Міністерство освіти і науки України
Карпатський національний університет
імені В.Стефаника

Факультет математики та інформатики
Кафедра інформаційних технологій

Інформатика і програмування

Лабораторна робота No 9a

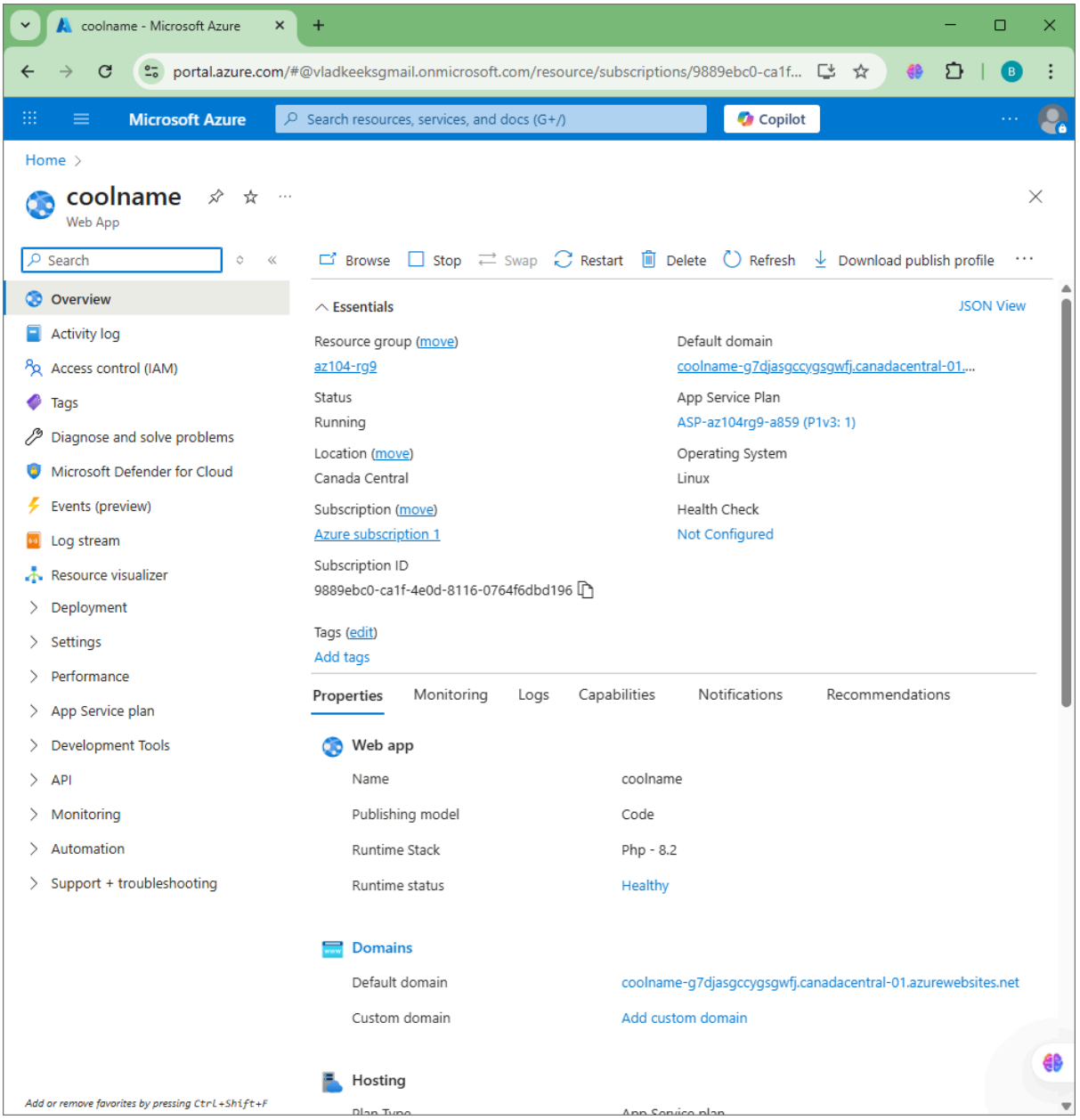
Тема: Implement Web Apps

Виконав: Прокутко В.В
Група ІПЗ-43
Дата: 12 грудня 2025
Викладач: Поварчук Д.Д

Івано-Франківськ – 2025

Task 1: Create and configure an Azure web app

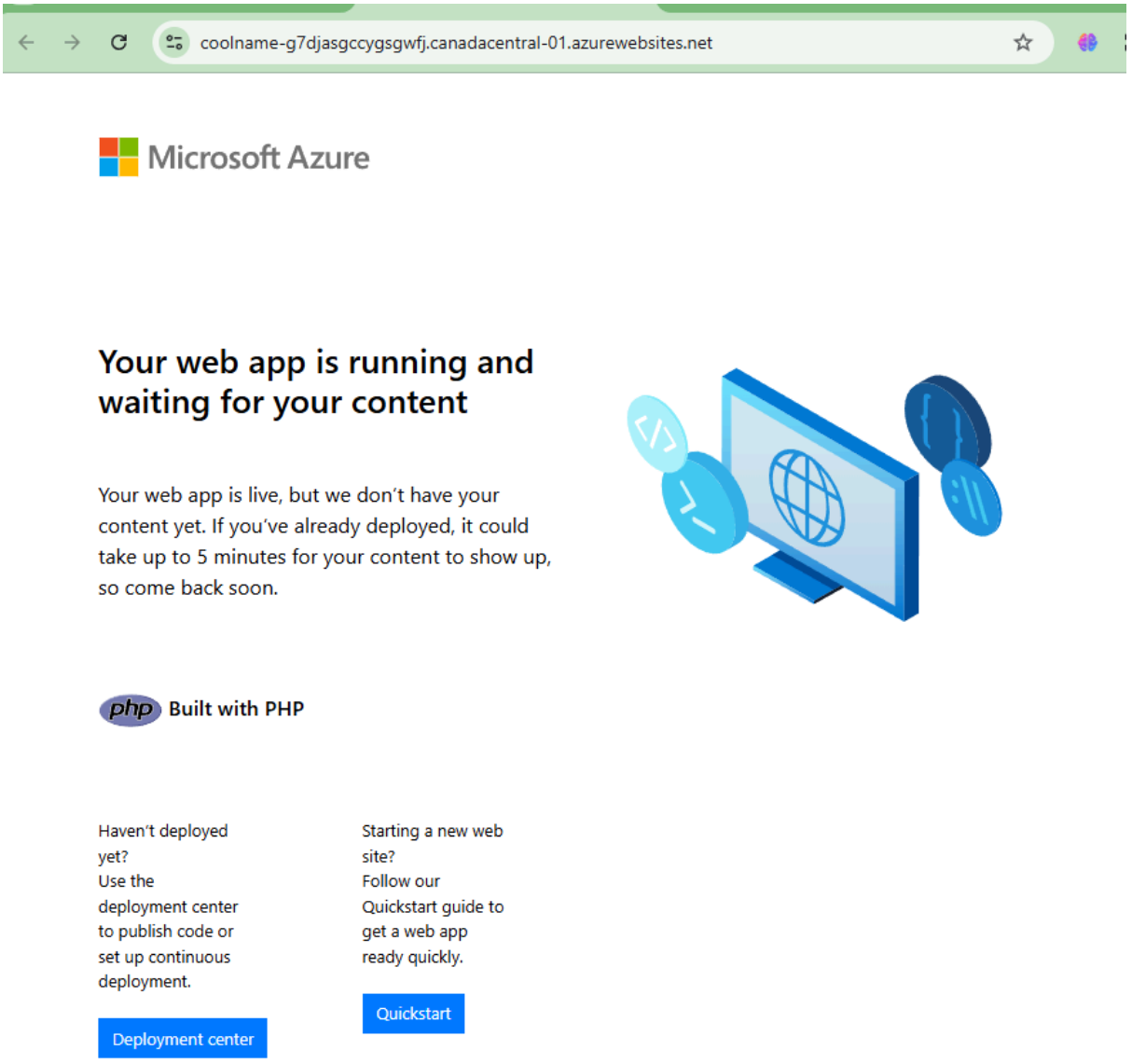
In this task, you create an Azure web app. Azure App Services is a Platform As a Service (PAAS) solution for web, mobile, and other web-based applications. Azure web apps is part Azure App Services hosting most runtime environments, such as PHP, Java, and .NET. The app service plan that you select determines the web app compute, storage, and features.



