

## INTRODUCTION TO CLOUD COMPUTING

### Lab Task 05 (A) (Implement Web Apps)

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Section: SE 7-B

## Task 1: Create and configure an Azure web app.

The screenshot shows the 'Create Web App' wizard in the Microsoft Azure portal. The 'Review + create' tab is selected. In the 'Summary' section, it shows a 'Web App by Microsoft' using the 'Premium V3 (P0V3) sku' with an estimated price of 79.20 USD/Month. A note indicates that basic authentication is currently disabled. Below the summary, there's a 'Details' section with the following configuration:

Subscription	57a8b5a5-89cd-44d7-aaaf-c65ebdf15a43
Resource Group	az104-rg9
Name	ariha
Secure unique default hostname	Enabled
Publish	Code
Runtime stack	PHP 8.2

At the bottom, there are buttons for 'Validating...', '< Previous', 'Next >', and 'Download a template for automation'.

The screenshot shows the 'Deployment' overview page for the 'Microsoft.Web-WebApp-Portal-ea751b82-aa5b' resource. It displays a green checkmark indicating 'Your deployment is complete'. Deployment details show the name as 'Microsoft.Web-WebApp-Portal-ea751b82-aa5b', start time as 1/9/2026, 12:07:18 PM, and correlation ID as 5f73f2c2-c3eb-483f-b1ca-c664a28e98eb. The resource group is 'az104-rg9'. There are sections for 'Deployment details' and 'Next steps'.

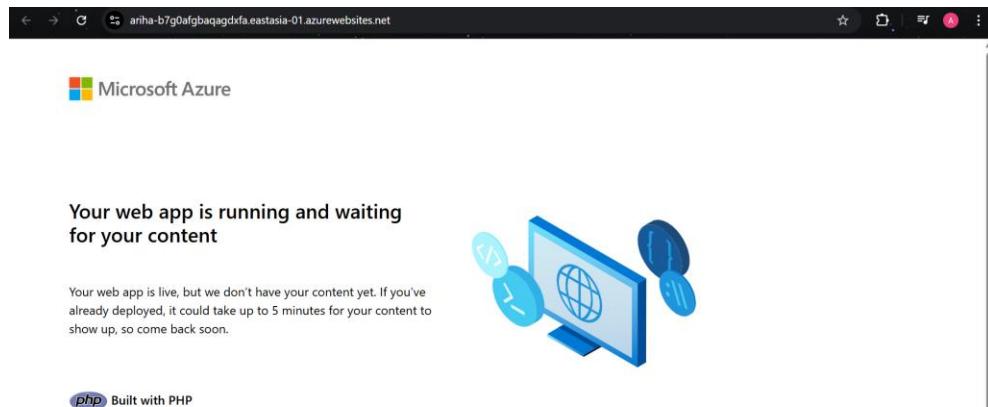
The screenshot shows the 'ariha' web app overview page in the Microsoft Azure portal. The left sidebar shows navigation options like Overview, Activity log, Access control (IAM), Tags, Diagnose and solve problems, Microsoft Defender for Cloud, Events (preview), Resource visualizer, Deployment (with sub-options for Deployment slots and Deployment Center), Settings, Performance, and App Service plan. The main panel displays the 'Essentials' section with details such as Resource group (az104-rg9), Status (Running), Location (East Asia), Subscription (Azure for Students), Subscription ID (57a8b5a5-89cd-44d7-aaaf-c65ebdf15a43), and Tags (Add tags). The 'Properties' tab is selected, showing the 'Web app' properties: Name (ariha), Publishing model (Code), and Runtime Stack (PHP - 8.2). The 'Domains' section shows the default domain as 'ariha-b7q0afgbaaqgdxf.eastasia-01.azurewebsites.net'. A note at the bottom says 'Add or remove favorites by pressing Ctrl+Shift+F'.

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## Task 2: Create and configure a deployment slot.

- Access Web App Default Domain (Production Slot)



- Deployment Slots Section

The screenshot shows the Microsoft Azure portal interface for a web app named "ariha". The top navigation bar includes "Copilot", "DEFAULT DIRECTORY (sse2280...)", and a user profile icon. The main content area has a search bar and several buttons: "Save", "Discard", "+ Add", "Swap", "Logs", "Refresh", and "Send us your feedback". On the left, a sidebar menu is open under the "Deployment" section, specifically the "Deployment slots" subsection, which is highlighted with a blue border. Other options in the sidebar include "Overview", "Activity log", "Access control (IAM)", "Tags", "Diagnose and solve problems", "Microsoft Defender for Cloud", "Events (preview)", "Resource visualizer", and "Deployment Center". The main content area displays a message: "No slots have been added." It explains that deployment slots are live apps with their own hostnames and can be swapped between two slots. A prominent blue "Add slot" button is centered below the message.

- Add New Deployment Slot (Staging)

The screenshot shows the Microsoft Azure portal interface for the same "ariha" web app. The "Deployment slots" section is now active in the sidebar. A modal dialog box titled "Add Slot" is open on the right side of the screen. In the "Name" field, the value "staging" is entered. Below the name field, a note states: "Deployment slots are live apps with their own hostnames and can be swapped between two deployment slots." There is a dropdown menu labeled "Clone settings from:" with the option "Do not clone settings" selected. At the bottom of the modal are two buttons: "Add" (in blue) and "Close".

