

Lab19 – Understanding Queue Storage – Azure

Queue storage

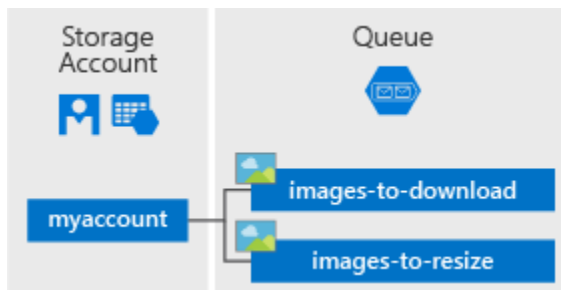
Azure Queue storage is a service for storing large numbers of messages that can be accessed from anywhere in the world via authenticated calls using HTTP or HTTPS. A single queue message can be up to 64 KB in size, and a queue can contain millions of messages, up to the total capacity limit of a storage account.

Common uses of Queue storage include:

- Creating a backlog of work to process asynchronously
- Passing messages from an Azure web role to an Azure worker role

Queue Service Concepts

The Queue service contains the following components:



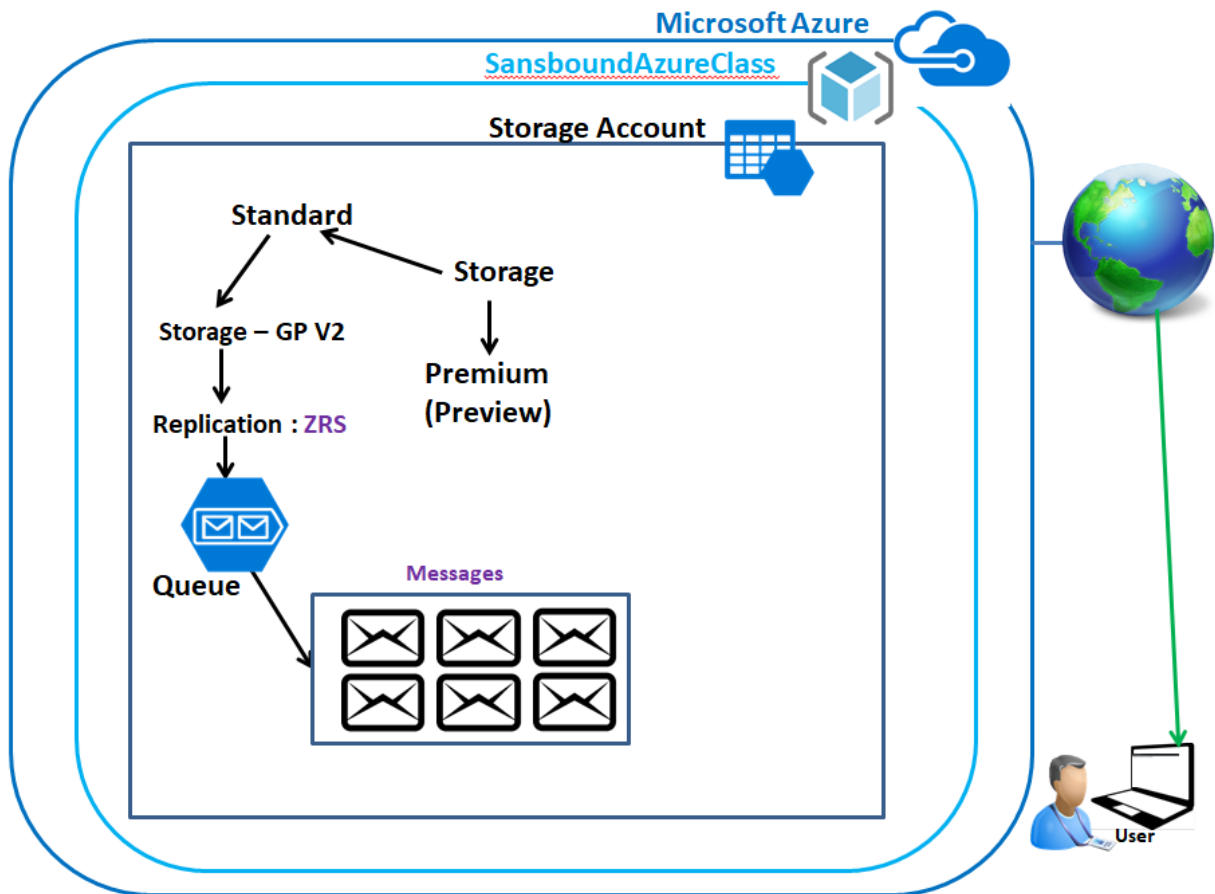
- **URL format:** Queues are addressable using the following URL format:
`http://<storage account>.queue.core.windows.net/<queue>`

The following URL addresses a queue in the diagram:

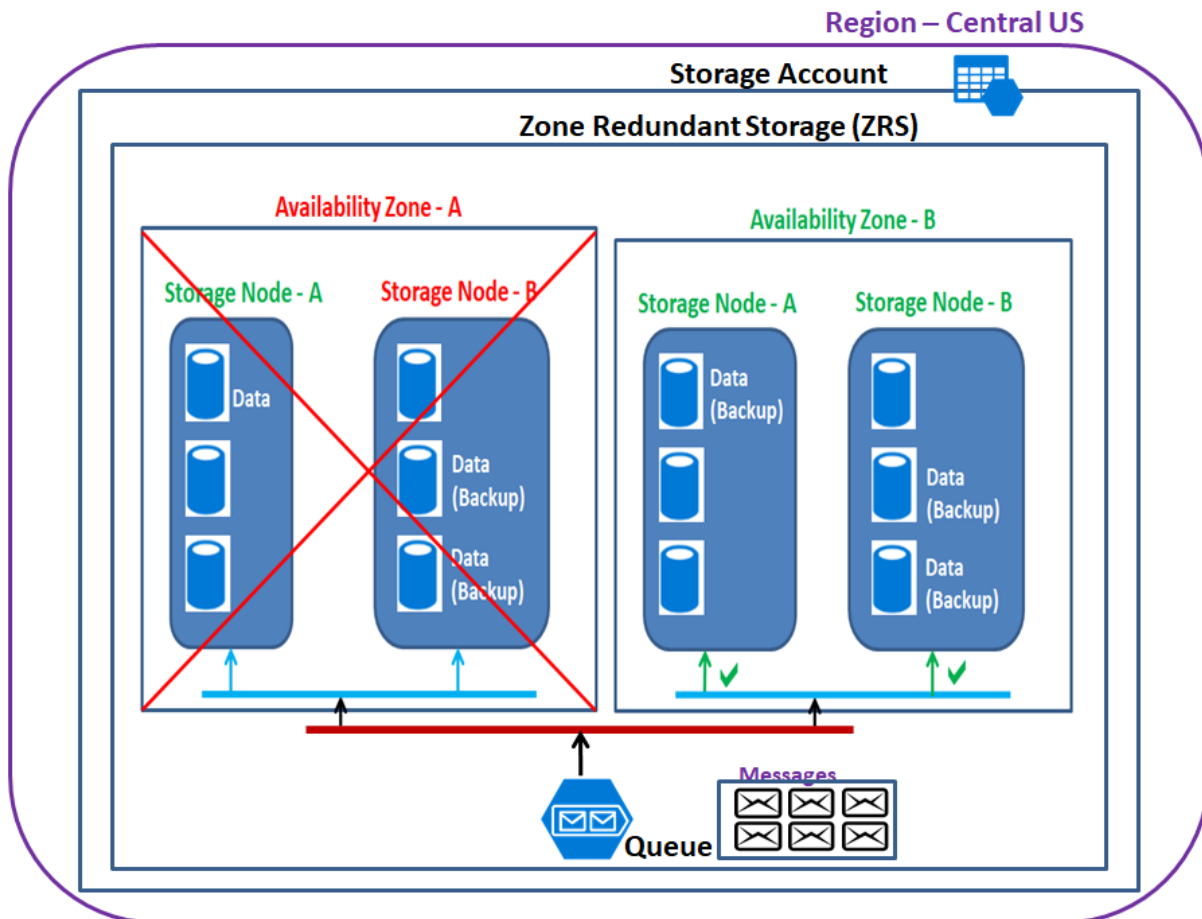
`http://myaccount.queue.core.windows.net/images-to-download`

- **Storage Account:** All access to Azure Storage is done through a storage account. See [Azure Storage Scalability and Performance Targets](#) for details about storage account capacity.
- **Queue:** A queue contains a set of messages. All messages must be in a queue. Note that the queue name must be all lowercase. For information on naming queues, see [Naming Queues and Metadata](#).
- **Message:** A message, in any format, of up to 64 KB. The maximum time that a message can remain in the queue is 7 days.

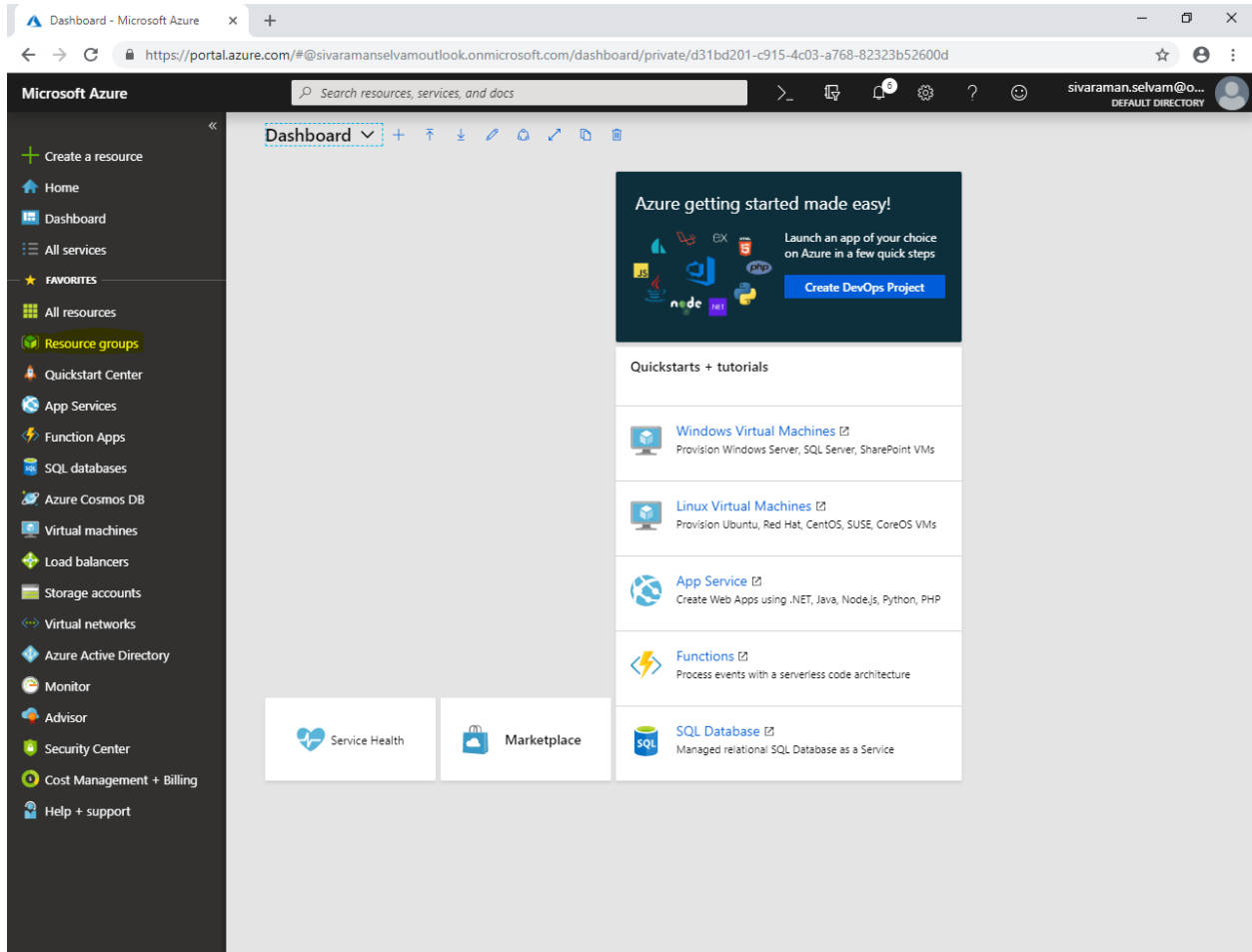
Topology:



