System assigned

User assigned

A system assigned managed identity is restricted to one per resource and is Microsoft Entra ID, so you don't have to store any credentials in code.

Save Discard Refresh Got feedback?

Status ⓘ

Off On

Object (principal) ID ⓘ

Azure role assignment:

| | | | |
|--------------------------------|---------------|-----------------|----------------|
| Storage Table Data Contributor | vicsalearning | Storage account | vicarticle-api |
| Storage Account Contributor | vicsalearning | Storage account | vicarticle-api |

Change FE code to call API instead hardcoded the TODO Values

```
public async Task<ActionResult> IndexAsync()
{
    using (var httpClient = _httpClientFactory.CreateClient())
    {
        httpClient.BaseAddress = new Uri(" API Url should be here ");
        var res = await httpClient.GetAsync("Topic/Topics");
        if (res.IsSuccessStatusCode)
        {
            var text = await res.Content.ReadAsStringAsync();
            var response = JsonConvert.DeserializeObject<List<TopicResponseModel>>(text);
            var todoList = response.Select(x =>
            {
                new Todo
                {
                    Name = x.TopicDescription
                });
            }).ToList();
            ViewBag.Todos = todoList;
        }
    }
    return View();
}
```

Publish new code to Azure container registry

topicfeexample ...

Repository

[Refresh](#) [Start artifact streaming](#) [Manage deleted artifacts](#) [Delete repository](#)

^ Essentials

Repository : topicfeexample Tag count : 2

Last updated date : 9/25/2024, 4:29 PM GMT+7 Manifest count : 3

| Tags ↑↓ | Digest ↑↓ | Last modified |
|----------------|---|--------------------------|
| latest | sha256:959fc294cd31a2179224efc746afa6202585298f0d75e75efeb... | 9/25/2024, 4:29 PM GMT+7 |
| 20240924100422 | sha256:8cb52894d02e6766928772338260886555e3bbdf81b35f8a1... | 9/24/2024, 5:04 PM GMT+7 |

Create new revision for the "vicarticle-frontend" container app

Edit a container



Properties

Environment variables

Health probes

Volume mounts

Container details

Name *

vicarticle-frontend

Image source



Azure Container Registry



Docker Hub or other registries

Authentication



Admin Credentials



Managed Identity

Subscription *

Subscription

Registry *

Registry

Image *

topicfeexample

Image tag *

latest

Command override ⓘ

Example: /bin/bash

Arguments override ⓘ

Example: -c, while true; do echo hello; sleep ...

Container resource allocation

CPU cores * ⓘ

0.5

0.25 - 4 cores

Memory (Gi) * ⓘ

1

Gi

Check Result

Todos App!

