Practical Task 3: Scale Out with Azure Container Instances via Azure Portal

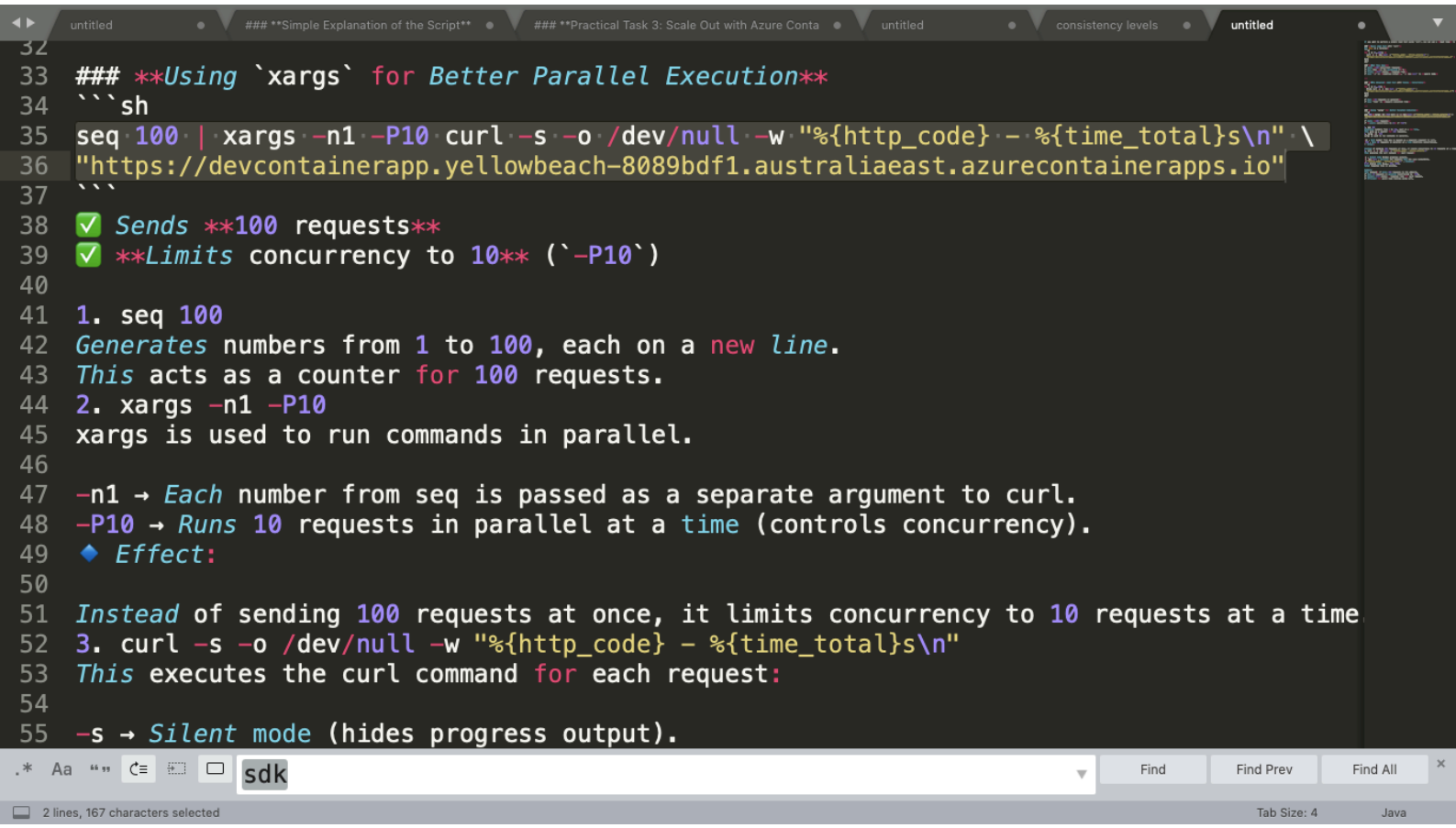
Requirements:

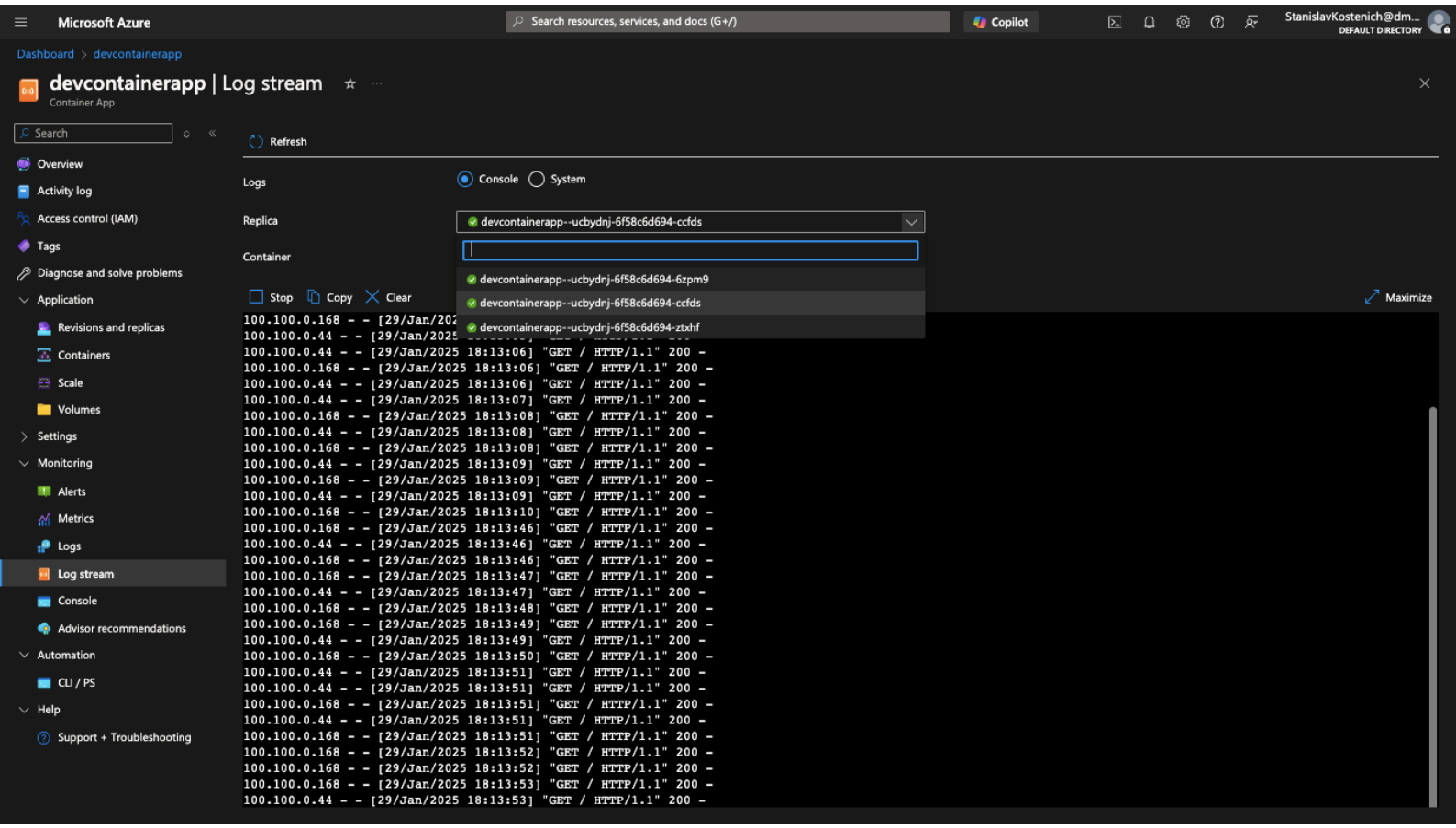
1. Deploy a stateless Docker container to Azure Container Instances using a lightweight configuration (e.g., B1s instances).
