

Project Report On

Azure DevOps Tetris Game App Project

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Summary

The Azure DevOps Tetris Game App project involved the development of a classic Tetris game using agile methodologies and Azure DevOps tools. The project began with comprehensive planning, defining the project scope, requirements, and backlog of features.

Continuous Integration (CI) was implemented through Azure Pipelines, ensuring automated builds and tests. Azure Application Insights, ensuring a well-managed and optimized Tetris game app in the production environment. Through this approach, the team successfully delivered a high-quality Tetris game, meeting stakeholder expectations and user satisfaction.

In this project we have used **Azure services such as Container Registries, Docker Registry and App Services.**

Aim: Azure DevOps Game App Project

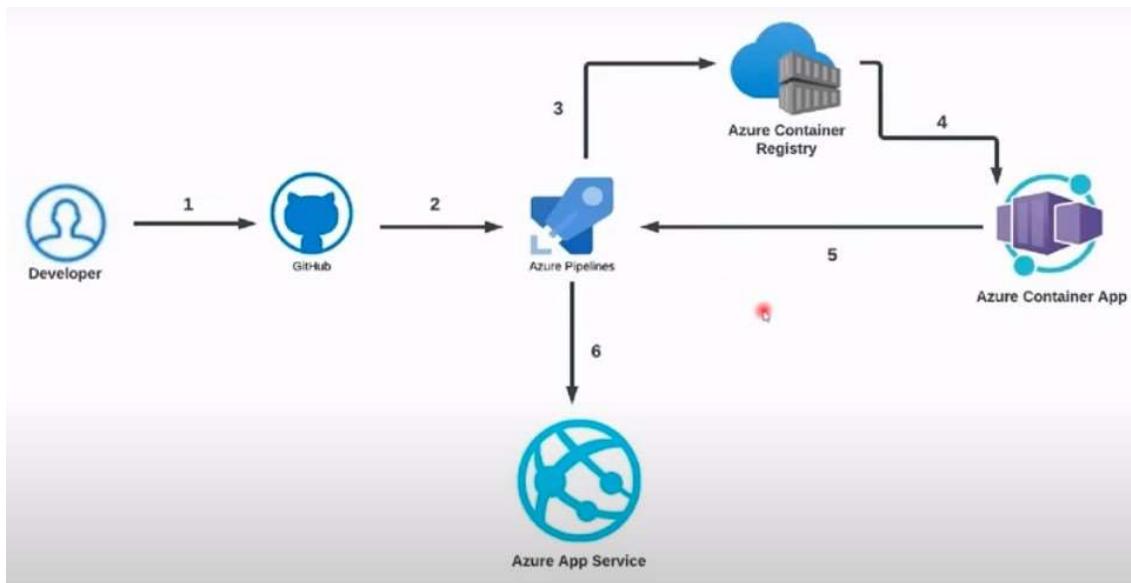


Fig.1.1 Architectural Diagram

❖ Login to azure portal

The screenshot shows the Microsoft Azure portal homepage. At the top, there is a navigation bar with links for Home - Microsoft Azure, portal.azure.com/?quickstart=true#home, Microsoft Azure, and a search bar. Below the navigation bar, there is a section titled 'Azure services' with icons for Create a resource, Resource groups, App Services, Container registries, Kubernetes services, Elastic Job agents, Quickstart Center, Virtual machine scale sets, Virtual machines, and More services. Under the 'Resources' section, there is a table showing a recent subscription named 'Azure for Students'. At the bottom, there is a 'Navigate' section with a link to 'https://portal.azure.com/?quickstart=true#create/hub' and a taskbar with various application icons.

❖ Go to Container registries & click on create

The screenshot shows the 'Container registries' page in the Microsoft Azure portal. At the top, there are navigation links for Home, Learning | Future R..., Exam AZ-900: Micr..., Exam AZ-104: Micr..., and UDYAM REGISTRATI... . The main search bar says 'Search resources, services, and docs (G+ /)'. Below the search bar are filter options: 'Subscription equals all', 'Resource group equals all', 'Location equals all', and a 'Create' button. The table below has columns for Name, Type, Resource group, Location, and Subscription. A large message in the center says 'No container registries to display' with a cloud icon.

❖ Fill the required fields Such as Resource Group, Registry name and location

The screenshot shows the 'Create container registry' wizard in the Microsoft Azure portal. The title bar says 'Create container registry - Microsoft' and the URL is 'portal.azure.com/?quickstart=true#create/Microsoft.ContainerRegistry'. The page is divided into sections: 'Project details', 'Instance details', and 'Pricing plan'. In 'Project details', 'Subscription' is set to 'Azure for Students' and 'Resource group' is set to '(New) azureminiproject'. In 'Instance details', 'Registry name' is 'devopsprojectmulund' and 'Location' is 'Central India'. Under 'Pricing plan', it's set to 'Standard'. At the bottom, there are buttons for 'Review + create' and 'Next: Networking >'.

❖ Click on Create

Validation passed

Basics Networking Encryption Tags Review + create

Registry details

Basics

Registry name	devopsprojectmulund
Subscription	Azure for Students
Resource Group	azureminiproject
Location	Central India
Availability zones	Disabled
Pricing plan	Standard

Networking

Public network access	Yes
-----------------------	-----

Create < Previous Next > Download a template for automation

❖ Here the container registries is successfully created.

Deployment succeeded
Deployment 'Microsoft.ContainerRegistry' to resource group 'azureminiproject' was successful.

Deployment name : Microsoft.ContainerRegistry
Subscription : Azure for Students
Resource group : azureminiproject
Start time : 10/9/2023, 2:06:18 PM
Correlation ID : 38467b47-ac9c-4539-a4a7-e48ed52286e1

Overview Inputs Outputs Template

Your deployment is complete

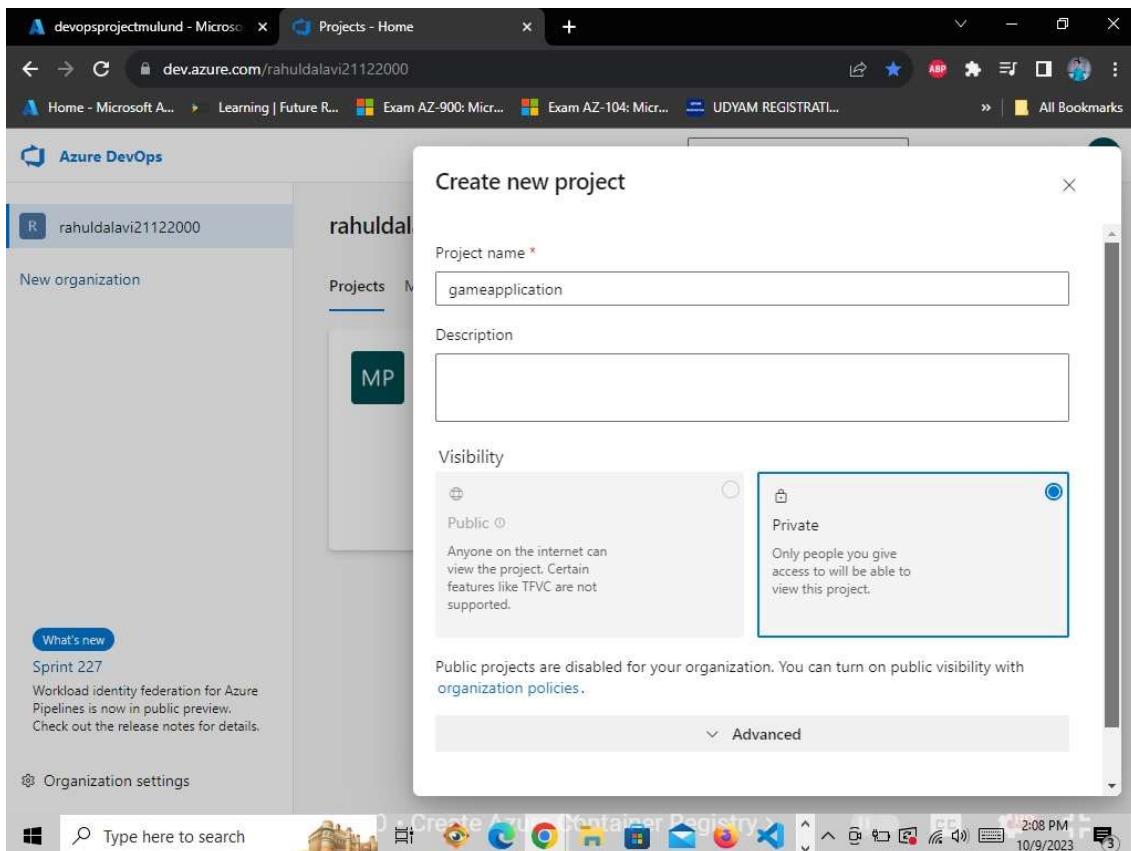
Deployment details

Next steps

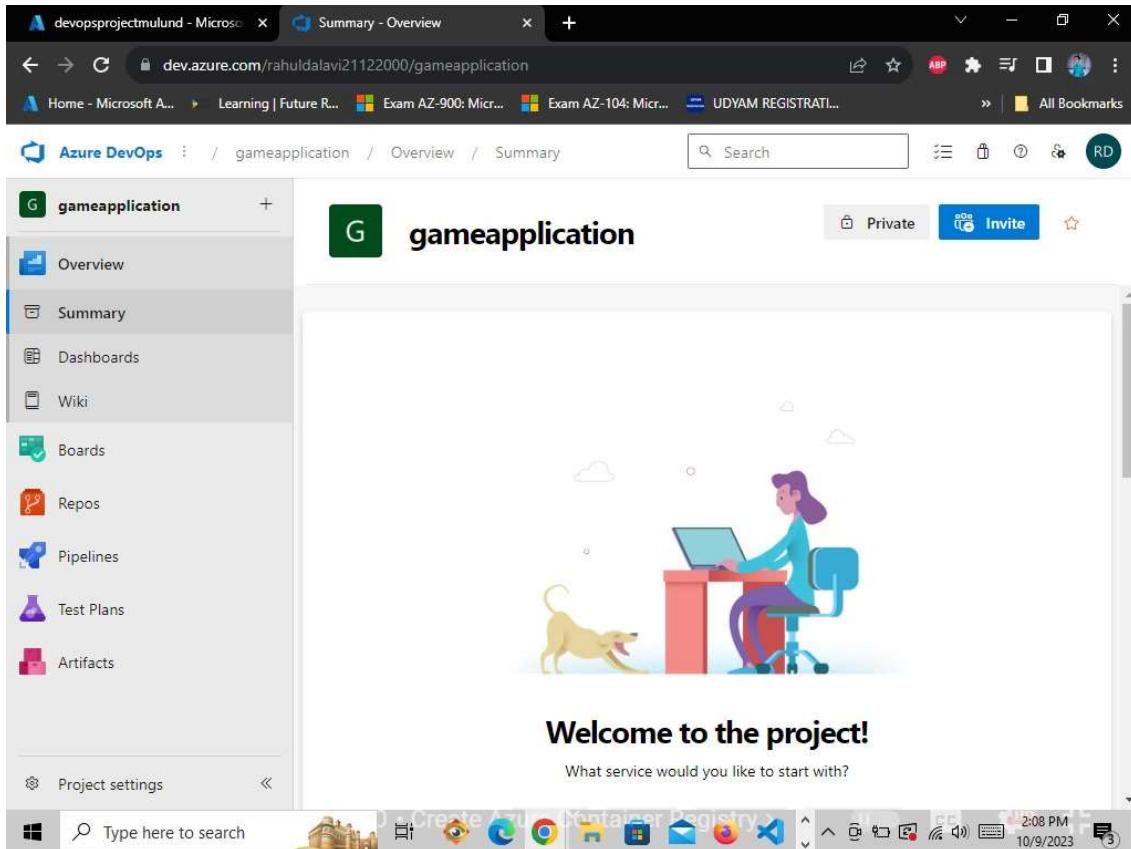
Go to resource

Give feedback
Tell us about your experience with deployment

- ❖ Now go to Azure DevOps Portal-> Create a Account and Login ->create a New Project in it.



- ❖ The project is created successfully



- ❖ After creating the project -> go to project settings -> service connections and Create Service Connection

Project Settings
gameapplication

General

- Overview
- Teams
- Permissions
- Notifications
- Service hooks
- Dashboards

Boards

- Project configuration
- Team configuration
- GitHub connections

Pipelines

- Agent pools

Create your first service connection

Service connections help you manage, protect, and reuse authentications to external services.