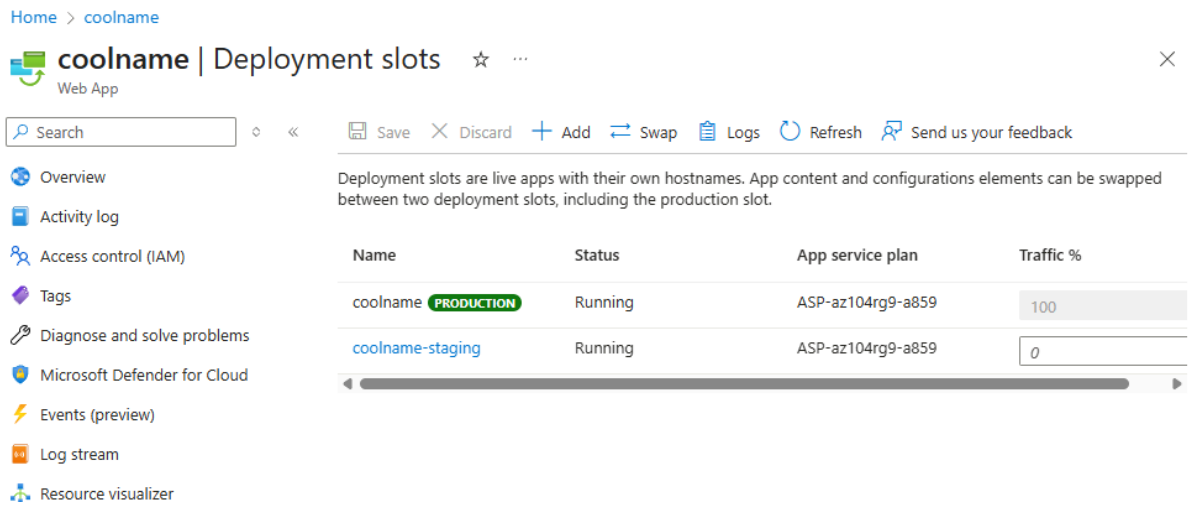
Task 2: Create and configure a deployment slot

In this task, you will create a staging deployment slot. Deployment slots enable you to perform testing prior to making your app available to the public (or your end users). After you have performed testing, you can swap the slot from development or staging to production. Many organizations use slots to perform pre-production testing. Additionally, many organizations run multiple slots for every application (for example, development, QA, test, and production).

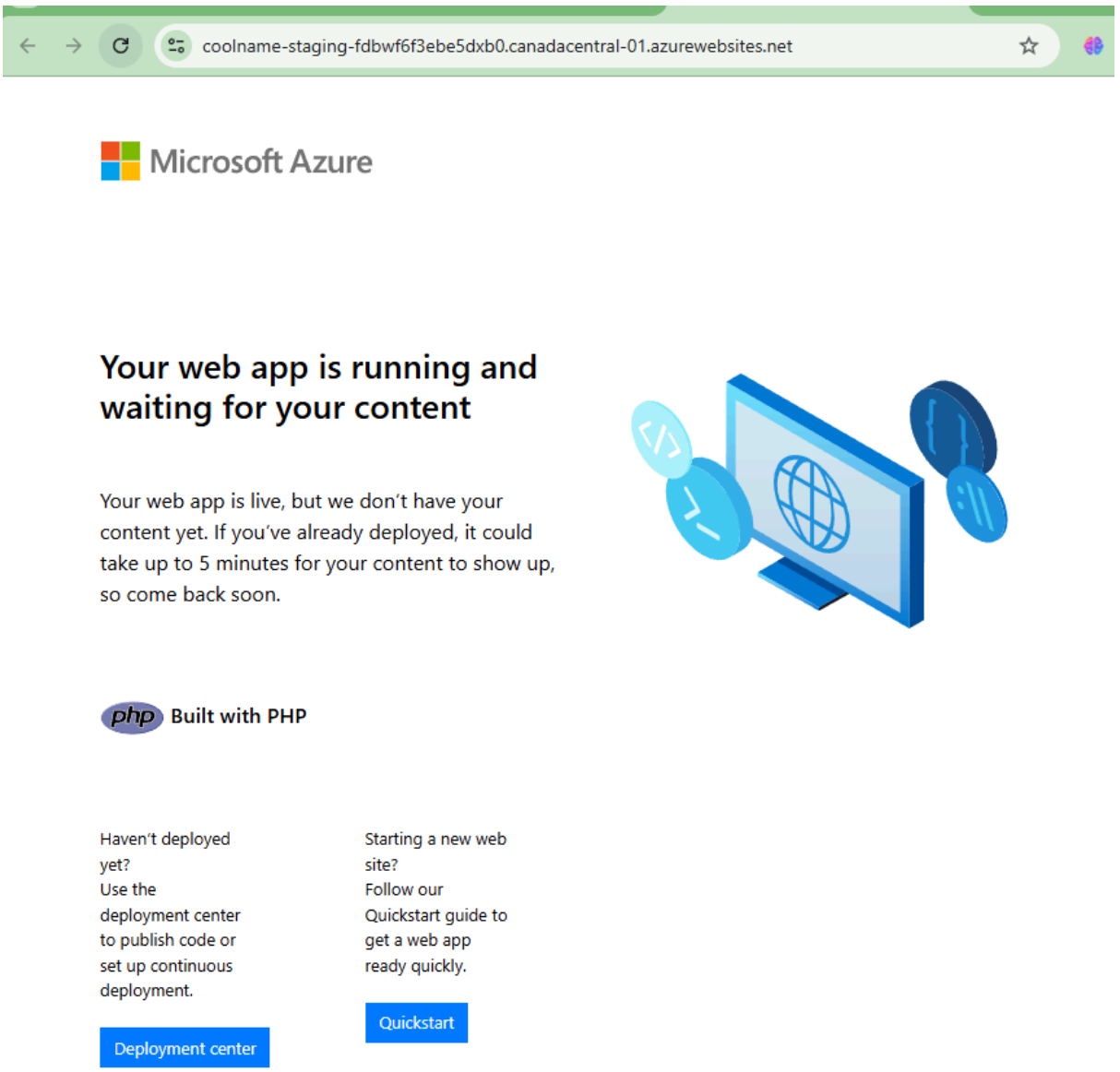
1. On the blade of the newly deployed Web App, click the Default domain link to display the default web page in a new browser tab.



Click Add slot, and add a new slot with the following settings:

