

Lab9 – Understanding Features of Managed Disks - Azure

Managed disks

Managed Disks handles the storage account creation/management in the background for you, and ensures that you do not have to worry about the scalability limits of the storage account. You simply specify the disk size and the performance tier (Standard/Premium), and Azure creates and manages the disk for you. As you add disks or scale the VM up and down, you don't have to worry about the storage being used.

Azure Managed Disks simplifies disk management for Azure IaaS VMs by managing the storage accounts associated with the VM disks. You only have to specify the type (Standard HDD, Standard SSD, or Premium SSD) and the size of disk you need, and Azure creates and manages the disk for you.

Benefits of managed disks

Let's take a look at some of the benefits you gain by using managed disks, starting with this Channel 9 video, [Better Azure VM Resiliency with Managed Disks](#).

Simple and scalable VM deployment

Managed Disks handles storage for you behind the scenes. Previously, you had to create storage accounts to hold the disks (VHD files) for your Azure VMs. When scaling up, you had to make sure you created additional storage accounts so you didn't exceed the IOPS limit for storage with any of your disks. With Managed Disks handling storage, you are no longer limited by the storage account limits (such as 20,000 IOPS / account). You also no longer have to copy your custom images (VHD files) to multiple storage accounts. You can manage them in a central location – one storage account per Azure region – and use them to create hundreds of VMs in a subscription.

Managed Disks will allow you to create up to 50,000 VM disks of a type in a subscription per region, which will enable you to create thousands of VMs in a single subscription. This feature also further increases the scalability of Virtual Machine Scale Sets by allowing you to create up to a thousand VMs in a virtual machine scale set using a Marketplace image.

Better reliability for Availability Sets

Managed Disks provides better reliability for Availability Sets by ensuring that the disks of VMs in an Availability Set are sufficiently isolated from each other to avoid single points of failure. Disks are automatically placed in different storage scale units (stamps). If a stamp fails due to hardware or software failure, only the VM instances with disks on those stamps fail. For example, let's say you have an application running on five VMs, and the VMs are in an Availability Set. The disks for those VMs won't all be stored in the same stamp, so if one stamp goes down, the other instances of the application continue to run.

Highly durable and available

Azure Disks are designed for 99.999% availability. Rest easier knowing that you have three replicas of your data that enables high durability. If one or even two replicas experience issues, the remaining replicas help ensure persistence of your data and high tolerance against failures. This architecture has helped Azure consistently deliver enterprise-grade durability for IaaS disks, with an industry-leading ZERO% Annualized Failure Rate.

Granular access control

You can use Azure Role-Based Access Control (RBAC) to assign specific permissions for a managed disk to one or more users. Managed Disks exposes a variety of operations, including read, write (create/update), delete, and retrieving a shared access signature (SAS) URI for the disk. You can grant access to only the operations a person needs to perform their job. For example, if you don't want a person to copy a managed disk to a storage account, you can choose not to grant access to the export action for that managed disk. Similarly, if you don't want a person to use an SAS URI to copy a managed disk, you can choose not to grant that permission to the managed disk.

Azure Backup service support

Use Azure Backup service with Managed Disks to create a backup job with time-based backups, easy VM restoration, and backup retention policies. Managed Disks only support Locally Redundant Storage (LRS) as the replication option. Three copies of the data are kept within a single region. For regional disaster recovery, you must back up your VM disks in a different region using Azure Backup service and a GRS storage account as backup vault. Currently Azure Backup supports the disk sizes up to 4TB disks. You need to upgrade VM backup stack to V2 for support of 4TB disks. For more information, see Using Azure Backup service for VMs with Managed Disks.

Pricing and Billing

When using Managed Disks, the following billing considerations apply:

Storage Type

Disk Size

Number of transactions

Outbound data transfers

Managed Disk Snapshots (full disk copy)

Let's take a closer look at these options.

Storage Type: Managed Disks offers 3 performance tiers: Standard HDD, Standard SSD, and Premium. The billing of a managed disk depends on which type of storage you have selected for the disk.

Disk Size: Billing for managed disks depends on the provisioned size of the disk. Azure maps the provisioned size (rounded up) to the nearest Managed Disks option as specified in the tables below. Each managed disk maps to one of the supported provisioned sizes and is billed accordingly. For example, if you create a standard managed disk and specify a provisioned size of 200 GB, you are billed as per the pricing of the S15 Disk type.

Number of transactions: You are billed for the number of transactions that you perform on a standard managed disk.