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### Lab Task 05 (A) (Implement Web Apps)

#### • Deployment Slot Created (Production & Staging)

Microsoft Azure | Microsoft.Web-WebApp-Portal-ea751b82-aa5b | Overview > ariha

ariha | Deployment slots

Deployment slots are live apps with their own hostnames. App content and configurations elements can be swapped between two deployment slots, including the production slot.

Name	Status	App service plan	Traffic %
ariha <span style="background-color: green;">PRODUCTION</span>	Running	ASP-az104rg9-ba2f	100
ariha-staging	Running	ASP-az104rg9-ba2f	0

Save Discard Add Swap Logs Refresh Send us your feedback

Search

Overview Activity log Access control (IAM) Tags Diagnose and solve problems Microsoft Defender for Cloud Events (preview) Resource visualizer Deployment Deployment slots Deployment Center

#### • Staging Slot Overview

Microsoft Azure | Microsoft.Web-WebApp-Portal-ea751b82-aa5b | Overview > ariha | Deployment slots > staging (ariha/staging)

staging (ariha/staging)

App Service (Slot)

Consider using Azure Front Door since your app receives incoming requests from multiple regions.

Overview

Activity log Access control (IAM) Tags Diagnose and solve problems Microsoft Defender for Cloud Resource visualizer Deployment Settings Performance App Service plan Development Tools

Resource group (move) az104-rg9 Status Running Location (move) East Asia Subscription (move) Azure for Students Subscription ID 57a8b5a5-89cd-44d7-aaaf-c56ebdf15a43 Tags (edit) Add tags

Default domain ariha-staging-fkehfhgbcyceye3.eastasia-01.azurewebsites.net

App Service Plan ASP-az104rg9-ba2f (P0v3: 1)

Operating System Linux

Health Check Cannot fetch health check data. Please try again later.

Add or remove favorites by pressing **Ctrl+Shift+F**

#### • Verification of Staging Slot URL

ariha-staging-fkehfhgbcyceye3.eastasia-01.azurewebsites.net

Microsoft Azure

Your web app is running and waiting for your content

Your web app is live, but we don't have your content yet. If you've already deployed, it could take up to 5 minutes for your content to show up, so come back soon.

PHP Built with PHP

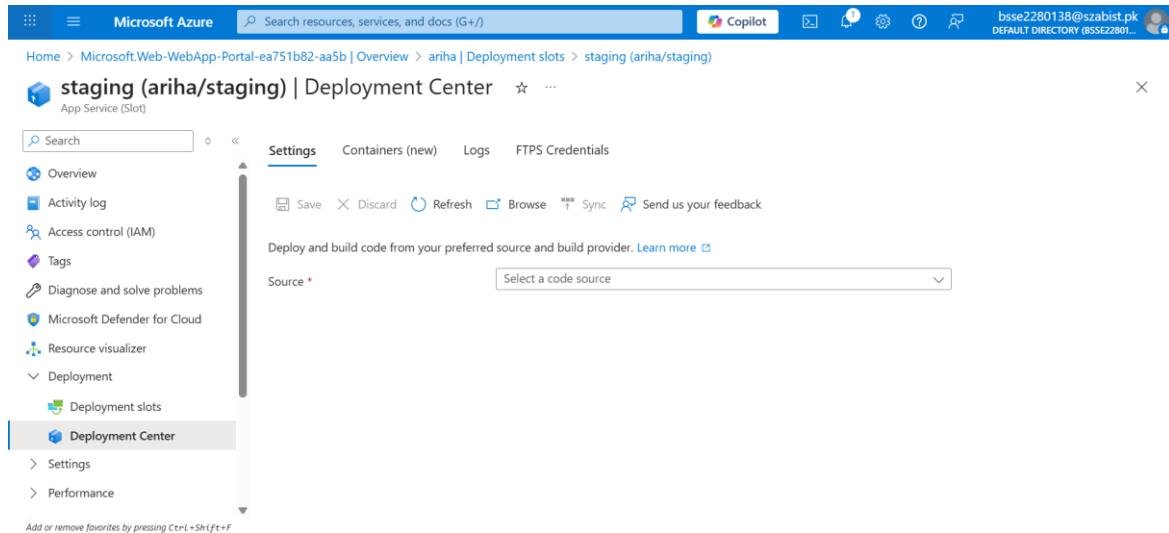
Haven't deployed yet? Starting a new web site?