2. Manually scale out to the minimum number of instances required (e.g., 2–3) to test load distribution.
3. Stop all ACI instances after completing the testing to reduce ongoing costs.

Practical Task 4: Secure a Docker Container in ACI with Managed Identity via Azure Portal

Requirements:

1. Deploy a Docker container to Azure Container Instances using the existing lightweight ACI setup from previous tasks.
2. Configure a Managed Identity for the ACI and securely access an Azure service (e.g., Azure Key Vault) with minimal permissions and access scope.


untitled
Simple Explanation of the Script
**Practical Task 3: Scale Out with Azure Conta
untitled
consistency levels
untitled
Using `xargs` for Better Parallel Execution
```sh
seq 100 | xargs -n1 -P10 curl -s -o /dev/null -w "%{http_code} - %{time_total}s\n" \
"https://devcontainerapp.yellowbeach-8089bdf1.australiaeast.azurecontainerapps.io"
```
✅ Sends **100 requests**
✅ **Limits concurrency to 10** (`-P10`)
1. seq 100
Generates numbers from 1 to 100, each on a new line.
This acts as a counter for 100 requests.
2. xargs -n1 -P10
xargs is used to run commands in parallel.
-n1 → Each number from seq is passed as a separate argument to curl.
-P10 → Runs 10 requests in parallel at a time (controls concurrency).
🔷 Effect:
Instead of sending 100 requests at once, it limits concurrency to 10 requests at a time.
3. curl -s -o /dev/null -w "%{http_code} - %{time_total}s\n"
This executes the curl command for each request:
-s → Silent mode (hides progress output).
.* Aa
sdk
Find
Find Prev
Find All
2 lines, 167 characters selected
Tab Size: 4
Java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DEFAULT DIRECTORY
Dashboard > devcontainerapp
devcontainerapp | Log stream
Container App
Search
Refresh
Overview
Activity log
Access control (IAM)
Tags
Diagnose and solve problems
Application
Revisions and replicas
Containers
Scale
Volumes