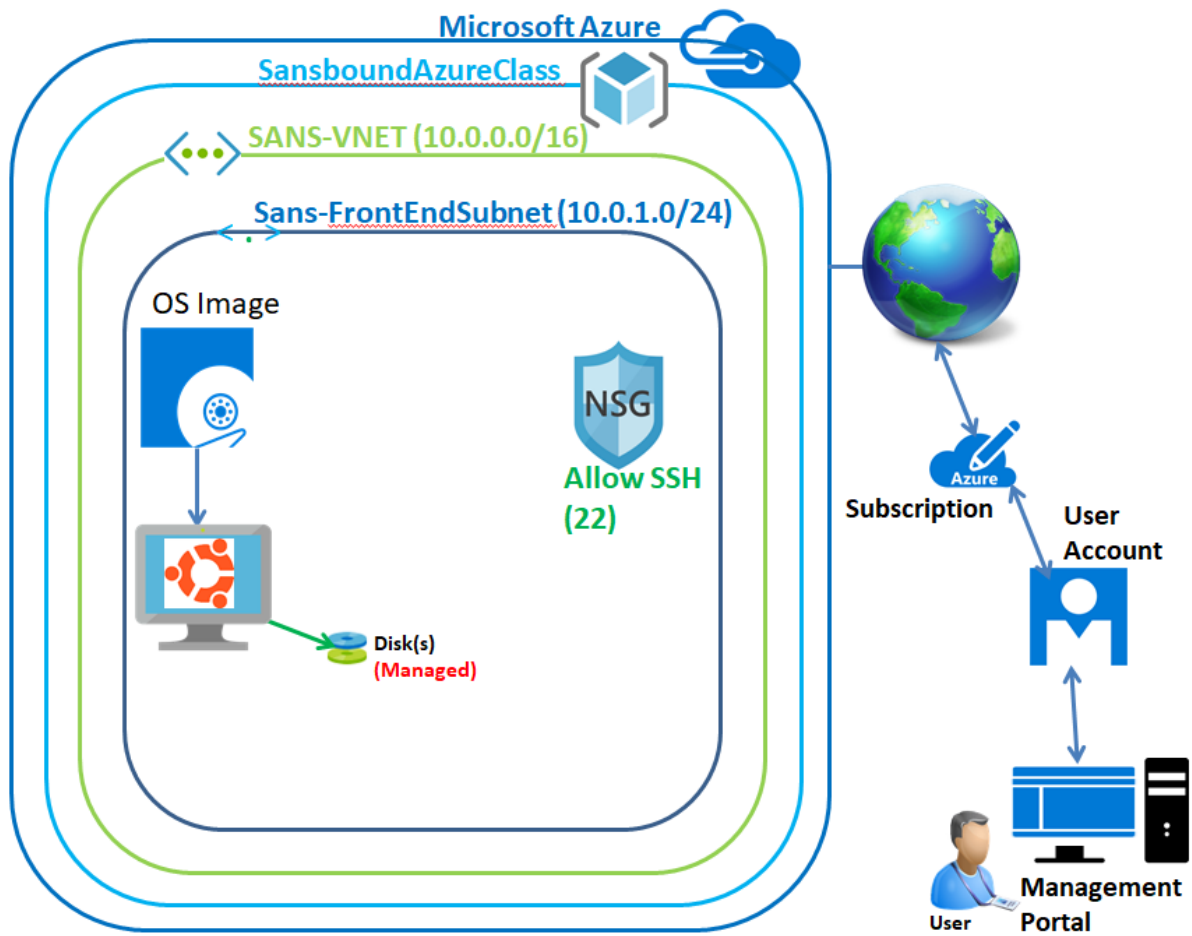
Standard SSD Disks use IO Unit size of 256KB. If the data being transferred is less than 256 KB, it is considered 1 I/O unit. Larger I/O sizes are counted as multiple I/Os of size 256 KB. For example, a 1,100 KB I/O is counted as five I/O units.

There is no cost for transactions for a premium managed disk.

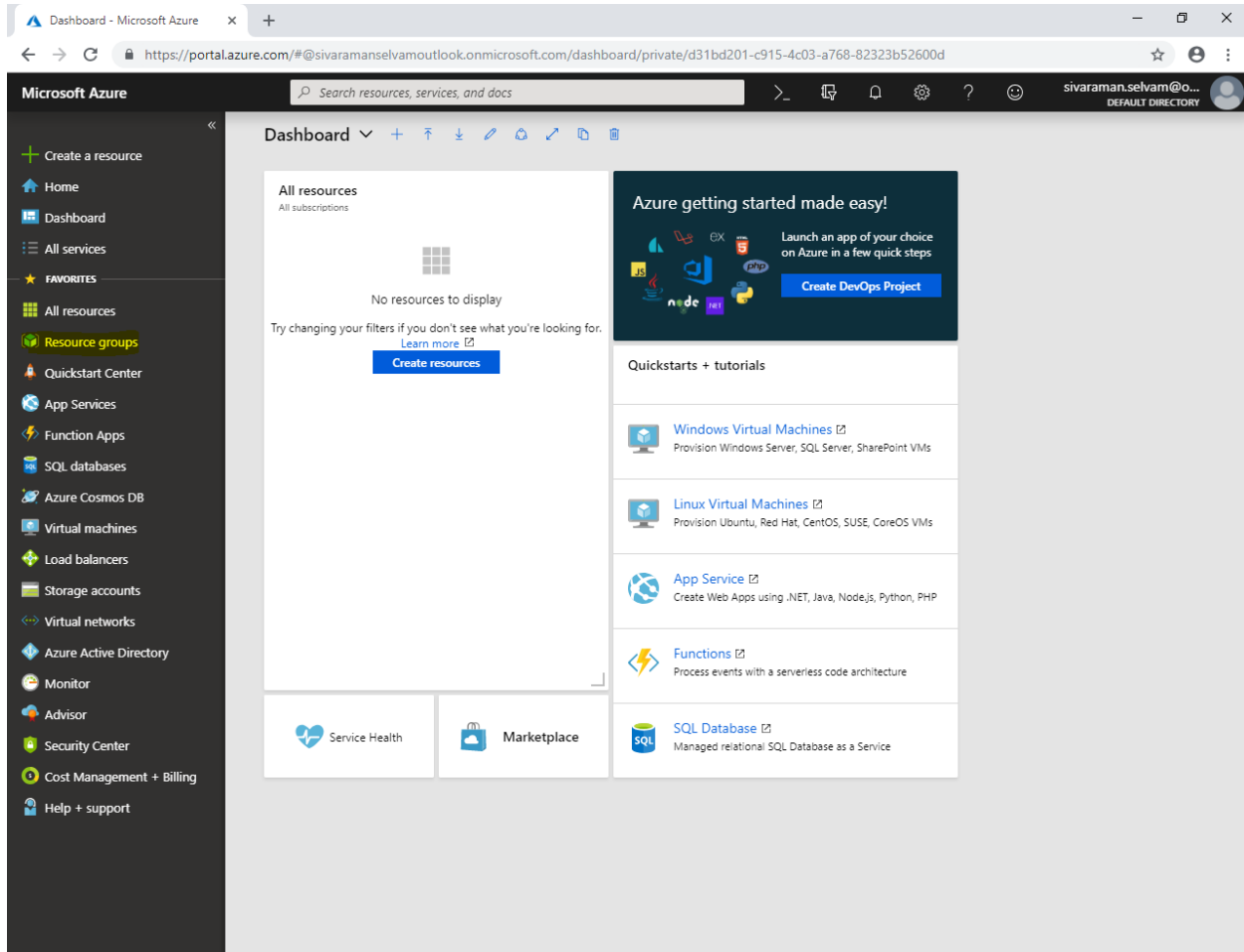
Outbound data transfers: Outbound data transfers (data going out of Azure data centers) incur billing for bandwidth usage.