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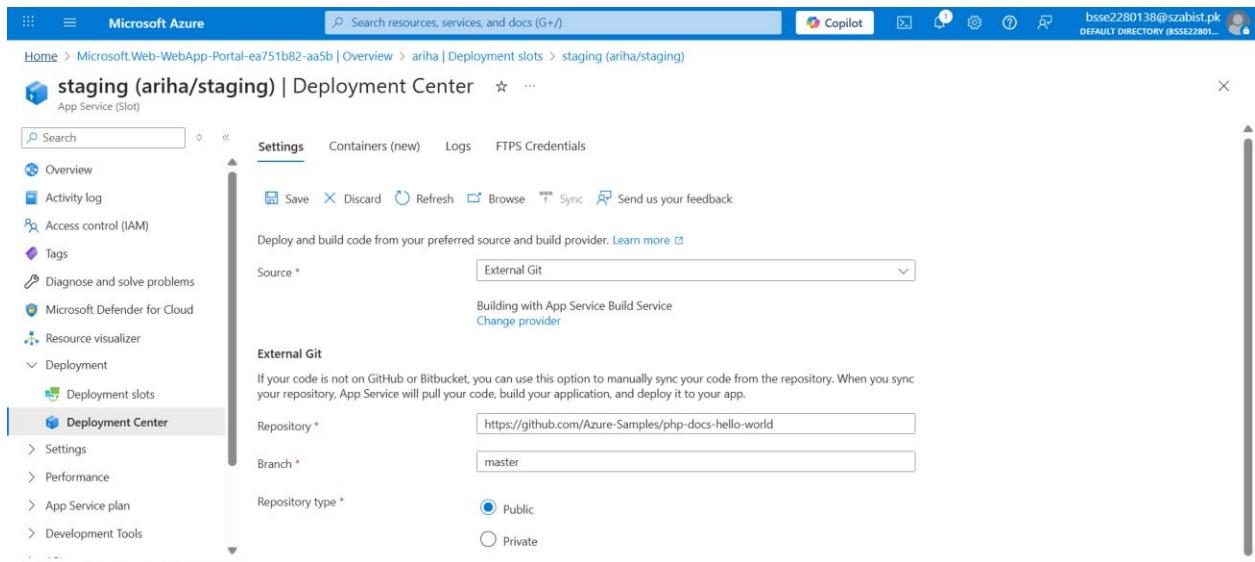
#### Task 3: Configure web app deployment settings.

- **Staging Slot Deployment Center:**



The screenshot shows the Microsoft Azure Deployment Center for the 'staging (ariha/staging)' slot of an App Service. The 'Settings' tab is selected. On the left, there's a sidebar with various options like Overview, Activity log, Access control (IAM), Tags, Diagnose and solve problems, Microsoft Defender for Cloud, Resource visualizer, Deployment, Deployment slots, and Deployment Center (which is currently selected). The main area has tabs for Settings, Containers (new), Logs, and FTPS Credentials. Below these are Save, Discard, Refresh, Browse, Sync, and a 'Send us your feedback' button. A section for deploying and building code from a preferred source and build provider is present, with a 'Source' dropdown set to 'Select a code source'. At the bottom, there's a note about adding favorites and a copyright notice.

- **Deployment Source Configuration (External Git). Repository and Branch Configuration:**

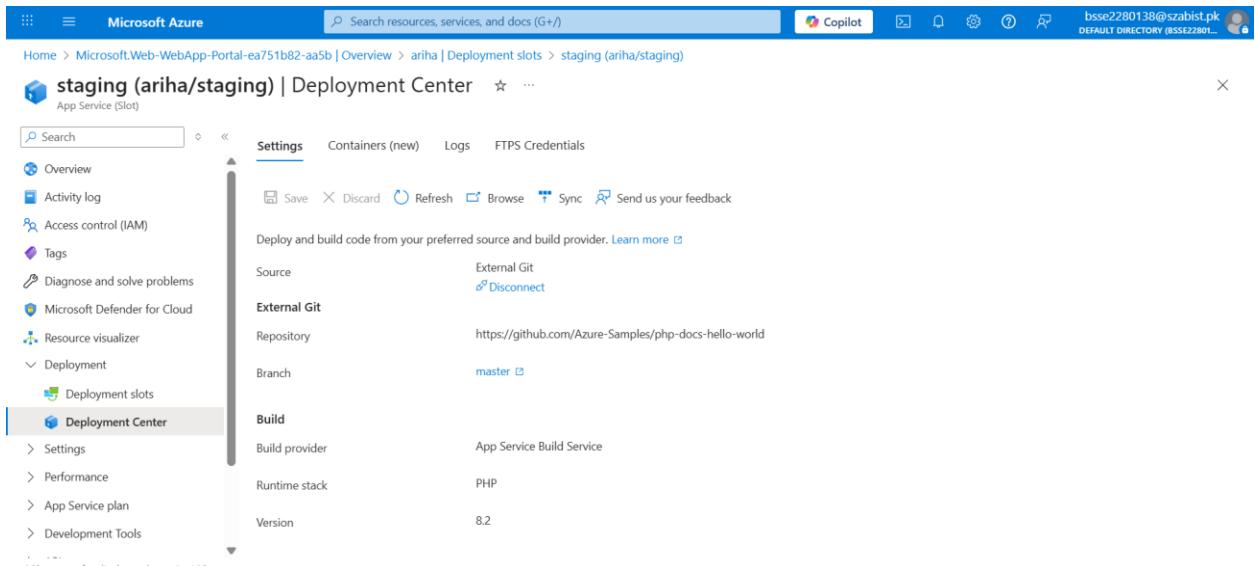


The screenshot shows the Microsoft Azure Deployment Center for the 'staging (ariha/staging)' slot of an App Service. The 'Settings' tab is selected. The left sidebar includes 'Deployment slots' under 'Deployment'. The main area shows the 'Source' dropdown set to 'External Git'. Below it, there's a note about building with App Service Build Service and a 'Change provider' link. Under 'External Git', there's a 'Repository' field containing 'https://github.com/Azure-Samples/php-docs-hello-world', a 'Branch' field containing 'master', and a 'Repository type' section with 'Public' selected. There are also 'Sync' and 'Sync now' buttons.