Settings
Monitoring
Alerts
Metrics
Logs
Log stream
Console
Advisor recommendations
Automation
CLI / PS
Help
Support + Troubleshooting
Logs
Console
System
Replica
devcontainerapp--ucbydnj-6f58c6d694-ccfds
Container
devcontainerapp--ucbydnj-6f58c6d694-6zpm9
devcontainerapp--ucbydnj-6f58c6d694-ccfds
devcontainerapp--ucbydnj-6f58c6d694-ztxhf
Stop
Copy
Clear
Maximize
100.100.0.168 - - [29/Jan/2025 18:13:06] "GET / HTTP/1.1" 200 -
100.100.0.44 - - [29/Jan/2025 18:13:06] "GET / HTTP/1.1" 200 -
100.100.0.168 - - [29/Jan/2025 18:13:06] "GET / HTTP/1.1" 200 -
100.100.0.44 - - [29/Jan/2025 18:13:06] "GET / HTTP/1.1" 200 -
100.100.0.44 - - [29/Jan/2025 18:13:07] "GET / HTTP/1.1" 200 -
100.100.0.168 - - [29/Jan/2025 18:13:08] "GET / HTTP/1.1" 200 -
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100.100.0.168 - - [29/Jan/2025 18:13:08] "GET / HTTP/1.1" 200 -
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100.100.0.168 - - [29/Jan/2025 18:13:46] "GET / HTTP/1.1" 200 -
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100.100.0.168 - - [29/Jan/2025 18:13:50] "GET / HTTP/1.1" 200 -
100.100.0.44 - - [29/Jan/2025 18:13:51] "GET / HTTP/1.1" 200 -
100.100.0.44 - - [29/Jan/2025 18:13:51] "GET / HTTP/1.1" 200 -
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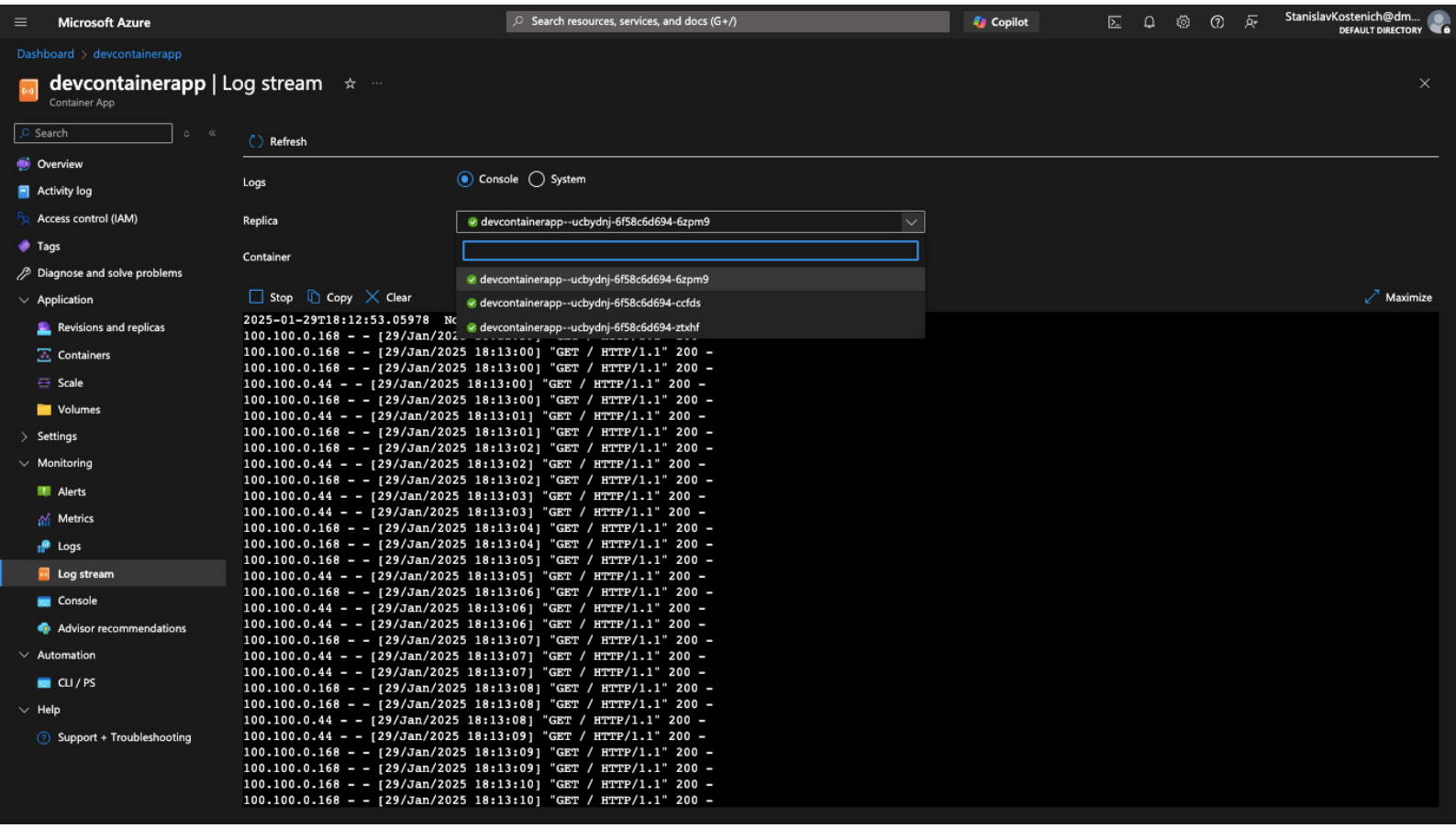
100.100.0.168 - - [29/Jan/2025 18:13:51] "GET / HTTP/1.1" 200 -
100.100.0.168 - - [29/Jan/2025 18:13:52] "GET / HTTP/1.1" 200 -
100.100.0.168 - - [29/Jan/2025 18:13:52] "GET / HTTP/1.1" 200 -
100.100.0.168 - - [29/Jan/2025 18:13:53] "GET / HTTP/1.1" 200 -
100.100.0.44 - - [29/Jan/2025 18:13:53] "GET / HTTP/1.1" 200 -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Revisions and replicas
Containers
Scale
Volumes
Settings
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Alerts
Metrics
Logs
Log stream
Console
Advisor recommendations
Automation
CLI / PS
Help
Support + Troubleshooting