For detailed information on pricing for Managed Disks, see Managed Disks Pricing.

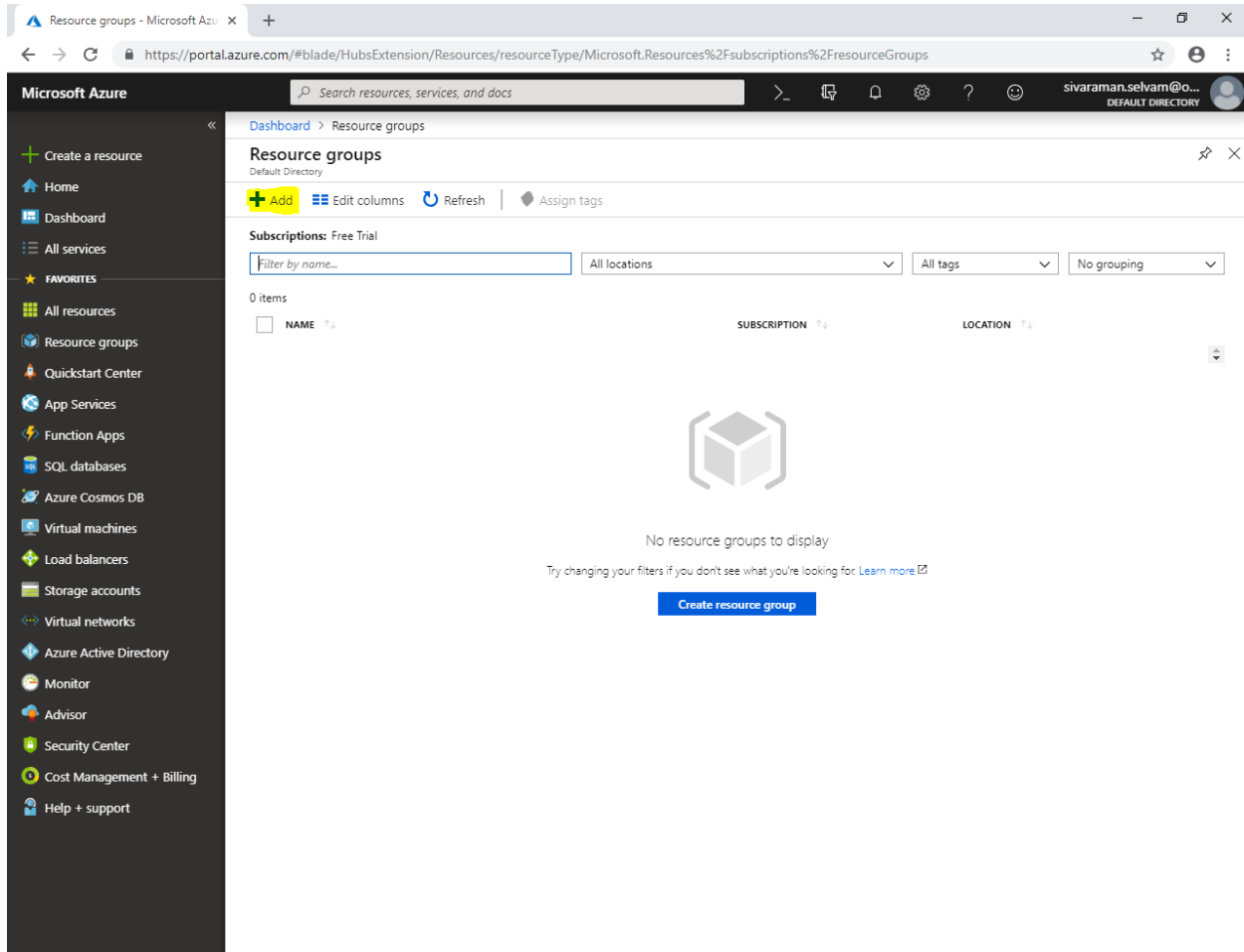
Topology



In Azure portal, click on **“Resource groups”** in left side panel.

