

Introduction to Cloud Computing

LAB 02b

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BS-SE 7B

Task 1: Assign tags via the Azure portal

- Search for and select Resource groups. Select Create.

Microsoft Azure

Home > Resource Manager | Resource groups >

Create a resource group ...

Basics Tags Review + create

Resource group - A container that holds related resources for an Azure solution. The resource group can include all the resources for the solution, or only those resources that you want to manage as a group. You decide how you want to allocate resources to resource groups based on what makes the most sense for your organization. [Learn more](#)

Subscription * (Azure for Students)

Resource group name * (az104-rg2)

Region * (Central India)

Previous Next Review + create

bsse2280155@szabist.pk
bsse2280155@szabist.pk
My Microsoft account
Switch directory ...
Sign in with a different account

Microsoft Azure

Home > Resource Manager | Resource groups >

Create a resource group ...

Basics Tags Review + create

Automation Link

Basics

Subscription: Azure for Students
Resource group name: az104-rg2
Region: Central India

Tags

Cost Center: 000

Previous Next Create

bsse2280155@szabist.pk
bsse2280155@szabist.pk
My Microsoft account
Switch directory ...
Sign in with a different account

Task 2: Enforce tagging via an Azure Policy

- In the Azure portal, search for and select **Policy**.

The screenshot shows the 'Policy Overview' blade in the Azure portal. On the left, a navigation menu includes 'Overview', 'Compliance', 'Remediation', 'Events', 'Authoring', 'Definitions', 'Assignments', 'Machine Configuration', and 'Exemptions'. The 'Definitions' option is selected. The main area displays four key metrics: 'Policy Compliance' (228 total, 213 Compliant, 15 Non-compliant), 'Initiative Compliance' (1 total, 0 Compliant, 1 Non-compliant), 'Overall resource compliance' (0%), and 'Pending Remediation' (0 remediable assignments). A sidebar titled 'Getting started' lists five recommended assignments: 'Inherit tags from Resource Group', 'Require tag on Resource Group', 'Not allowed resource types', 'Audit Windows VMs for security', and 'Enable Azure Monitor for VMs'. At the bottom, there's a note about adding favorites and a 'Give feedback' link.

- In the **Authoring** blade, select **Definitions**.

The screenshot shows the 'Definitions' blade in the Azure portal under the 'Policy' category. The top navigation bar includes 'Assign policy', 'Edit definition', 'Duplicate definition', 'Select version (preview)', and 'Delete definition'. The main content area shows a single definition named 'Require a tag and its value on resources'. The 'Essentials' section details the definition: Name is 'Require a tag and its value on resources', Version is '1.0.1', Description is 'Enforces a required tag and its value. Does not apply to resource groups.', Available Effects is 'Deny', Category is 'Tags', Definition location is '...', Definition ID is '/providers/Microsoft.Authorization/policyDefinitions/1e30110a-5ceb-460c-a204-c...', Type is 'Built-in', and Mode is 'Indexed'. Below this, the 'Definition' tab is selected, showing 'Assignments (0)' and 'Parameters (2)'. The JSON code for the definition is displayed in a code editor:

```
1 {  
2   "properties": {  
3     "displayName": "Require a tag and its value on resources",  
4     "policyType": "Builtin",  
5     "mode": "Indexed",  
6     "description": "Enforces a required tag and its value. Does not apply to resource groups.",  
7     "metadata": {  
8       "version": "1.0.1",  
9       "category": "Tags"  
10     },  
11     "version": "1.0.1",  
12     "parameters": {  
13       "tagName": {  
14         "type": "String"  
15       }  
16     }  
17   }  
18 }
```

- Select **Assign policy**.

Assign policy

Basics

Policy definition *

Version (preview) *

Assignment name *

Description

Policy enforcement Enabled

Scope

Management Group Tenant Root Group (d7e692a5-cccf-417c-b67f-0ded375904c4)
 az104-mg1 (az104-mg1)

Subscription All selected

Resource Group az104-rg2

Previous Next Review + create Select Cancel Clear All Selections Give feedback

- Search for and select **Storage Account**, and select **Create**.