Logs
Console
System
Replica
devcontainerapp--ucbydnj-6f58c6d694-6zpm9
Container
devcontainerapp--ucbydnj-6f58c6d694-6zpm9
devcontainerapp--ucbydnj-6f58c6d694-ccfds
devcontainerapp--ucbydnj-6f58c6d694-ztxhf
Stop
Copy
Clear
Maximize
2025-01-29T18:12:53.05978
100.100.0.168 - - [29/Jan/2025 18:13:00] "GET / HTTP/1.1" 200 -
100.100.0.168 - - [29/Jan/2025 18:13:00] "GET / HTTP/1.1" 200 -
100.100.0.44 - - [29/Jan/2025 18:13:00] "GET / HTTP/1.1" 200 -
100.100.0.168 - - [29/Jan/2025 18:13:00] "GET / HTTP/1.1" 200 -
100.100.0.44 - - [29/Jan/2025 18:13:01] "GET / HTTP/1.1" 200 -
100.100.0.168 - - [29/Jan/2025 18:13:01] "GET / HTTP/1.1" 200 -
100.100.0.168 - - [29/Jan/2025 18:13:02] "GET / HTTP/1.1" 200 -
100.100.0.44 - - [29/Jan/2025 18:13:02] "GET / HTTP/1.1" 200 -
100.100.0.168 - - [29/Jan/2025 18:13:02] "GET / HTTP/1.1" 200 -
100.100.0.44 - - [29/Jan/2025 18:13:03] "GET / HTTP/1.1" 200 -
100.100.0.44 - - [29/Jan/2025 18:13:03] "GET / HTTP/1.1" 200 -
100.100.0.168 - - [29/Jan/2025 18:13:04] "GET / HTTP/1.1" 200 -
100.100.0.168 - - [29/Jan/2025 18:13:04] "GET / HTTP/1.1" 200 -
100.100.0.168 - - [29/Jan/2025 18:13:05] "GET / HTTP/1.1" 200 -
100.100.0.44 - - [29/Jan/2025 18:13:05] "GET / HTTP/1.1" 200 -
100.100.0.168 - - [29/Jan/2025 18:13:06] "GET / HTTP/1.1" 200 -
100.100.0.44 - - [29/Jan/2025 18:13:06] "GET / HTTP/1.1" 200 -
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100.100.0.44 - - [29/Jan/2025 18:13:07] "GET / HTTP/1.1" 200 -
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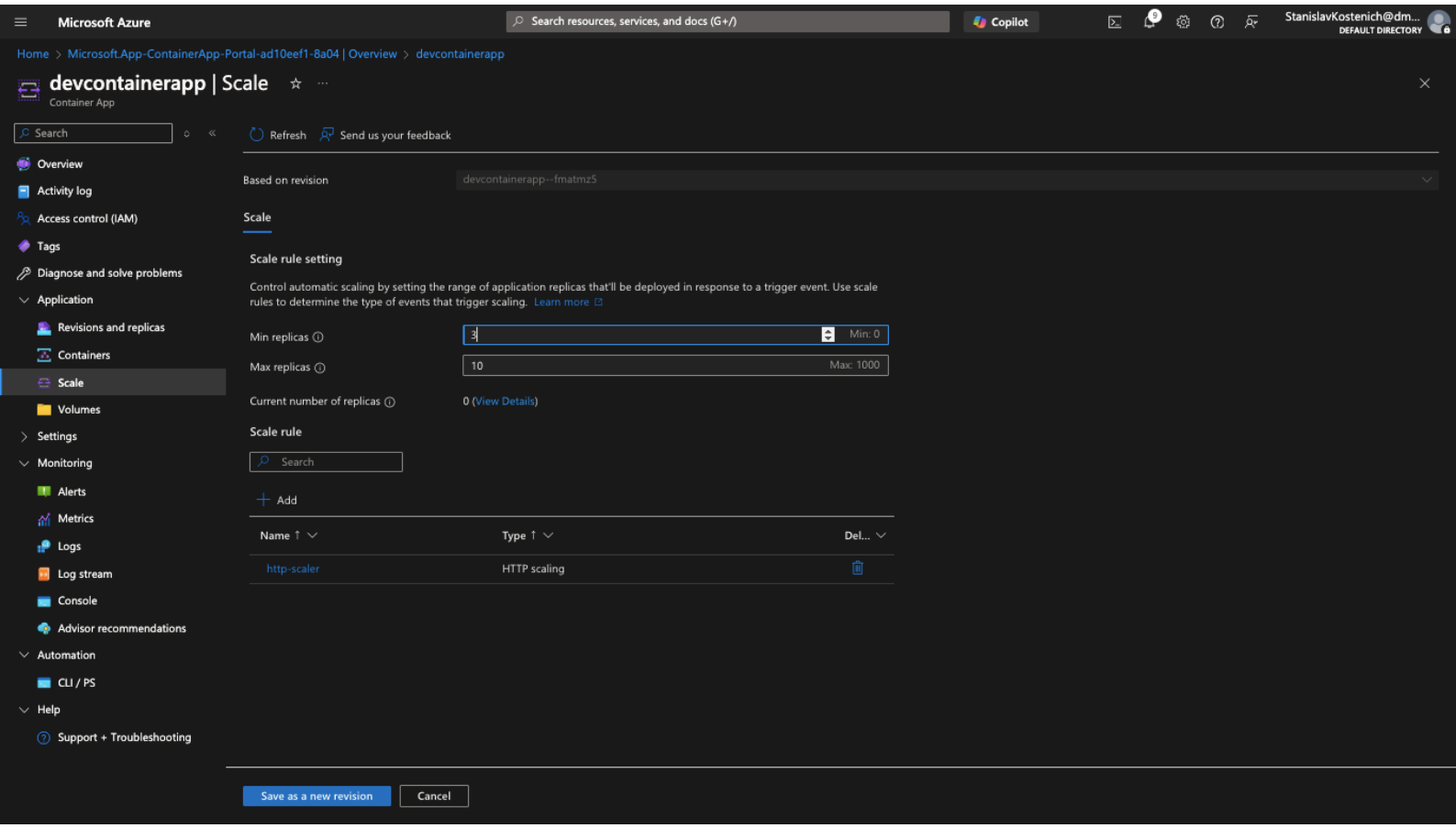
100.100.0.168 - - [29/Jan/2025 18:13:10] "GET / HTTP/1.1" 200 -
100.100.0.168 - - [29/Jan/2025 18:13:10] "GET / HTTP/1.1" 200 -

~/Downloads/docker — mc [sk@sks-MacBook-Air.local]:~/Documents/AzureDevOps — -bash ~/Documents/AzureDevOps/04 Compute tasts — azureuser@dev-web-cus-01: ~ — -bash

```
000 - 0.000146s
200 - 1.131650s
000 - 0.000149s