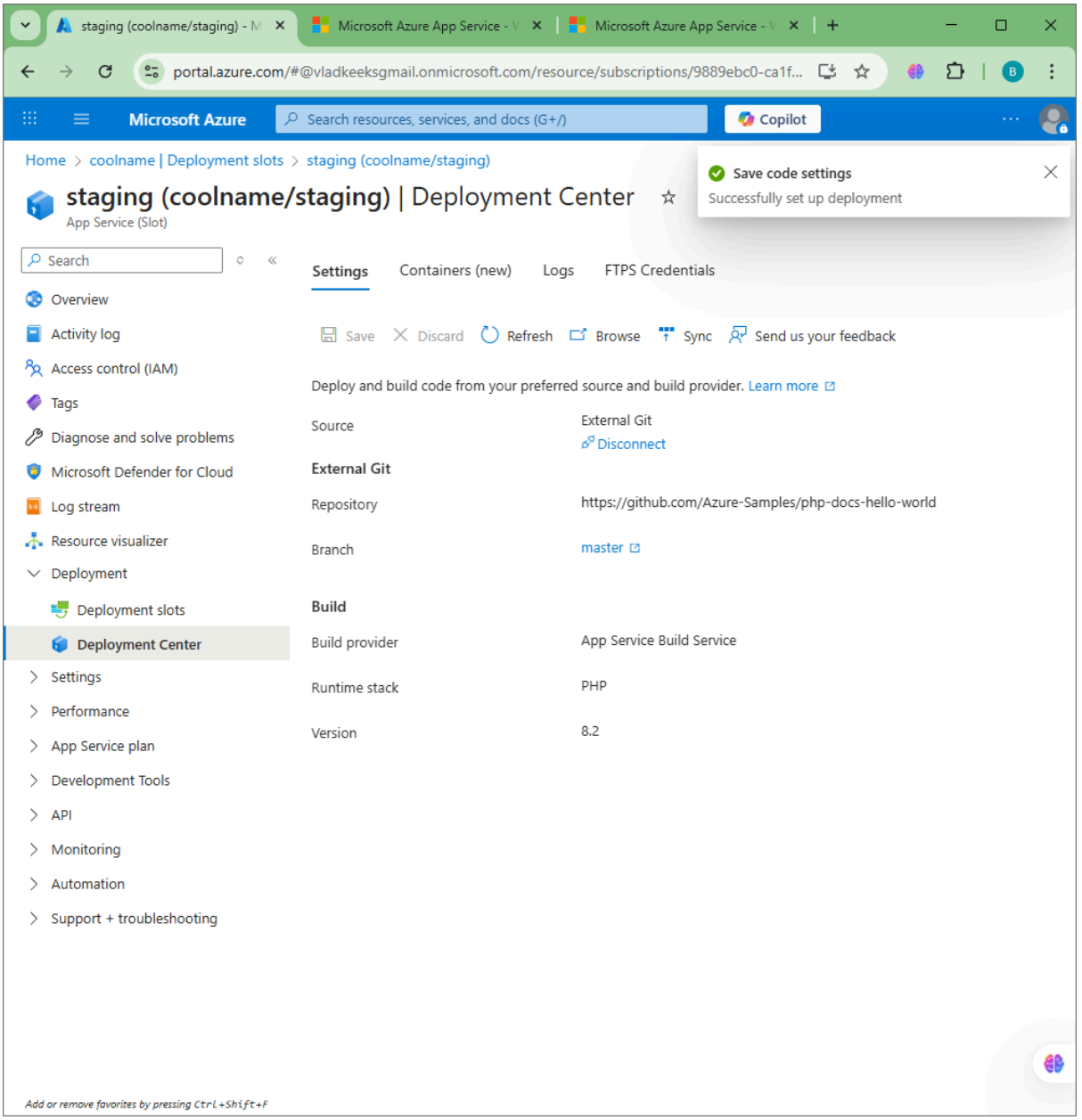


1. Review the staging slot blade and note that its URL differs from the one assigned to the production slot.

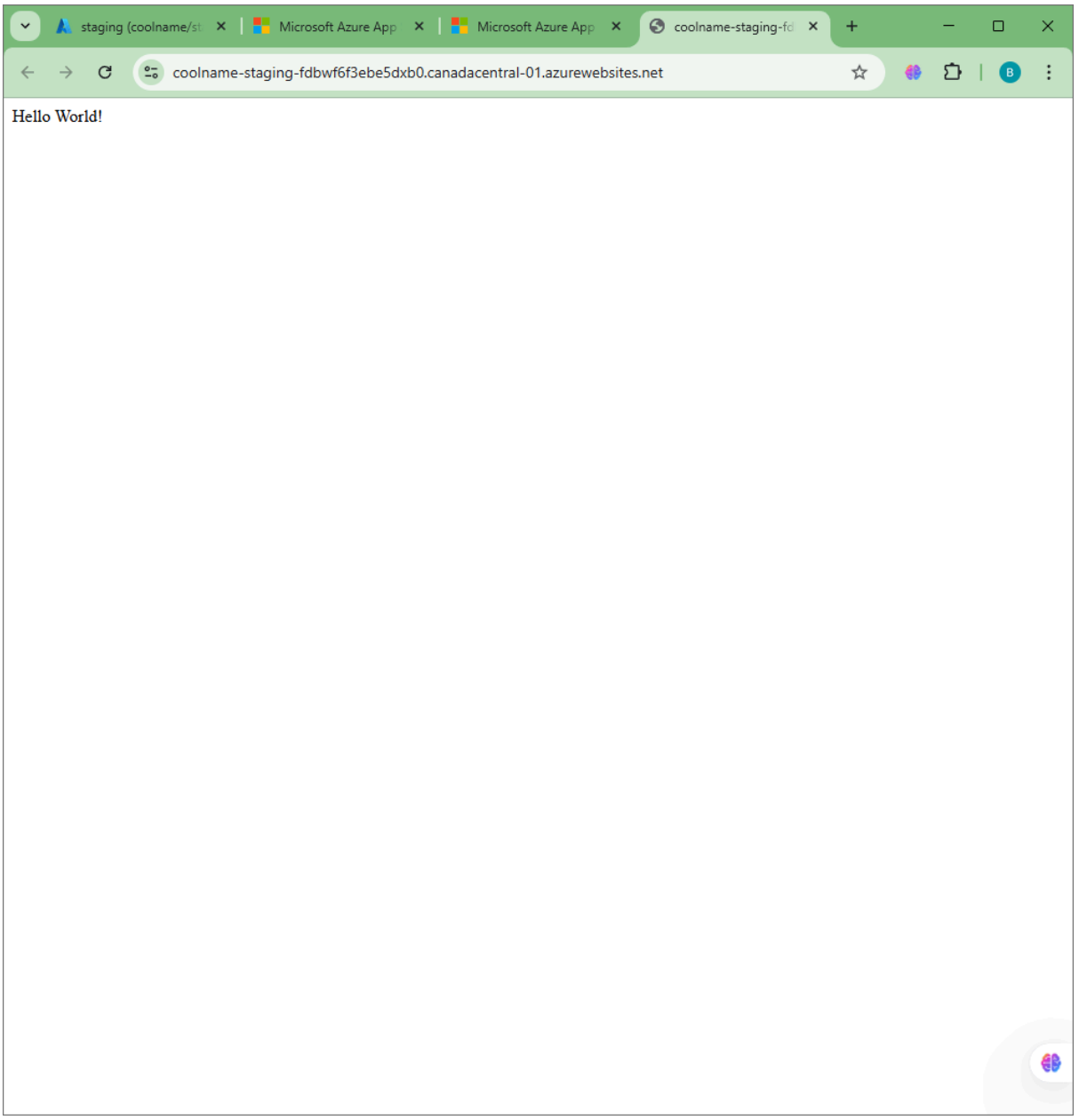


Task 3: Configure Web App deployment settings

In this task, you will configure Web App deployment settings. Deployment settings allow for continuous deployment. This ensures that the app service has the latest version of the application.


staging (coolname/staging) - M
Microsoft Azure App Service - V
Microsoft Azure App Service - V
portal.azure.com/#@vladkeeksgmail.onmicrosoft.com/resource/subscriptions/9889ebc0-ca1f...
Microsoft Azure
Search resources, services, and docs (G+/)
Copilot
Home > coolname | Deployment slots > staging (coolname/staging)
staging (coolname/staging) | Deployment Center
App Service (Slot)
Save code settings
Successfully set up deployment
Search
Overview
Activity log
Access control (IAM)
Tags
Diagnose and solve problems
Microsoft Defender for Cloud
Log stream
Resource visualizer
Deployment
Deployment slots
Deployment Center
Settings
Performance
App Service plan
Development Tools
API
Monitoring
Automation
Support + troubleshooting
Settings
Containers (new)
Logs
FTPS Credentials
Save
Discard
Refresh
Browse
Sync
Send us your feedback
Deploy and build code from your preferred source and build provider. Learn more
Source
External Git
Disconnect
External Git
Repository
https://github.com/Azure-Samples/php-docs-hello-world
Branch
master
Build
Build provider
App Service Build Service
Runtime stack
PHP
Version
8.2
Add or remove favorites by pressing Ctrl+Shift+F