- **Save Deployment Settings:**

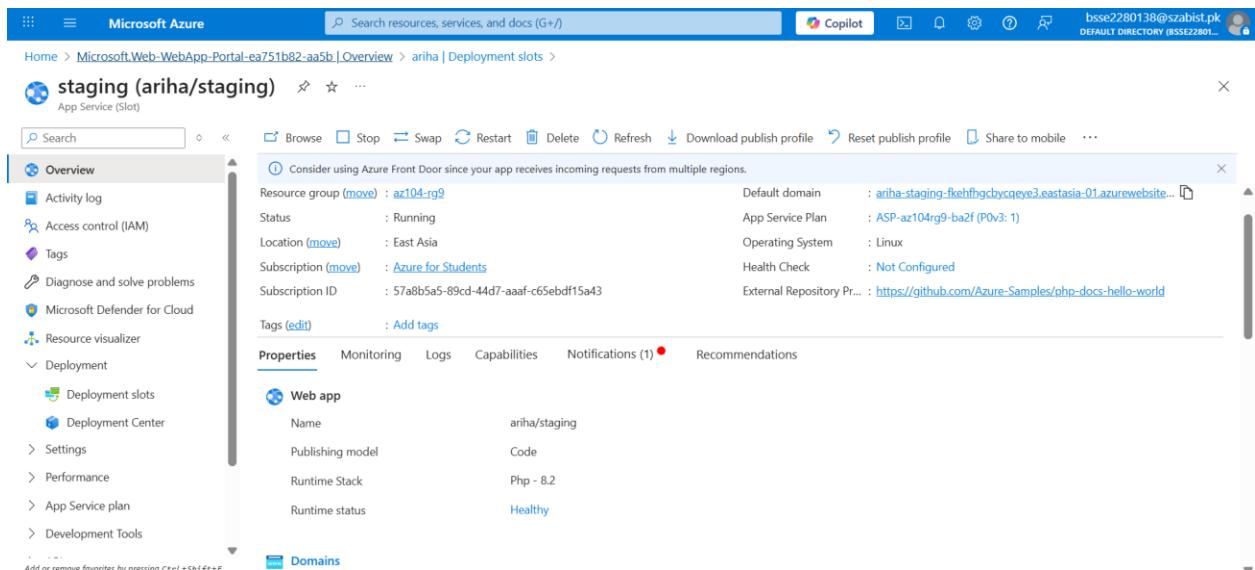
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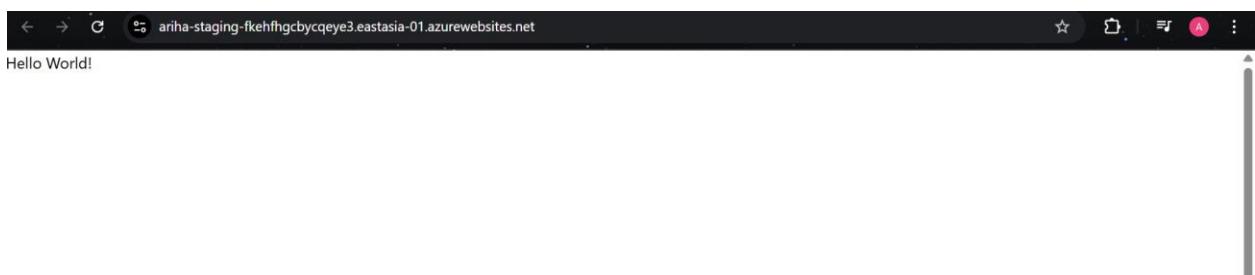
The screenshot shows the Microsoft Azure Deployment Center for the 'staging (ariha/staging)' slot. The left sidebar lists navigation options like Overview, Activity log, Access control (IAM), Tags, Diagnose and solve problems, Microsoft Defender for Cloud, Resource visualizer, Deployment, Deployment slots, and Deployment Center. The main pane is titled 'Settings' and contains sections for Source (External Git), Build (Build provider: App Service Build Service, Runtime stack: PHP, Version: 8.2), and Logs. A 'Save' button is at the top right.

- **Staging Slot Overview Page:**



The screenshot shows the Microsoft Azure Staging Slot Overview page for the 'staging (ariha/staging)' slot. The left sidebar is identical to the previous screenshot. The main pane displays general app details: Resource group: az104-rg9, Status: Running, Location: East Asia, Subscription: Azure for Students, and a note about using Azure Front Door. It also shows the Default domain (ariha-staging-fkehfhgbcqeye3.eastasia-01.azurewebsites.net), App Service Plan (ASP-az104rg9-ba2f (P0v3: 1)), Operating System (Linux), and Health Check (Not Configured). The External Repository URL is https://github.com/Azure-Samples/php-docs-hello-world. The Properties tab is selected, showing the Web app section with Name: arinha/staging, Publishing model: Code, Runtime Stack: Php - 8.2, and Runtime status: Healthy.