200 - 1.127458s
000 - 0.000000s
200 - 1.130942s
000 - 0.000129s
200 - 1.117220s
000 - 0.000338s
200 - 1.131948s
000 - 0.000203s
200 - 1.120850s
000 - 0.000138s
200 - 1.119042s
000 - 0.000146s
200 - 3.228333s
000 - 0.000165s
200 - 1.126866s
000 - 0.000137s
200 - 1.129809s
200 - 1.124006s
000 - 0.000243s
000 - 0.000242s
200 - 1.131884s
000 - 0.000102s
200 - 10.315833s
000 - 0.000138s
sks-MacBook-Air:04 Compute tasts sk$
sks-MacBook-Air:04 Compute tasts sk$ seq 100 | xargs -n1 -P10 curl -s -o /dev/null -w "%{http_code} - %{time_tota
l}s\n" "https://devcontainerapp.yellowbeach-8089bdf1.australiaeast.azurecontainerapps.io"
```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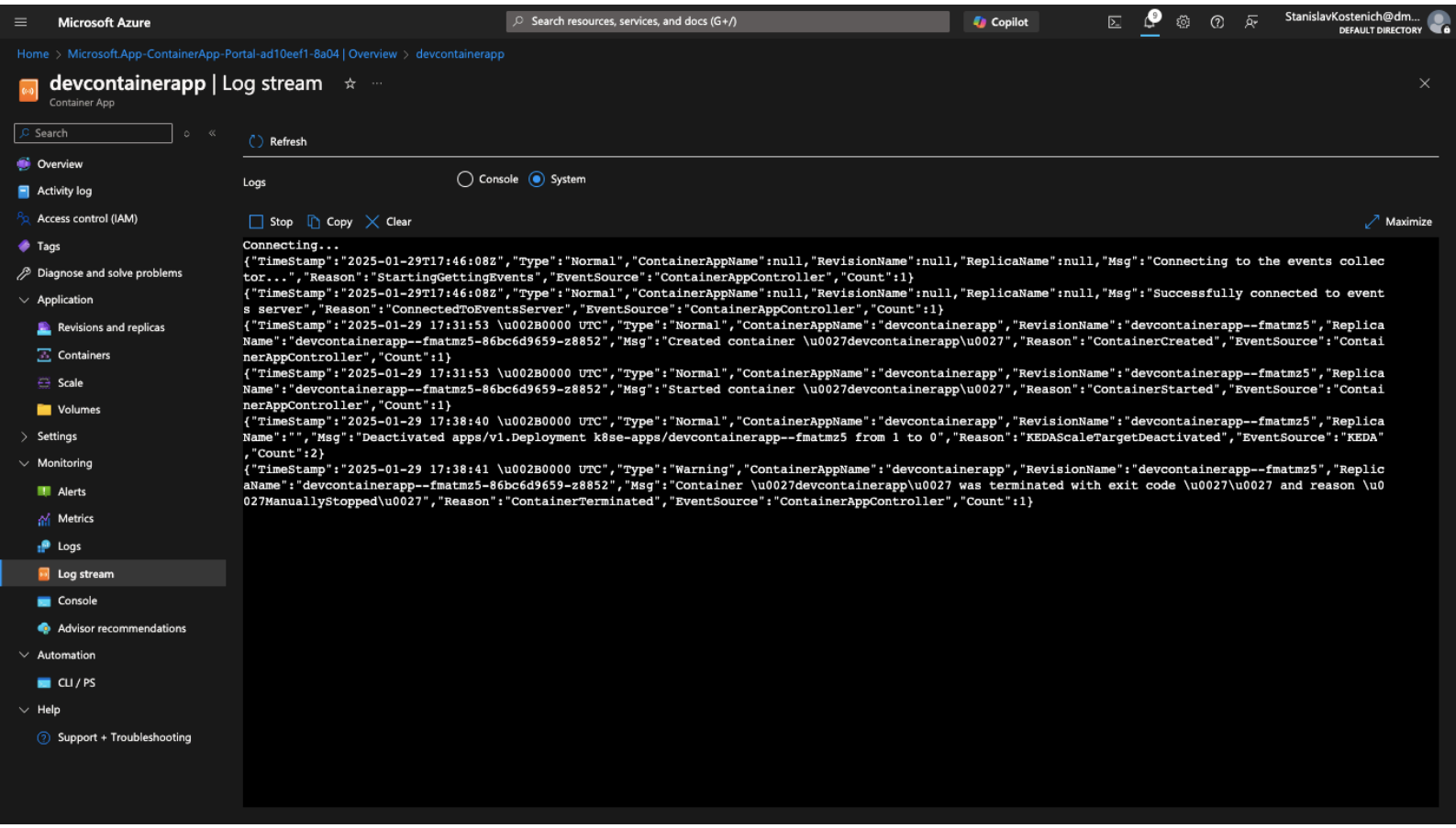
Copilot
StanislavKostenich@dm...
DEFAULT DIRECTORY
Home > Microsoft.App-ContainerApp-Portal-ad10eef1-8a04 | Overview > devcontainerapp
devcontainerapp | Scale
Container App
Search
Overview
Activity log
Access control (IAM)
Tags
Diagnose and solve problems
Application
Revisions and replicas
Containers
Scale
Volumes
Settings
Monitoring
Alerts
Metrics
Logs
Log stream
Console
Advisor recommendations
Automation
CLI / PS
Help
Support + Troubleshooting
Refresh
Send us your feedback
Based on revision
devcontainerapp--fmatmz5
Scale
Scale rule setting
Control automatic scaling by setting the range of application replicas that'll be deployed in response to a trigger event. Use scale rules to determine the type of events that trigger scaling. Learn more
Min replicas
3
Min: 0
Max replicas
10
Max: 1000
Current number of replicas
0 (View Details)
Scale rule
Search
Add
Name
Type
Del...
http-scaler
HTTP scaling
Save as a new revision
Cancel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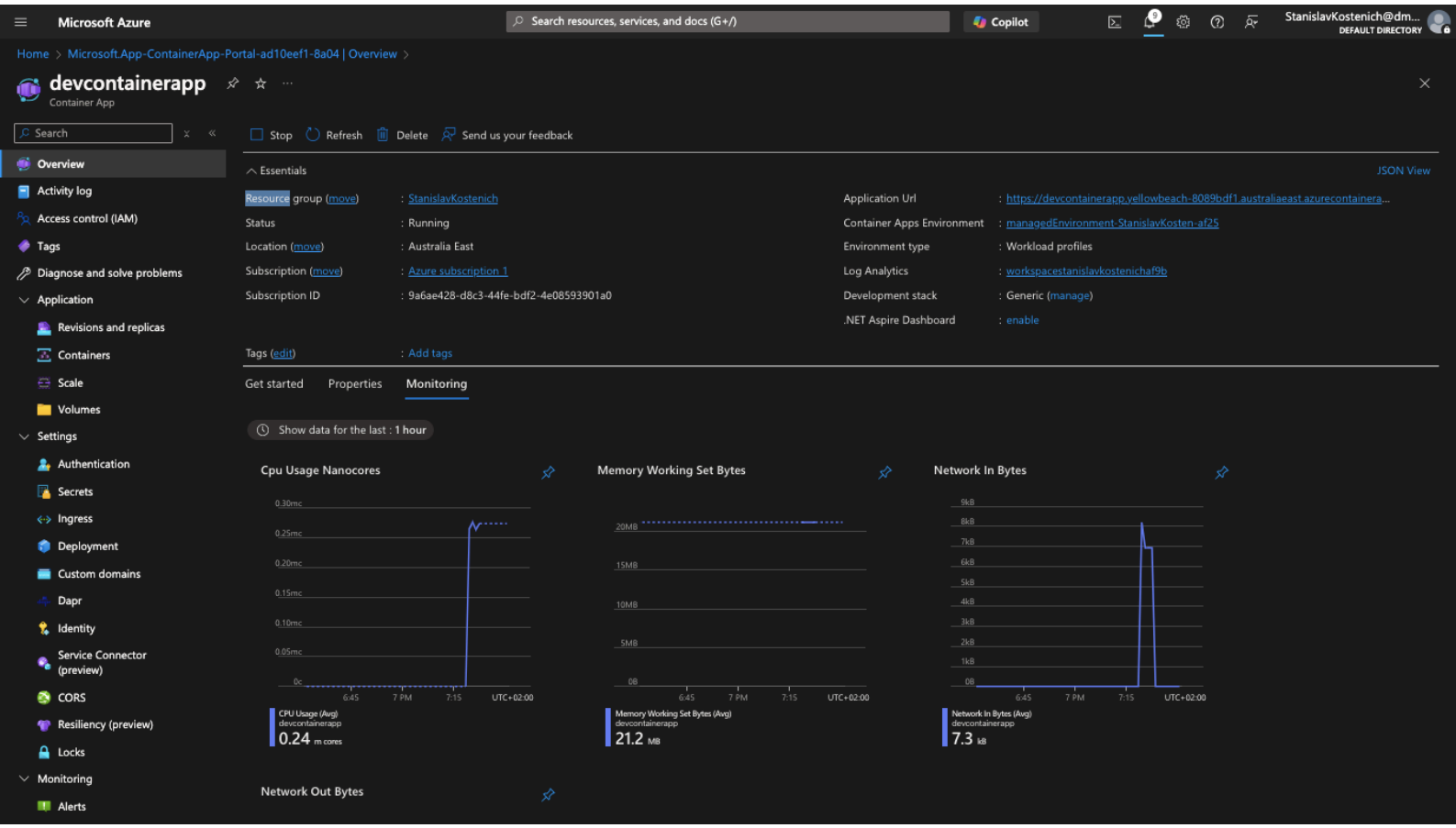
Console
Advisor recommendations
Automation
CLI / PS
Help
Support + Troubleshooting
Refresh
Logs
Console
System
Stop
Copy
Clear
Maximize
Connecting...