Create service connection

- ❖ First we will Create a Docker Registry Service Connection

New service connection

- Azure Service Bus
- Bitbucket Cloud
- Cargo
- Chef
- Docker Host
- Docker Registry
- Generic
- Github
- Github Enterprise Server

Learn more

Next

❖ Select Azure Container Registry

The screenshot shows the 'New Docker Registry service connection' dialog box overlaid on the Azure DevOps interface. The dialog box has the following fields:

- Registry type:** A radio button group where 'Azure Container Registry' is selected.
- Authentication Type:** A dropdown menu currently showing 'Service Principal'.
- Details:**
 - Service connection name:** An empty input field.
 - Description (optional):** An empty input field.
- Security:** A checkbox labeled 'Grant access permission to all pipelines' which is unchecked.
- Buttons:** 'Back' and 'Save' buttons at the bottom right.

The background shows the 'Project Settings' page for a 'gameapplication' project, with the 'General' section expanded. The URL in the browser is dev.azure.com/rahuldalavi21122000/gameapplication/_settings/adminservices.

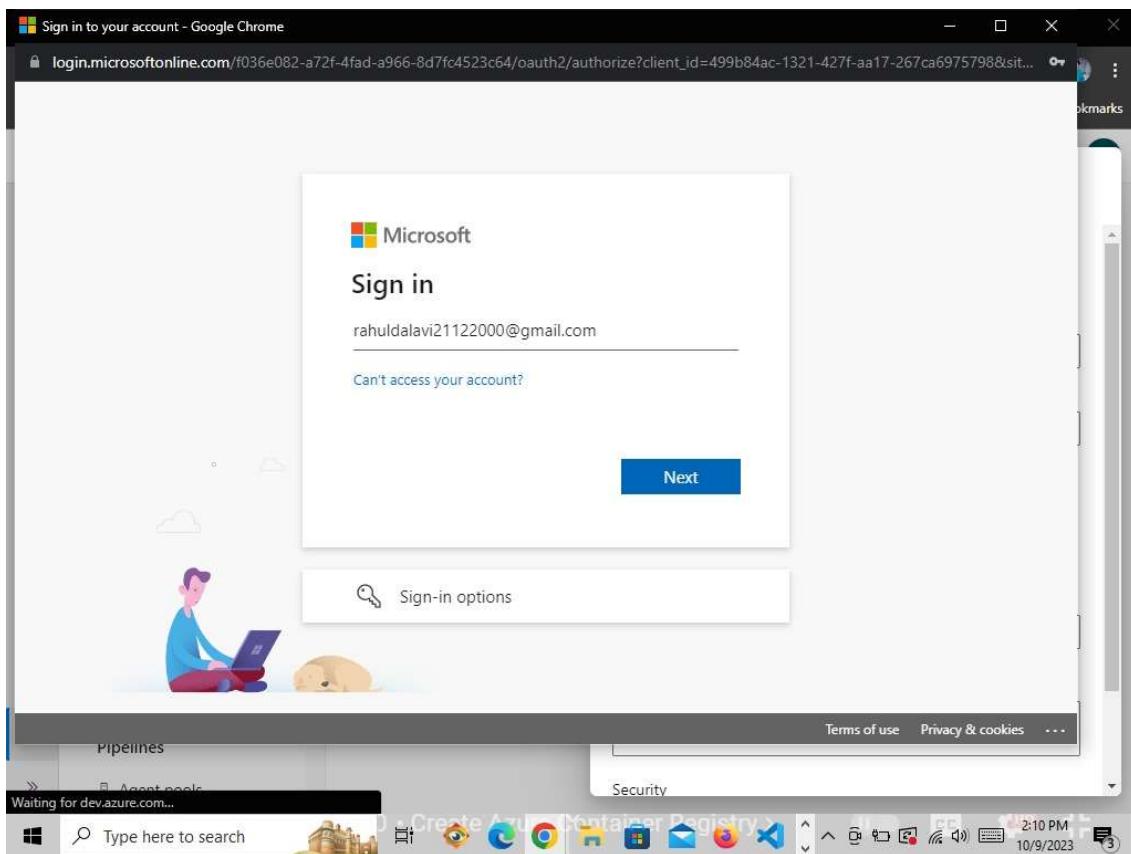
❖ Select Service Principal

The screenshot shows the 'New Docker Registry service connection' dialog box overlaid on the Azure DevOps interface. The dialog box has the following fields:

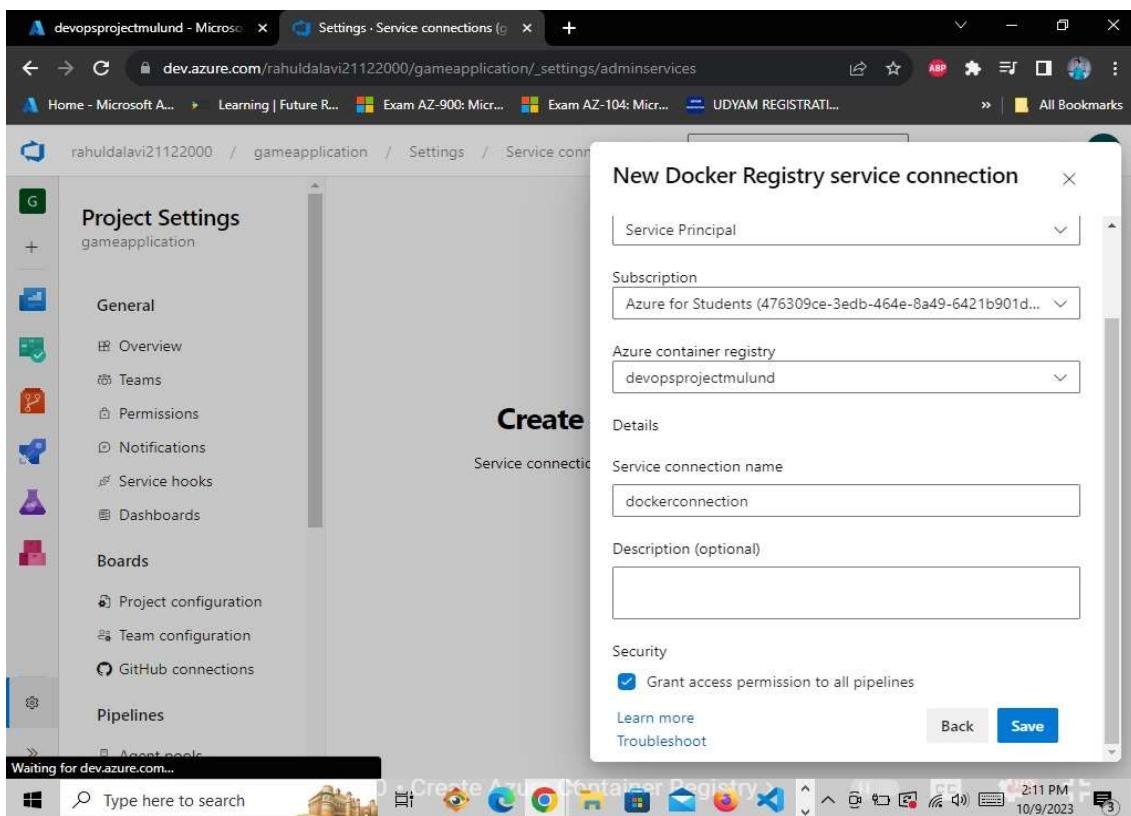
- Registry type:** A radio button group where 'Azure Container Registry' is selected.
- Authentication Type:** A dropdown menu where 'Service Principal' is selected.
- Details:**
 - Managed Service Identity:** An empty input field.
 - Description (optional):** An empty input field.
- Security:** A checkbox labeled 'Grant access permission to all pipelines' which is unchecked.
- Buttons:** 'Back' and 'Save' buttons at the bottom right.

The background shows the 'Project Settings' page for a 'gameapplication' project, with the 'General' section expanded. The URL in the browser is dev.azure.com/rahuldalavi21122000/gameapplication/_settings/adminservices.

- ❖ After selecting Service Principal it will connect us with our Azure portal.



- ❖ After connecting with the Azure Portal -> Select the container registry which you have created
- ❖ Now give the connection name, check the Grant access permission to all pipelines and save it



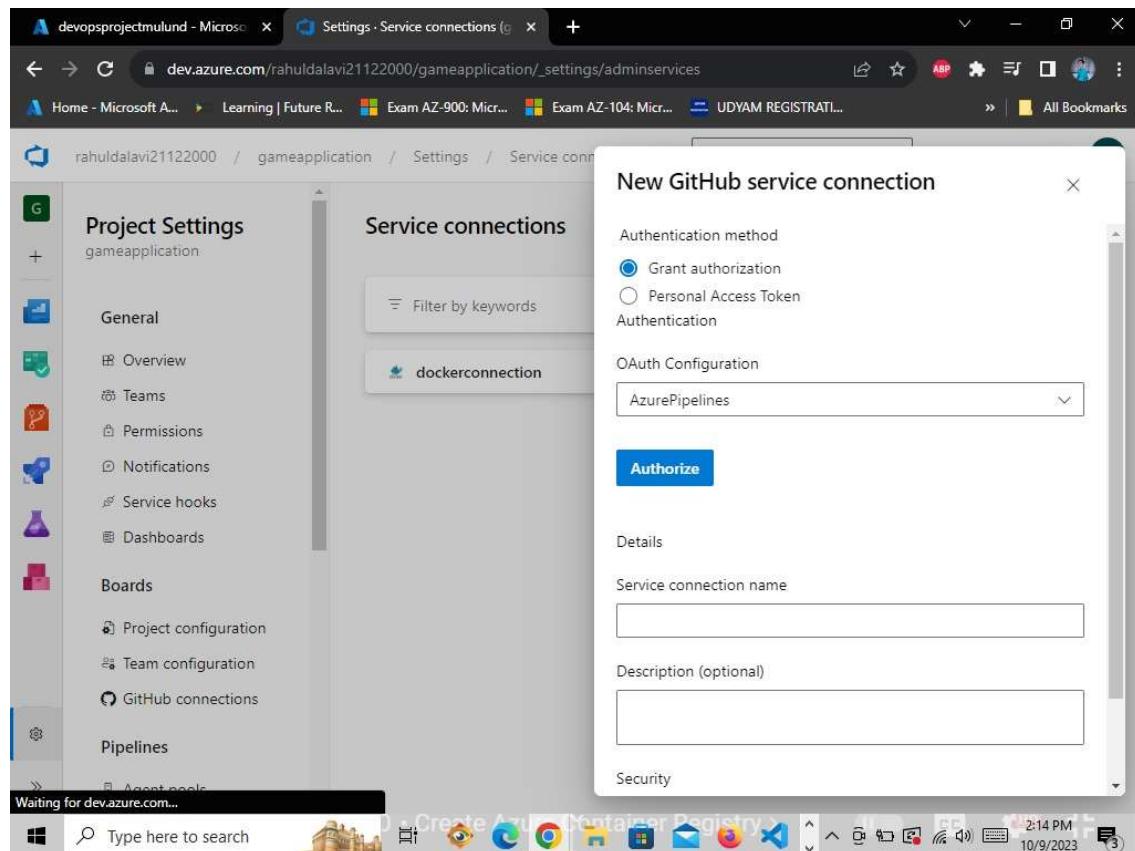
❖ The Docker Service Connection is created successfully.

The screenshot shows the 'Service connections' page in the Azure DevOps interface. On the left, there's a sidebar with 'Project Settings' for 'gameapplication'. The main area displays a list of service connections, with one entry named 'dockerconnection' highlighted. A search bar at the top right contains the text 'Created by'. The bottom of the screen shows a taskbar with various icons and a system tray indicating the date and time as 10/9/2023 at 2:12 PM.