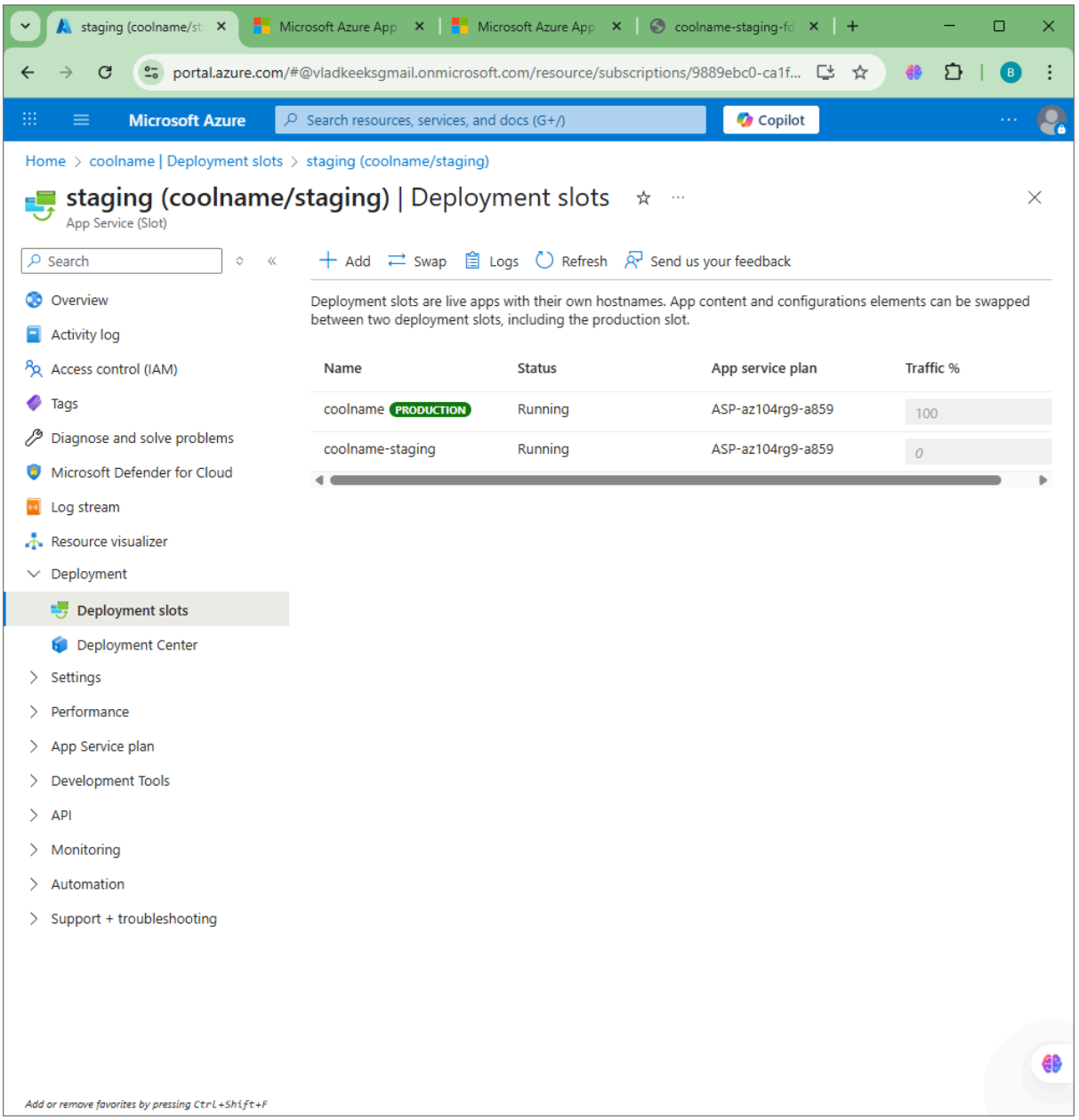
1. Verify that the staging slot displays Hello World.



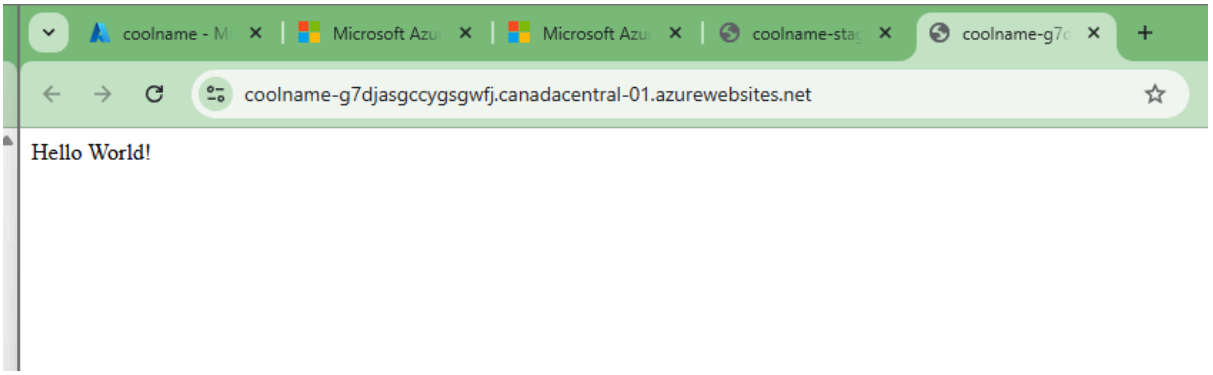
Task 4: Swap deployment slots

In this task, you will swap the staging slot with the production slot. Swapping a slot allows you to use the code that you have tested in your staging slot, and move it to production. The Azure portal will also prompt you if you need to move other application settings that you have customized for the slot. Swapping slots is a common task for application teams and application support teams, especially those deploying routine app updates and bug fixes.

1. Review the default settings and click Start Swap. Wait for the notification that the swap has finished.



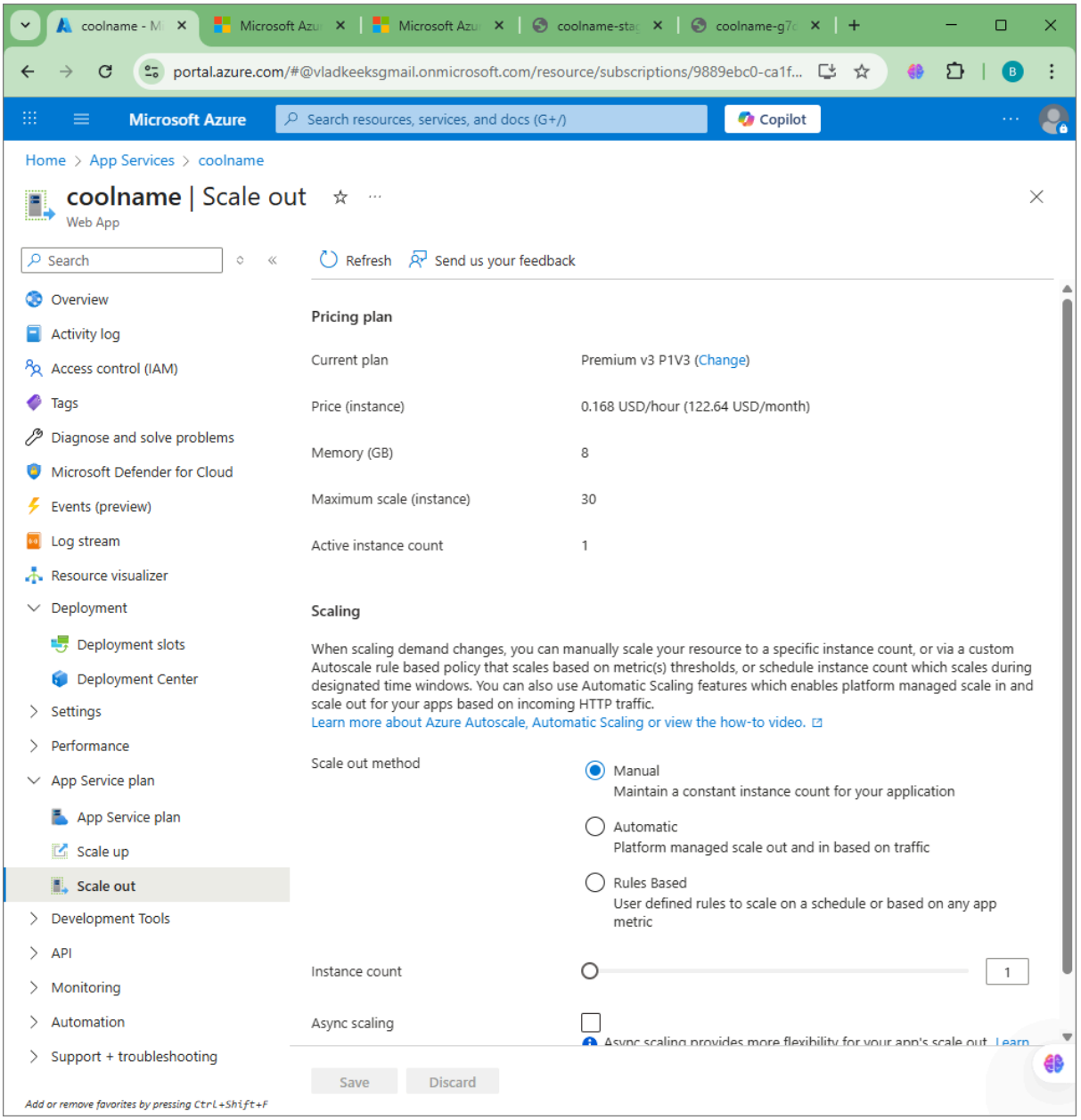
1. Select the App Service web app and on the Overview blade of the Web App select the Default domain link to display the website home page.