{"TimeStamp":"2025-01-29T17:46:08Z","Type":"Normal","ContainerAppName":null,"RevisionName":null,"ReplicaName":null,"Msg":"Connecting to the events collector...","Reason":"StartingGettingEvents","EventSource":"ContainerAppController","Count":1}
{"TimeStamp":"2025-01-29T17:46:08Z","Type":"Normal","ContainerAppName":null,"RevisionName":null,"ReplicaName":null,"Msg":"Successfully connected to events server","Reason":"ConnectedToEventsServer","EventSource":"ContainerAppController","Count":1}
{"TimeStamp":"2025-01-29 17:31:53 \u002B0000 UTC","Type":"Normal","ContainerAppName":"devcontainerapp","RevisionName":"devcontainerapp--fmatmz5","ReplicaName":"devcontainerapp--fmatmz5-86bc6d9659-z8852","Msg":"Created container \u0027devcontainerapp\u0027","Reason":"ContainerCreated","EventSource":"ContainerAppController","Count":1}
{"TimeStamp":"2025-01-29 17:31:53 \u002B0000 UTC","Type":"Normal","ContainerAppName":"devcontainerapp","RevisionName":"devcontainerapp--fmatmz5","ReplicaName":"devcontainerapp--fmatmz5-86bc6d9659-z8852","Msg":"Started container \u0027devcontainerapp\u0027","Reason":"ContainerStarted","EventSource":"ContainerAppController","Count":1}
{"TimeStamp":"2025-01-29 17:38:40 \u002B0000 UTC","Type":"Normal","ContainerAppName":"devcontainerapp","RevisionName":"devcontainerapp--fmatmz5","ReplicaName":"","Msg":"Deactivated apps/v1.Deployment k8se-apps/devcontainerapp--fmatmz5 from 1 to 0","Reason":"KEDAScaleTargetDeactivated","EventSource":"KEDA","Count":2}
{"TimeStamp":"2025-01-29 17:38:41 \u002B0000 UTC","Type":"Warning","ContainerAppName":"devcontainerapp","RevisionName":"devcontainerapp--fmatmz5","ReplicaName":"devcontainerapp--fmatmz5-86bc6d9659-z8852","Msg":"Container \u0027devcontainerapp\u0027 was terminated with exit code \u0027\u0027 and reason \u0027ManuallyStopped\u0027","Reason":"ContainerTerminated","EventSource":"ContainerAppController","Count":1}

~/Downloads/docker — mc [sk@sks-MacBook-Air.local]:~/Documents/AzureDevOps — ping 8.8.8.8 ~/Documents/AzureDevOps/04 Compute tasts — azureuser@dev-web-cus-01: ~ — -bash

```
sks-MacBook-Air:04 Compute tasts sk$ curl -i https://devcontainerapp.yellowbeach-8089bdf1.australiaeast.azurecont
ainerapps.io/
HTTP/2 200
server: Werkzeug/3.1.3 Python/3.9.21
date: Wed, 29 Jan 2025 17:33:11 GMT
content-type: text/html; charset=utf-8
content-length: 33

Hello, Azure Container Instances!sks-MacBook-Air:04 Compute tasts sk$
```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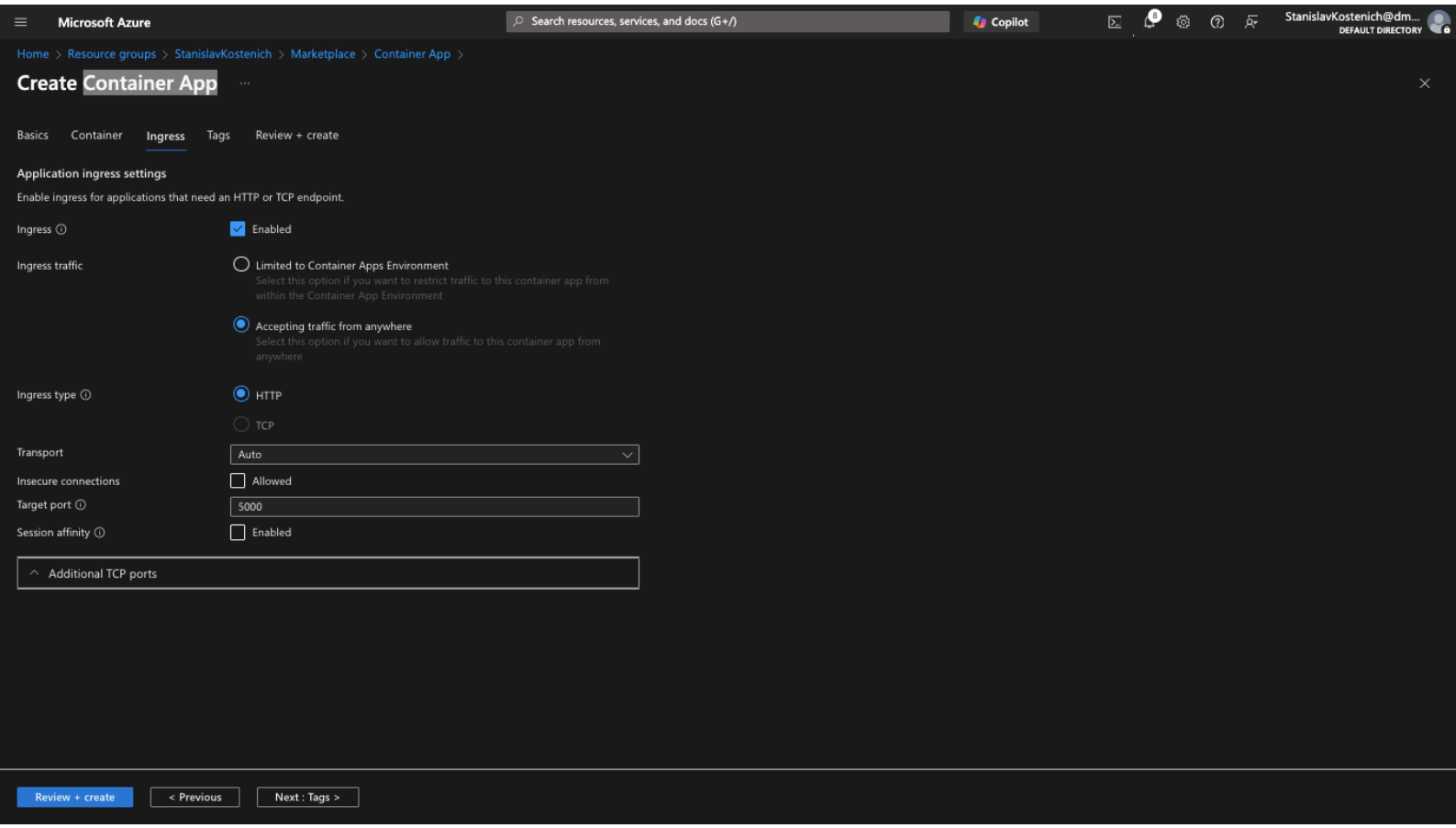
Settings
Authentication
Secrets
Ingress
Deployment
Custom domains
Dapr
Identity
Service Connector (preview)
CORS
Resiliency (preview)
Locks
Monitoring
Alerts
Stop
Refresh
Delete
Send us your feedback
Essentials
JSON View
Resource group (move) : StanislavKostenich
Status : Running
Location (move) : Australia East
Subscription (move) : Azure subscription 1
Subscription ID : 9a6ae428-d8c3-44fe-bdf2-4e08593901a0
Application Url : https://devcontainerapp.yellowbeach-8089bdf1.australiaeast.azurecontainera...