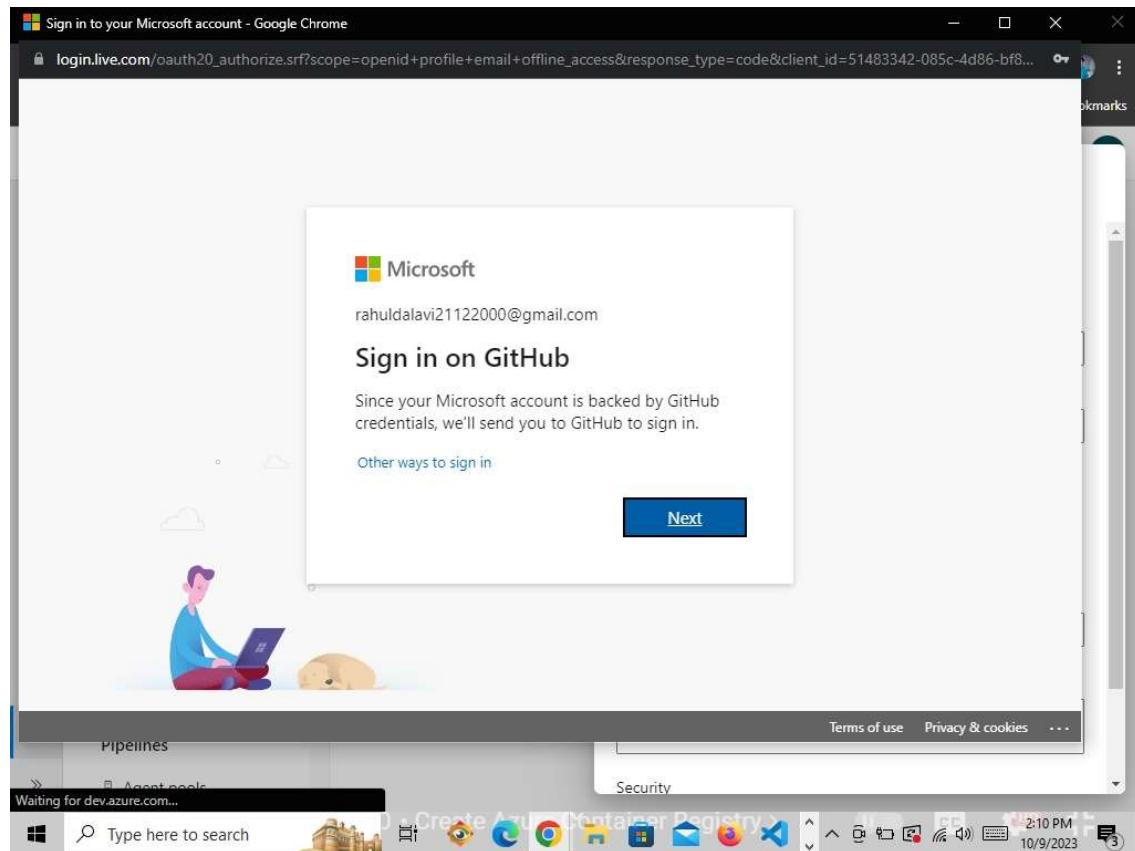
❖ Now create one more service connection for GitHub.

The screenshot shows the 'New service connection' dialog box overlaid on the Azure DevOps interface. The dialog lists several connection types, with 'GitHub' selected. Other options include Cargo, Chef, Docker Host, Docker Registry, Generic, GitHub Enterprise Server, Incoming WebHook, and Jenkins. A 'Next' button is visible at the bottom right of the dialog. The background shows the same 'Service connections' page as the previous screenshot, with the 'dockerconnection' entry still visible.

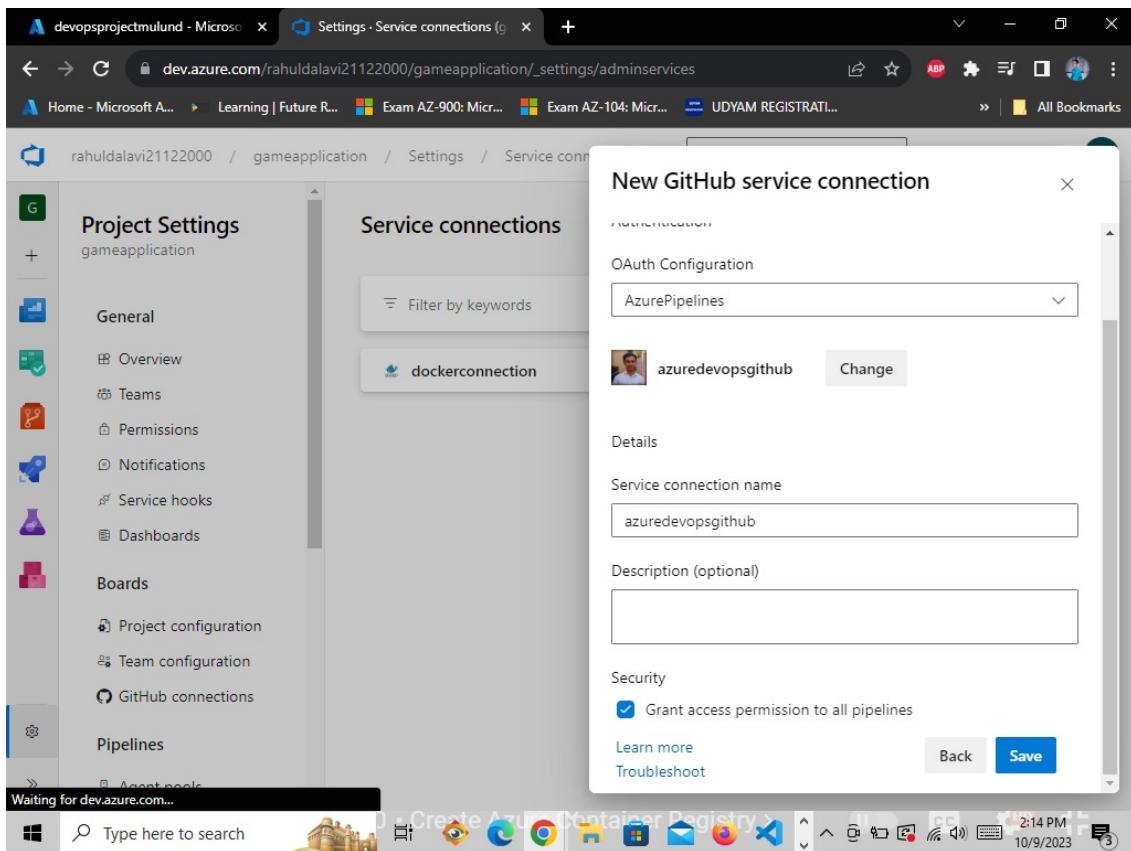
- ❖ Select the Grant authorization Authentication method and the Select the AzurePipelines OAuth Configuration and Click on Authozie.



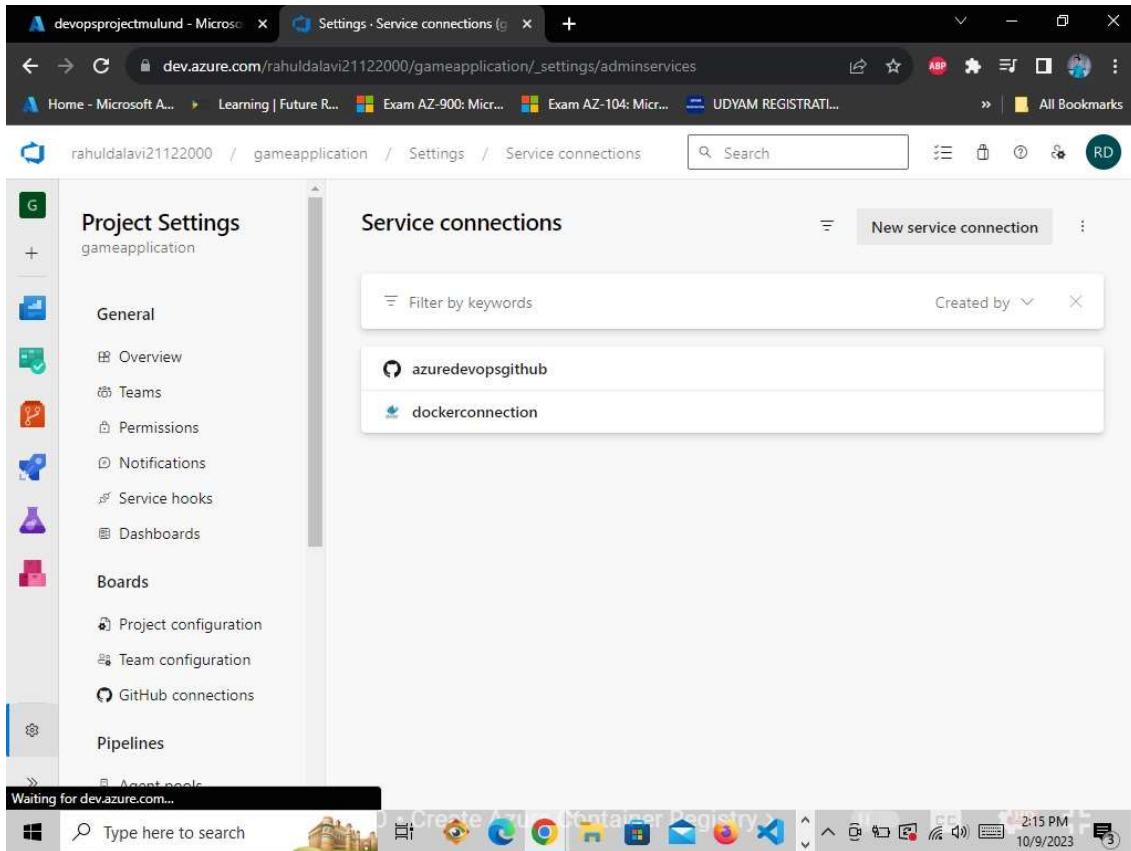
- ❖ After clicking of Authorize it will tell us to Sign in on Github, click on next.



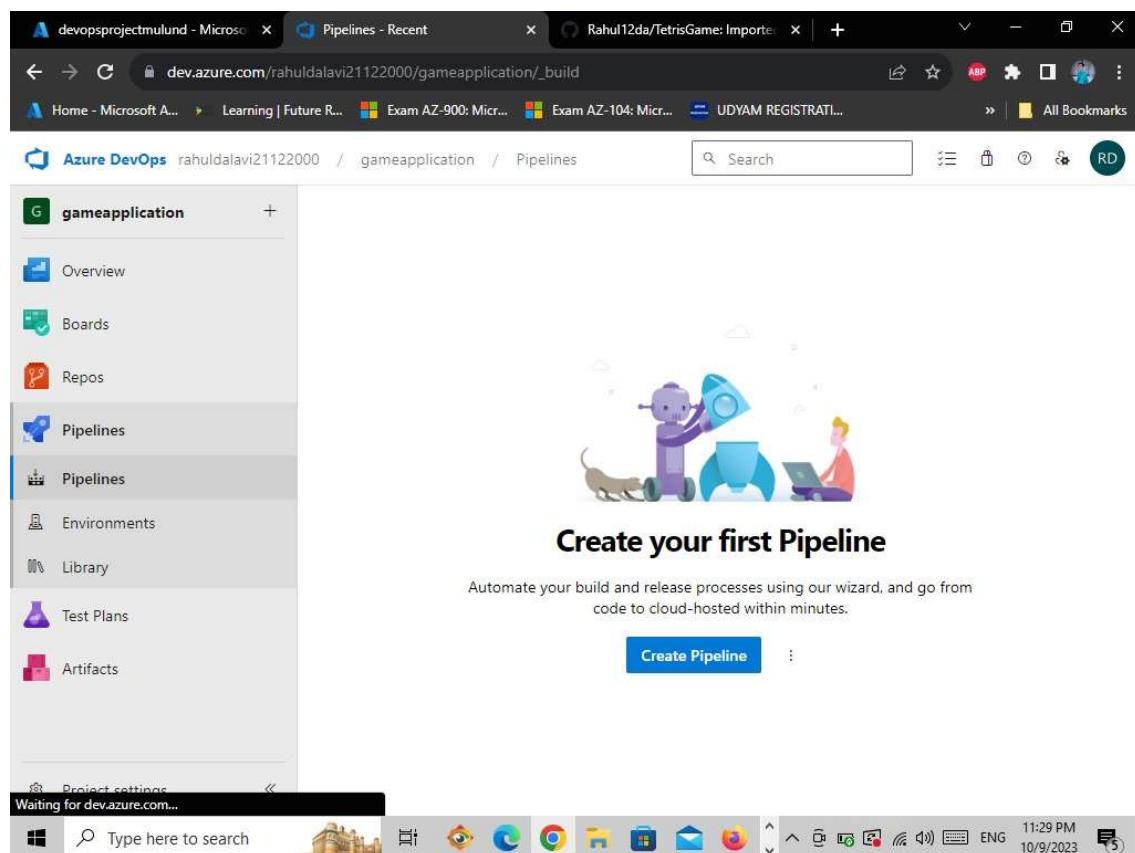
- ❖ After Sign in with Github, Give the service connection name, check the Grant access permission to all pipelines and save it