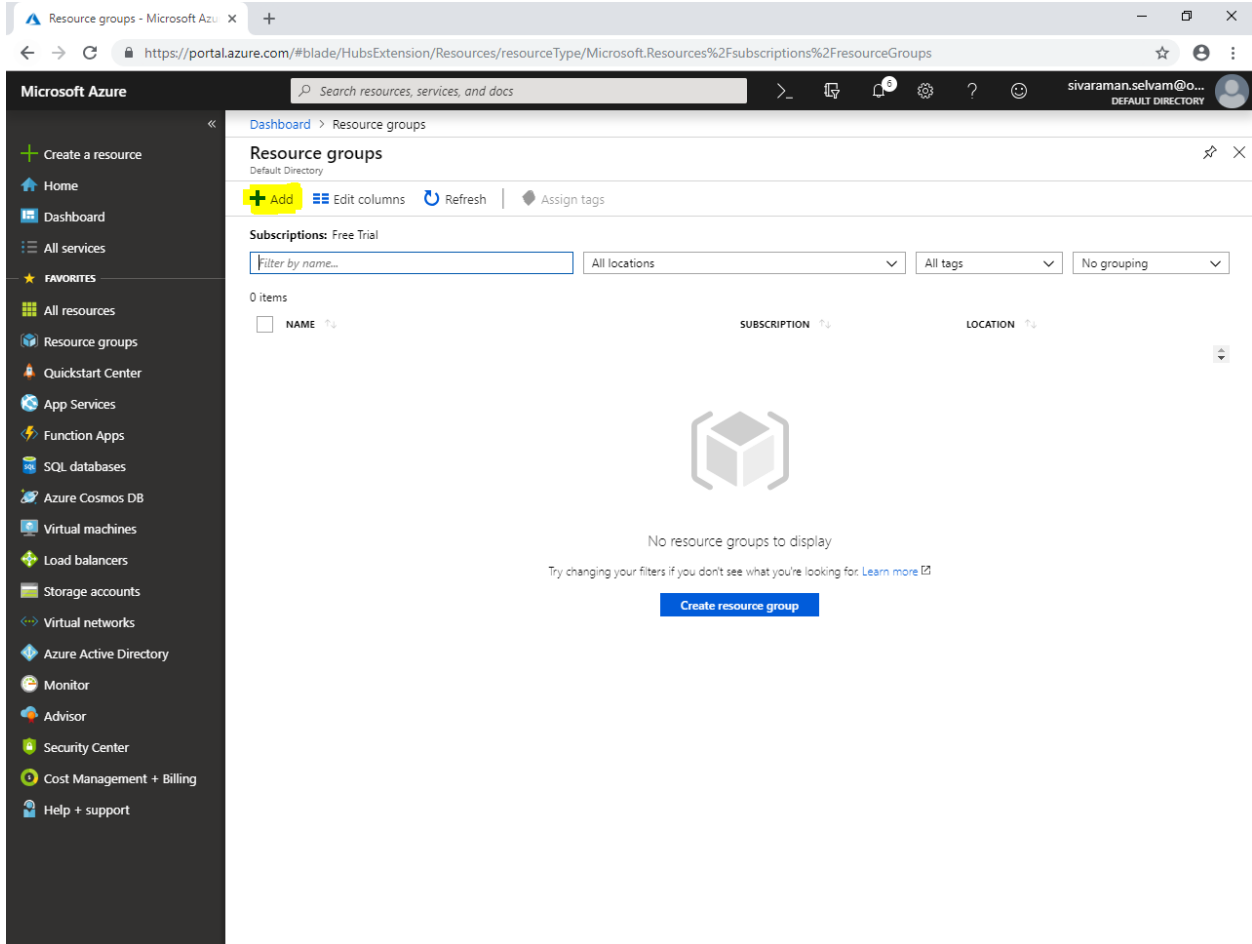
Back-End Topology:



In Azure portal, click **“Resource groups”**.



Click **"Add"**.



The screenshot shows the Microsoft Azure portal interface. The left sidebar contains navigation links such as 'Create a resource', 'Home', 'Dashboard', 'All services', and a 'FAVORITES' section with various Azure services. The main content area is titled 'Resource groups' and includes a search bar, a list of actions ('Add', 'Edit columns', 'Refresh', 'Assign tags'), and filter options for 'Subscriptions' (set to 'Free Trial'), 'Filter by name...', 'All locations', 'All tags', and 'No grouping'. Below these filters, a table header shows columns for 'NAME', 'SUBSCRIPTION', and 'LOCATION'. The table is currently empty, displaying a message: 'No resource groups to display. Try changing your filters if you don't see what you're looking for. [Learn more](#)'. A blue button labeled 'Create resource group' is positioned at the bottom of the table area.

Cloud Computing - Azure

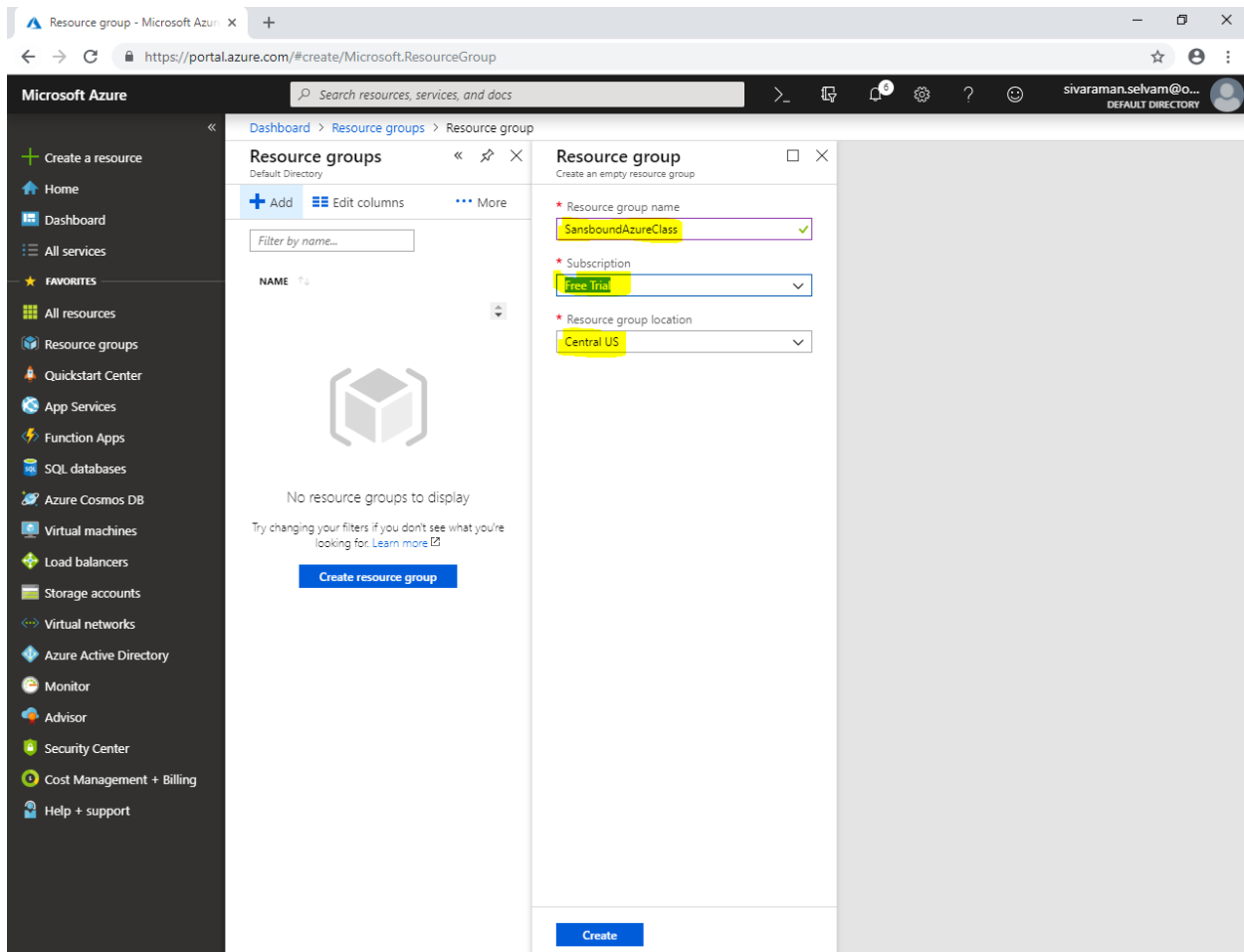
While create **“Resource group”**,

It requires, **“Resource group name”** type name as **“SansboundAzureClass”**.

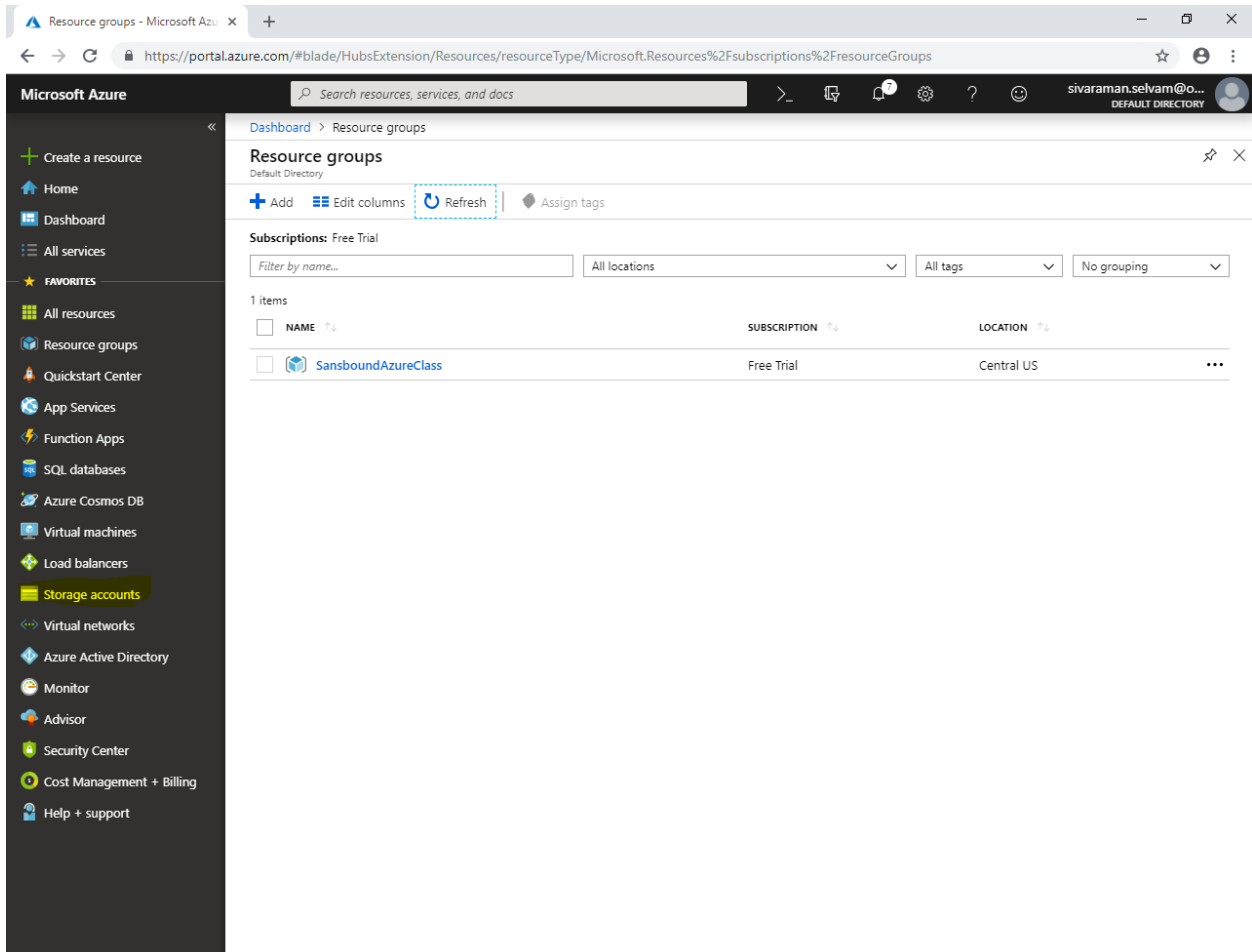
Select **“Subscription”** as **“Free Trial”**.