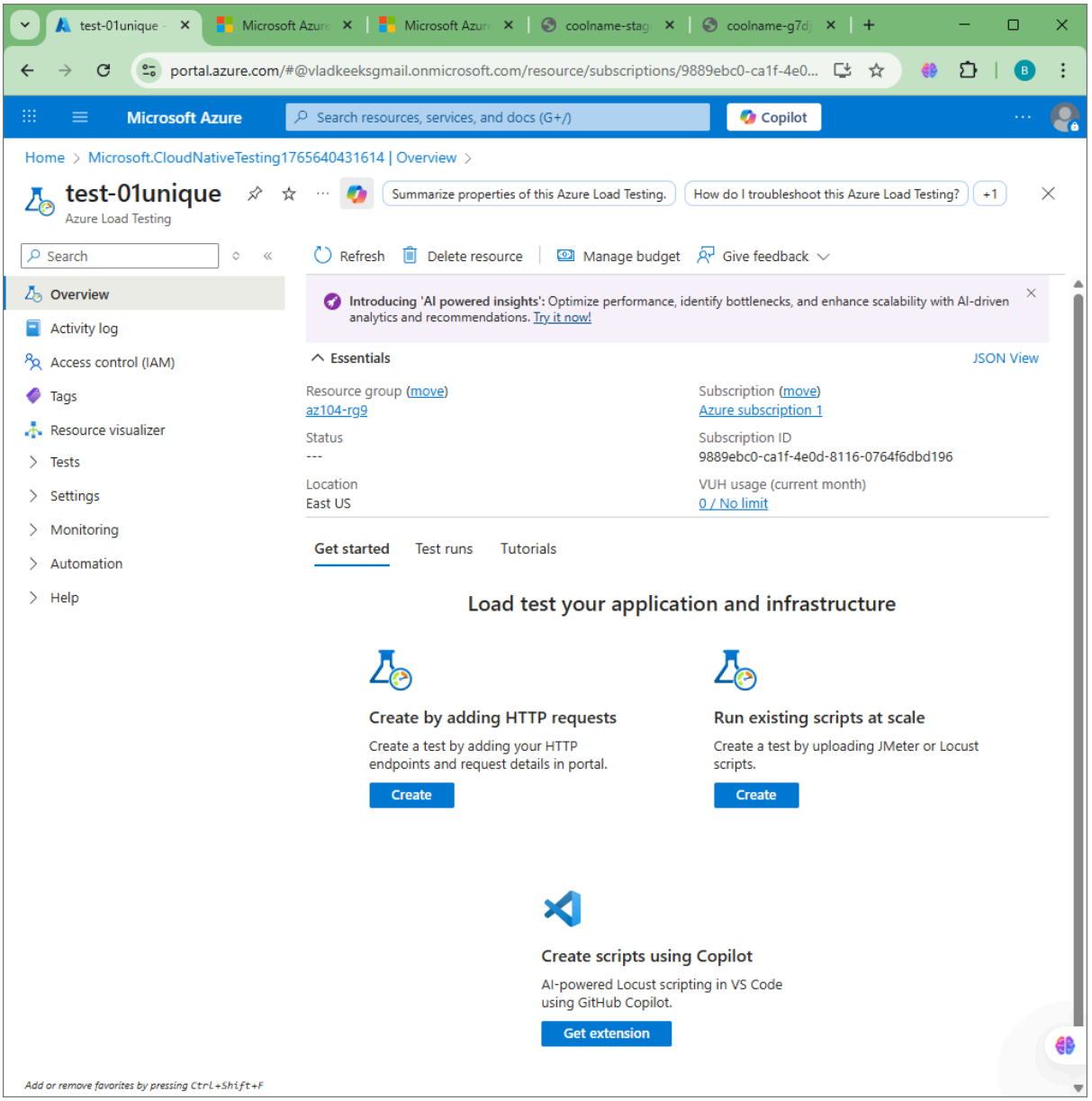
Task 5: Configure and test autoscaling of the Azure Web App

In this task, you will configure autoscaling of Azure Web App. Autoscaling enables you to maintain optimal performance for your web app when traffic to the web app increases. To determine when the app should scale you can monitor metrics like CPU usage, memory, or bandwidth.

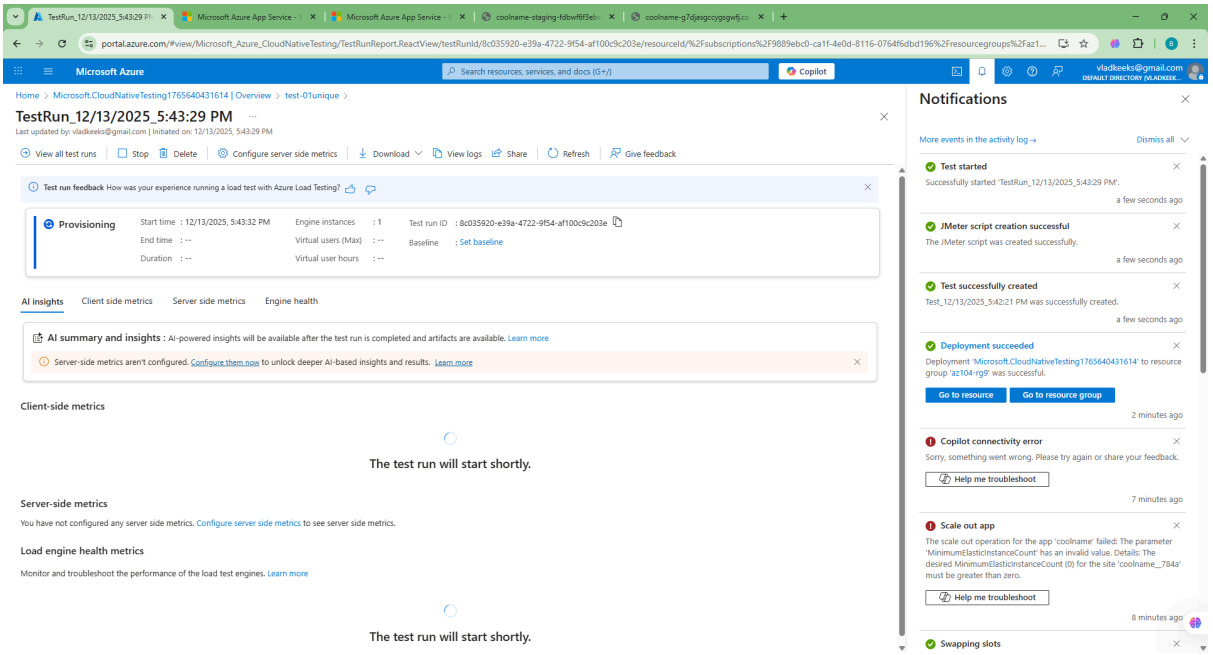
In the left pane, in the App Service plan section, select Scale out.