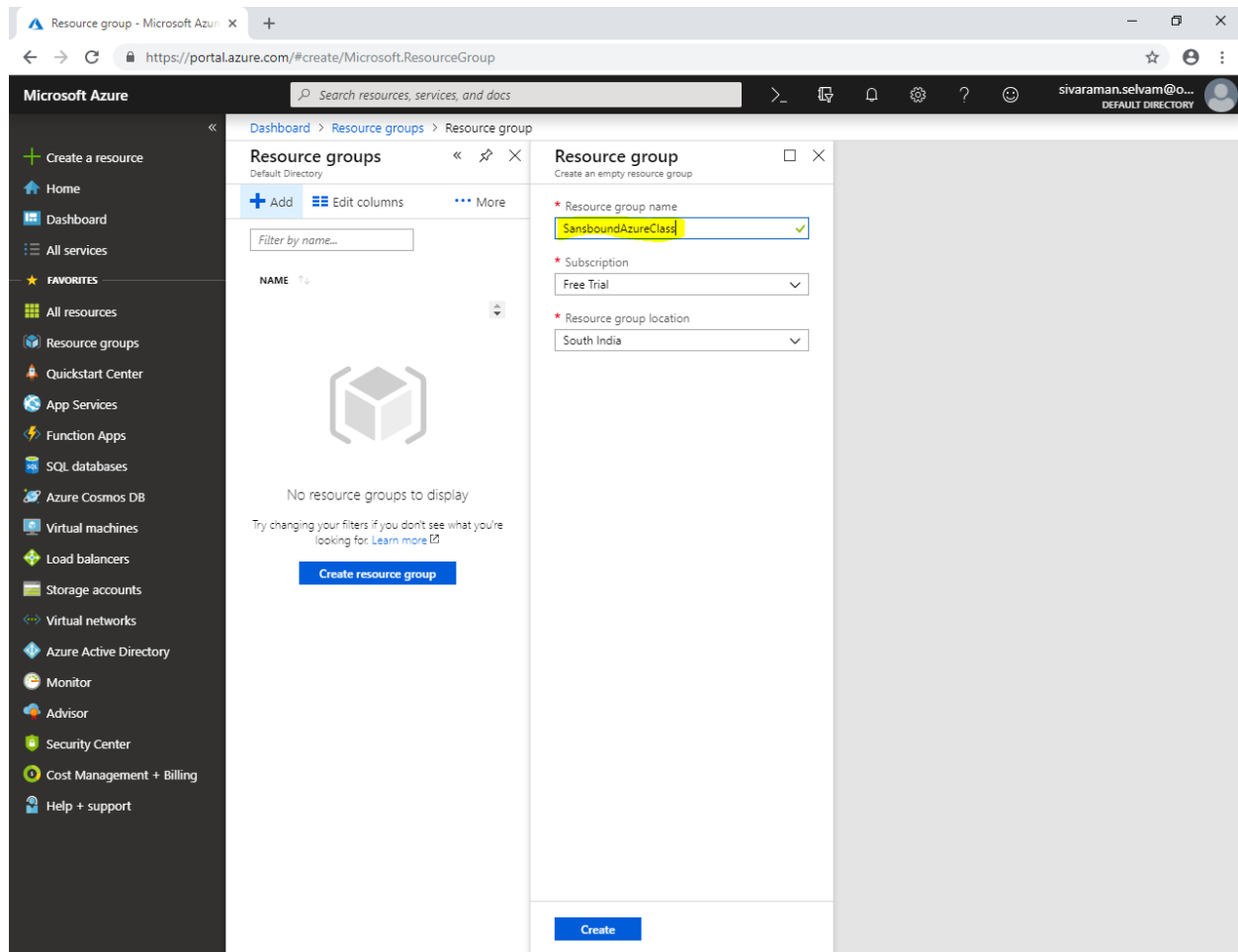


In “Resource groups” click “Add” to add new resource group.