Select **“Resource group location”** as **“Central US”**.

Click **“Create”**.



Click **"Storage accounts"** in left side panel.



The screenshot shows the Microsoft Azure portal interface. The left-hand navigation pane is visible, with the 'Storage accounts' option highlighted in yellow. The main content area is titled 'Resource groups' and shows a table with one item. The table has columns for 'NAME', 'SUBSCRIPTION', and 'LOCATION'. The item listed is 'SansboundAzureClass' under the 'Free Trial' subscription, located in 'Central US'.

NAME	SUBSCRIPTION	LOCATION
SansboundAzureClass	Free Trial	Central US

Click **"Add"**.

The screenshot shows the Microsoft Azure portal interface. The left sidebar contains navigation options like 'Create a resource', 'Home', 'Dashboard', 'All services', and 'FAVORITES'. The main content area is titled 'Storage accounts' and includes a search bar, filters, and a table. The 'Add' button is highlighted in yellow. Below the table, a message states 'No storage accounts to display' and provides instructions on how to create a storage account, followed by a 'Create storage account' button.

Storage accounts - Microsoft Azure

https://portal.azure.com/#blade/HubsExtension/Resources/resourceType/Microsoft.Storage%2FStorageAccounts

Microsoft Azure

Search resources, services, and docs

Dashboard > Storage accounts

Storage accounts

Default Directory

+ Add Edit columns Refresh Assign tags Delete

Subscriptions: Free Trial

Filter by name... All resource groups All types All locations All tags No grouping

0 items

NAME	TYPE	KIND	RESOURCE GROUP	LOCATION	SUBSCRIPTION
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. [Learn more](#)

Create storage account

Cloud Computing - Azure

Select **"Subscription"** as **"Free Trial"**.

Select **"Resource group"** as **"SansboundAzureClass"**.

Type **"Storage account name"** as **"sansboundstorage"**.

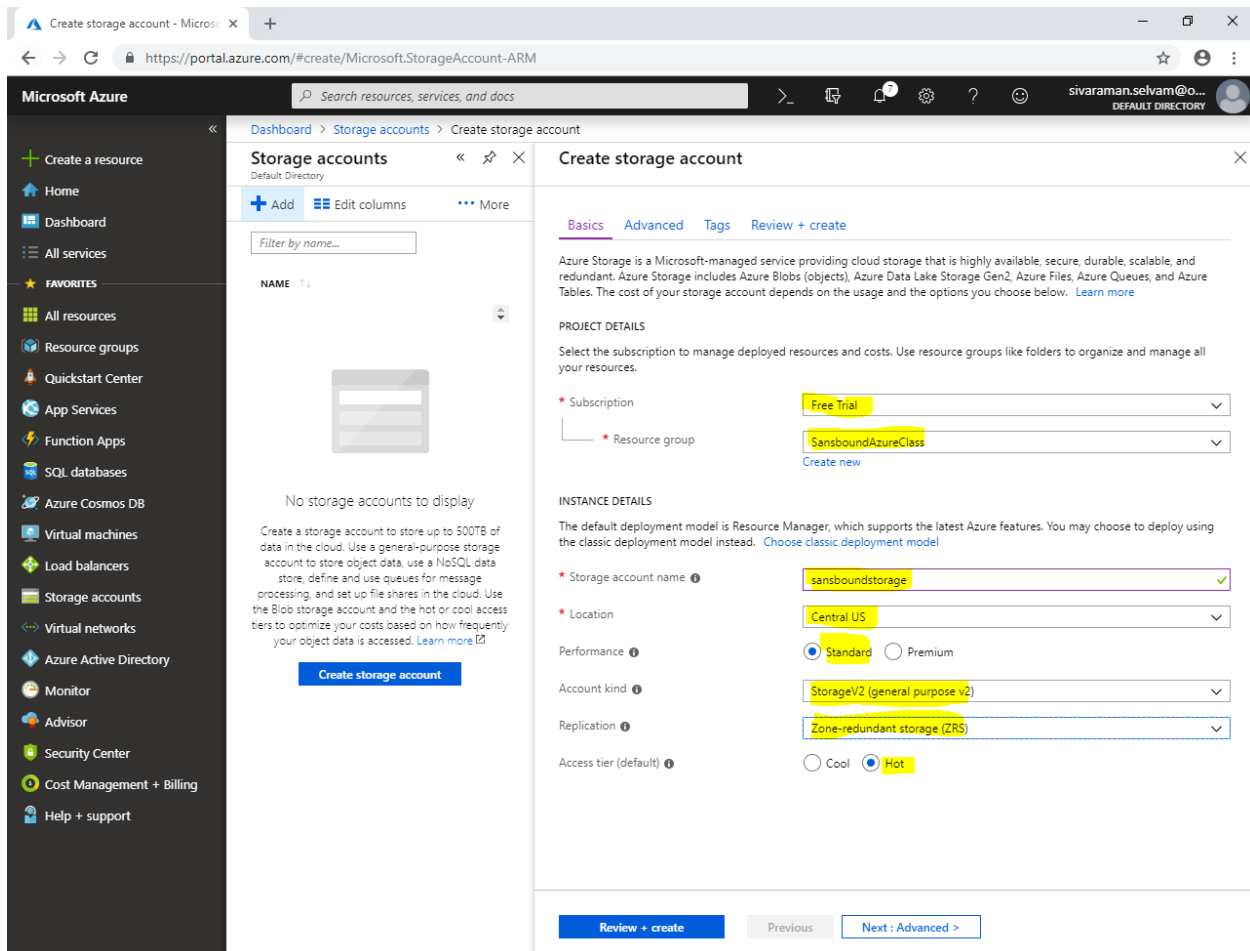
Select **"Location"** as **"Central US"**.

Select **"Performance"** as **"Standard"**.

Select **"Account kind"** as **"Storage V2"**.

Select **"Replication"** as **"Zone-Redundant Storage (ZRS)"**.

Click **"Access Tier"** as **"Hot"**.



Microsoft Azure

Search resources, services, and docs

Dashboard > Storage accounts > Create storage account

Storage accounts

Filter by name...

NAME

No storage accounts to display

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Create storage account

Create storage account

Basics Advanced Tags Review + create

Azure Storage is a Microsoft-managed service providing cloud storage that is highly available, secure, durable, scalable, and redundant. Azure Storage includes Azure Blobs (objects), Azure Data Lake Storage Gen2, Azure Files, Azure Queues, and Azure Tables. The cost of your storage account depends on the usage and the options you choose below. [Learn more](#)

PROJECT DETAILS

Select the subscription to manage deployed resources and costs. Use resource groups like folders to organize and manage all your resources.

* Subscription: Free Trial

* Resource group: SansboundAzureClass

Create new

INSTANCE DETAILS

The default deployment model is Resource Manager, which supports the latest Azure features. You may choose to deploy using the classic deployment model instead. [Choose classic deployment model](#)

* Storage account name: sansboundstorage

* Location: Central US

Performance: ☒ Standard ☐ Premium

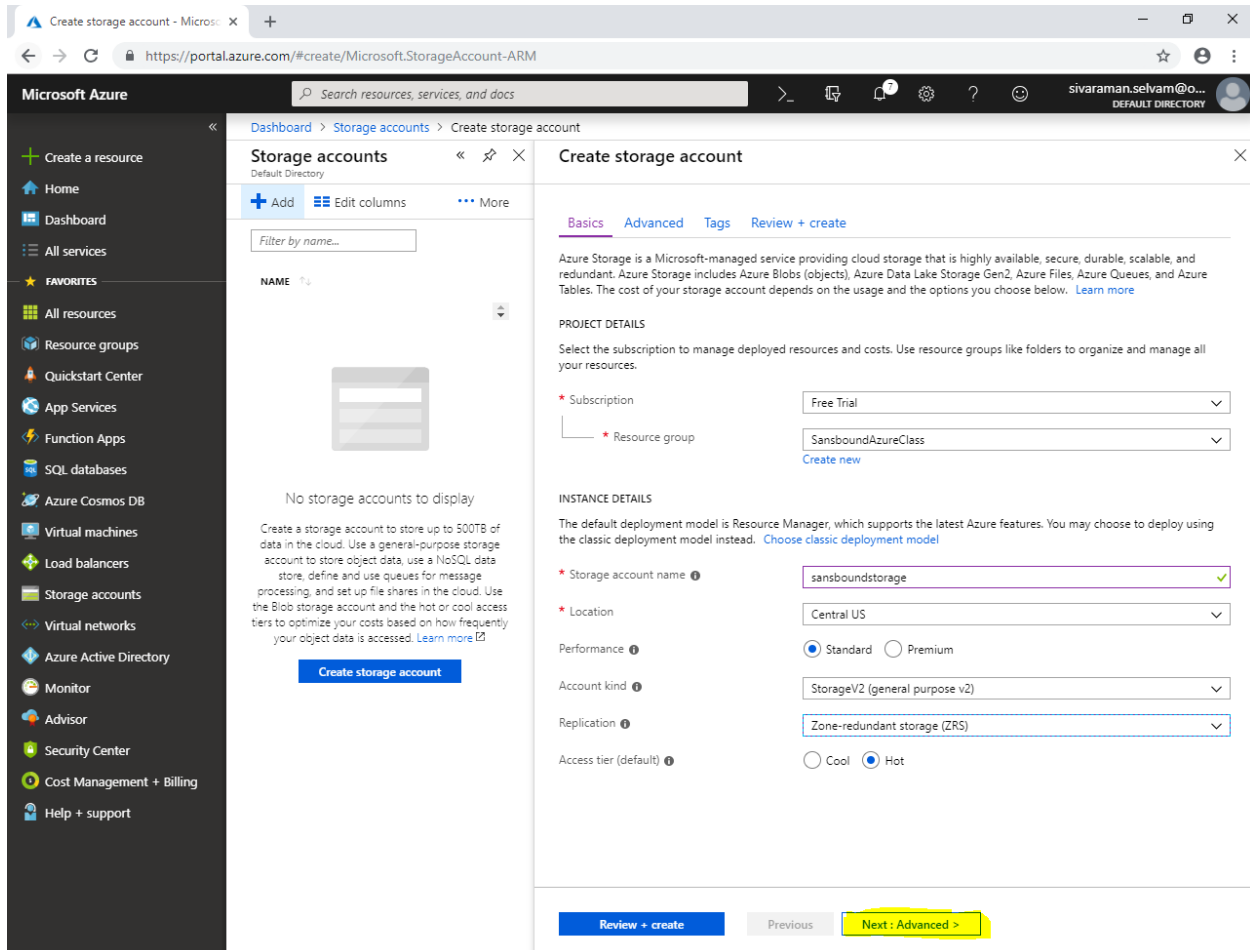
Account kind: StorageV2 (general purpose v2)

Replication: Zone-redundant storage (ZRS)

Access tier (default): ☐ Cool ☒ Hot

Review + create Previous Next: Advanced >

Click **"Next : Advanced"**.