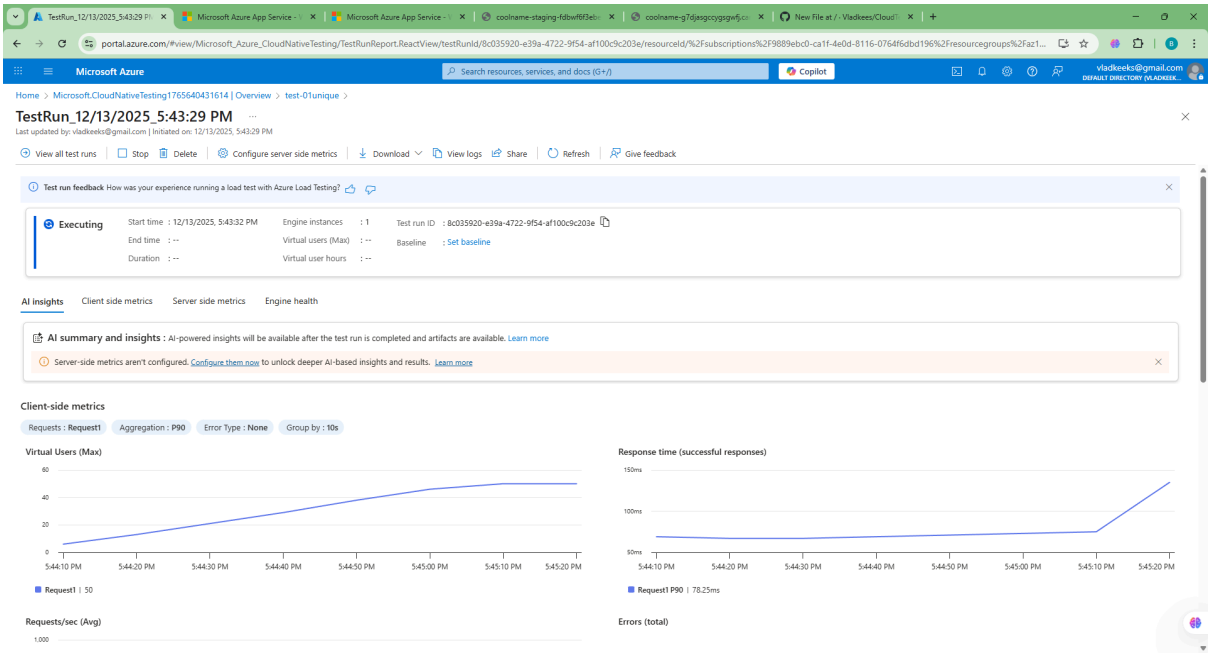


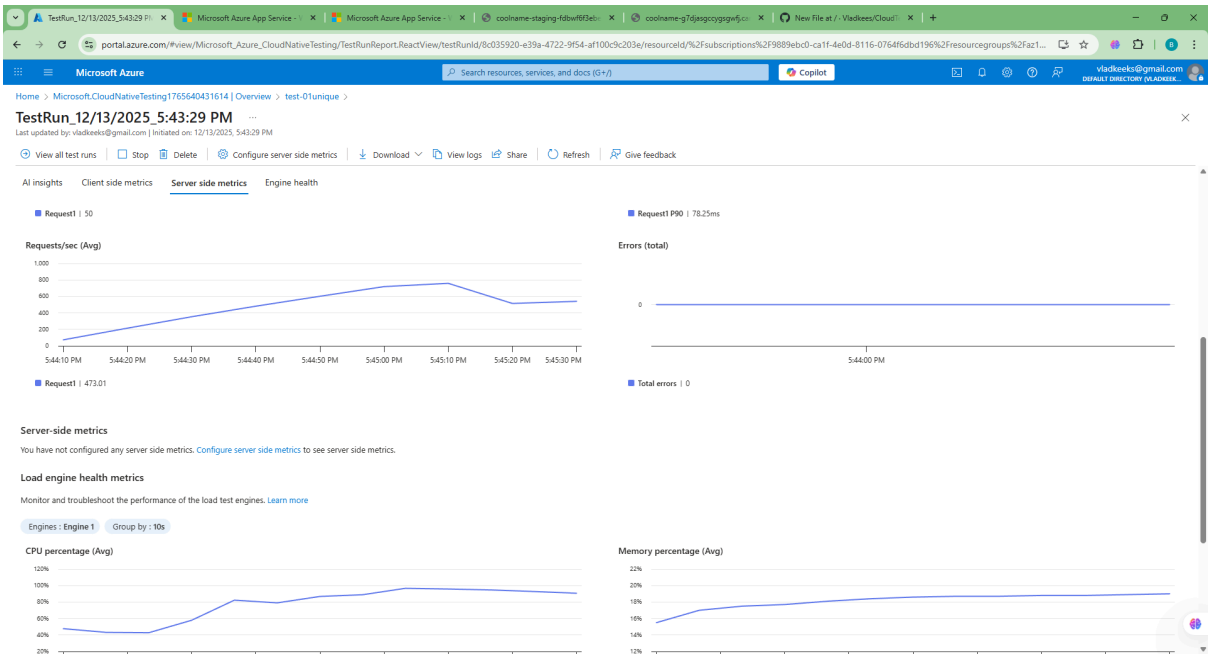
1. Wait for the load test to create, and then select Go to resource.

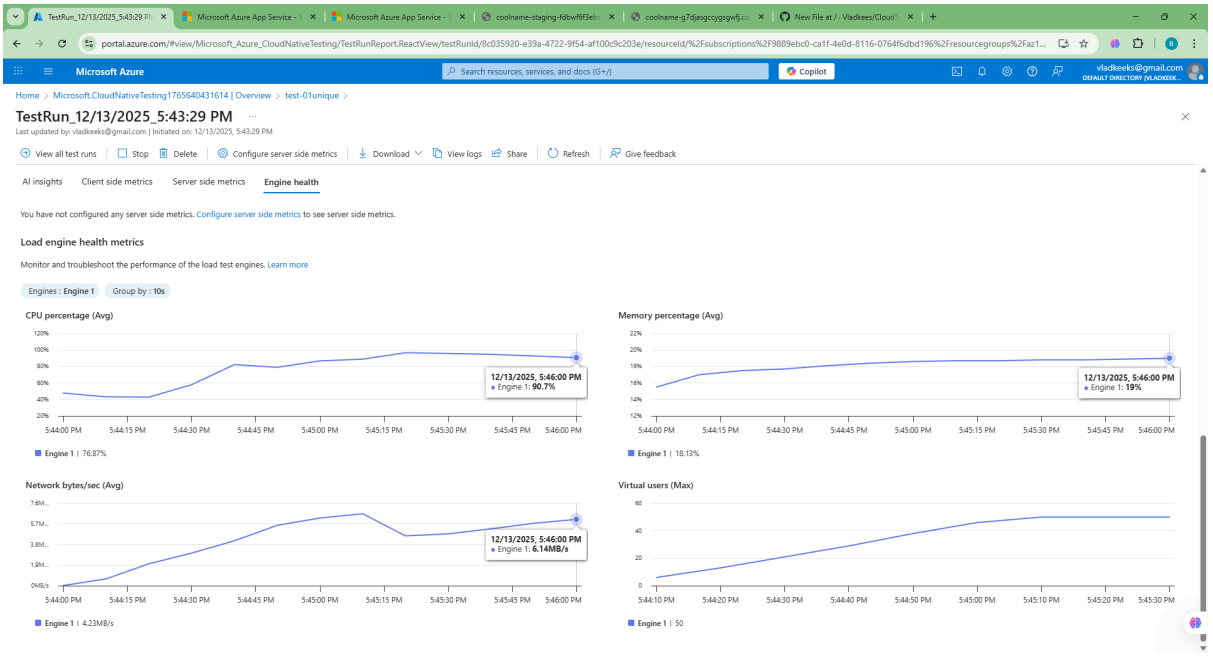

test-01unique
Microsoft Azure
coolname-stag
coolname-g7dj
portal.azure.com/#@vladkeeksgmail.onmicrosoft.com/resource/subscriptions/9889ebc0-ca1f-4e0...
Microsoft Azure
Search resources, services, and docs (G+/)
Copilot
Home > Microsoft.CloudNativeTesting1765640431614 | Overview >
test-01unique
Azure Load Testing
Summarize properties of this Azure Load Testing.
How do I troubleshoot this Azure Load Testing?
+1
Search
Overview
Activity log
Access control (IAM)
Tags
Resource visualizer
Tests
Settings
Monitoring
Automation
Help
Refresh
Delete resource
Manage budget
Give feedback
Introducing 'AI powered insights': Optimize performance, identify bottlenecks, and enhance scalability with AI-driven analytics and recommendations. Try it now!
Essentials
JSON View
Resource group (move)
az104-rg9
Status