Storage center | Blob Storage

Default Directory (bsse2280155szabist.onmicrosoft.com)

Search Summary Resources

+ Create ⏪ Restore Manage view Refresh Export to CSV Open query Assign tags Delete Add to service group Group by none

You are viewing a new version of Browse experience. Click here to access the old experience.

No storage accounts to display

Create a storage account to store up to 500TB of data in the cloud. Use a general-purpose storage account to store object data, use a NoSQL data store, define and use queues for message processing, and set up file shares in the cloud. Use the Blob storage account and the hot or cool access tiers to optimize your costs based on how frequently your object data is accessed.

+ Create Learn more

Showing 1 - 0 of 0. Display count: auto

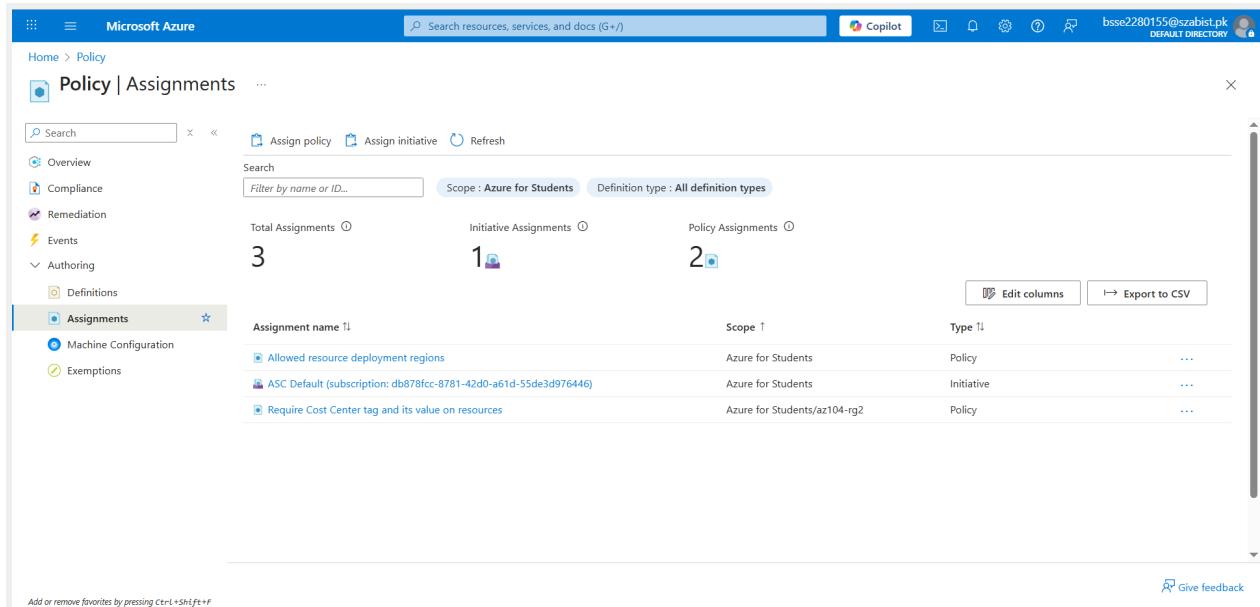
Add or remove favorites by pressing Ctrl+Shift+F Give feedback

- Search for and select **Storage Accounts**, and select **Create**.

- Select **Review** and then click **Create**.
- You should receive a **Validation failed** message.