You are viewing your app for the time

Topics for all amazon cloud articles



Test logs 2



Test logs 1



TestAzureAppServiceLogProvider



TestAzureAppServiceLogProvider1



Test Diagnostic settings 1



Test Diagnostic settings 2



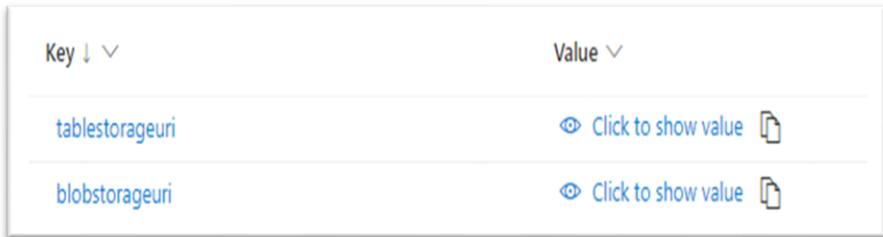
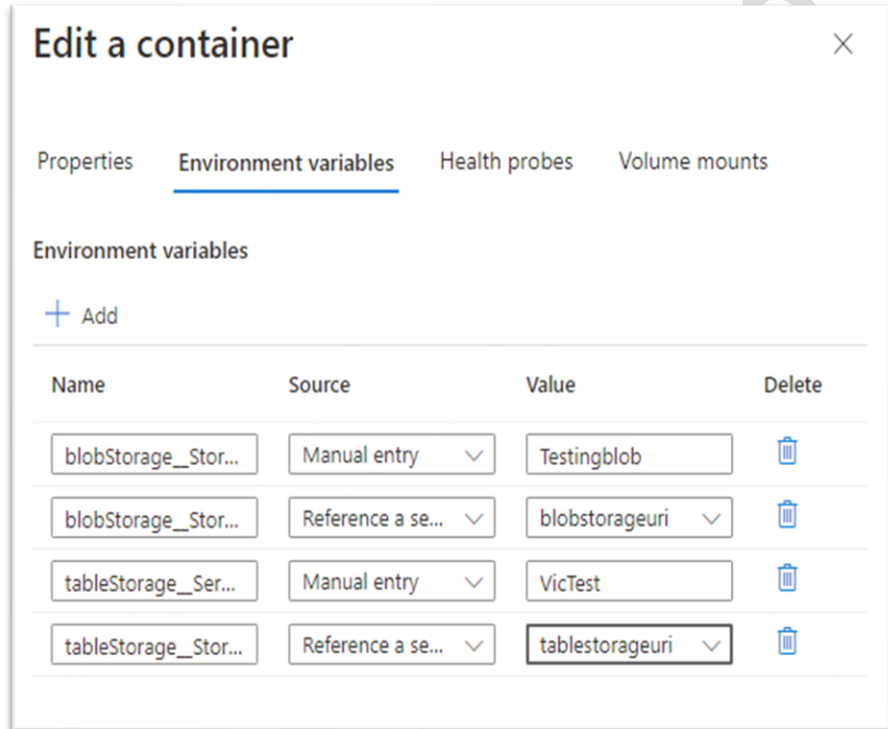
Victor test configurations



string



4. Task 4: Use secret for the environment variables

| Steps | |
|--|---|
| Create new secrets for the Azure container app |  |
| Reference the secrets to environment variables |  |

Based on revision

vicarticle-api--88madph

Not seeing your revision? [Click here to find and activate an existing revision.](#)