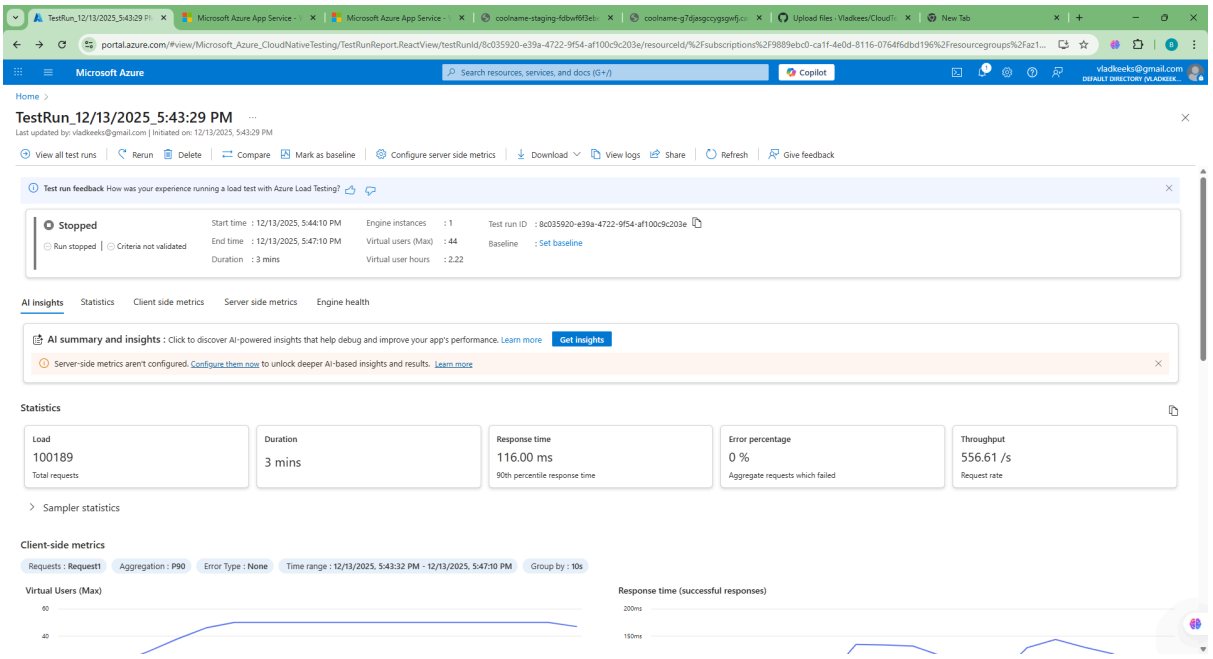
Location
East US
Subscription (move)
Azure subscription 1
Subscription ID
9889ebc0-ca1f-4e0d-8116-0764f6dbd196
VUH usage (current month)
0 / No limit
Get started
Test runs
Tutorials
Load test your application and infrastructure
Create by adding HTTP requests
Create a test by adding your HTTP endpoints and request details in portal.
Create
Run existing scripts at scale
Create a test by uploading JMeter or Locust scripts.
Create
Create scripts using Copilot
AI-powered Locust scripting in VS Code using GitHub Copilot.
Get extension
Add or remove favorites by pressing Ctrl+Shift+F


Microsoft Azure
Search resources, services, and docs (G+/)
Copilot
vladkeeks@gmail.com
Home > Microsoft.CloudNativeTesting1765640431614 | Overview > test-01unique >
TestRun_12/13/2025_5:43:29 PM
Last updated by: vladkeeks@gmail.com | Initiated on: 12/13/2025, 5:43:29 PM
View all test runs
Stop
Delete
Configure server side metrics
Download
View logs
Share
Refresh
Give feedback
Test run feedback How was your experience running a load test with Azure Load Testing?
Provisioning
Start time : 12/13/2025, 5:43:32 PM
End time : --
Duration : --
Engine instances : 1
Virtual users (Max) : --
Virtual user hours : --
Test run ID : 8c035920-e39a-4722-9f54-af100c9c203e
Baseline : Set baseline
AI insights
Client side metrics
Server side metrics
Engine health
AI summary and insights : AI-powered insights will be available after the test run is completed and artifacts are available. Learn more
Server-side metrics aren't configured. Configure them now to unlock deeper AI-based insights and results. Learn more
Client-side metrics
The test run will start shortly.
Server-side metrics
You have not configured any server side metrics. Configure server side metrics to see server side metrics.
Load engine health metrics
Monitor and troubleshoot the performance of the load test engines. Learn more
The test run will start shortly.
Notifications
More events in the activity log →
Dismiss all
Test started
Successfully started 'TestRun_12/13/2025_5:43:29 PM'.
a few seconds ago
JMeter script creation successful
The JMeter script was created successfully.
a few seconds ago
Test successfully created
Test_12/13/2025_5:42:21 PM was successfully created.
a few seconds ago
Deployment succeeded
Deployment 'Microsoft.CloudNativeTesting1765640431614' to resource group 'az104-rg9' was successful.
Go to resource
Go to resource group
2 minutes ago
Copilot connectivity error
Sorry, something went wrong. Please try again or share your feedback.
Help me troubleshoot
7 minutes ago
Scale out app
The scale out operation for the app 'coolname' failed: The parameter 'MinimumElasticInstanceCount' has an invalid value. Details: The desired MinimumElasticInstanceCount (0) for the site 'coolname__784a' must be greater than zero.
Help me troubleshoot
8 minutes ago
Swapping slots

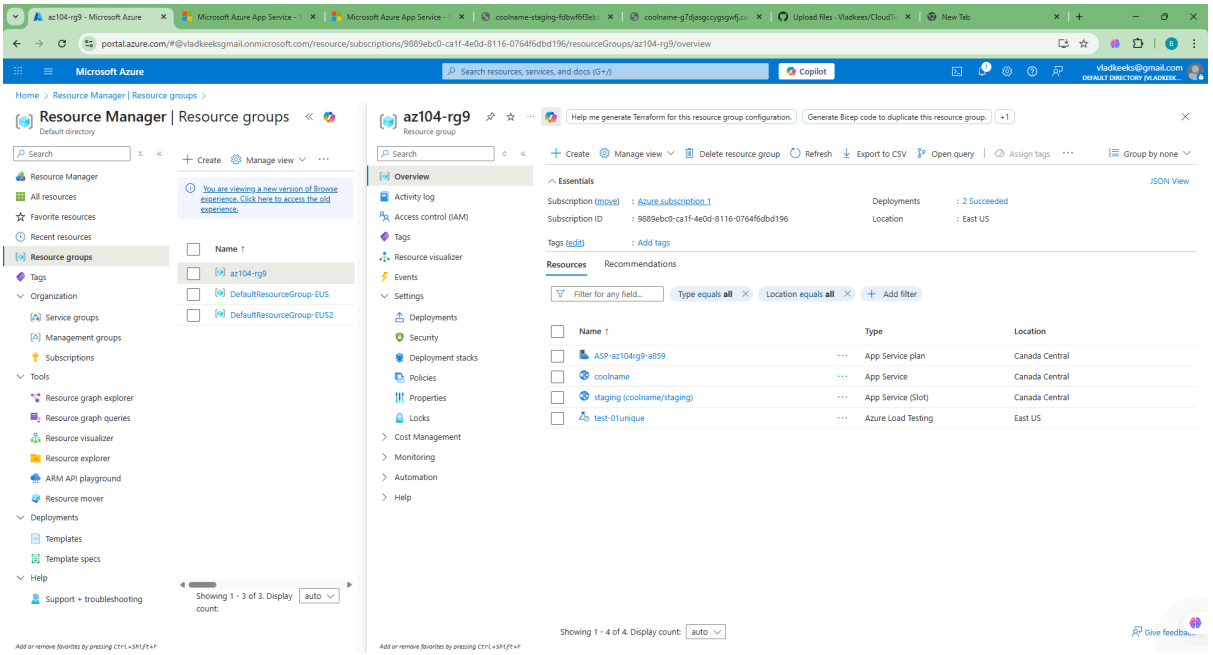

Microsoft Azure
Search resources, services, and docs (G+/)
Copilot
vladkeeks@gmail.com
DEFAULT DIRECTORY (VLADKEEK...
Home > Microsoft.CloudNativeTesting17656404316l4 | Overview > test-01unique >
TestRun_12/13/2025_5:43:29 PM
Last updated by: vladkeeks@gmail.com | Initiated on: 12/13/2025, 5:43:29 PM
View all test runs
Stop
Delete
Configure server side metrics
Download
View logs
Share
Refresh
Give feedback
Test run feedback How was your experience running a load test with Azure Load Testing?
Executing
Start time : 12/13/2025, 5:43:32 PM
End time : --
Duration : --
Engine instances : 1
Virtual users (Max) : --
Virtual user hours : --
Test run ID : 8c035920-e39a-4722-9f54-af100c9c203e
Baseline : Set baseline
AI insights
Client side metrics
Server side metrics
Engine health
AI summary and insights : AI-powered insights will be available after the test run is completed and artifacts are available. Learn more
Server-side metrics aren't configured. Configure them now to unlock deeper AI-based insights and results. Learn more
Client-side metrics
Requests : Request1
Aggregation : P90
Error Type : None
Group by : 10s
Virtual Users (Max)
Response time (successful responses)
Request1 | 50
Request1 P90 | 78.25ms
Requests/sec (Avg)
Errors (total)