The screenshot shows the Microsoft Azure portal interface for creating a storage account. The left sidebar contains navigation links for various Azure services. The main content area is titled 'Create storage account' and includes tabs for 'Basics', 'Advanced', 'Tags', and 'Review + create'. The 'Basics' tab is active, displaying fields for 'Subscription', 'Resource group', 'Storage account name', 'Location', 'Performance', 'Account kind', 'Replication', and 'Access tier'. The 'Next : Advanced' button at the bottom right is highlighted in yellow.

Microsoft Azure

Search resources, services, and docs

Dashboard > Storage accounts > Create storage account

Storage accounts

Default Directory

+ Add Edit columns More

Filter by name...

NAME

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. [Learn more](#)

Create storage account

Create storage account

Basics Advanced Tags Review + create

Azure Storage is a Microsoft-managed service providing cloud storage that is highly available, secure, durable, scalable, and redundant. Azure Storage includes Azure Blobs (objects), Azure Data Lake Storage Gen2, Azure Files, Azure Queues, and Azure Tables. The cost of your storage account depends on the usage and the options you choose below. [Learn more](#)

PROJECT DETAILS

Select the subscription to manage deployed resources and costs. Use resource groups like folders to organize and manage all your resources.

* Subscription Free Trial

* Resource group SansboundAzureClass

Create new

INSTANCE DETAILS

The default deployment model is Resource Manager, which supports the latest Azure features. You may choose to deploy using the classic deployment model instead. [Choose classic deployment model](#)

* Storage account name sansboundstorage

* Location Central US

Performance Standard Premium

Account kind StorageV2 (general purpose v2)

Replication Zone-redundant storage (ZRS)

Access tier (default) Cool Hot

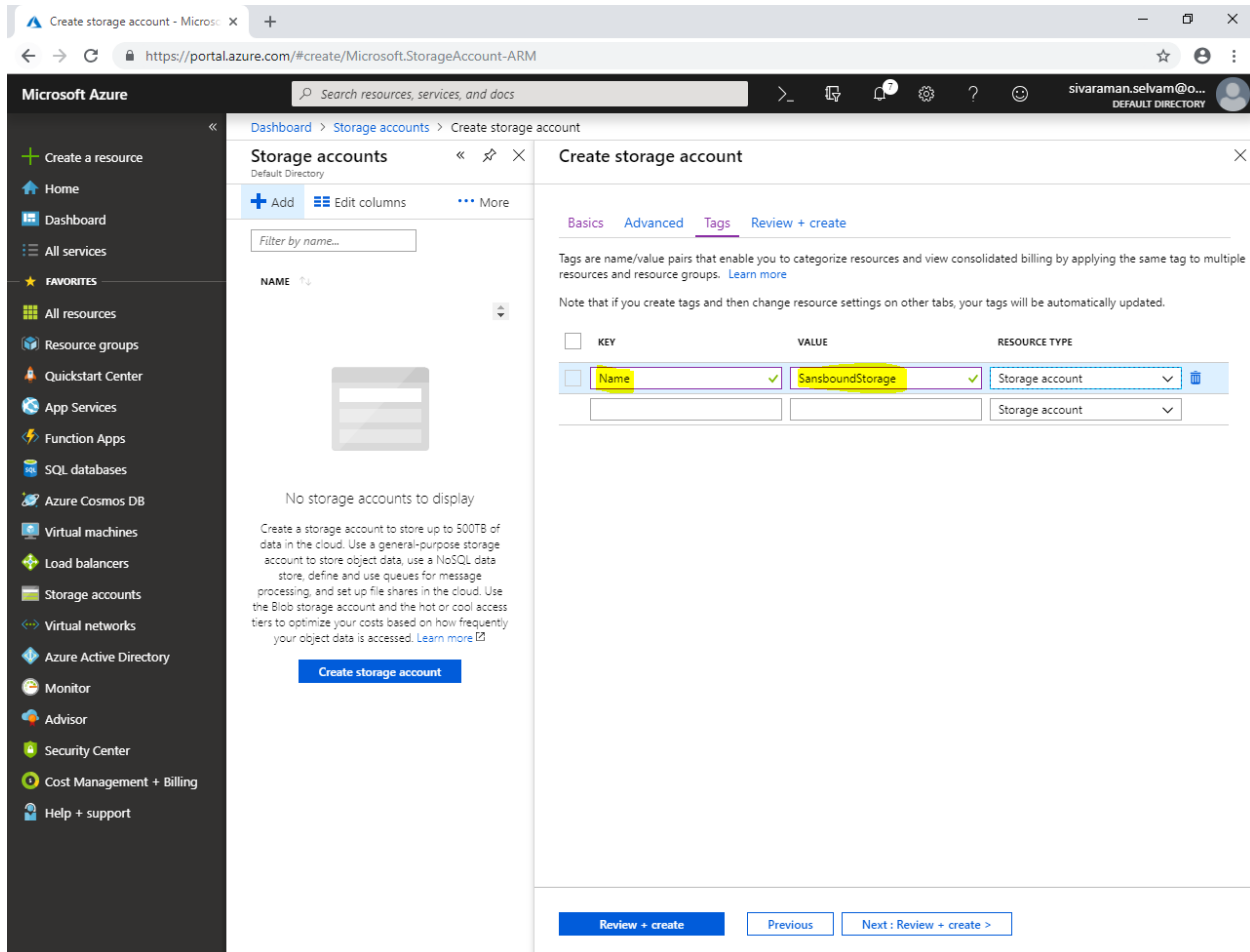
Review + create Previous Next : Advanced >

In **"Advanced"**.

Click **"Next : Tags >"**.

The screenshot shows the Microsoft Azure portal interface for creating a storage account. The left sidebar contains the navigation menu with options like 'Create a resource', 'Home', 'Dashboard', 'All services', and various resource categories. The main area is titled 'Create storage account' and is divided into two panes. The left pane shows a list of storage accounts (currently empty) with a 'Create storage account' button at the bottom. The right pane shows the configuration settings for the storage account, with tabs for 'Basics', 'Advanced', 'Tags', and 'Review + create'. The 'Advanced' tab is selected, showing settings for SECURITY (Secure transfer required), VIRTUAL NETWORKS (Allow access from), and DATA LAKE STORAGE GEN2 (Hierarchical namespace). The 'Next : Tags >' button is highlighted in yellow at the bottom right.

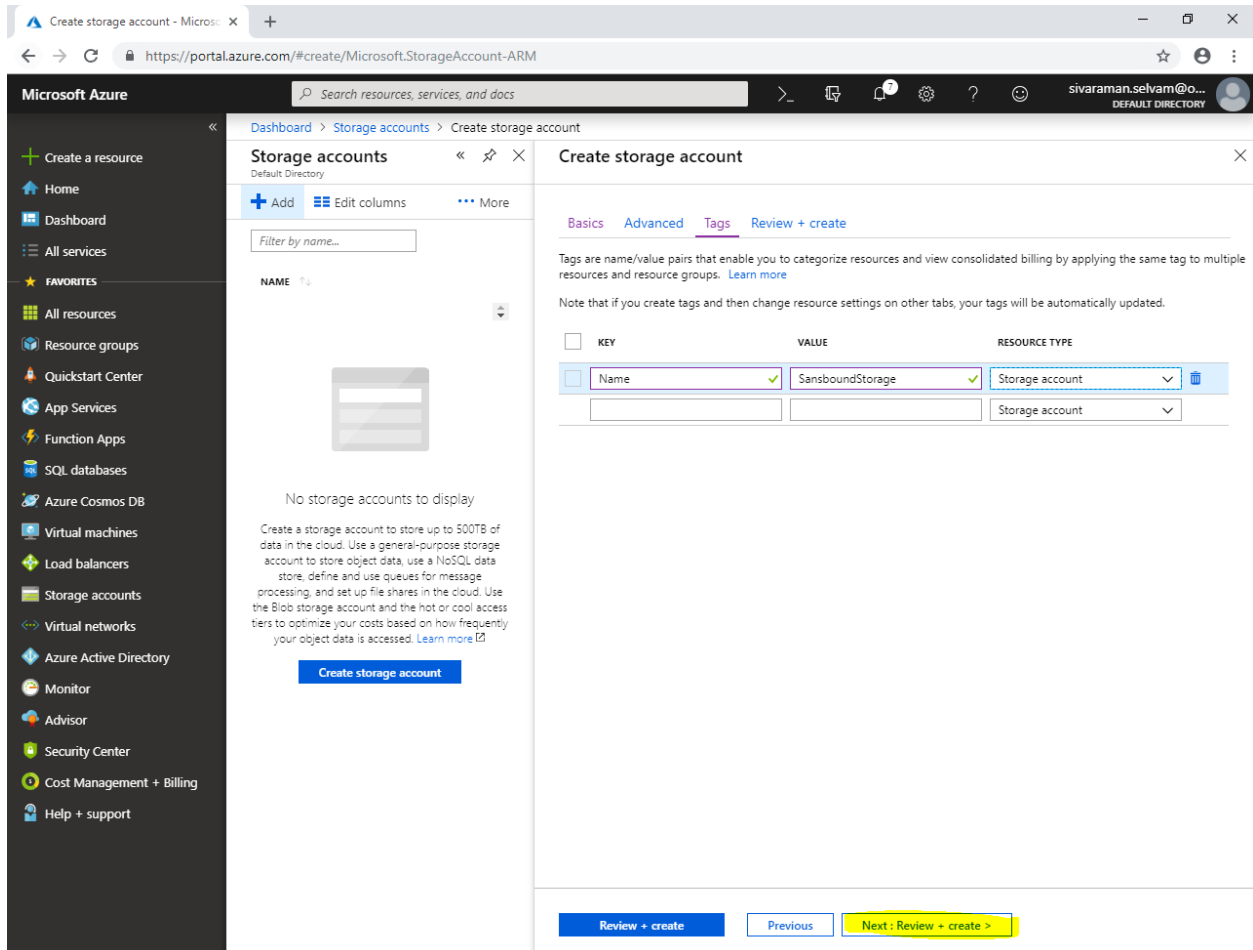
Type “KEY” as “Name” and “VALUE” as “SansboundStorage”.