Task 3: Apply tagging via an Azure policy

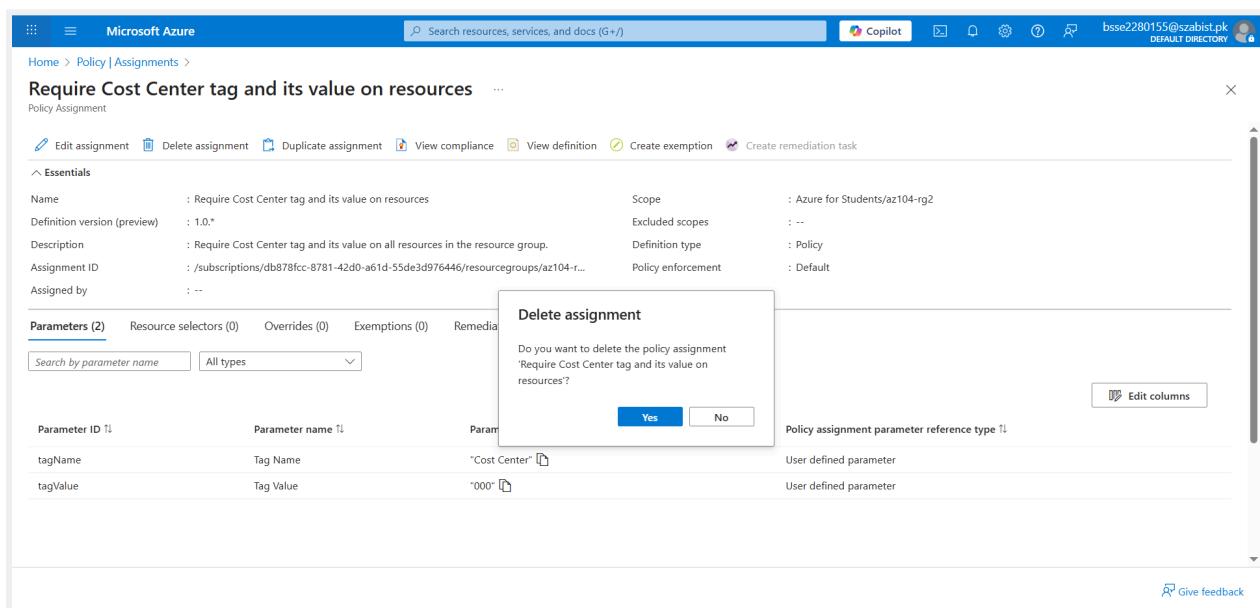
- Search for and select **Policy**.
- In the **Authoring** section, click **Assignments**.



The screenshot shows the Microsoft Azure Policy Assignments page. The left sidebar has sections like Overview, Compliance, Remediation, Events, Authoring (which is selected), Definitions, Assignments (selected), Machine Configuration, and Exemptions. The main area shows summary statistics: Total Assignments (3), Initiative Assignments (1), and Policy Assignments (2). Below this is a table of assignments:

Assignment name	Scope ↑	Type ↑
Allowed resource deployment regions	Azure for Students	Policy
ASC Default (subscription: db878fcc-8781-42d0-a61d-55de3d976446)	Azure for Students	Initiative
Require Cost Center tag and its value on resources	Azure for Students/az104-rg2	Policy

- In the list of assignments, click the ellipsis icon in the row representing the **Require a tag and its value on resources** policy assignment and use the **Delete assignment** menu item to delete the assignment.



The screenshot shows the Microsoft Azure Policy Assignment details page for "Require Cost Center tag and its value on resources". The "Essentials" section includes fields for Name, Definition version (preview), Description, Assignment ID, and Assigned by. Below this is a "Parameters" table with two entries: tagName and tagValue. A modal dialog titled "Delete assignment" asks "Do you want to delete the policy assignment 'Require Cost Center tag and its value on resources?'. It has "Yes" and "No" buttons. The background shows other tabs like Edit assignment, Delete assignment, Duplicate assignment, View compliance, View definition, Create exemption, and Create remediation task.

- Click **Assign policy** and specify the **Scope**.

The screenshot shows the 'Assign policy' dialog in the Microsoft Azure portal. On the left, under 'Basics', the 'Scope' section is selected, showing 'Scope *' set to 'Azure for Students/az104-rg2'. Below it are sections for 'Exclusions' and 'Resource selectors'. On the right, a modal window titled 'Available Definitions' lists a single item: 'Inherit a tag from the resource group if missing' by 'BuiltIn'. The modal includes filters for 'Policy type : All policy types', 'Category : All categories', 'Latest version (pr...)', 'Category', and 'Type'.