Container

vicarticle-api

Properties

Environment variables

Health probes

Volume mounts

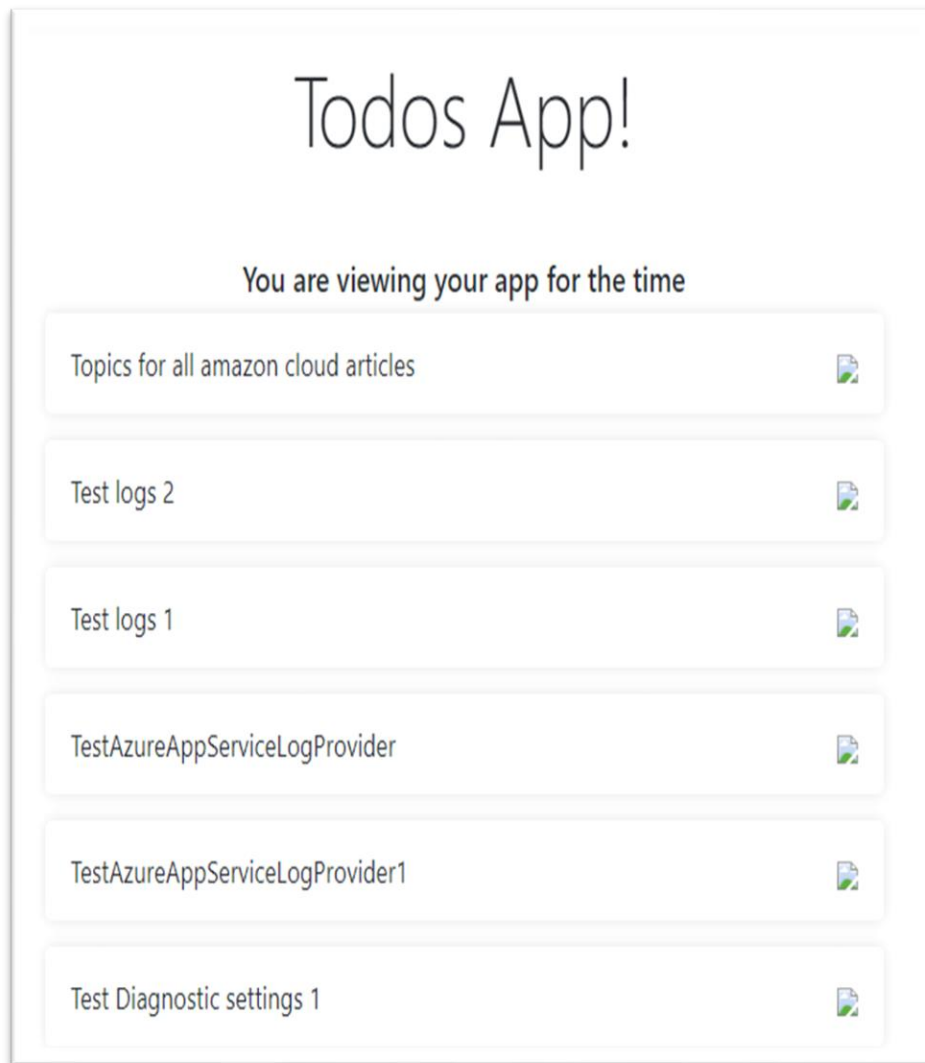
Bindings

Search

| Name ↑ | Source | Value |
|--------------------------|--------------------|-----------------|
| blobStorage__Storage... | Manual entry | Testingblob |
| blobStorage__Storage... | Reference a secret | blobstorageuri |
| tableStorage__Service... | Manual entry | VicTest |
| tableStorage__Storag... | Reference a secret | tablestorageuri |

Mai Hoàng

Result -> still
access "Table
storage"

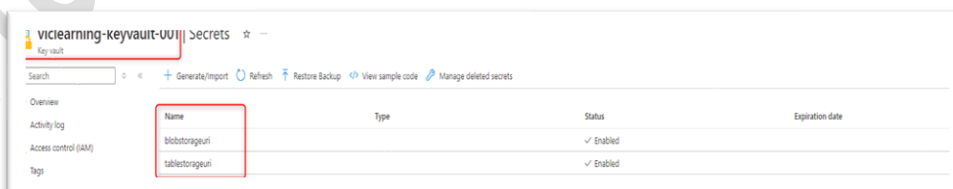


5. Use "Azure Key Vault" to store secrets:

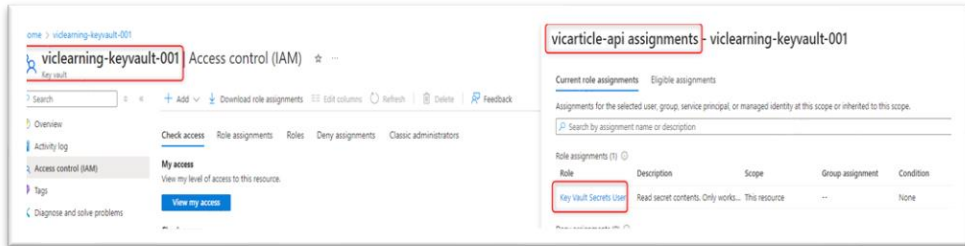
I want to use Key Vault to store my secrets and refer to them in the "Azure Container App" secrets.

Step

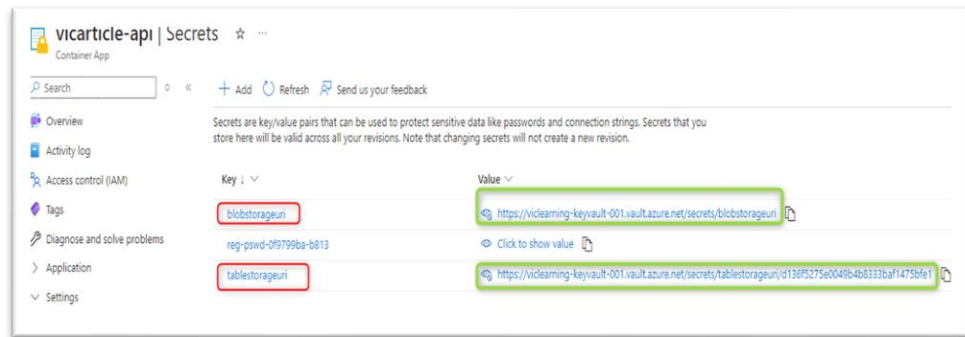
**Create Azure
Key Vault and
Add Secrets to
my Key Valuts**



Assign appropriate "Access Control" to Managed Identity of "Azure Container App"



Refer to the Azure Key Vault Secrets for the container app



Result: Our App still access -> means the Api can access and read the secrets of Key Vault