Container Apps Environment : managedEnvironment-StanislavKosten-af25
Environment type : Workload profiles
Log Analytics : workspacestanislavkostenichaf9b
Development stack : Generic (manage)
.NET Aspire Dashboard : enable
Tags (edit) : Add tags
Get started
Properties
Monitoring
Show data for the last : 1 hour
Cpu Usage Nanocores
0.30mc
0.25mc
0.20mc
0.15mc
0.10mc
0.05mc
0c
6:45
7 PM
7:15
UTC+02:00
CPU Usage (Avg)
devcontainerapp
0.24 m cores
Memory Working Set Bytes
20MB
15MB
10MB
5MB
0B
Memory Working Set Bytes (Avg)
devcontainerapp
21.2 MB
Network In Bytes
9kB
8kB
7kB
6kB
5kB
4kB
3kB
2kB
1kB
0B
Network In Bytes (Avg)
devcontainerapp
7.3 kB
Network Out Bytes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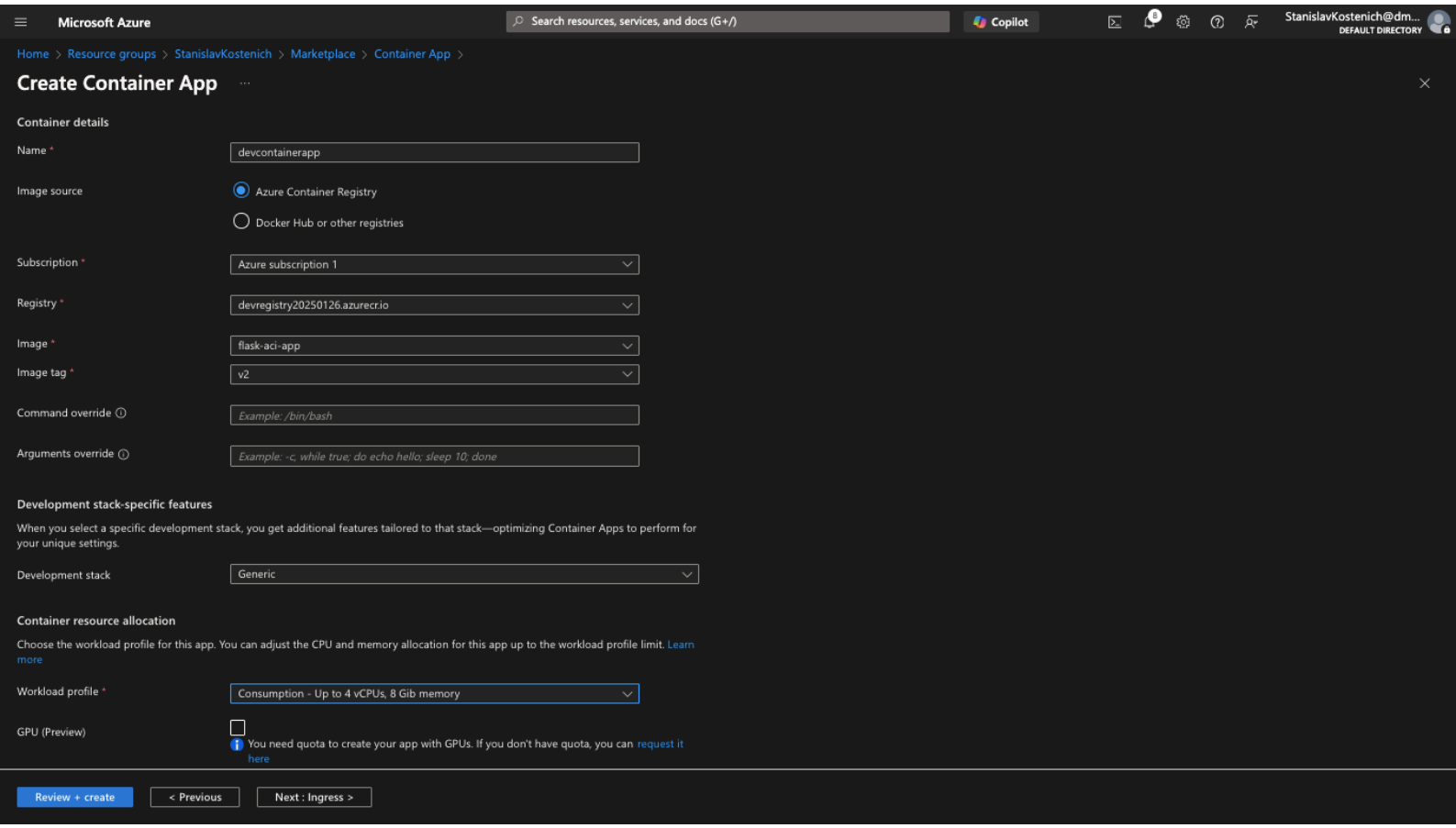
Home > Resource groups > StanislavKostenich > Marketplace > Container App >
Create Container App
Basics
Container
Ingress
Tags
Review + create
Application ingress settings
Enable ingress for applications that need an HTTP or TCP endpoint.