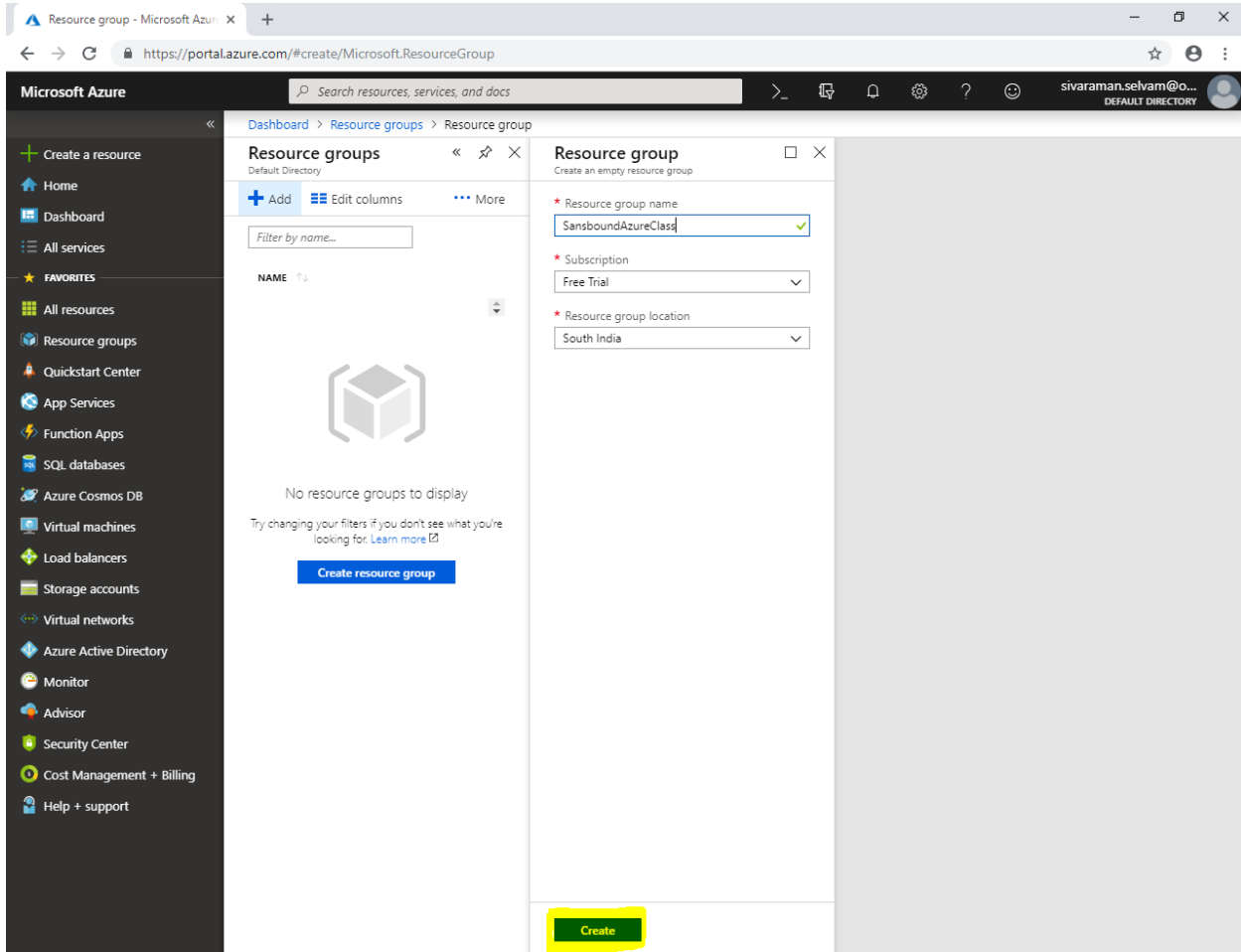


The screenshot shows the Microsoft Azure portal interface. The left sidebar contains navigation links such as "Create a resource", "Home", "Dashboard", "All services", and a "FAVORITES" section with various services like "All resources", "Resource groups", "Quickstart Center", "App Services", "Function 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 is titled "Resource groups" and includes a search bar, a filter dropdown set to "Subscriptions: Free Trial", and a table with columns "NAME", "SUBSCRIPTION", and "LOCATION". The table is currently empty, showing "0 items". A large blue button labeled "Create resource group" is prominently displayed at the bottom of the main content area.

While creating “Resource group” type “Resource Group Name” as “**SansboundAzureClass**”, select “**Subscription**” as “**Free Trial**” and select “**Resource group location**” you have required to place the Resource group.



Click **"Create"**.