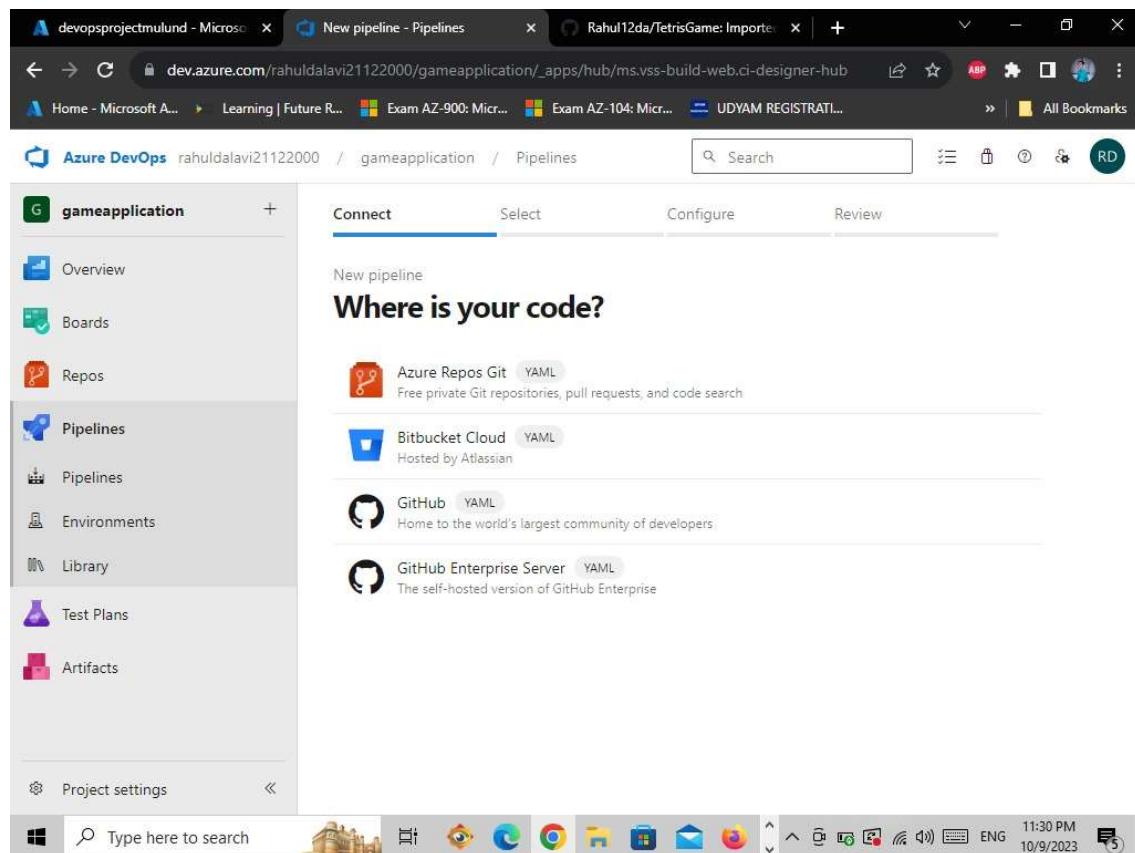
- ❖ Now we have created both the service connections



- ❖ Now we will Create Build Pipelines
- ❖ In the Azure DevOps portal inside our project we will select pipelines -> Create a new Pipeline



- ❖ Select Github YAML



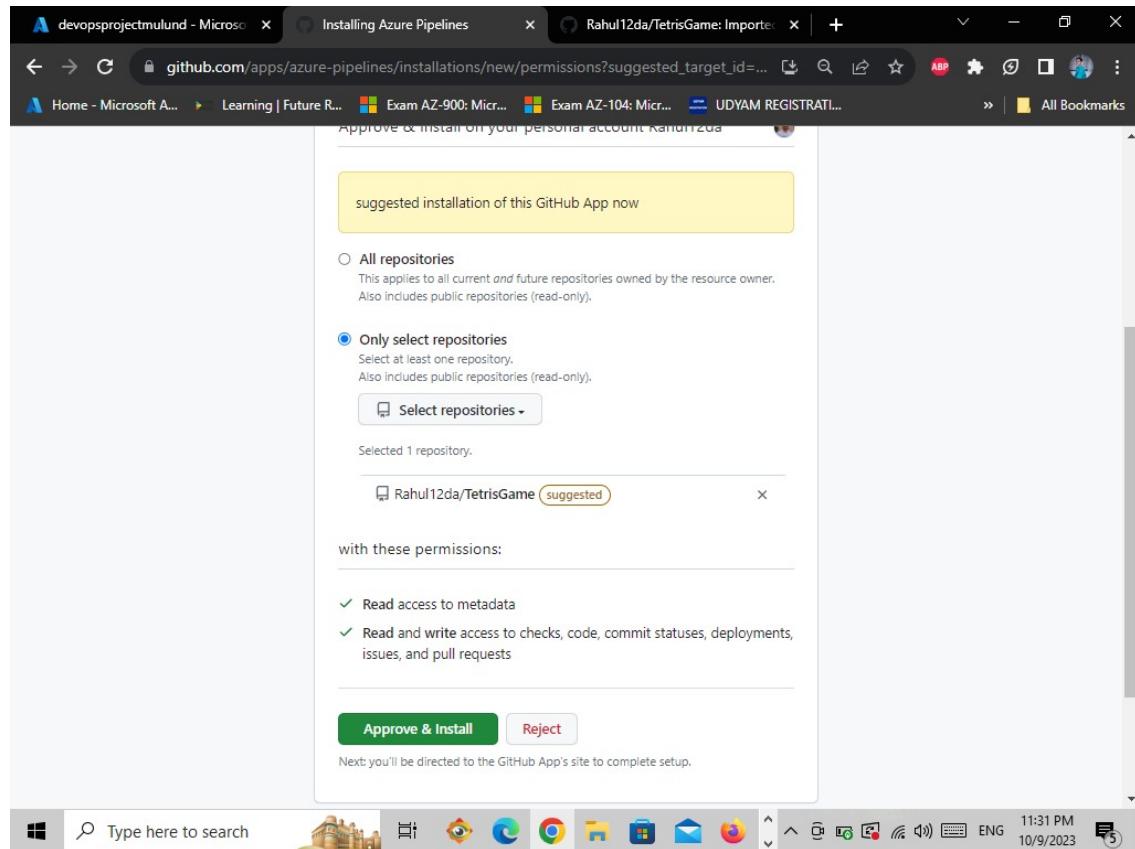
❖ Then select the repository in which the game is there.

The screenshot shows the Azure DevOps Pipelines interface. On the left, a sidebar lists project navigation options: Overview, Boards, Repos, Pipelines (which is selected), Pipelines, Environments, Library, Test Plans, Artifacts, and Project settings. The main content area is titled 'Select a repository' and displays a list of repositories under 'My repositories'. The repositories listed are: Rahul12da/TetrisGame (2m ago), Rahul12da/batch2pipelinepractical (Friday), Rahul12da/Krypto-Website (Feb 12), and Rahul12da/example-speech-recognition (Sep 15, 2022). A note below the list states: 'Showing the most recently used repositories where you are a collaborator. If you can't find a repository, make sure you provide access. You may also select a specific connection.' The browser's address bar shows the URL: dev.azure.com/rahuldalavi21122000/gameapplication/_apps/hub/ms.vss-build-web.ci-designer... . The taskbar at the bottom includes icons for File Explorer, Edge, Chrome, File, Mail, and Task View, along with system status indicators like battery level and network signal.

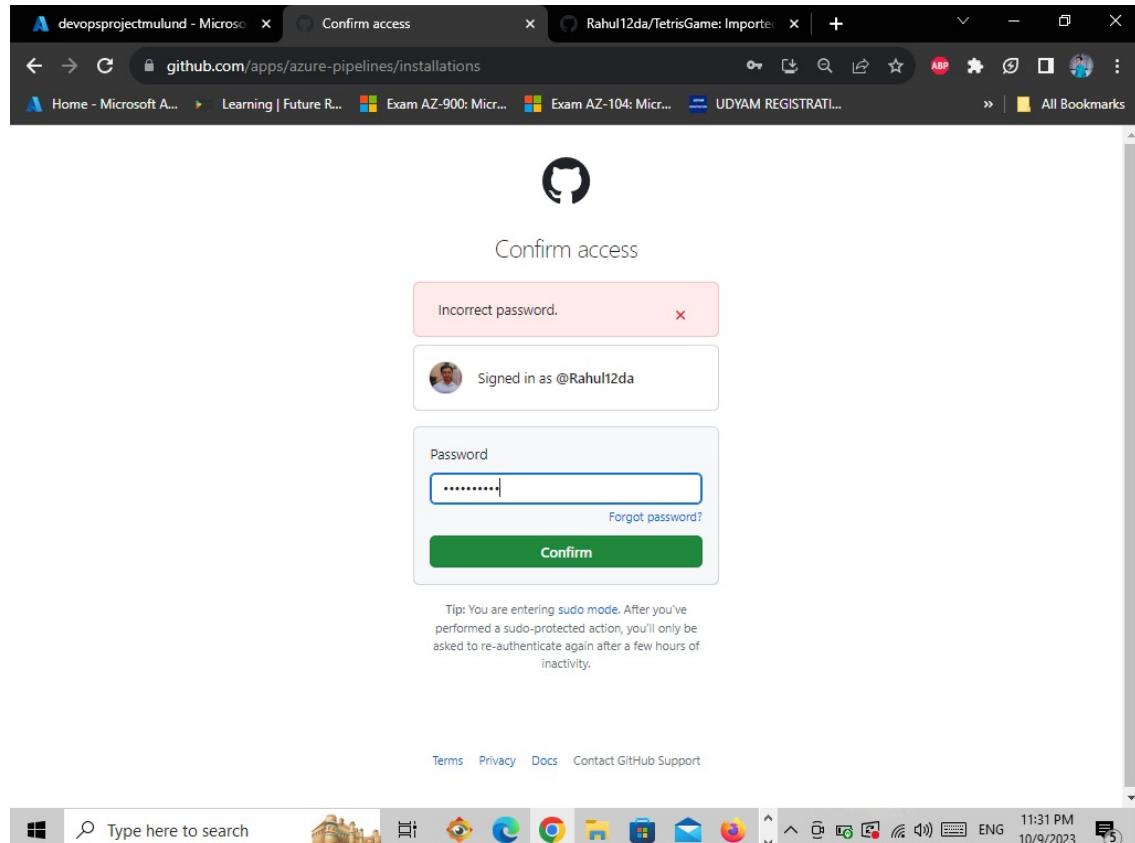
❖ It will redirect you to the github account to approval

The screenshot shows the GitHub 'Approve & Install Azure Pipelines' screen. At the top, it says 'Installing Azure Pipelines' and shows the URL: github.com/apps/azure-pipelines/installations/new/permissions?recommended_target_id=... . The main content area features a large blue circular icon with a white gear and plus sign. Below it, the text 'Approve & Install Azure Pipelines' is displayed. A yellow call-to-action button says 'suggested installation of this GitHub App now'. Two radio button options are shown: 'All repositories' (disabled) and 'Only select repositories' (selected). A note under 'Only select repositories' says: 'Select at least one repository. Also includes public repositories (read-only).' A 'Select repositories' button is present. At the bottom, it says 'Selected 1 repository.' The browser's address bar shows the URL: devopsprojectmulund - Microsoft Edge | github.com/apps/azure-pipelines/installations/new/permissions?recommended_target_id=... . The taskbar at the bottom includes icons for File Explorer, Edge, Chrome, File, Mail, and Task View, along with system status indicators like battery level and network signal.

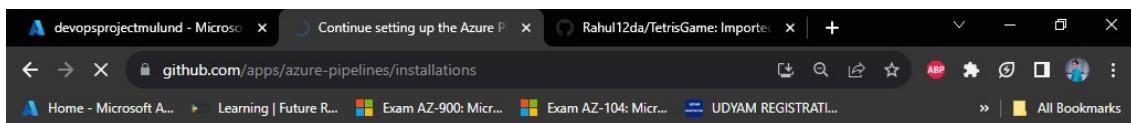
❖ Now select Only select repositories and then tap on the Approve & install