- **Staging Slot Default Domain (Hello World Page):**



The screenshot shows a web browser window displaying the 'Hello World!' page from the default domain of the staging slot. The URL in the address bar is 'ariha-staging-fkehfhgbcqeye3.eastasia-01.azurewebsites.net'. The page content is 'Hello World!'

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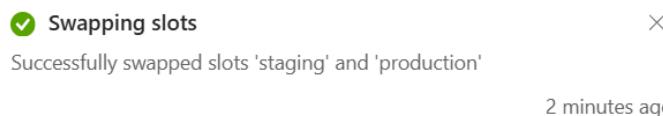
### Lab Task 05 (A) (Implement Web Apps)

## Task 4: Swap deployment slots.

- Go to the Deployment Slots Page & Swap Deployment Slots Configuration

The screenshot shows the Microsoft Azure portal interface. On the left, the navigation menu is expanded to show 'Deployment slots' under 'Deployment'. In the center, the 'staging (ariha/staging) | Deployment slots' page is displayed. A modal window titled 'Swap' is open on the right. The 'Source' dropdown is set to 'ariha-staging' and the 'Target' dropdown is set to 'PRODUCTION'. Below these dropdowns, there is a note about using swap with preview and a checkbox for 'Perform swap with preview'. Under 'Config Changes', it says 'No Changes'. At the bottom of the modal are 'Start Swap' and 'Close' buttons.

- Swap Operation Completed



- Production Slot Overview After Swap

The screenshot shows the Microsoft Azure portal interface for the 'ariha' web app. The left sidebar shows the 'Deployment slots' section. The main area displays the 'Overview' tab for the 'ariha' app. It shows the resource group (az104-rg9), status (Running), location (East Asia), subscription (Azure for Students), and subscription ID (57a8b5a5-89cd-44d7-aaaf-c65ebdf15a43). The 'Properties' tab is selected, showing details like Name (ariha), Publishing model (Code), Runtime Stack (PHP - 8.2), and Runtime status (Healthy). A note at the top right suggests using Azure Front Door. A JSON View button is also present.

- Production Web App Default Domain Verification:

A screenshot of a web browser displaying the URL 'ariha-b7g0afgbqaqgdxa.eastasia-01.azurewebsites.net'. The page content is 'Hello World!'.

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### Lab Task 05 (A) (Implement Web Apps)

## Task 5: Configure and test autoscaling of the Azure web app.

- App Service Plan – Scale Out Option:

**Pricing plan**

Current plan	Premium v3 P0V3 (Change)
Price (instance)	0.109 USD/hour (79.205 USD/month)
Memory (GB)	4
Maximum scale (instance)	30
Active instance count	1
Maximum available zones	Not available (Get more info)

**Scaling**

When scaling demand changes, you can manually scale your resource to a specific instance count, or via a custom Autoscale rule based policy that scales based on metric(s) thresholds, or schedule instance count which scales during designated time windows. You can also use Automatic Scaling features which enables platform managed scale in and scale out for your apps based on incoming HTTP traffic. Learn more about Azure Autoscale, Automatic Scaling or view the how-to video.

Scale out method:  Manual (Maintain a constant instance count for your application)  Automatic

- Automatic Scaling Configuration & Selecting Maximum Burst 2 Configuration:

**Scaling**

When scaling demand changes, you can manually scale your resource to a specific instance count, or via a custom Autoscale rule based policy that scales based on metric(s) thresholds, or schedule instance count which scales during designated time windows. You can also use Automatic Scaling features which enables platform managed scale in and scale out for your apps based on incoming HTTP traffic. Learn more about Azure Autoscale, Automatic Scaling or view the how-to video.

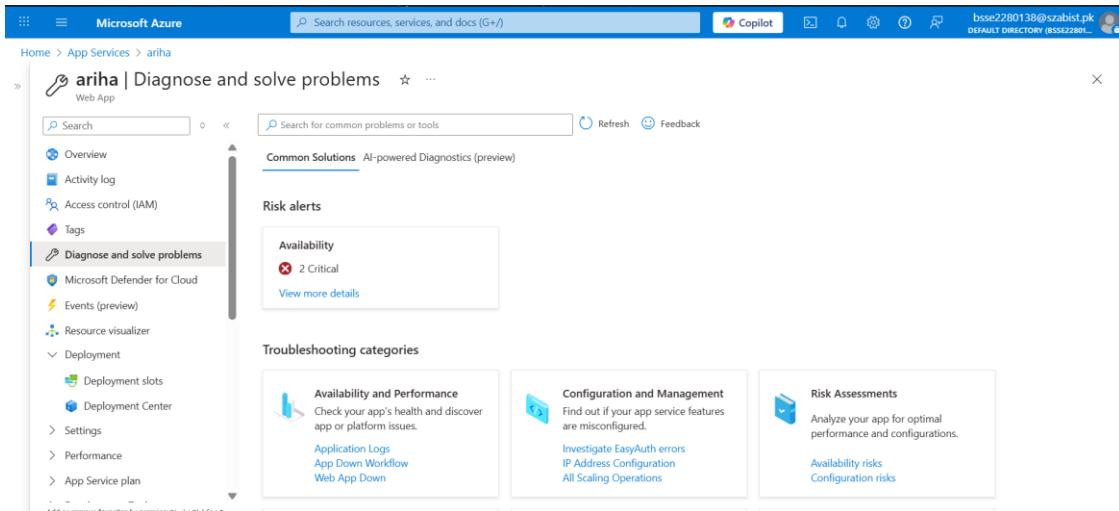
Scale out method:  Manual (Maintain a constant instance count for your application)  Automatic (Platform managed scale out and in based on traffic)  Rules Based (User defined rules to scale on a schedule or based on any app metric)