The screenshot shows the Microsoft Azure portal interface. On the left is the navigation pane with options like 'Create a resource', 'Home', 'Dashboard', 'All services', and 'FAVORITES'. The main area is titled 'Storage accounts' and 'Create storage account'. The 'Tags' tab is active, showing a table for adding tags. The table has columns for KEY, VALUE, and RESOURCE TYPE. A tag is being added with KEY 'Name' and VALUE 'SansboundStorage'. The RESOURCE TYPE is set to 'Storage account'. Below the table, there are buttons for 'Review + create', 'Previous', and 'Next : Review + create >'. The 'Review + create' button is highlighted.

KEY	VALUE	RESOURCE TYPE
Name	SansboundStorage	Storage account
		Storage account

Click **“Next : Review + create”**.



The screenshot shows the Microsoft Azure portal interface for creating a storage account. The left sidebar contains navigation links for various Azure services. The main content area is titled 'Create storage account' and includes tabs for 'Basics', 'Advanced', 'Tags', and 'Review + create'. The 'Tags' tab is active, displaying a table for adding tags. The table has three columns: KEY, VALUE, and RESOURCE TYPE. One tag is already added with the key 'Name', value 'SansboundStorage', and resource type 'Storage account'. Below the table, there is a 'Review + create' button, a 'Previous' button, and a highlighted 'Next : Review + create >' button.

KEY	VALUE	RESOURCE TYPE
Name	SansboundStorage	Storage account
		Storage account

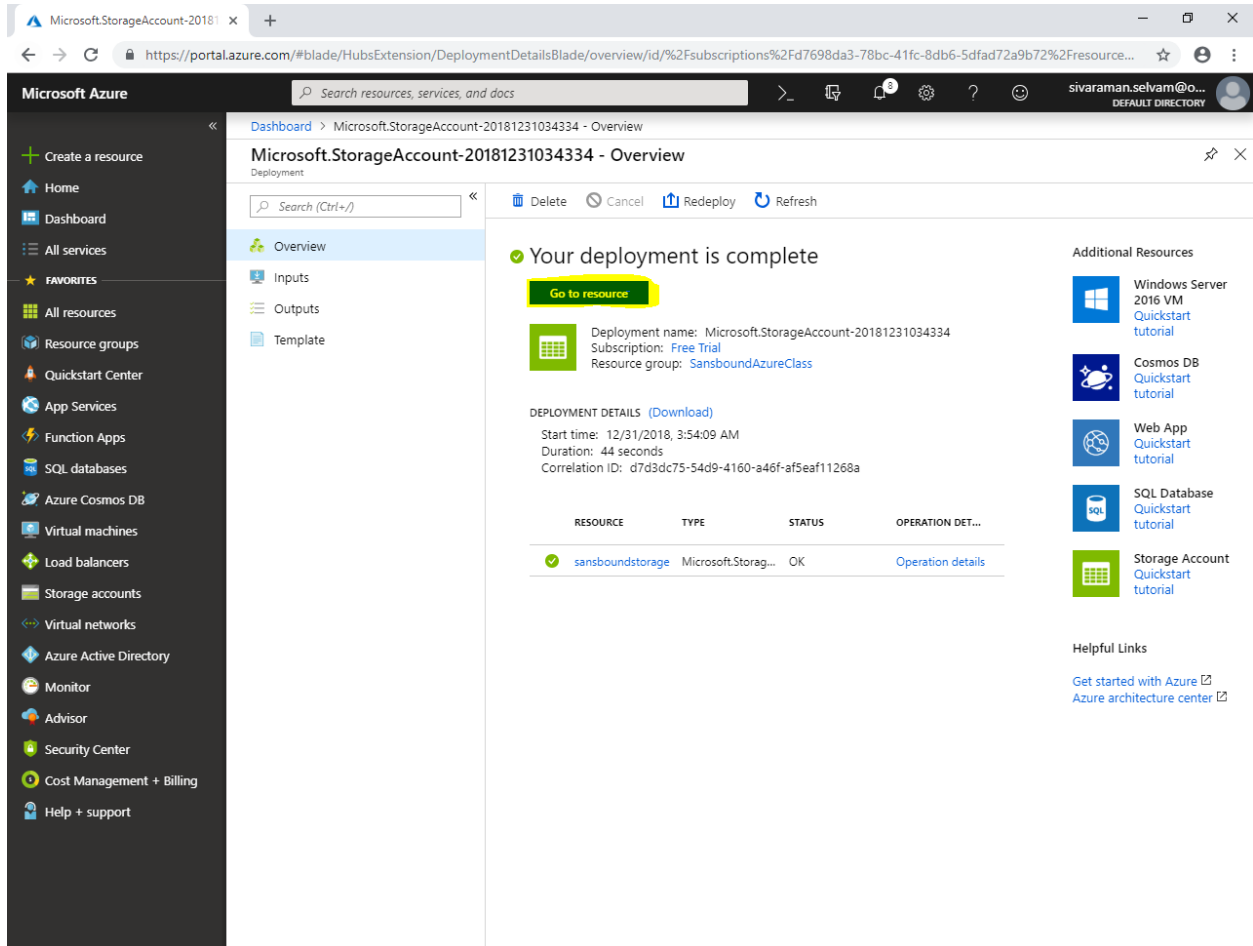
Click **"Create"**.

The screenshot shows the Microsoft Azure portal interface for creating a new storage account. The left sidebar contains navigation links for various Azure services. The main content area is titled 'Create storage account' and shows a 'Validation passed' status. The 'Basics' tab is active, displaying the following configuration details:

Category	Property	Value
BASICS	Subscription	Free Trial
	Resource group	SansboundAzureClass
	Location	Central US
	Storage account name	sansboundstorage
	Deployment model	Resource manager
ADVANCED	Account kind	StorageV2 (general purpose v2)
	Replication	Zone-redundant storage (ZRS)
	Performance	Standard
	Access tier (default)	Hot
TAGS	Secure transfer required	Enabled
	Allow access from	All networks
	Hierarchical namespace	Disabled
TAGS	Name	SansboundStorage (Storage account)

At the bottom of the wizard, the 'Create' button is highlighted in green, indicating it is the next step to complete the account creation.

Click **“Go to resource”**.

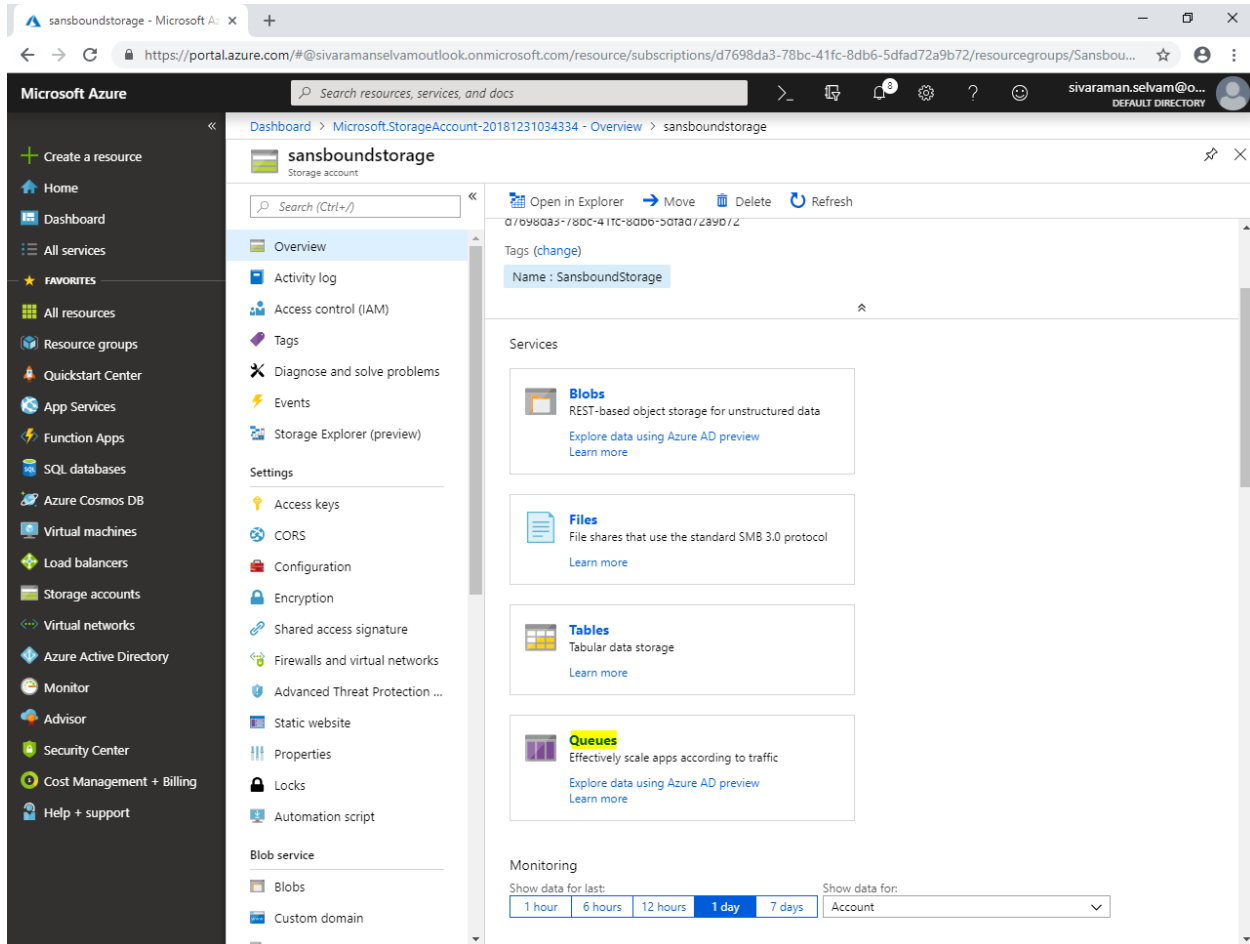


The screenshot shows the Microsoft Azure portal interface. The left sidebar contains navigation options like 'Create a resource', 'Home', 'Dashboard', 'All services', and 'FAVORITES'. The main content area displays the 'Overview' page for the resource 'Microsoft.StorageAccount-20181231034334'. A green checkmark indicates 'Your deployment is complete'. A yellow button labeled 'Go to resource' is prominent. Below this, deployment details are listed: Start time: 12/31/2018, 3:54:09 AM; Duration: 44 seconds; Correlation ID: d7d3dc75-54d9-4160-a46f-af5eaf11268a. A table at the bottom shows the deployment status for the resource 'sansboundstorage'.