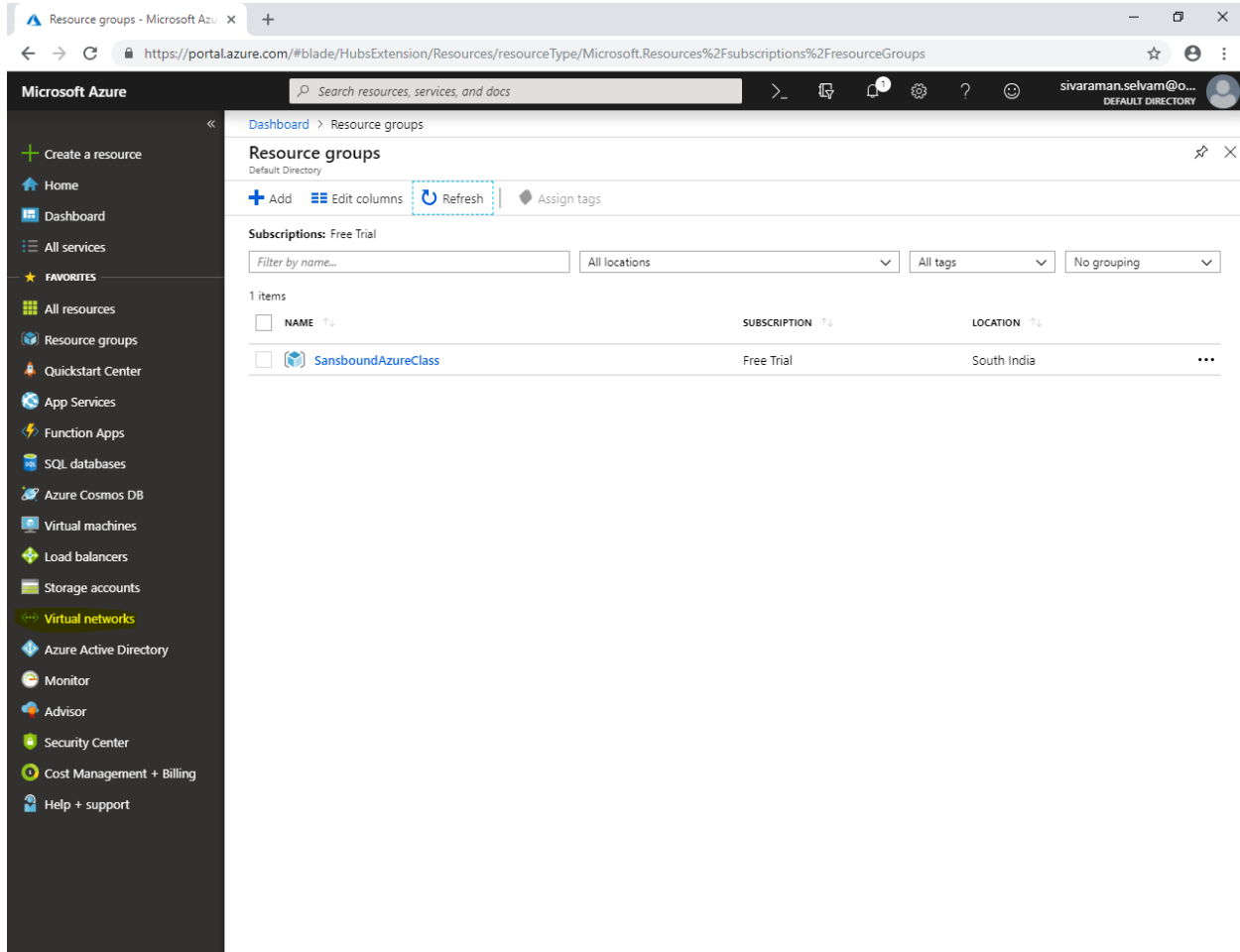


The screenshot shows the Microsoft Azure portal interface. On the left is a navigation sidebar with options like 'Create a resource', 'Home', 'Dashboard', 'All services', and 'FAVORITES'. The main area displays the 'Resource groups' page. A modal window titled 'Resource group' is open, allowing the creation of a new resource group. The form includes the following fields:

- Resource group name:** SansboundAzureClass (with a green checkmark indicating it's valid)
- Subscription:** Free Trial (selected from a dropdown)
- Resource group location:** South India (selected from a dropdown)

At the bottom right of the modal, a yellow box highlights the **Create** button. The background of the portal shows a list of resource groups with a message: 'No resource groups to display. Try changing your filters if you don't see what you're looking for. [Learn more](#).' A 'Create resource group' button is also visible in the background.

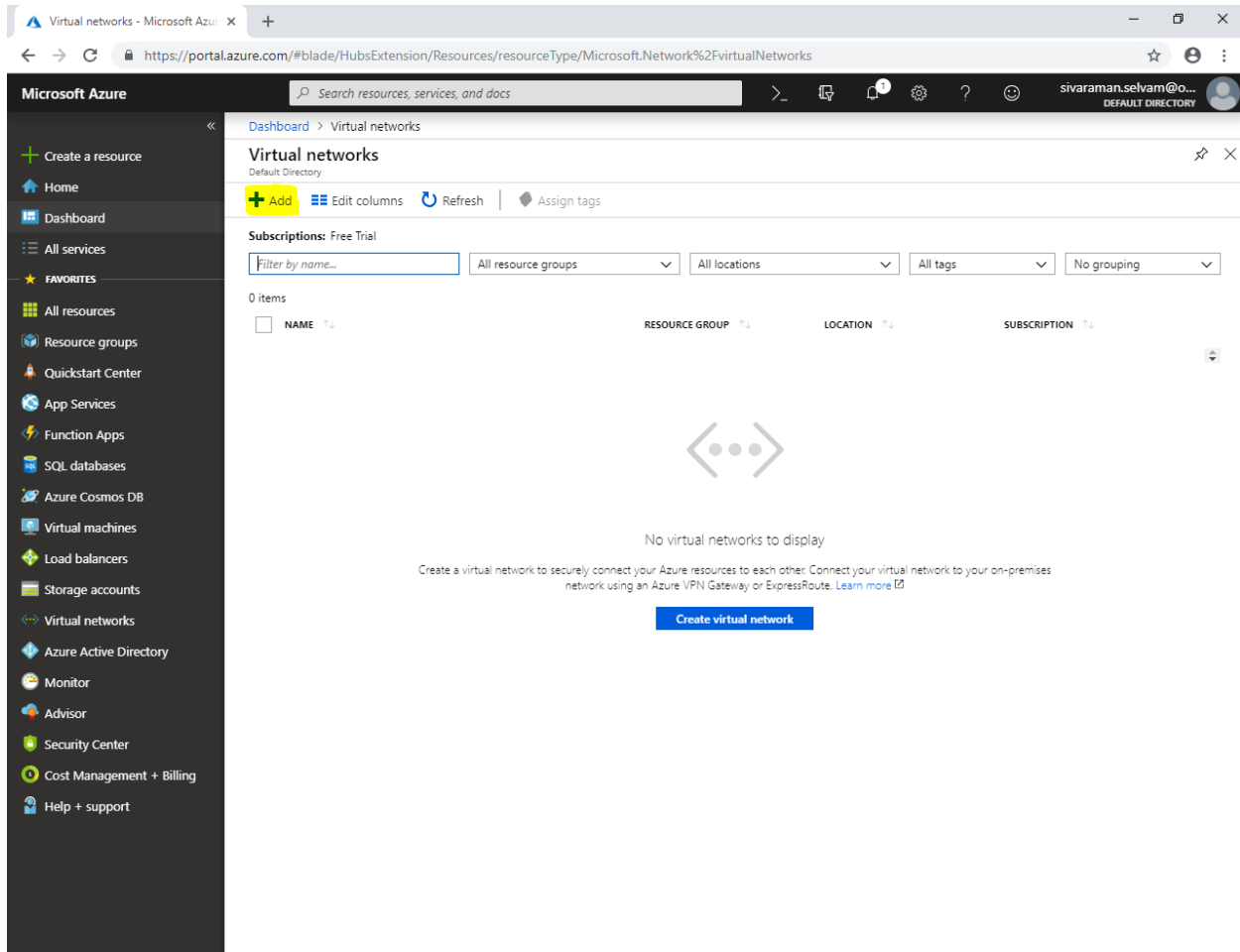
Click on **“Virtual networks”** in left side panel.