Maximum burst:  0 (2)  Always ready instances:  1 (1)  Enforce scale out limit:

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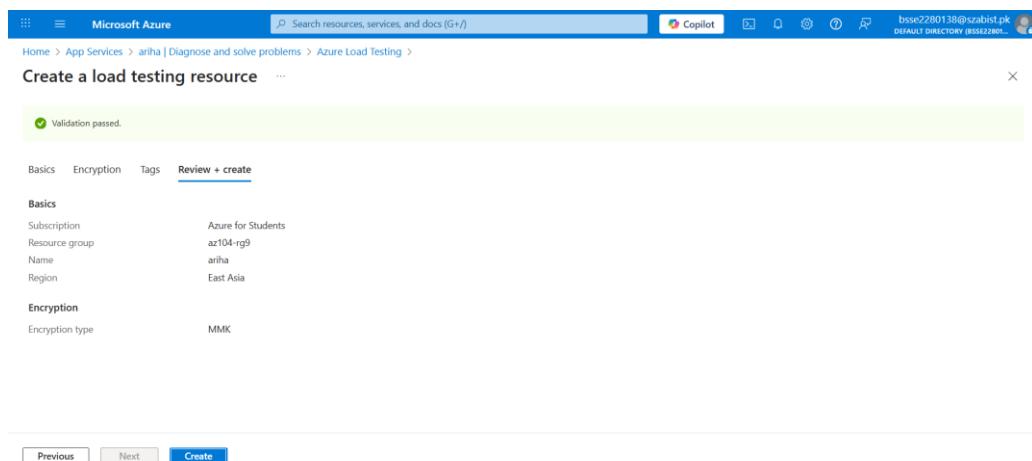
### Lab Task 05 (A) (Implement Web Apps)

#### • Diagnose and Solve Problems Section



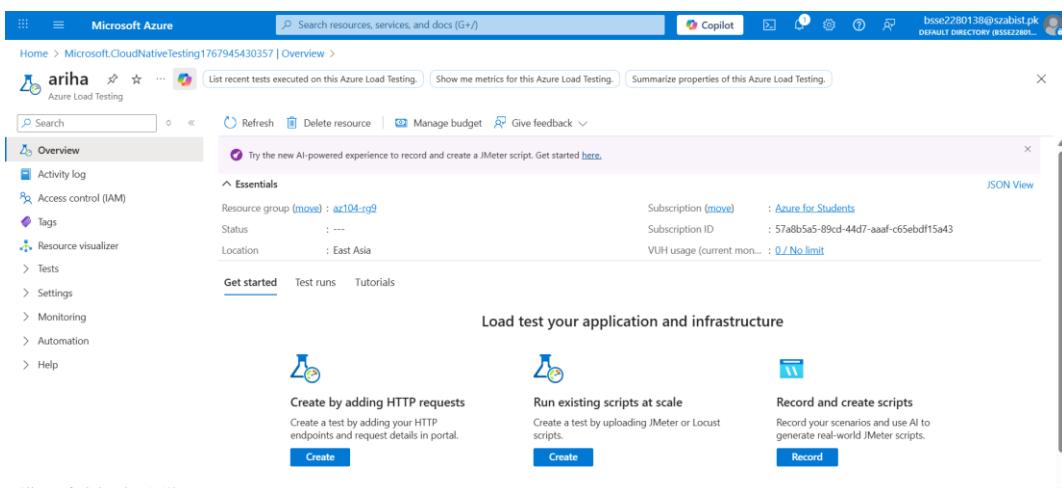
The screenshot shows the Microsoft Azure portal interface for an App Service named 'ariha'. The left sidebar has 'Diagnose and solve problems' selected. The main content area shows 'Common Solutions AI-powered Diagnostics (preview)' and a 'Risk alerts' section with 2 Critical availability issues. It also includes sections for 'Availability and Performance', 'Configuration and Management', and 'Risk Assessments'.

#### • Create Load Test Configuration



The screenshot shows the 'Create a load testing resource' wizard. The 'Review + create' tab is selected. The 'Basics' section shows the subscription is 'Azure for Students', resource group is 'az104-rg9', name is 'ariha', and region is 'East Asia'. The 'Encryption' section shows the encryption type is 'MMK'. At the bottom are 'Previous', 'Next', and 'Create' buttons.