RESOURCE	TYPE	STATUS	OPERATION DET...
✓ sansboundstorage	Microsoft.Storage...	OK	Operation details

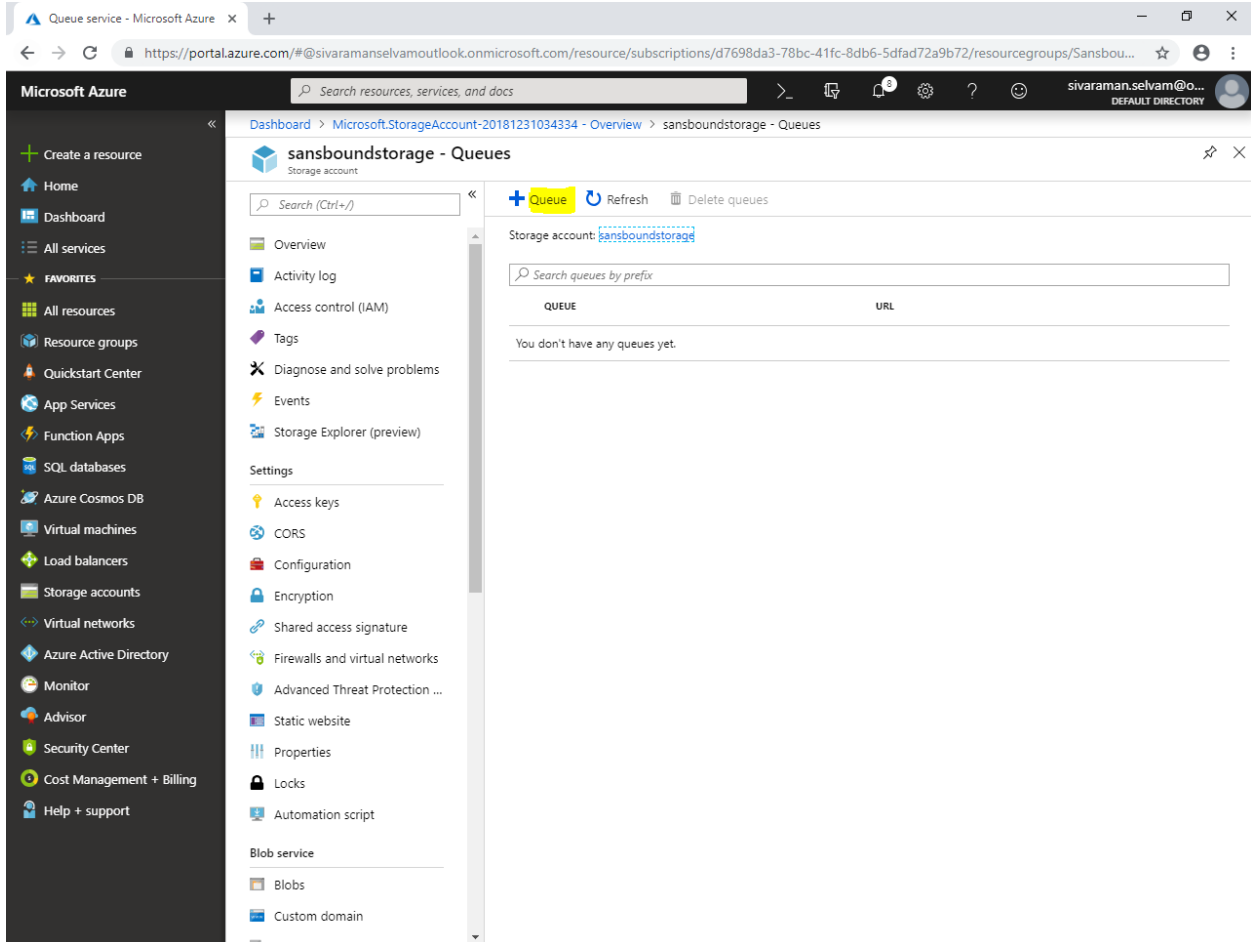
Additional Resources on the right include links to Windows Server 2016 VM, Cosmos DB, Web App, SQL Database, and Storage Account quickstart tutorials. Helpful Links at the bottom include 'Get started with Azure' and 'Azure architecture center'.

Click **"Queues"**.



The screenshot displays the Microsoft Azure portal interface. The left-hand navigation pane shows the 'sansboundstorage' storage account selected under 'Storage accounts'. The main content area shows the 'Overview' page for the storage account, with the 'Queues' service highlighted in the 'Services' section. The 'Queues' service is described as 'Effectively scale apps according to traffic' and includes a link to 'Explore data using Azure AD preview'. The 'Monitoring' section at the bottom shows a 'Show data for last' dropdown set to '1 day' and a 'Show data for' dropdown set to 'Account'.

Click **“Queue”**.



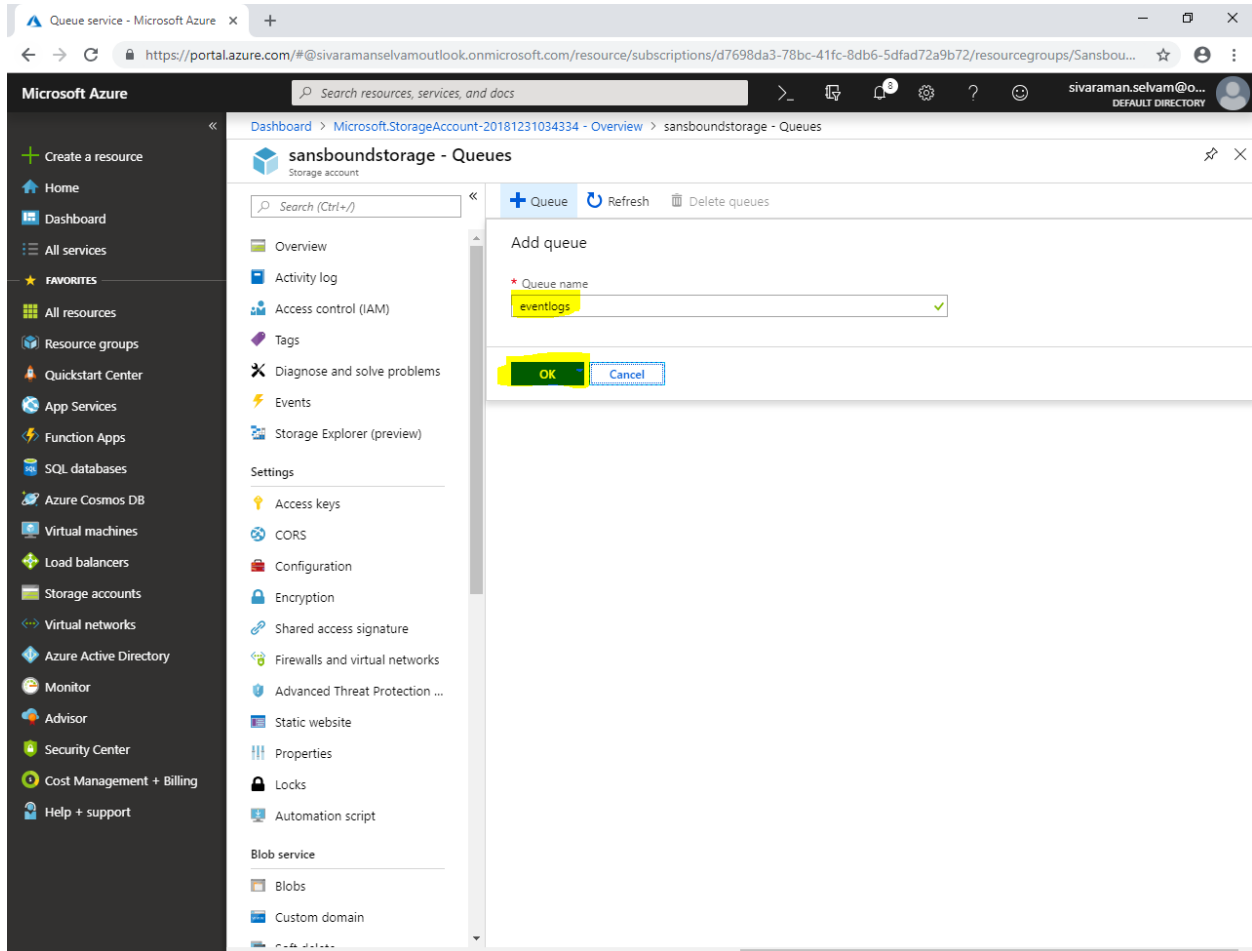
The screenshot shows the Microsoft Azure portal interface. The browser address bar displays the URL: <https://portal.azure.com/#@sivaramanselvamoutlook.onmicrosoft.com/resource/subscriptions/d7698da3-78bc-41fc-8db6-5dfad72a9b72/resourcegroups/Sansbou...>. The user is logged in as **sivaraman.selvam@o...** under the **DEFAULT DIRECTORY**.

The left sidebar shows the **Microsoft Azure** navigation menu with options like **Create a resource**, **Home**, **Dashboard**, **All services**, and **FAVORITES**. The **Storage accounts** section is expanded, showing **sansboundstorage**.

The main content area displays the **sansboundstorage - Queues** page. At the top, there is a search bar and a **+ Queue** button, which is highlighted with a yellow box. Other buttons include **Refresh** and **Delete queues**. Below these, the storage account is listed as **sansboundstorage**. A search bar for queues is present, followed by a table with columns **QUEUE** and **URL**. The table currently shows the message: "You don't have any queues yet."

Type “Queue name” as “eventlogs”.

Click “OK”.

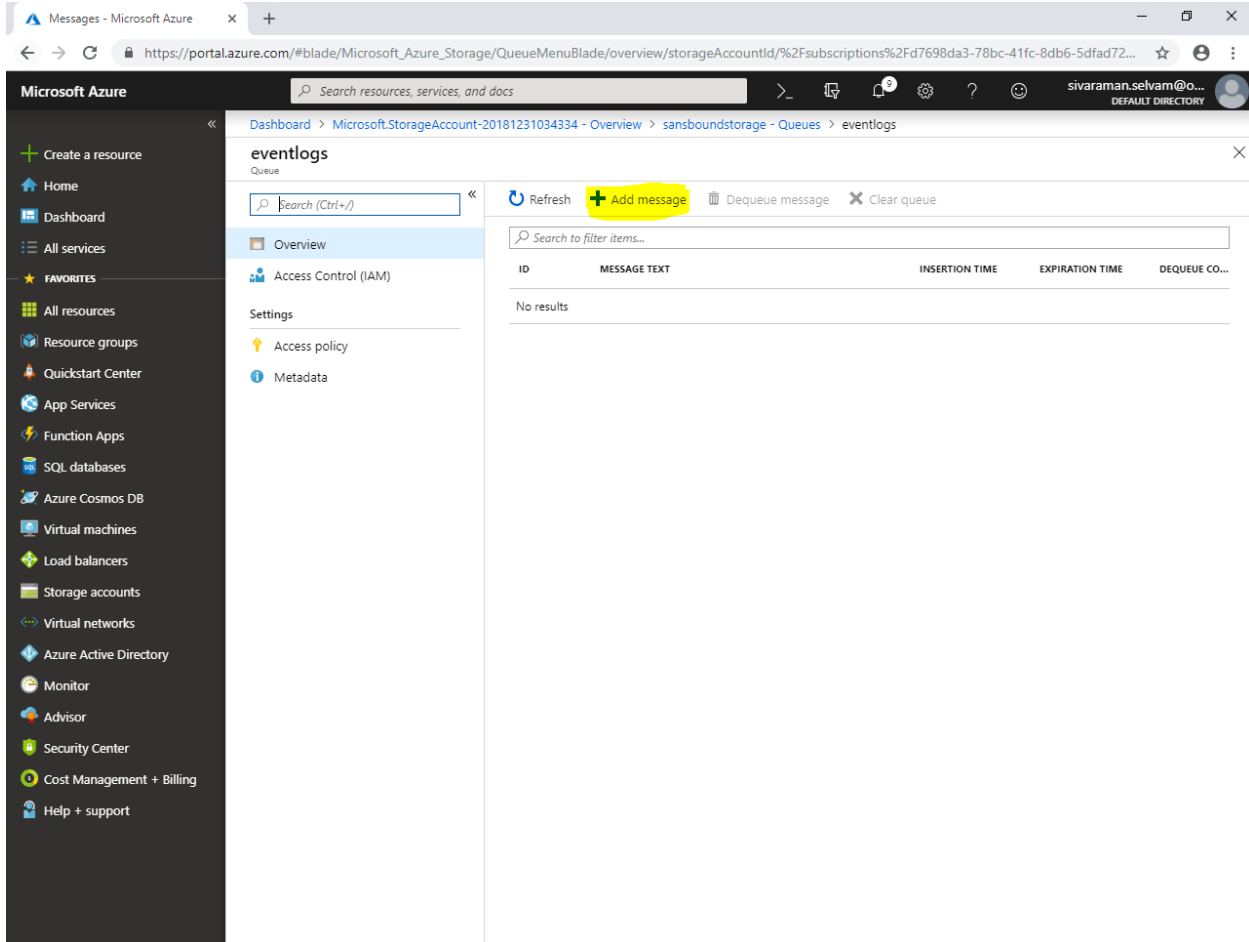


Click **"eventlogs"**.