Microsoft Azure
Search resources, services, and docs (G+/)
Copilot
vladkeeks@gmail.com
DEFAULT DIRECTORY (VLADKEEK...
Home > Microsoft.CloudNativeTesting17656404316l4 | Overview > test-01unique >
TestRun_12/13/2025_5:43:29 PM
Last updated by: vladkeeks@gmail.com | Initiated on: 12/13/2025, 5:43:29 PM
View all test runs
Stop
Delete
Configure server side metrics
Download
View logs
Share
Refresh
Give feedback
AI insights
Client side metrics
Server side metrics
Engine health
Request1 | 50
Request1 P90 | 78.25ms
Requests/sec (Avg)
Errors (total)
Request1 | 473.01
Total errors | 0
Server-side metrics
You have not configured any server side metrics. Configure server side metrics to see server side metrics.
Load engine health metrics
Monitor and troubleshoot the performance of the load test engines. Learn more
Engines : Engine 1
Group by : 10s
CPU percentage (Avg)
Memory percentage (Avg)

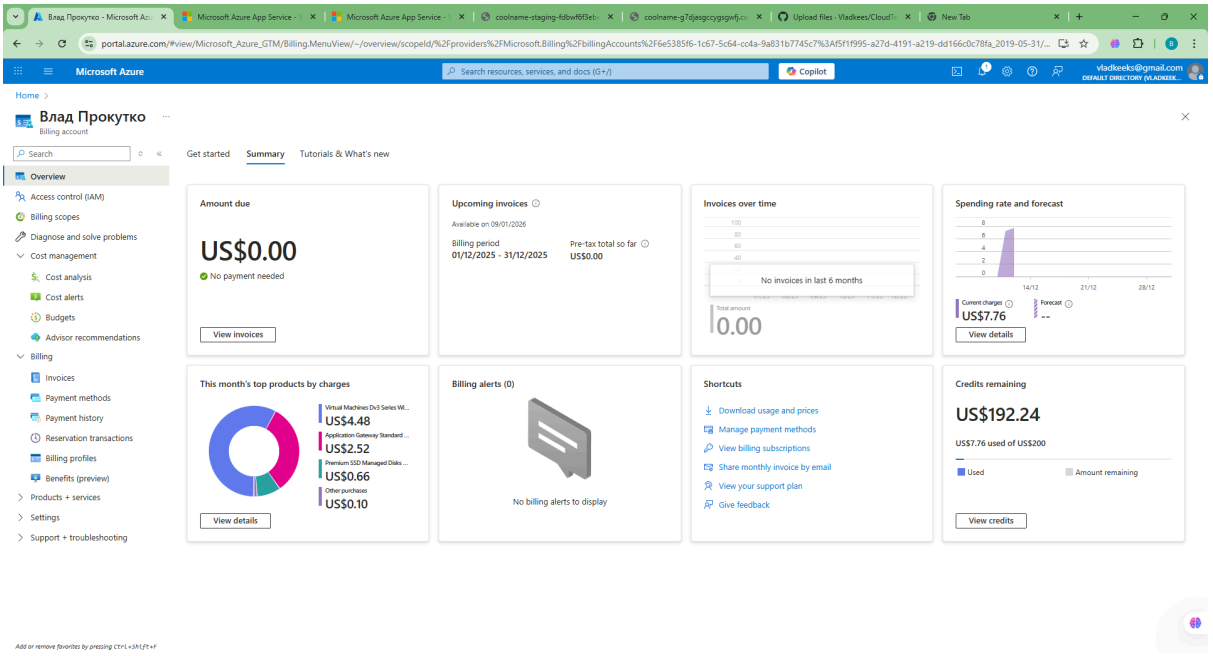

Microsoft Azure
TestRun_12/13/2025_5:43:29 PM
View all test runs
Stop
Delete
Configure server side metrics
Download
View logs
Share
Refresh
Give feedback
AI insights
Client side metrics
Server side metrics
Engine health
You have not configured any server side metrics. Configure server side metrics to see server side metrics.
Load engine health metrics
Monitor and troubleshoot the performance of the load test engines. Learn more
CPU percentage (Avg)
12/13/2025, 5:46:00 PM
Engine 1: 90.7%
Engine 1 | 76.87%
Memory percentage (Avg)
12/13/2025, 5:46:00 PM
Engine 1: 19%
Engine 1 | 18.13%
Network bytes/sec (Avg)
12/13/2025, 5:46:00 PM
Engine 1: 6.14MB/s
Engine 1 | 4.23MB/s
Virtual users (Max)
Engine 1 | 50


Microsoft Azure
TestRun_12/13/2025_5:43:29 PM
View all test runs
Rerun
Delete
Compare
Mark as baseline
Configure server side metrics
Download
View logs
Share
Refresh
Give feedback
Test run feedback How was your experience running a load test with Azure Load Testing?
Stopped
Run stopped | Criteria not validated
Start time : 12/13/2025, 5:44:10 PM
End time : 12/13/2025, 5:47:10 PM
Duration : 3 mins
Engine instances : 1
Virtual users (Max) : 44
Virtual user hours : 2.22
Test run ID : 8c035920-e39a-4722-9f54-af100c9c203e
Baseline : Set baseline
AI insights
Statistics
Client side metrics
Server side metrics
Engine health
AI summary and insights : Click to discover AI-powered insights that help debug and improve your app's performance. Learn more
Get insights
Server-side metrics aren't configured. Configure them now to unlock deeper AI-based insights and results. Learn more
Statistics
Load
100189
Total requests
Duration
3 mins
Response time
116.00 ms
90th percentile response time
Error percentage
0 %
Aggregate requests which failed
Throughput
556.61 /s
Request rate
Sampler statistics
Client-side metrics
Requests : Request1
Aggregation : P90
Error Type : None
Time range : 12/13/2025, 5:43:32 PM - 12/13/2025, 5:47:10 PM
Group by : 10s
Virtual Users (Max)
Response time (successful responses)

overall


Microsoft Azure
Resource Manager | Resource groups
az104-rg9
Resource group
Overview
Activity log
Access control (IAM)
Tags
Resource visualizer
Events
Settings
Deployments
Security
Deployment stacks
Policies
Properties
Locks
Cost Management
Monitoring
Automation
Help
Essentials
Subscription : Azure subscription 1
Subscription ID : 9889ebc0-ca1f-4e0d-8116-0764f6dbd196
Deployments : 2 Succeeded
Location : East US
Resources
Recommendations
ASP-az104rg9-a859
App Service plan
Canada Central
coolname
App Service
staging (coolname/staging)
App Service (Slot)
test-01unique
Azure Load Testing
East US

costs:


Microsoft Azure
Влад Прокутко
Billing account
Overview
Access control (IAM)
Billing scopes
Diagnose and solve problems
Cost management
Cost analysis
Cost alerts
Budgets
Advisor recommendations
Billing
Invoices
Payment methods
Payment history
Reservation transactions
Billing profiles
Benefits (preview)
Products + services
Settings
Support + troubleshooting
Get started
Summary
Tutorials & What's new
Amount due
US$0.00
No payment needed
View invoices
Upcoming invoices
Billing period
01/12/2025 - 31/12/2025
Pre-tax total so far
US$0.00
Invoices over time
No invoices in last 6 months
Spending rate and forecast
Current charges
US$7.76
Forecast
View details
This month's top products by charges
US$4.48
US$2.52
US$0.66
US$0.10
View details
Billing alerts (0)
No billing alerts to display
Shortcuts
Download usage and prices
Manage payment methods
View billing subscriptions
Share monthly invoice by email
View your support plan
Give feedback
Credits remaining
US$192.24
US$7.76 used of US$200
Used
Amount remaining
View credits