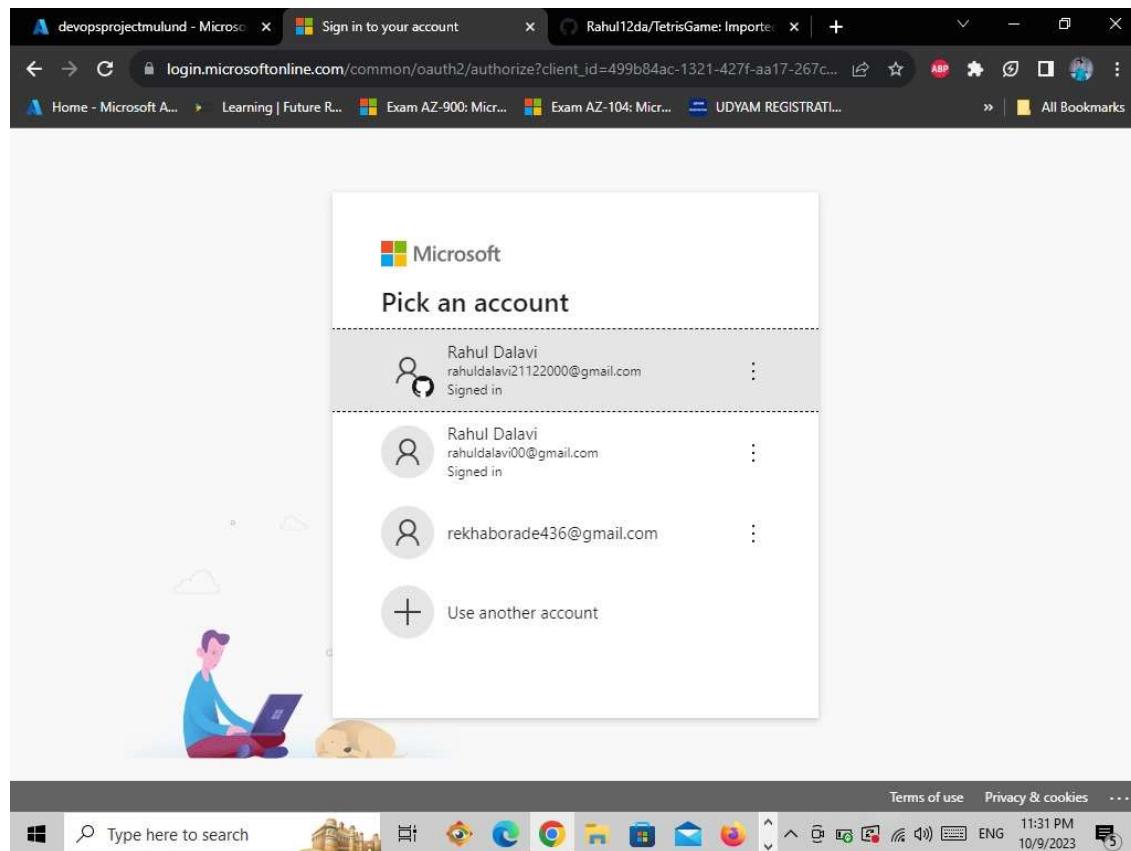
❖ Enter github password and confirm



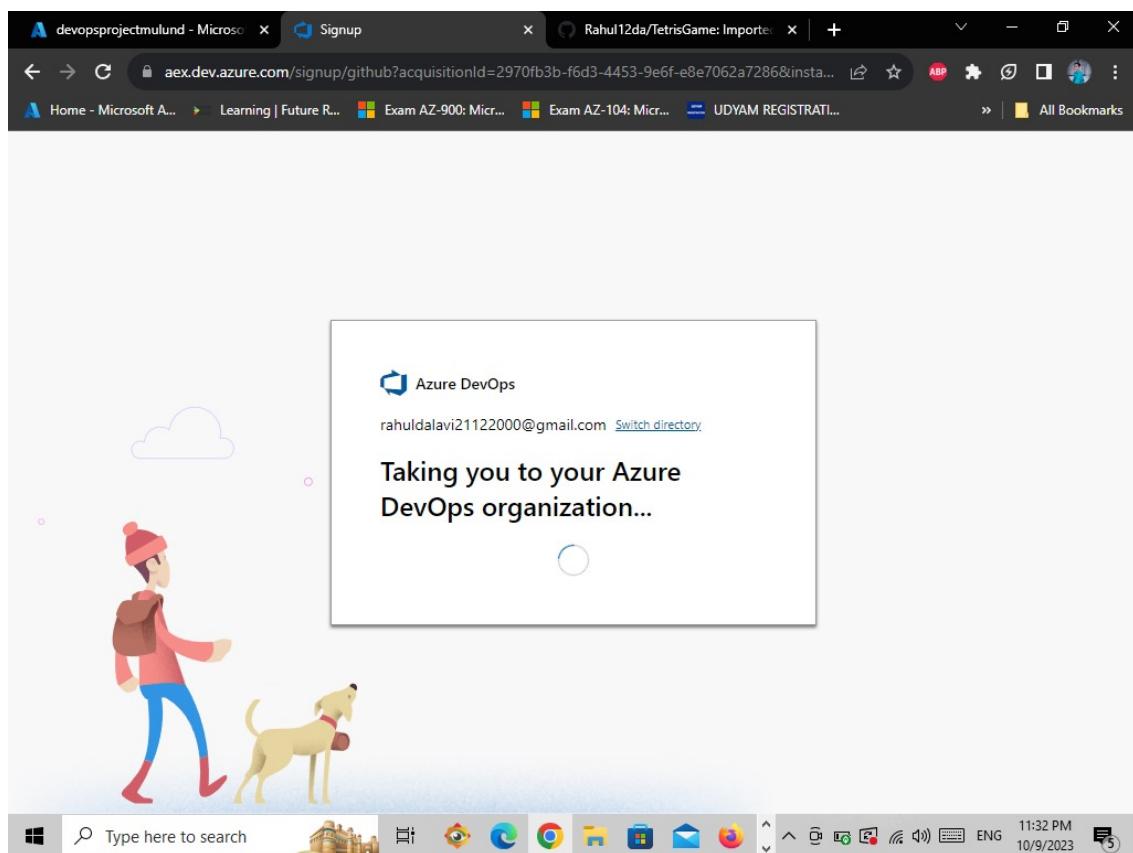
❖ The page redirected to Azure Pipelines to continue installation



❖ Then select the Microsoft account



❖ It will take you to Azure DevOps portal

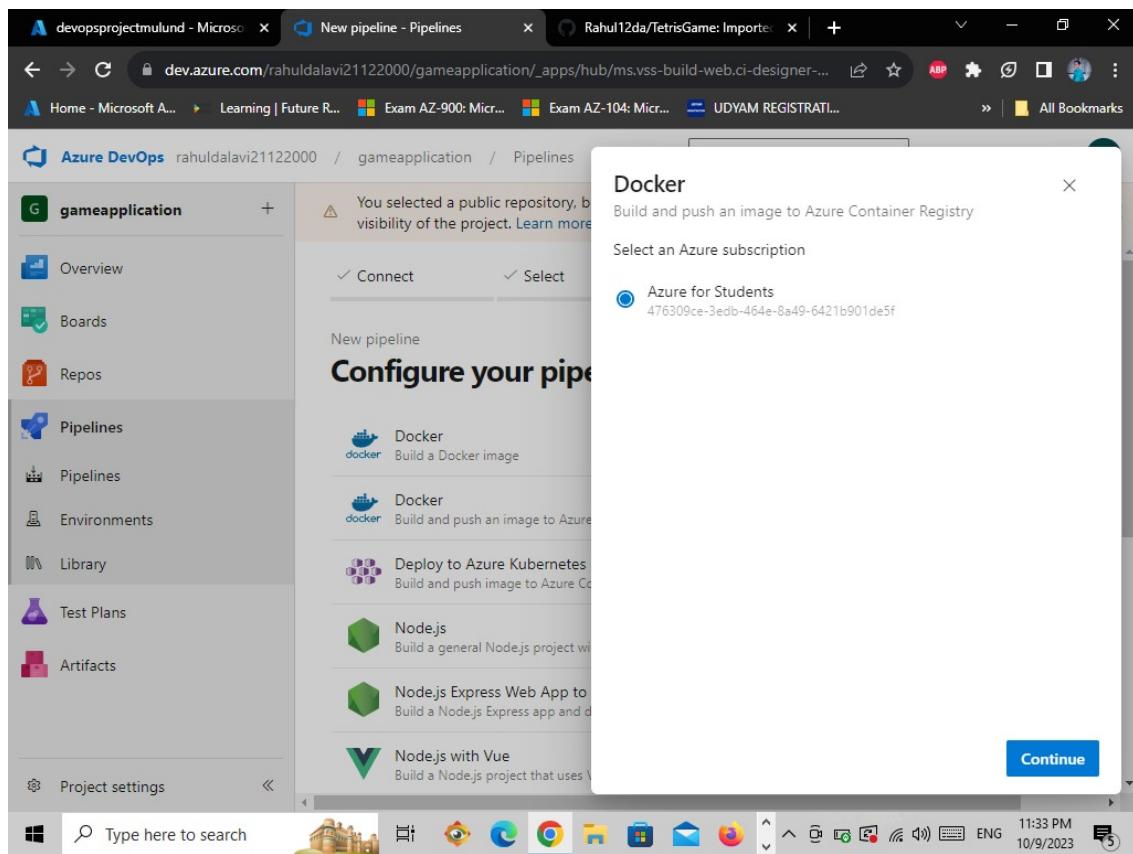


❖ Then select Docker (Build and push and image to Azure Container Registry)

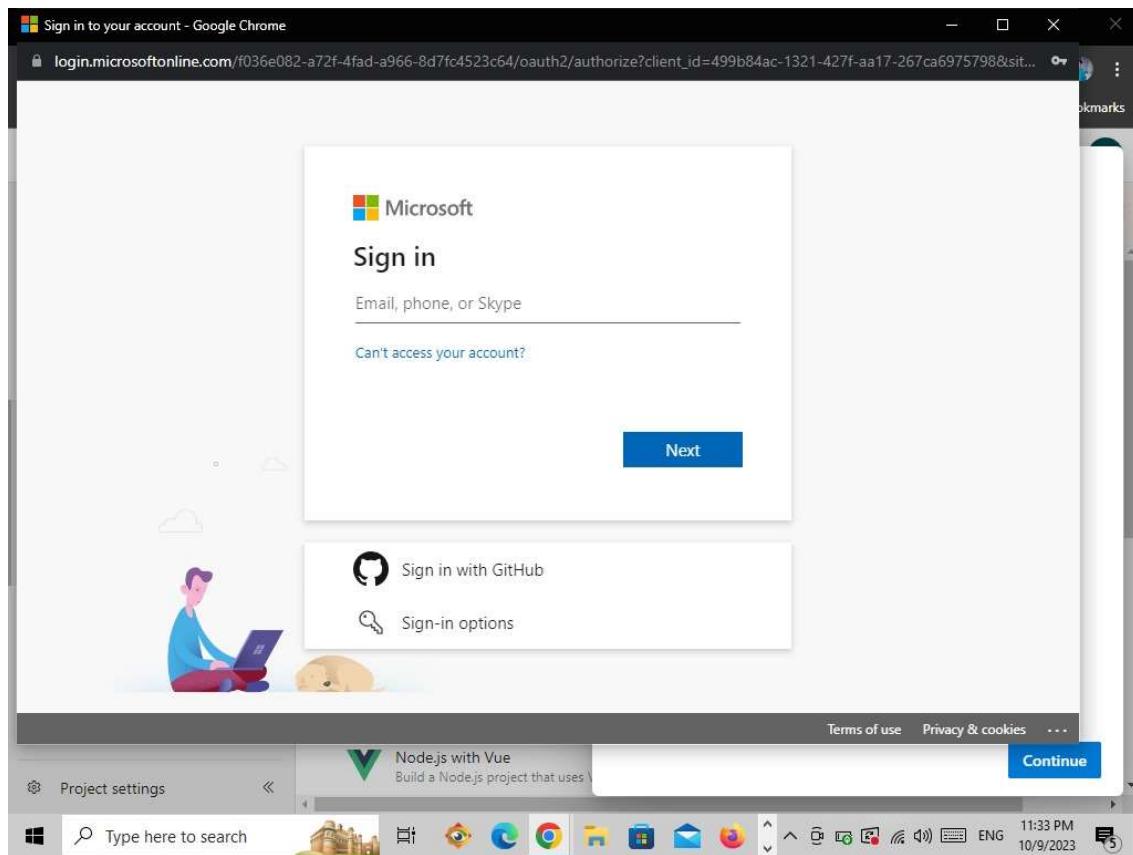
The screenshot shows the Azure DevOps Pipelines interface for a project named "gameapplication". The left sidebar has "Pipelines" selected. The main area is titled "Configure your pipeline" and lists several pipeline steps:

- Docker Build a Docker image
- Docker Build and push an image to Azure Container Registry
- Deploy to Azure Kubernetes Service Build and push image to Azure Container Registry; Deploy to Azure Kubernetes Service
- Node.js Build a general Node.js project with npm.
- Node.js Express Web App to Linux on Azure Build a Node.js Express app and deploy it to Azure as a Linux web app.
- Node.js with Vue Build a Node.js project that uses Vue.