#### • Load Test Resource Created

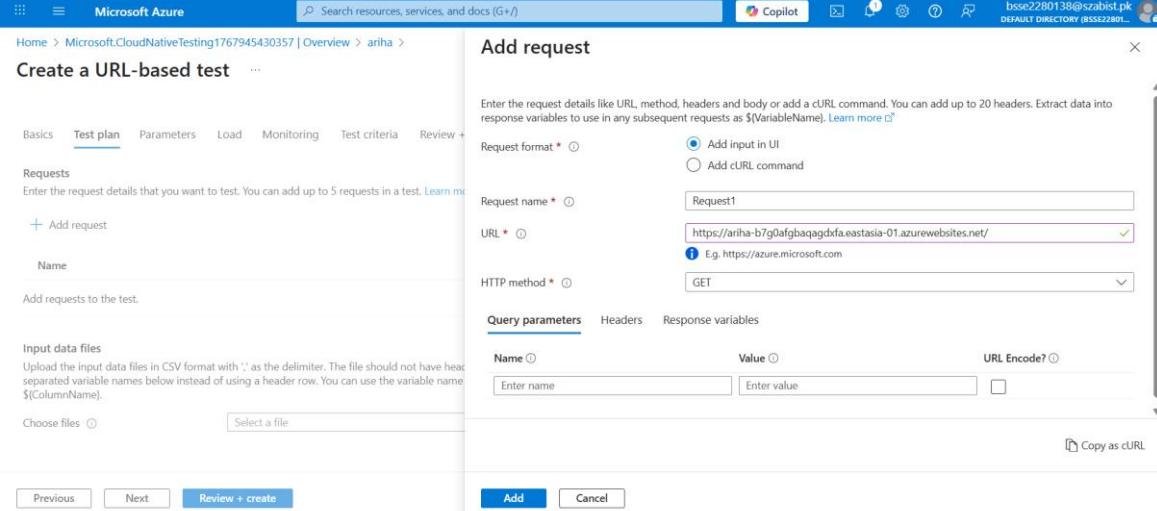


The screenshot shows the 'Overview' page for a Microsoft Cloud Native Testing resource. The 'Get started' tab is selected. It shows a summary of the load test configuration, including the resource group (az104-rg9), status (---), location (East Asia), and VUH usage (0 / No limit). Below this, there are three main options: 'Create by adding HTTP requests', 'Run existing scripts at scale', and 'Record and create scripts'.

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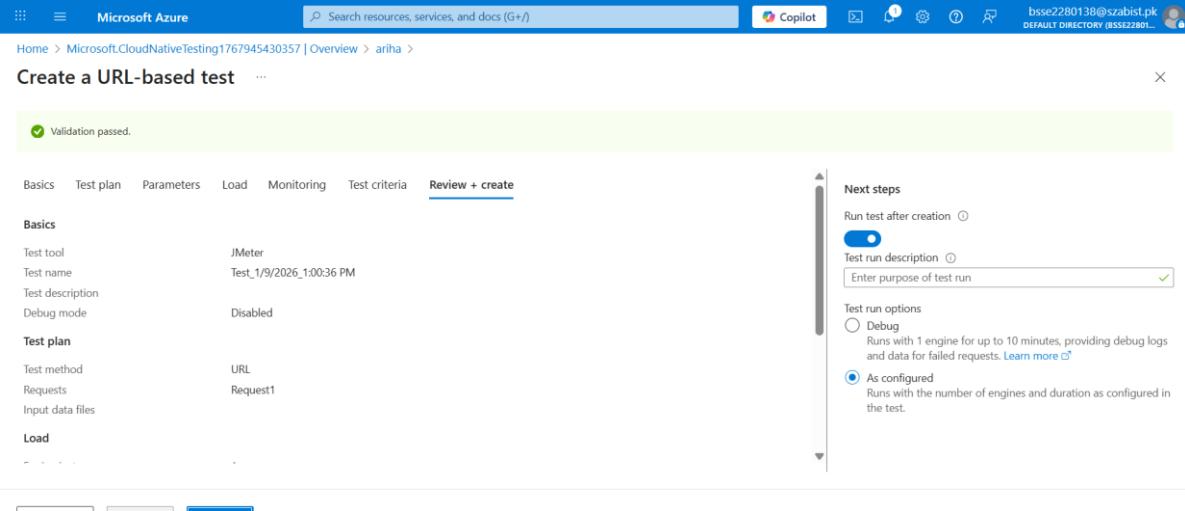
### Lab Task 05 (A) (Implement Web Apps)