- Click **Review + Create** and then click **Create**.

The screenshot shows the 'Assign policy' dialog with the 'Remediation' tab selected. It includes fields for 'Policy to remediate' (set to 'Inherit a tag from the resource group if missing'), 'Managed Identity' (describing its use for deployIfNotExists and modify policies), 'Create a Managed Identity' (checkbox checked), 'Type of Managed Identity' (radio button selected for 'System assigned managed identity'), and 'System assigned identity location' (set to '(Asia Pacific) Central India'). At the bottom, there are 'Previous' and 'Next' buttons, and a prominent blue 'Review + create' button.

- Search for and select **Storage Account** and click **Create**.

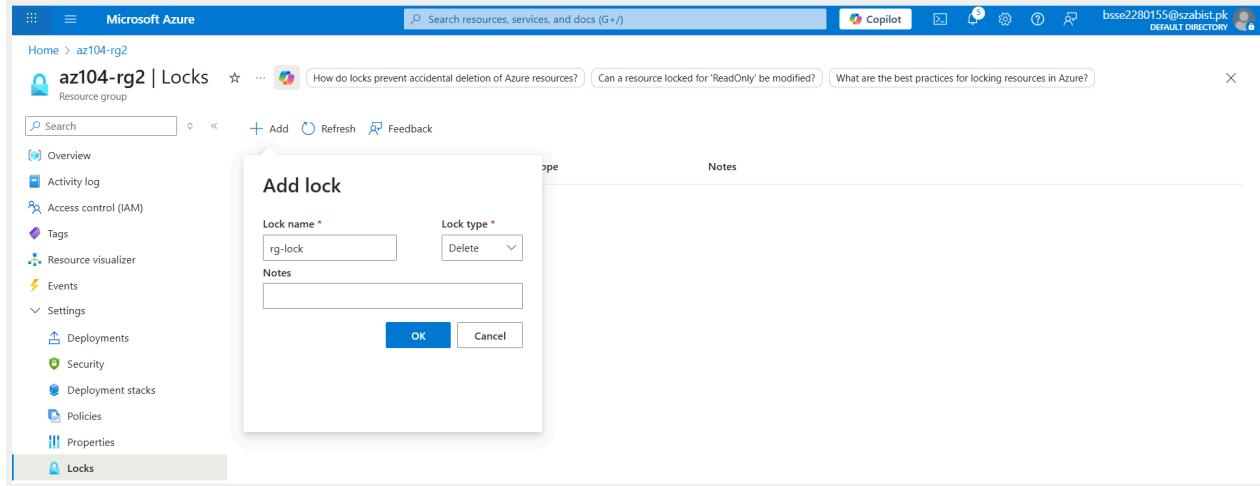
The screenshot shows the Microsoft Azure Storage account overview page for 'storageacc999_1764258272443'. The main message is 'Your deployment is complete'. Deployment details include name: storageacc999_1764258272443, subscription: Azure for Students, and resource group: az104-rg2. The deployment started at 11/27/2025, 8:44:53 PM. A success message at the top right states: 'Deployment succeeded. Deployment 'storageacc999_1764258272443' to resource group 'az104-rg2' was successful.' Below the main content are sections for Cost Management, Microsoft Defender for Cloud, Free Microsoft tutorials, and Work with an expert.

- On the **Tags** blade, note that the tag **Cost Center** with the value **000** has been automatically assigned to the resource.

The screenshot shows the Microsoft Azure Tags blade for the storage account 'storageacc999'. The blade displays a single tag entry: 'Cost Center : 000'. The blade includes a sidebar with various management links like Diagnose and solve problems, Access Control (IAM), Data migration, Events, Storage browser, Storage Mover, Partner solutions, Resource visualizer, Data storage, Security + networking, Data management, Settings, Monitoring, and Monitoring (classic). At the bottom, there are 'Apply' and 'Discard changes' buttons.