Ingress
Enabled
Ingress traffic
Limited to Container Apps Environment
Select this option if you want to restrict traffic to this container app from within the Container App Environment
Accepting traffic from anywhere
Select this option if you want to allow traffic to this container app from anywhere
Ingress type
HTTP
TCP
Transport
Auto
Insecure connections
Allowed
Target port
5000
Session affinity
Enabled
Additional TCP ports
Review + create
< Previous
Next : Tags >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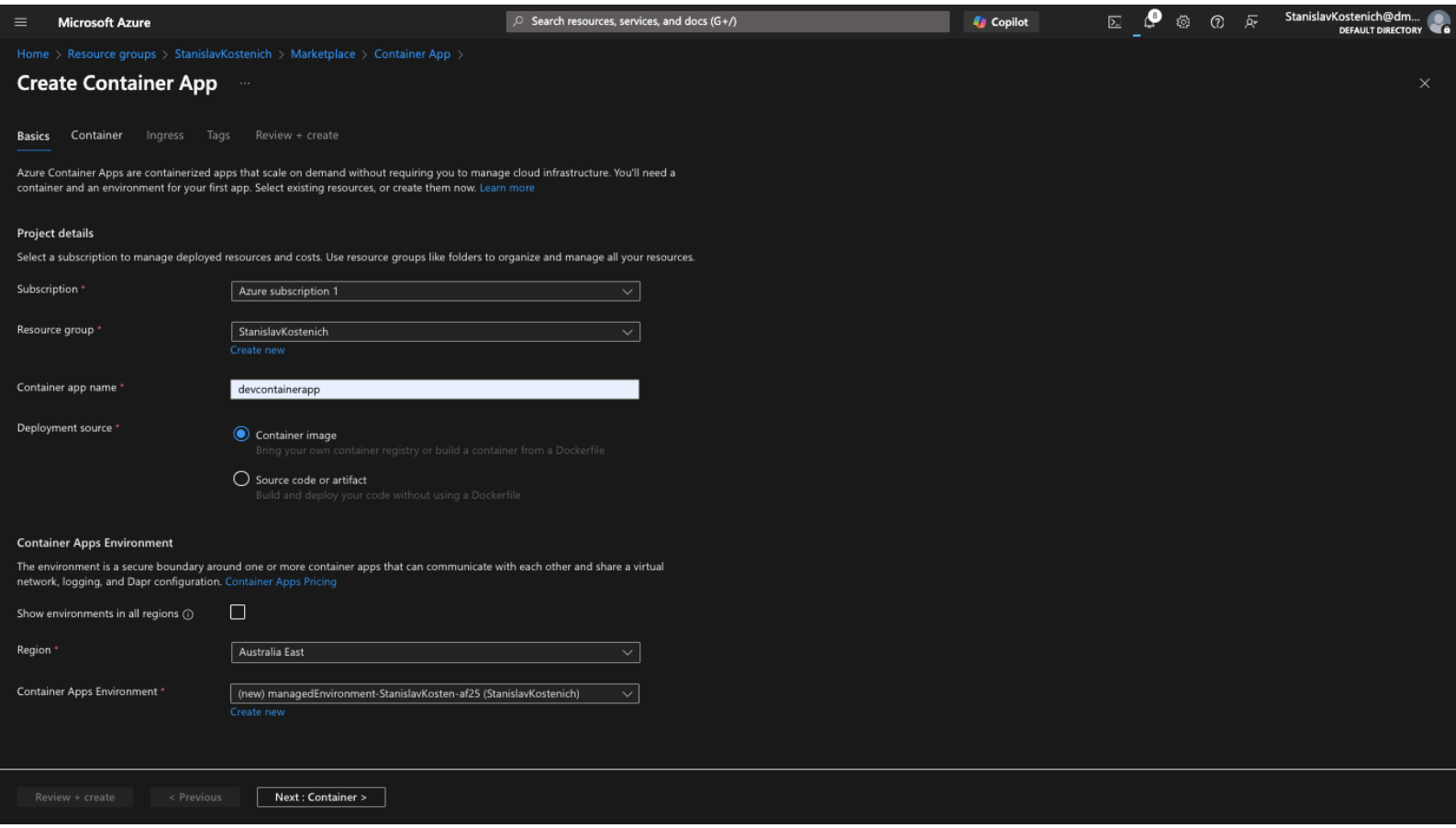
DEFAULT DIRECTORY
Home > Resource groups > StanislavKostenich > Marketplace > Container App >
Create Container App
Container details
Name *
devcontainerapp
Image source
Azure Container Registry
Docker Hub or other registries
Subscription *
Azure subscription 1
Registry *
devregistry20250126.azurecr.io
Image *
flask-aci-app
Image tag *
v2
Command override
Example: /bin/bash
Arguments override
Example: -c, while true; do echo hello; sleep 10; done
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 your unique settings.
Development stack
Generic
Container resource allocation
Choose the workload profile for this app. You can adjust the CPU and memory allocation for this app up to the workload profile limit. Learn more
Workload profile *
Consumption - Up to 4 vCPUs, 8 Gib memory
GPU (Preview)
You need quota to create your app with GPUs. If you don't have quota, you can request it here
Review + create
< Previous
Next : Ingress >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Create Container App
Basics
Container
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 *
Azure subscription 1
Resource group *
StanislavKostenich
Create new
Container app name *
devcontainerapp
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 *
Australia East
Container Apps Environment *
(new) managedEnvironment-StanislavKosten-af25 (StanislavKostenich)
Create new
Review + create
< Previous
Next : Container >

Practical Task 3: Scale Out with Azure Container Instances via Azure Portal

Requirements:

1. Deploy a stateless Docker container to Azure Container Instances using a lightweight configuration (e.g., B1s instances).
2. Manually scale out to the minimum number of instances required (e.g., 2–3) to test load distribution.
3. Stop all ACI instances after completing the testing to reduce ongoing costs.

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Requirements:

1. Deploy a Docker container to Azure Container Instances using the existing lightweight ACI setup from previous tasks.
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