#### • Test Plan – Add HTTP Request

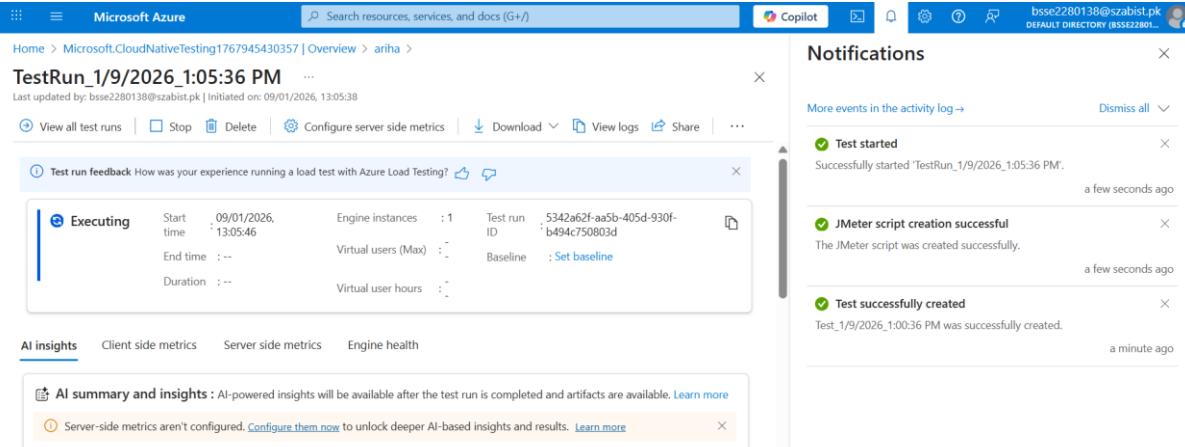


The screenshot shows the 'Add request' step in the Microsoft Azure Test Plan interface. It includes fields for Request format (set to 'Add input in UI'), Request name ('Request1'), URL ('https://ariha-b7g0afgabqagdxfa.eastasia-01.azurewebsites.net/'), and HTTP method ('GET'). A 'Query parameters' section is also visible.

#### • Review and Create Load Test



The screenshot shows the 'Review + create' step in the Microsoft Azure Test Plan interface. It displays validation results ('Validation passed.'), test configuration details (Test tool: JMETER, Test name: 'Test\_1/9/2026\_1:00:36 PM'), and a 'Next steps' section with options for running the test after creation and setting a test run description.

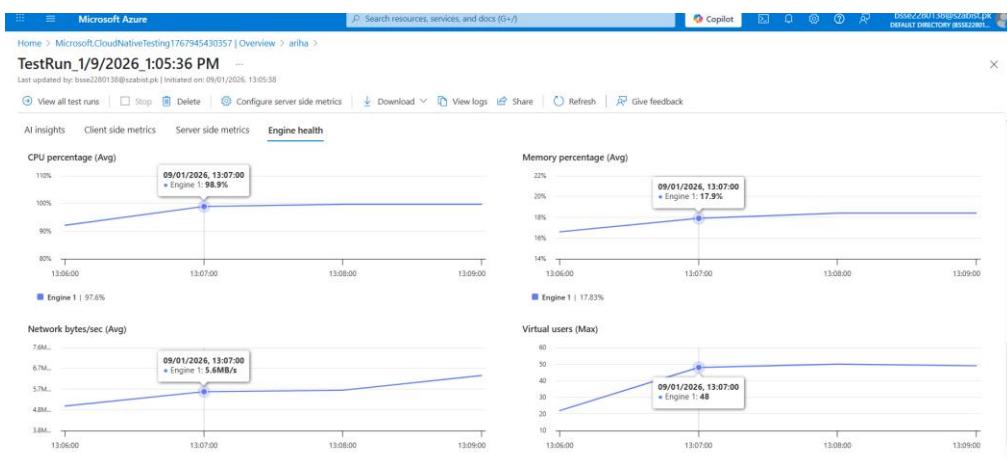
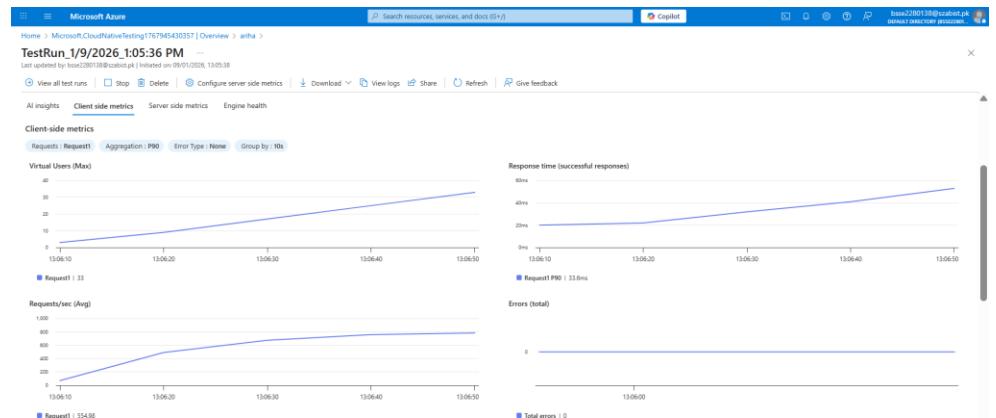


The screenshot shows the 'Notifications' page in the Microsoft Azure Test Plan interface. It lists three notifications: 'Test started' (started at 09/01/2026, 13:05:36 PM), 'JMETER script creation successful' (script was created successfully), and 'Test successfully created' (test was successfully created at 09/01/2026, 1:00:36 PM).

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### Lab Task 05 (A) (Implement Web Apps)

#### • Live Load Test Metrics



#### • Load Test Stopped