The screenshot shows the Microsoft Azure portal interface. The left sidebar contains navigation options like 'Create a resource', 'Home', 'Dashboard', and various service categories. The main area displays the 'sansboundstorage - Queues' page. At the top, there are buttons for '+ Queue', 'Refresh', and 'Delete queues'. Below this, the 'Storage account: sansboundstorage' is indicated. A search bar for 'Search queues by prefix' is present. A table lists the queues, with one entry 'eventlogs' highlighted in yellow. The URL for this queue is 'https://sansboundstorage.queue.core.windows.net/eventlogs'.

QUEUE	URL
eventlogs	https://sansboundstorage.queue.core.windows.net/eventlogs ...

Click **"Add message"**.



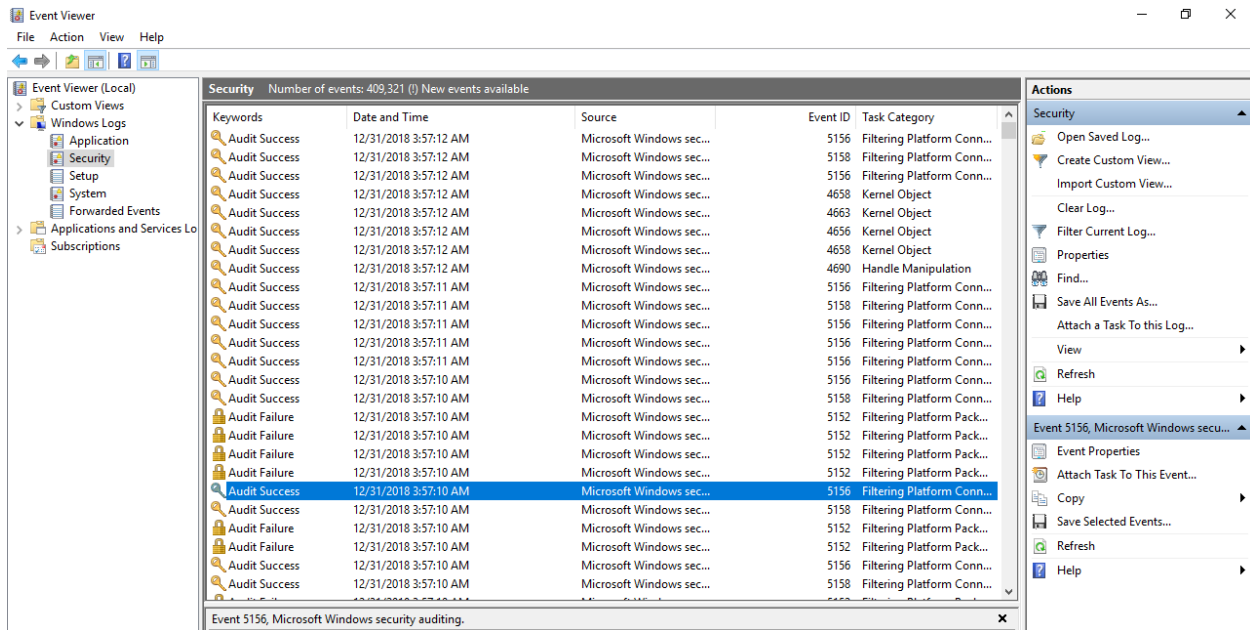
The screenshot shows the Microsoft Azure portal interface. The left sidebar contains the navigation menu with options like 'Create a resource', 'Home', 'Dashboard', 'All services', and 'FAVORITES'. The main content area displays the 'eventlogs' queue page. At the top of the queue page, there are buttons for 'Refresh', 'Add message' (highlighted in yellow), 'Dequeue message', and 'Clear queue'. Below these buttons is a search bar labeled 'Search to filter items...'. The table below the search bar has columns for 'ID', 'MESSAGE TEXT', 'INSERTION TIME', 'EXPIRATION TIME', and 'DEQUEUE CO...'. The table currently shows 'No results'.

ID	MESSAGE TEXT	INSERTION TIME	EXPIRATION TIME	DEQUEUE CO...
No results				

In your local machine / server launch event viewer,

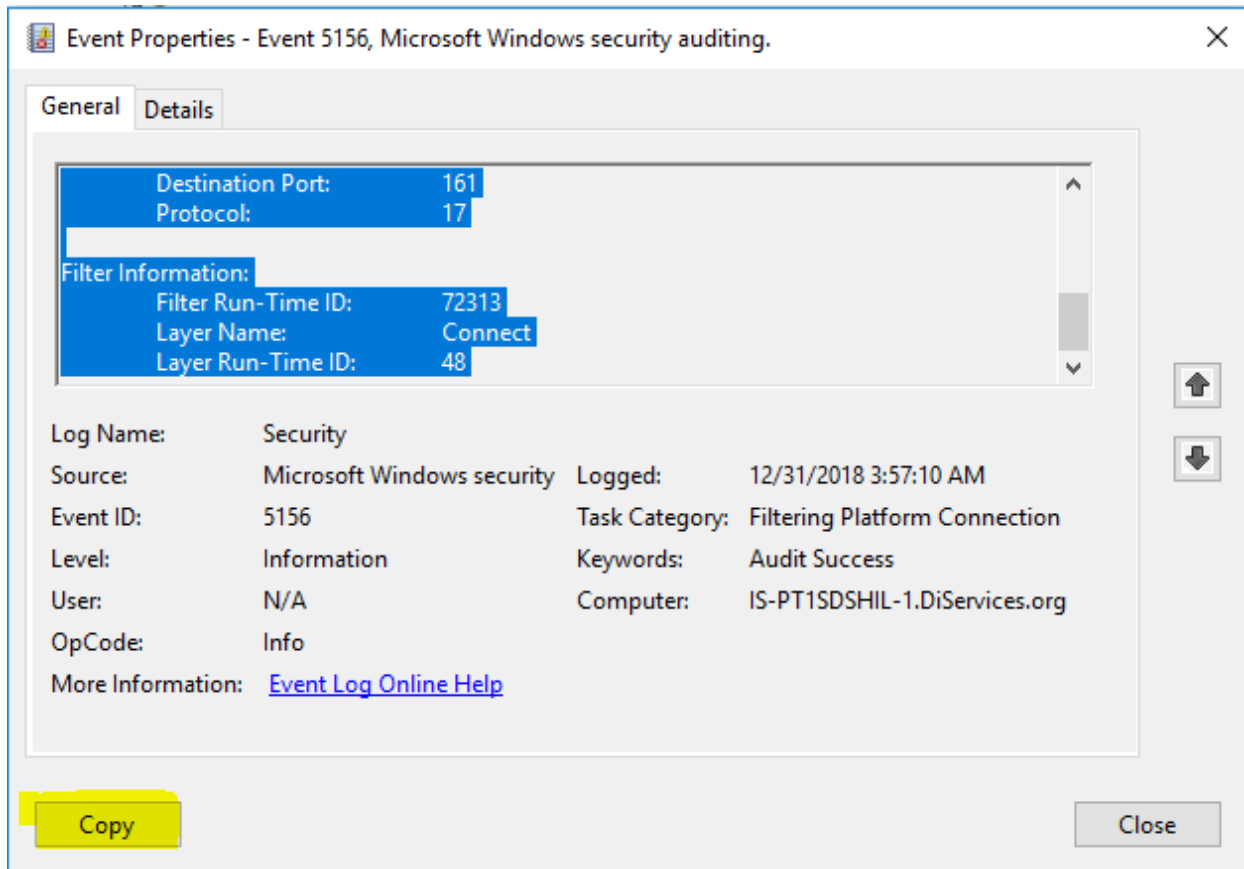
In **“Security”**

Select any **“Audit Success”** event and double click it.



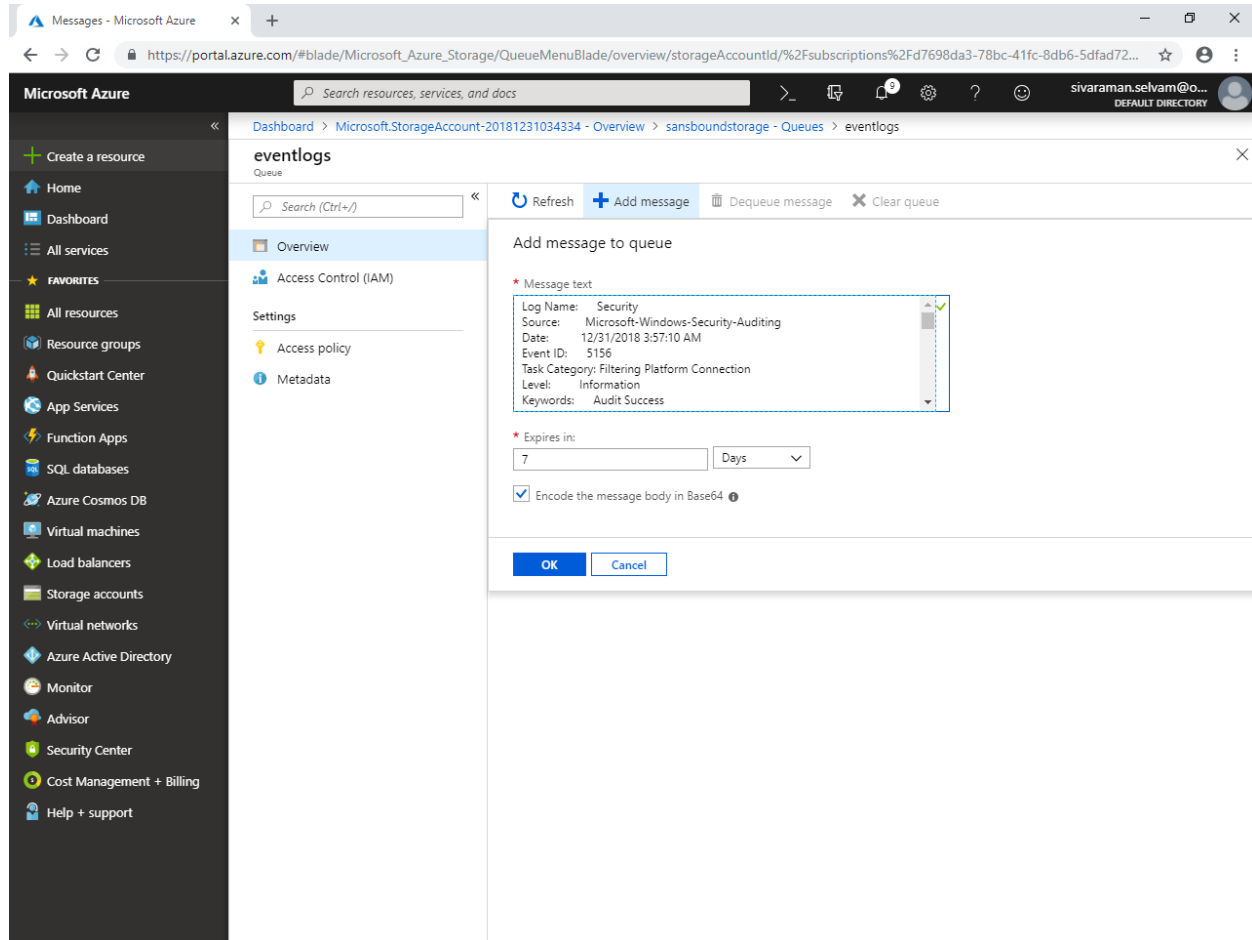
Select entire event details for the event id.