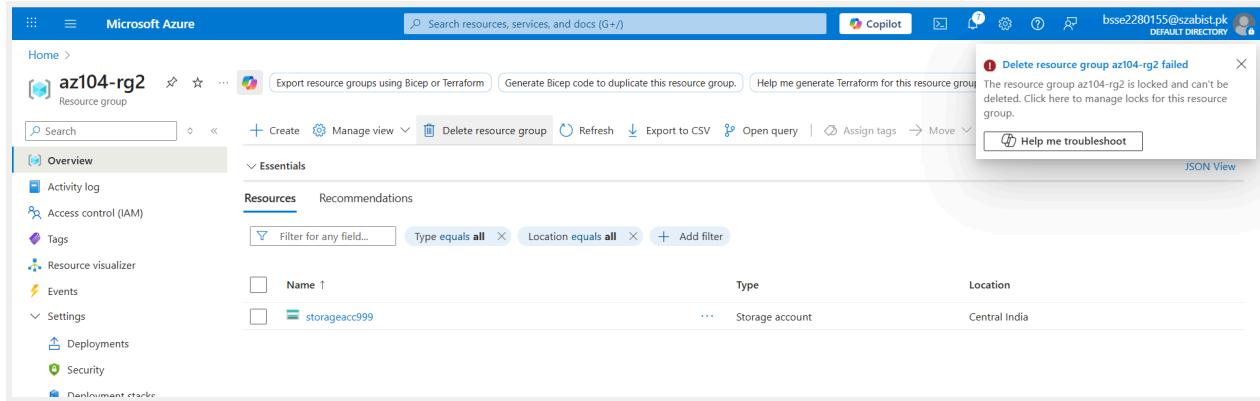
Task 4: Configure and test resource locks

- Search for and select your resource group.
- In the **Settings** blade, select **Locks**.



The screenshot shows the Microsoft Azure portal interface. The top navigation bar includes 'Microsoft Azure', a search bar, and user information (bsse2280155@szabist.pk, DEFAULT DIRECTORY). Below the navigation is a breadcrumb trail: Home > az104-rg2. The main content area is titled 'az104-rg2 | Locks'. On the left, a sidebar lists various resource group settings like Overview, Activity log, Access control (IAM), Tags, Resource visualizer, Events, Deployments, Security, Deployment stacks, Policies, Properties, and Locks (which is selected and highlighted in grey). A central modal window is titled 'Add lock' and contains fields for 'Lock name' (set to 'rg-lock') and 'Lock type' (set to 'Delete'). There is also a 'Notes' field and two buttons at the bottom: 'OK' and 'Cancel'.

- Navigate to the resource group **Overview** blade, and select **Delete resource group**.
- You should receive a notification denying the deletion.



The screenshot shows the Microsoft Azure portal interface. The top navigation bar includes 'Microsoft Azure', a search bar, and user information (bsse2280155@szabist.pk, DEFAULT DIRECTORY). Below the navigation is a breadcrumb trail: Home > az104-rg2. The main content area is titled 'az104-rg2'. On the left, a sidebar lists various resource group settings like Overview, Activity log, Access control (IAM), Tags, Resource visualizer, Events, Deployments, Security, Deployment stacks, Policies, Properties, and Locks. The 'Overview' tab is selected. At the top of the main area are buttons for 'Create', 'Manage view', 'Delete resource group', 'Refresh', 'Export to CSV', 'Open query', 'Assign tags', and 'Move'. A notification message 'Delete resource group az104-rg2 failed' is shown, with a sub-note: 'The resource group az104-rg2 is locked and can't be deleted. Click here to manage locks for this resource group.' Below the notification is a 'Help me troubleshoot' link. The main content area displays a table of resources under the 'Resources' tab. The table has columns for 'Name', 'Type', and 'Location'. One resource is listed: 'storageacc999' (Type: Storage account, Location: Central India).