The screenshot shows the Microsoft Azure portal interface. The left-hand navigation pane is visible, with 'Virtual networks' highlighted in yellow. The main content area displays the 'Resource groups' page. At the top, there's a search bar and a 'Refresh' button. Below this, a table lists the resource groups. The table has columns for 'NAME', 'SUBSCRIPTION', and 'LOCATION'. One resource group is listed: 'SansboundAzureClass' under the 'Free Trial' subscription in the 'South India' location.

NAME	SUBSCRIPTION	LOCATION
SansboundAzureClass	Free Trial	South India

In “Virtual networks” click “Add”.



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 is titled 'Virtual networks' and shows a list of virtual networks. The list is currently empty, with a message stating 'No virtual networks to display'. Below the message, there is a blue button labeled 'Create virtual network'.

While creating network,

Type “Virtual network” name as “SANS-VNET”.

Specify “Address range” as 10.0.0.0/16

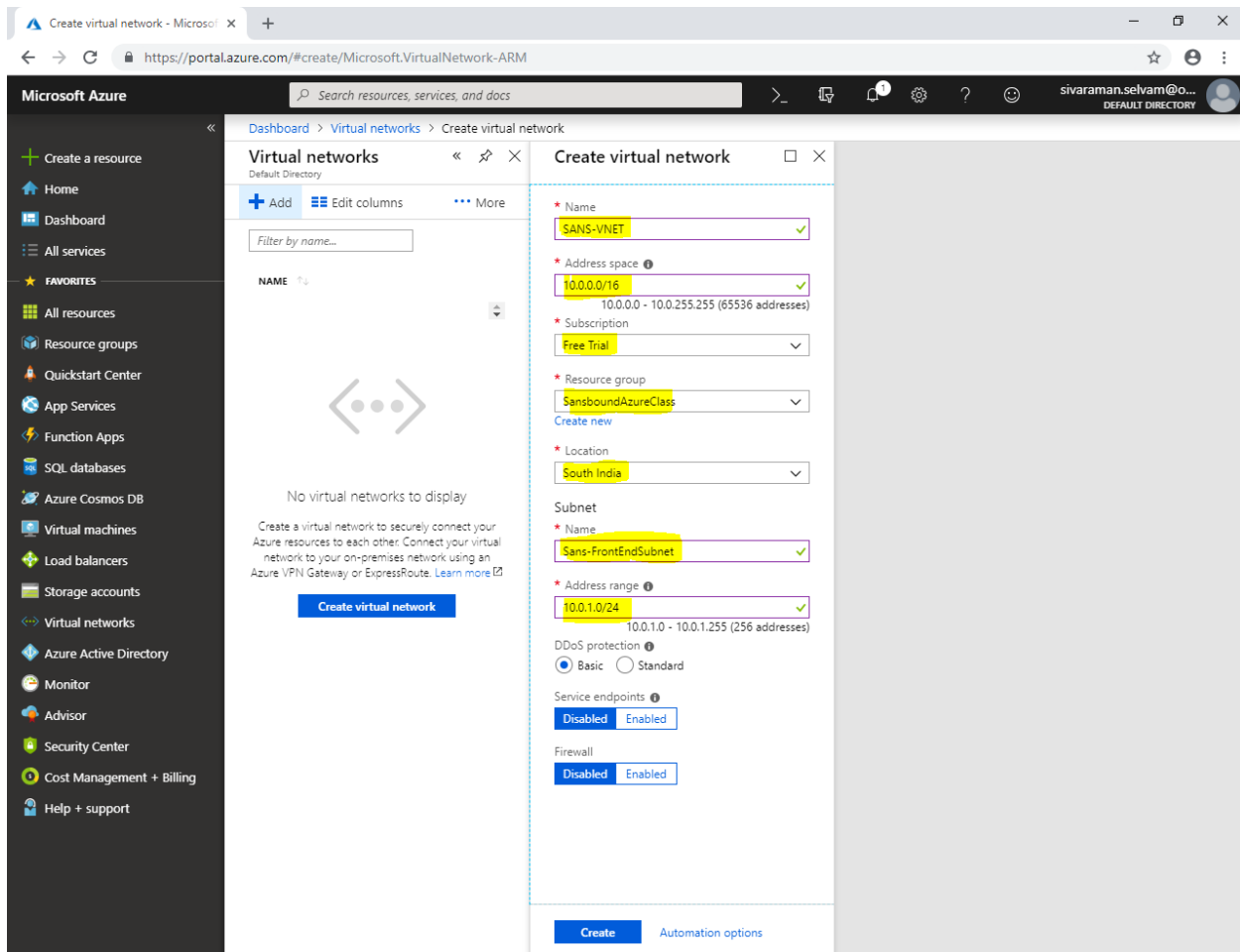
Subscription as “Free Trial”.