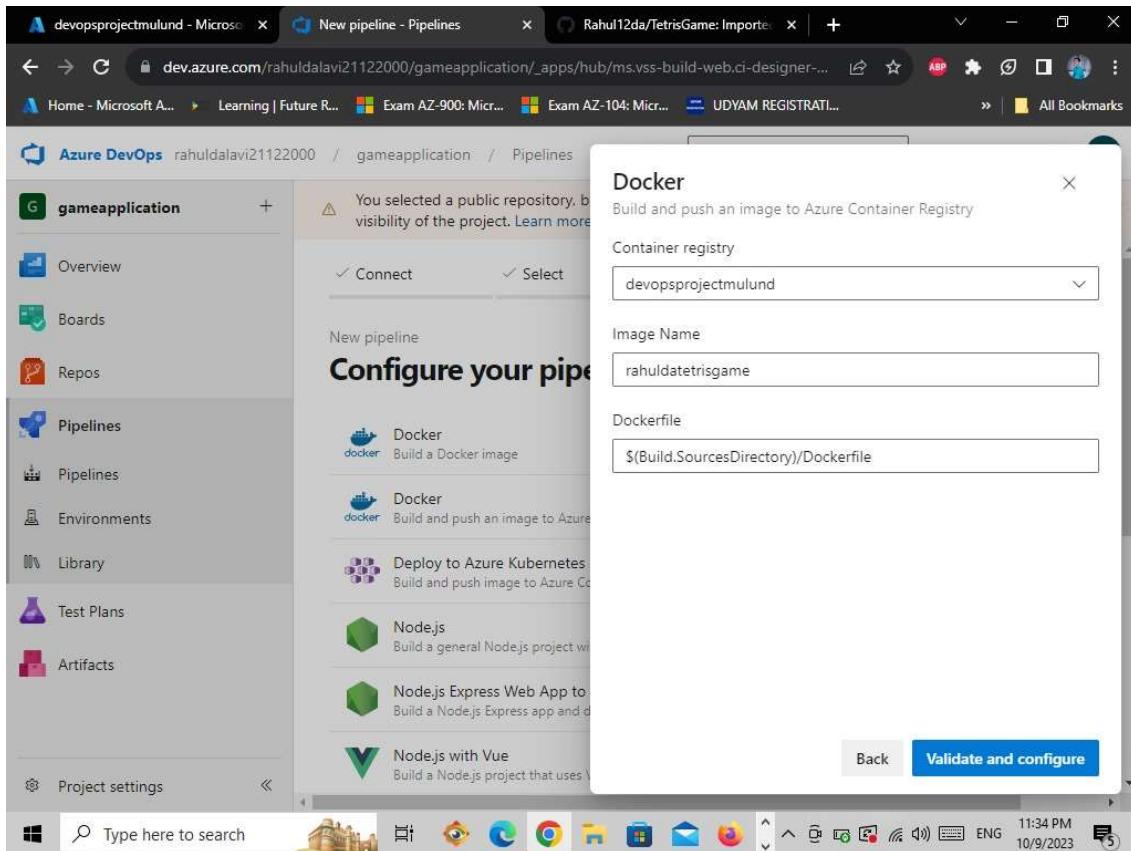
❖ Select the Azure for students subscription and click on continue



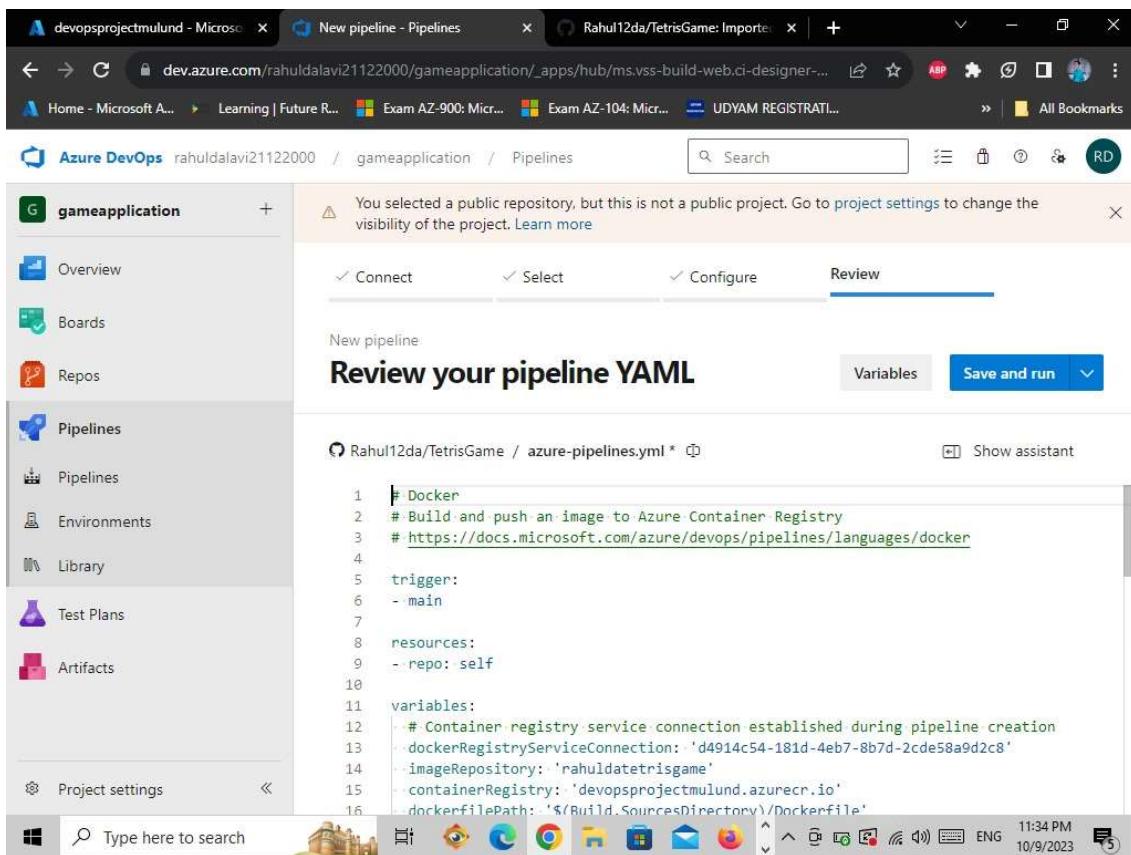
❖ It will tell we to login, fill the credentials and login.



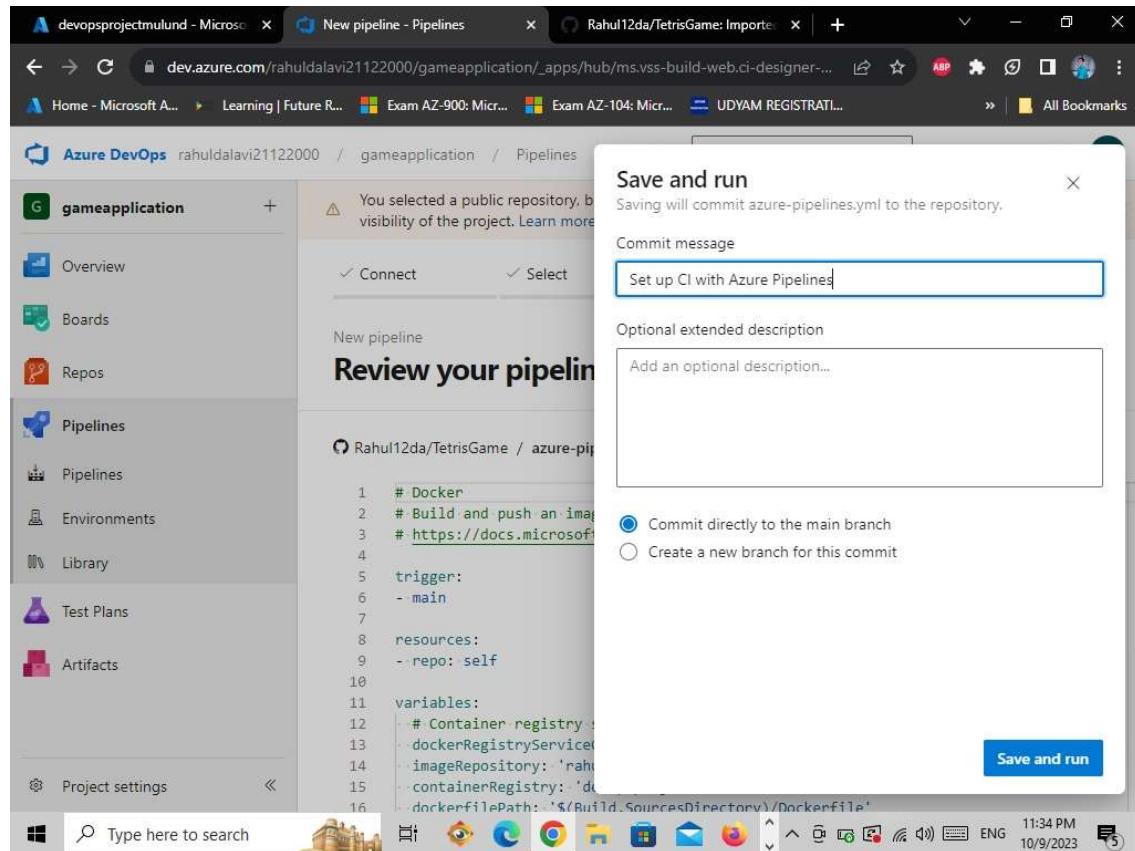
- ❖ After logging in select the Container Registry -> give the Image name the click on Validate and Configure



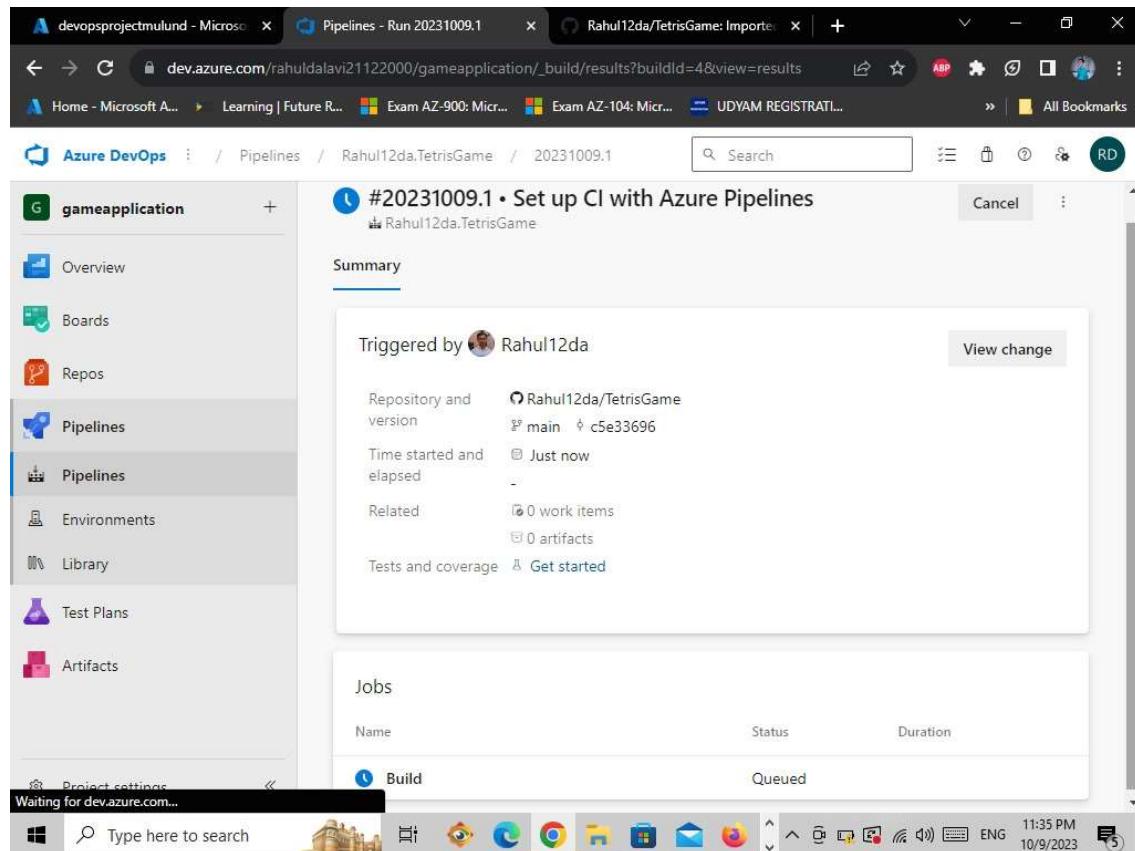
- ❖ Now Click on Save and Run.



- ❖ Enter commit message as Set up CI with Azure Pipelines select then commit directly to the main branch and then click on the save and run



- ❖ Now the pipeline is successfully created but the Job is incomplete so we have to wait.



- ❖ Now the Job is completed (the code is build and push).

The screenshot shows the Azure DevOps Pipelines results page for a run named "20231009.1". The left sidebar has "gameapplication" selected under Pipelines. The main area displays the "Summary" card with details: version "main" (commit c5e33696), started "Just now", elapsed "39s", 0 work items, 0 artifacts, and a link to "Get started". Below it is a "Warnings" section with one entry: "No data was written into the file /home/vsts/work/_temp/task_outputs/build_16968747560...". A "Jobs" section shows a single job named "Build" with status "Success" and duration "34s". The bottom right corner shows the date and time as 10/9/2023 at 11:37 PM.

- ❖ Click on Build Here you can see the logs data

The screenshot shows the Azure DevOps Pipelines results page for a run named "20231009.1 logs". The left sidebar has "gameapplication" selected under Pipelines. The main area displays the "Jobs in run #20231..." card for "Rahul12da.TetrisGame". Under the "Build and push stage", the "Build" job is expanded, showing its sub-tasks: "Initialize job", "Checkout Rahul1...", "Build and push ...", "Post-job: Check...", and "Finalize Job", all completed successfully. To the right, a "Build" panel shows the log output:

```

1 Pool: Azure_Pipelines
2 Image: ubuntu-latest
3 Agent: Hosted Agent
4 Started: Today at 11:35 PM
5 Duration: 34s
6
7 ▶ Job preparation parameters
  
```

The bottom right corner shows the date and time as 10/9/2023 at 11:38 PM.