Then, click **"Copy"**.



Paste the value in **“Message text”** at **“Add message to queue”**.

Also you can set the expiration period for the message, after that message will be deleted automatically.

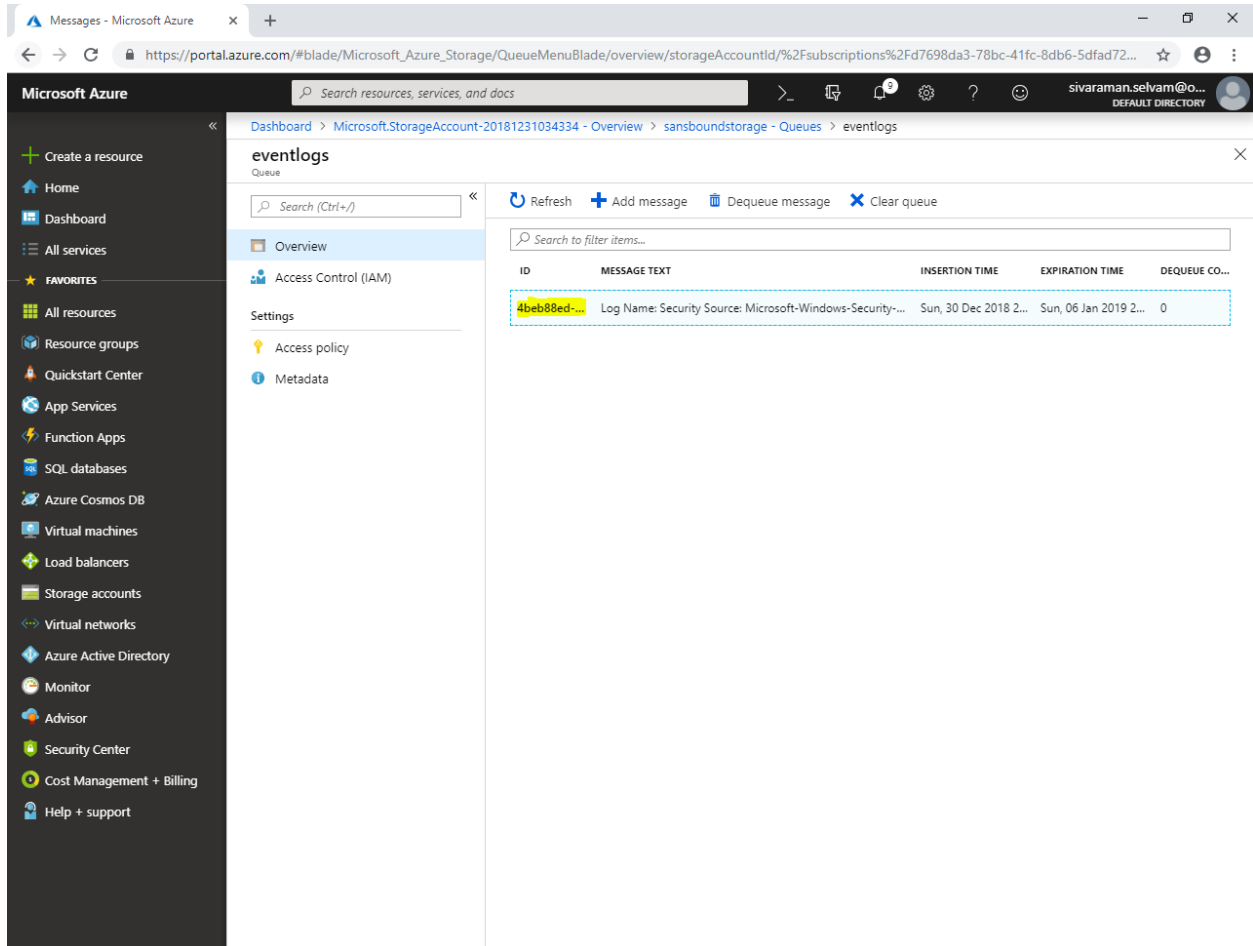


The screenshot shows the Microsoft Azure portal interface. The left sidebar contains the navigation menu with options like 'Create a resource', 'Home', 'Dashboard', 'All services', 'FAVORITES', 'All resources', 'Resource groups', 'Quickstart Center', 'App Services', 'Function Apps', 'SQL databases', 'Azure Cosmos DB', 'Virtual machines', 'Load balancers', 'Storage accounts', 'Virtual networks', 'Azure Active Directory', 'Monitor', 'Advisor', 'Security Center', 'Cost Management + Billing', and 'Help + support'. The main content area displays the 'eventlogs' queue overview. The 'Add message to queue' dialog is open, showing the following details:

- Message text:**
 - Log Name: Security
 - Source: Microsoft-Windows-Security-Auditing
 - Date: 12/31/2018 3:57:10 AM
 - Event ID: 5156
 - Task Category: Filtering Platform Connection
 - Level: Information
 - Keywords: Audit Success
- Expires in:** 7 Days
- ☒ Encode the message body in Base64

The dialog has 'OK' and 'Cancel' buttons at the bottom.

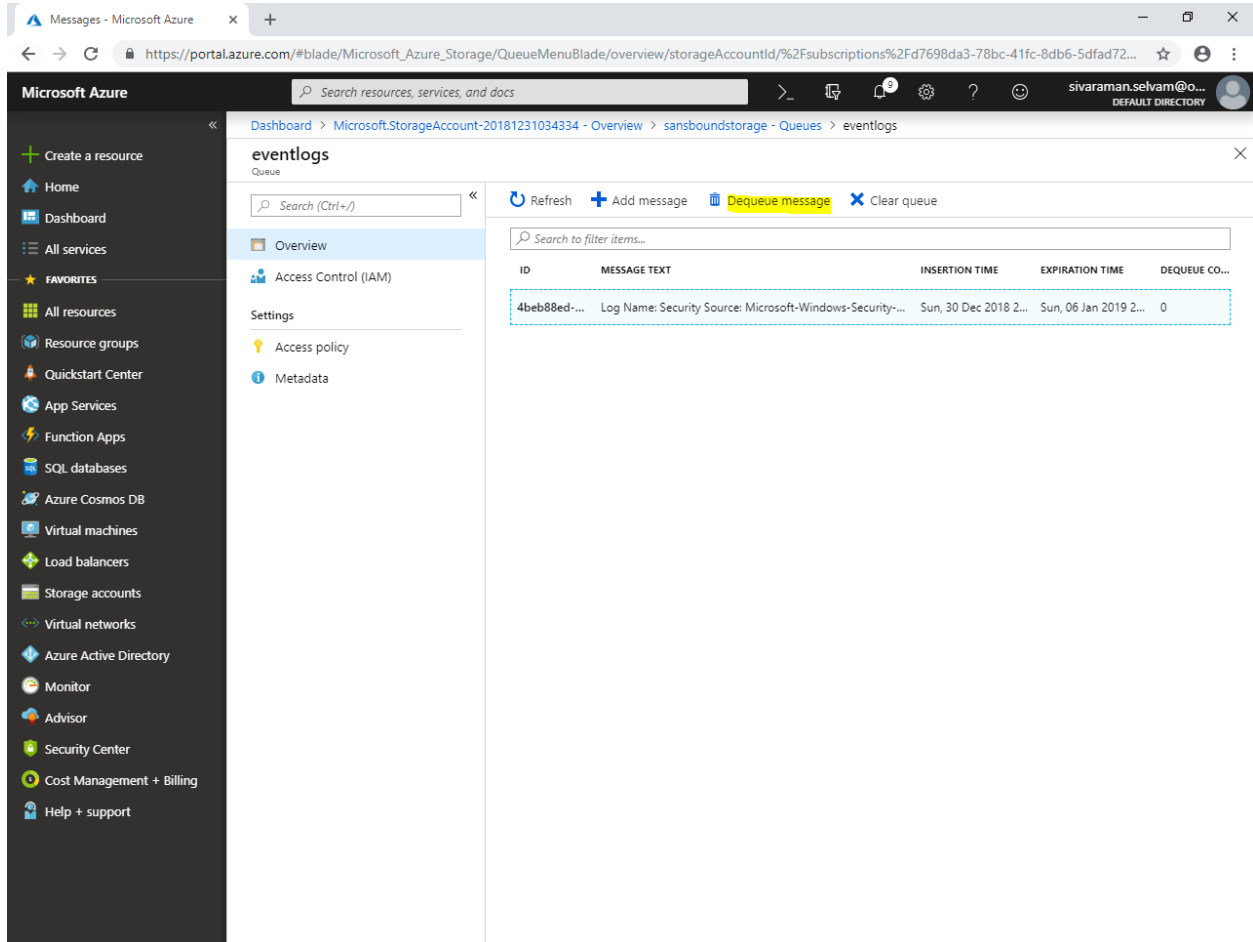
Click “Id of the message queue”.



The screenshot shows the Microsoft Azure portal interface. The left sidebar contains navigation options like 'Create a resource', 'Home', 'Dashboard', 'All services', and 'FAVORITES'. The main area displays the 'eventlogs' for a specific storage queue. The breadcrumb path is: Dashboard > Microsoft.StorageAccount-20181231034334 - Overview > sansboundstorage - Queues > eventlogs. The 'eventlogs' section has a search bar and buttons for 'Refresh', 'Add message', 'Dequeue message', and 'Clear queue'. Below these is a table with columns: ID, MESSAGE TEXT, INSERTION TIME, EXPIRATION TIME, and DEQUEUE CO... The first row of the table has the ID '4beb88ed-...' highlighted in yellow. The message text is 'Log Name: Security Source: Microsoft-Windows-Security-...'. The insertion time is 'Sun, 30 Dec 2018 2...' and the expiration time is 'Sun, 06 Jan 2019 2...'. The dequeue count is '0'.

ID	MESSAGE TEXT	INSERTION TIME	EXPIRATION TIME	DEQUEUE CO...
4beb88ed-...	Log Name: Security Source: Microsoft-Windows-Security-...	Sun, 30 Dec 2018 2...	Sun, 06 Jan 2019 2...	0

If you have required to delete the specific message, then select that message and then click “Dequeue message” / to click “Clear queue” to delete all messages in the queue.



The screenshot displays the Microsoft Azure portal interface for managing a queue named 'eventlogs'. The left sidebar shows the navigation menu with options like 'Create a resource', 'Home', 'Dashboard', and various services. The main content area shows the 'eventlogs' queue with a search bar and action buttons: 'Refresh', '+ Add message', 'Dequeue message' (highlighted in yellow), and 'X Clear queue'. Below these buttons is a table with columns: ID, MESSAGE TEXT, INSERTION TIME, EXPIRATION TIME, and DEQUEUE CO... The table contains one message with the following details:

ID	MESSAGE TEXT	INSERTION TIME	EXPIRATION TIME	DEQUEUE CO...
4beb88ed-...	Log Name: Security Source: Microsoft-Windows-Security-...	Sun, 30 Dec 2018 2...	Sun, 06 Jan 2019 2...	0