❖ Now go to Azure Portal

The screenshot shows the Microsoft Azure portal homepage. At the top, there are three tabs: "Home - Microsoft Azure", "Pipelines - Run 20231009.1 logs", and "Rahul12da/TetrisGame: Import...". The address bar shows the URL "portal.azure.com/?quickstart=true#home". The top navigation bar includes links for "Home - Microsoft A...", "Learning | Future R...", "Exam AZ-900: Micr...", "Exam AZ-104: Micr...", "UDYAM REGISTRATI...", and "All Bookmarks". On the right, it shows the user "rahuldalavi21122000@gmail.com" and "DEFAULT DIRECTORY (RAHULDA...)".

The main content area is titled "Azure services" and features several icons:

- Create a resource
- Container registries
- Resource groups
- Recovery Services vaults
- App Services
- Kubernetes services
- Elastic Job agents
- Quickstart Center

Below these are two more icons: "Virtual machine scale sets" and "More services".

The next section is titled "Resources" and shows a table of recent resources:

Name	Type	Last Viewed
devopsprojectmulund	Container registry	23 minutes ago
azureminiproject	Resource group	24 minutes ago
Azure for Students	Subscription	a day ago

At the bottom of the resources section, there is a link "See all".

The browser status bar at the bottom shows the URL "https://portal.azure.com/?quickstart=true#create/hub", the search bar, and the system tray with the date and time "10/9/2023 11:38 PM".

❖ Go to Container registries

The screenshot shows the "Container registries" page in the Microsoft Azure portal. The top navigation bar is identical to the previous screenshot, with tabs for "Home - Microsoft Azure", "Pipelines - Run 20231009.1 logs", and "Rahul12da/TetrisGame: Import...". The address bar shows the URL "portal.azure.com/?quickstart=true#view/HubsExtension/BrowseResource/resourceType/Microsoft...".

The main content area is titled "Container registries" and shows a table of resources:

Name	Type	Resource group	Location	Subscription
devopsprojectmulund	Container registry	azureminiproject	Central India	Azure for Students

At the bottom, there are navigation links for "< Previous", "Page 1 of 1", "Next >", and a "Give feedback" button.

The browser status bar at the bottom shows the URL "https://portal.azure.com/?quickstart=true#create/hub", the search bar, and the system tray with the date and time "10/9/2023 11:38 PM".

❖ Open Container Registry

The screenshot shows the Microsoft Azure portal interface. The URL in the address bar is <https://portal.azure.com/?quickstart=true#rahuldalavi21122000@gmail.onmicrosoft.com/resource/subscriptions/476309ce-3edb-464e-8a49-6421b901de5f/resourceGroups/azureminiproject/providers/Microsoft.ContainerRegistry/registries/devopsprojectmulund>. The page title is "devopsprojectmulund - Microsoft Azure". The main content area shows the "Container registries" blade for the "devopsprojectmulund" registry. The "Overview" section includes:

- Resource group: [\(move\) azureminiproject](#)
- Location: Central India
- Subscription: [\(move\) Azure for Students](#)
- Subscription ID: 476309ce-3edb-464e-8a49-6421b901de5f
- Soft delete (Preview): [Disabled](#)
- Tags: [\(edit\)](#) [Add tags](#)

The "Usage" section shows:

Included in Pricing ...	Used	Additional storage
100 GiB	0.07 GiB	0.00 GiB

The left sidebar shows the navigation menu for the container registry, with "Access keys" currently selected.

❖ Go to the Access keys

The screenshot shows the Microsoft Azure portal interface. The URL in the address bar is <https://portal.azure.com/?quickstart=true&feature.msals=true#rahuldalavi21122000@gmail.onmicrosoft.com/resource/subscriptions/476309ce-3edb-464e-8a49-6421b901de5f/resourceGroups/azureminiproject/providers/Microsoft.ContainerRegistry/registries/devopsprojectmulund>. The page title is "devopsprojectmulund | Access keys - Microsoft Azure". The main content area shows the "Access keys" blade for the "devopsprojectmulund" registry. The "Access keys" tab is selected in the left sidebar. The right pane displays:

Registry name	Value
devopsprojectmulund	devopsprojectmulund.azurecr.io

The left sidebar shows the navigation menu for the container registry, with "Access keys" currently selected.

❖ Click on the Admin user and You can see Successfully activated admin user

The screenshot shows the Microsoft Azure portal interface. The user is viewing the 'Access keys' section for a container registry named 'devopsprojectmulund'. A success message 'Successfully activated admin user' is displayed. The portal includes a left sidebar with navigation options like Overview, Activity log, Access control (IAM), Tags, Quick start, Events, Settings (selected), and Locks. The top navigation bar shows the user's email (rahuldalavi21122000@gmail.onmicrosoft.com) and the current page as 'Pipelines - Run 20231009.3'. The bottom taskbar shows various application icons.

❖ Go to the Azure portal Home

The screenshot shows the Microsoft Azure portal home page. It features a 'Azure services' section with icons for Create a resource, Container registries, Resource groups, Recovery Services vaults, App Services, Kubernetes services, Elastic Job agents, and Quickstart Center. Below this is a 'Virtual machine scale sets' section with a 'More services' link. The 'Resources' section displays a table of recent resources, including 'devopsprojectmulund' (Container registry), 'azureminiproject' (Resource group), and 'Azure for Students' (Subscription). The table has columns for Name, Type, and Last Viewed. The bottom taskbar shows the URL 'https://portal.azure.com/?quickstart=true#create/hub' and various application icons.

❖ Search for App Service and open

App Services - Microsoft Azure | Pipelines - Run 20231009.3 | +

portal.azure.com/?quickstart=true&feature.msaljs=true#view/HubsExtension/BrowseResource/re...

Home - Microsoft A... Learning | Future R... Exam AZ-900: Micr... Exam AZ-104: Micr... UDYAM REGISTRATI...

Microsoft Azure Search resources, services, and docs (G+)

Home >

App Services

Default Directory

+ Create Manage Deleted Apps Manage view Refresh Export to CSV Open query Assign tags Start ...

Filter for any field... Subscription equals all Resource group equals all Location equals all Add filter

No grouping List view

Showing 0 to 0 of 0 records.

Name ↑↓	Status ↑↓	Location ↑↓	Pricing Tier ↑↓	App Service Plan ↑↓	Subscription
No app services to display					

Create, build, deploy, and manage powerful web, mobile, and API apps for employees or customers using a single back-end. Build standards-based web apps and APIs using .NET, Java, Node.js, PHP, and Python.

Learn more about App Service Give feedback

Type here to search

Windows Taskbar: 12:10 AM 10/10/2023

❖ Click on Create Web App

App Services - Microsoft Azure | Pipelines - Run 20231009.3 | +

portal.azure.com/?quickstart=true&feature.msaljs=true#view/HubsExtension/BrowseResource/re...

Home - Microsoft A... Learning | Future R... Exam AZ-900: Micr... Exam AZ-104: Micr... UDYAM REGISTRATI...

Microsoft Azure Search resources, services, and docs (G+)

Home >

App Services

Default Directory

+ Create Manage Deleted Apps Manage view Refresh Export to CSV Open query Assign tags Start ...

+ Web App Subscription equals all Resource group equals all Location equals all Add filter

No grouping List view

Showing 0 to 0 of 0 records.

Name ↑↓	Status ↑↓	Location ↑↓	Pricing Tier ↑↓	App Service Plan ↑↓	Subscription
No app services to display					

Create, build, deploy, and manage powerful web, mobile, and API apps for employees or customers using a single back-end. Build standards-based web apps and APIs using .NET, Java, Node.js, PHP, and Python.

Learn more about App Service Give feedback

Type here to search

Windows Taskbar: 12:10 AM 10/10/2023

❖ Enter the Resource Group name and the Web App name

Subscription *

Resource Group * Create new

Name *

Review + create < Previous Next : Deployment >

❖ Select Docker container and select the Region

Name * .azurewebsites.net

Publish * Code Docker Container Static Web App

Operating System * Linux Windows

Region * Not finding your App Service Plan? Try a different region or select your App Service Environment.

Review + create < Previous Next : Docker >

❖ Select the Linux pricing plan as the Basic B1

Pricing plans

App Service plan pricing tier determines the location, features, cost and compute resources associated with your app. [Learn more](#)

Linux Plan (Central India) * (New) ASP-azureminiproject-aec0

Pricing plan Basic B1 (100 total ACU, 1.75 GB memory, 1 vCPU)

Zone redundancy

An App Service plan can be deployed as a zone redundant service in the regions that support it. This is a deployment time only decision. You can't make an App Service plan zone redundant after it has been deployed. [Learn more](#)

Enabled: Your App Service plan and the apps in it will be zone redundant. The minimum App Service plan instance count will be three.

Disabled: Your App Service Plan and the apps in it will not be zone redundant. The minimum App Service plan instance count will be one.

Review + create < Previous Next : Docker >

❖ Now go to Docker tab and select Option>Single container, Image Source> Azure Container Registry, select Registry and Image

Basics Docker Networking Monitoring Tags Review + create

Pull container images from Azure Container Registry, Docker Hub or a private Docker repository. App Service will deploy the containerized app with your preferred dependencies to production in seconds.

Options Single Container

Image Source Azure Container Registry

Azure container registry options

Registry * devopsprojectmulund

Image * rahuldatetrisgame

Tag * 6

Startup Command

Review + create < Previous Next : Networking >

❖ Tap on the Review and Create

Home > App Services >

Create Web App

Basics Docker Networking Monitoring Tags Review + create

Summary

Web App by Microsoft

Basic (B1) sku
Estimated price - 1031.94 INR/Month

Details

Subscription	476309ce-3edb-464e-8a49-6421b901de5f
Resource Group	azureminiproject
Name	tetrisgameapp
Publish	Docker Container
Image:Tag	devopsprojectmulund.azurecr.io/rahuldatetrisgame:6
Server URL	https://devopsprojectmulund.azurecr.io

App Service Plan (New)

Create < Previous Next > Download a template for automation

❖ Here you can see the Web App is successfully deployed

Microsoft.Web-WebApp-Portal-1448ab43-ad49 | Overview

Deployment succeeded

Deployment 'Microsoft.Web-WebApp-Portal-1448ab43-ad49' to resource group 'azureminiproject' was successful.

Deployment name: Micros... Start time: 10/10/2023, 1...
Subscription: Azure for Stu... Correlation ID: 8cc92e7e-0...

Resource group: azureminiproject

Deployment details

Next steps

Manage deployments for your app. Recommended
Protect your app with authentication. Recommended

Go to resource

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❖ Click on Go to Resource

The screenshot shows the Microsoft Azure portal interface. The top navigation bar includes tabs for 'tetrismgameapp - Microsoft Azure', 'Pipelines - Run 20231009.3', and 'portal.azure.com/?quickstart=true&feature.msaljs=true#rahuldalavi21122000@gmail.onmicrosoft.com'. The main content area displays the 'tetrisgameapp' Web App overview. The left sidebar lists navigation options: Overview, Activity log, Access control (IAM), Tags, Diagnose and solve problems, Microsoft Defender for Cloud, Events (preview), Deployment (Deployment slots, Deployment Center), Settings (Configuration, Authentication). The right panel shows the 'Essentials' section with details: Resource group (move), Status (Running), Location (Central India), Subscription (Azure for Students), Subscription ID (476309ce-3edb-464e-8a49-6421b901de5f), and Tags (edit). Below this are tabs for Properties, Monitoring, Logs, Capabilities, Notifications, and Recommendations. The bottom of the screen shows the Windows taskbar with various pinned icons.

❖ Now go the app Services and select the Tetrisgameapp

This screenshot is identical to the one above, showing the 'tetrisgameapp' Web App overview in the Microsoft Azure portal. The layout, sidebar options, and detailed information in the 'Essentials' section are all the same, indicating the app is still running and configured correctly.

❖ From the left side bar tap the Configuration

The screenshot shows the Microsoft Azure portal interface. The top navigation bar includes links for 'tetrisgameapp - Microsoft Azure', 'Pipelines - Recent', 'ChatGPT', and 'portal.azure.com/?quickstart=true&feature.msaljs=true#@rahuldalavi21122000@gmail.onmicrosoft.com'. The main search bar says 'Search resources, services, and docs (G+)'. The user's email 'rahuldalavi21122000@gmail.onmicrosoft.com' is at the top right. The left sidebar has sections for Deployment (Deployment slots, Deployment Center), Settings (Configuration, Authentication, Application Insights, Identity, Backups, Custom domains, Certificates, Networking, Scale up (App Service plan)), and a search bar. The 'Configuration' section is currently selected. The main content area is titled 'tetrisgameapp | Configuration' and shows the 'Application settings' tab selected. It displays application settings like DOCKER_REGISTRY_SERVER_PASSWORD, DOCKER_REGISTRY_SERVER_URL, and DOCKER_REGISTRY_SERVER_USERNAME, all set to 'Hidden value. Click to show value' and associated with 'App Service'. Below this is a 'New application setting' button and a 'Filter application settings' input field.

❖ Then tap on the Application Setting and enter name as WebsitePort and value as 3000 and click on ok

The screenshot shows the Microsoft Azure portal interface with the same navigation and sidebar as the previous screenshot. The main content area now displays a modal dialog titled 'Add/Edit application setting'. In the 'Name' field, 'Websiteport' is entered. In the 'Value' field, '3000' is entered. A checkbox labeled 'Deployment slot setting' is unchecked. At the bottom of the dialog are 'Ok' and 'Cancel' buttons. The background of the portal shows the same configuration page for the 'tetrisgameapp' web app.

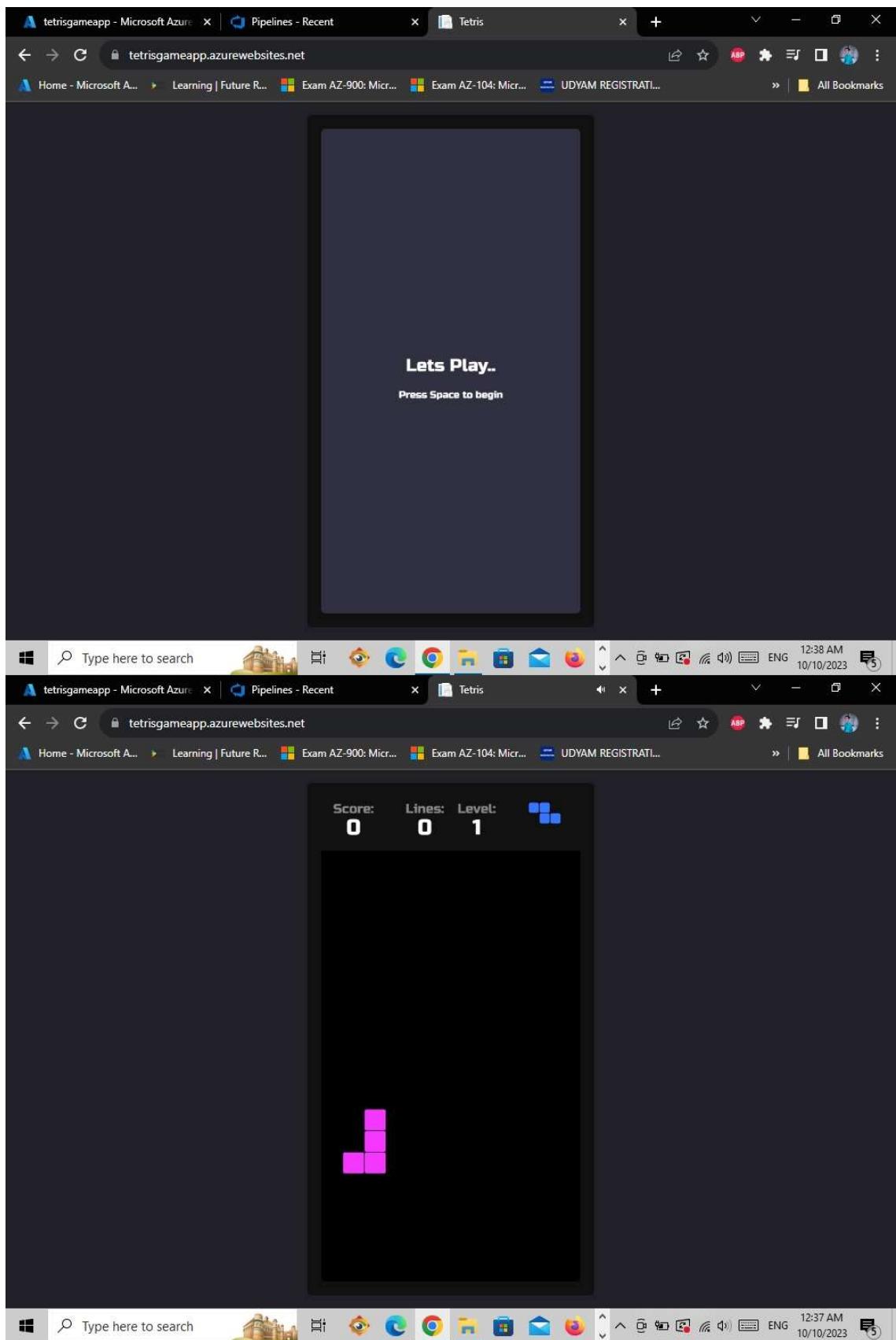
❖ Save changes

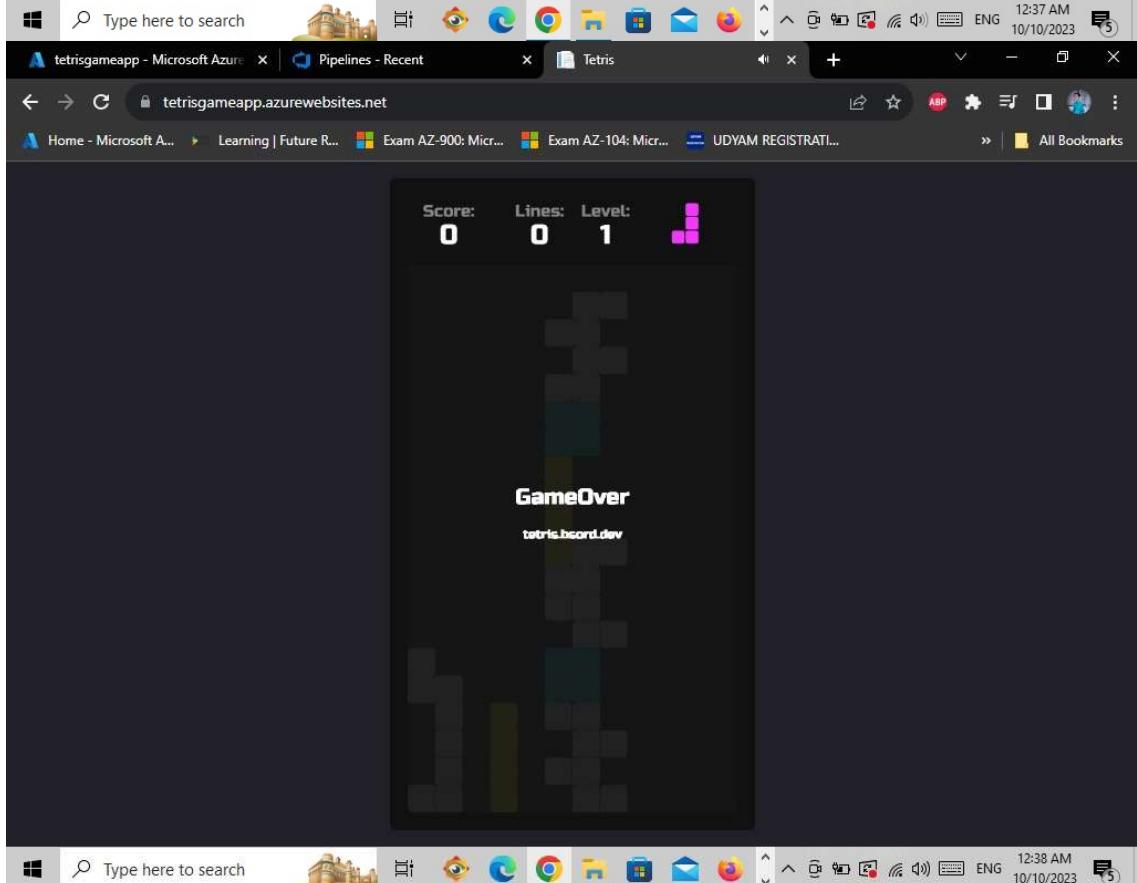
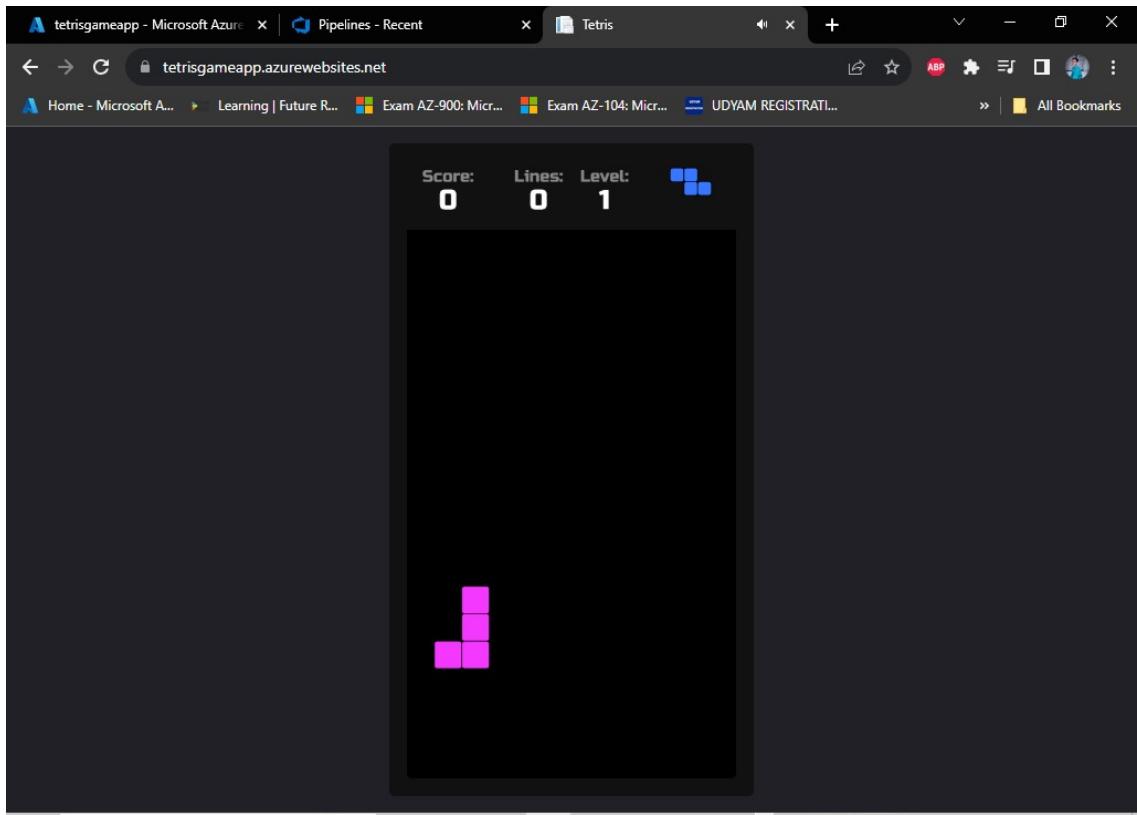
The screenshot shows the Microsoft Azure portal interface. The user is in the 'tetrisgameapp' configuration section under 'App Services'. A modal dialog box titled 'Save changes' is open, asking if they want to continue with changes to application settings and connection strings, which will restart the application. The dialog has 'Continue' and 'Cancel' buttons. Below the dialog, the application settings list is visible, showing environment variables like DOCKER_REGISTRY_SERVER_PASSWORD, DOCKER_REGISTRY_SERVER_URL, and DOCKER_REGISTRY_SERVER_USERNAME, all set to 'Hidden value. Click to show value' and sourced from 'App Service'. The left sidebar shows other configuration options like Deployment, Settings, and Configuration.

❖ Go to Overview

The screenshot shows the Microsoft Azure portal interface. The user is in the 'tetrisgameapp' overview section under 'App Services'. The main pane displays the app's status (Running), resource group (azureminiproject), and other details like location (Central India) and subscription (Azure for Students). The left sidebar shows navigation links for Overview, Activity log, Access control (IAM), Tags, Diagnose and solve problems, Microsoft Defender for Cloud, Events (preview), Deployment, and Settings. The top navigation bar includes links for Home, Pipelines, ChatGPT, and various Azure services. The bottom taskbar shows the Windows Start button and pinned icons for Edge, File Explorer, Task View, and others.

Outputs:-





Conclusion:-

The Azure DevOps Tetris Game App project exemplified the effectiveness of utilizing Azure DevOps tools for end-to-end project management, development, and deployment. The agile workflow enabled efficient collaboration and adaptability throughout the development lifecycle. The successful deployment of the Tetris game app to production showcased the reliability and scalability of Azure DevOps pipelines. Ultimately, the project demonstrated how Azure DevOps can facilitate the creation of a well-structured, feature-rich Tetris game app, meeting both technical and user-centric requirements.