Select “Resource Group” as “SansboundAzureClass”.

Select “Location” as “South India”.

In “Subnet” type “Subnet name” as “Sans-FrontEndSubnet”

In “Address range” for the subnet type as 10.0.1.0/24

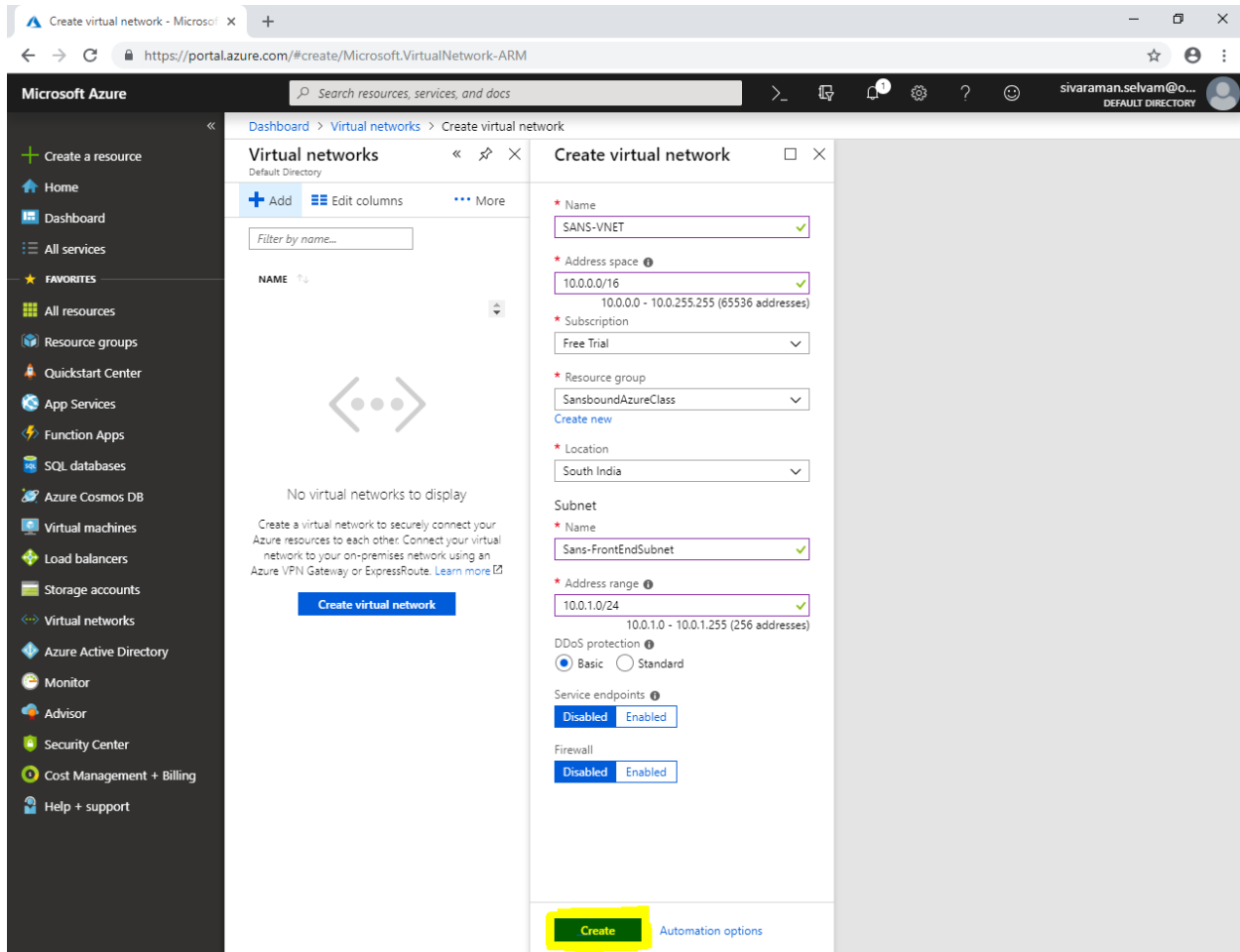


The screenshot shows the Microsoft Azure portal interface for creating a virtual network. The left sidebar contains the navigation menu with options like 'Create a resource', 'Home', 'Dashboard', 'All services', and 'FAVORITES'. The main area displays the 'Create virtual network' form. The form fields are as follows:

- Name:** SANS-VNET
- Address space:** 10.0.0.0/16
- Subscription:** Free Trial
- Resource group:** SansboundAzureClass
- Location:** South India
- Subnet:**
 - Name:** Sans-FrontEndSubnet
 - Address range:** 10.0.1.0/24
- DDoS protection:** Basic (selected)
- Service endpoints:** Disabled
- Firewall:** Disabled

The 'Create' button is located at the bottom right of the form.

Click **“Create”**.

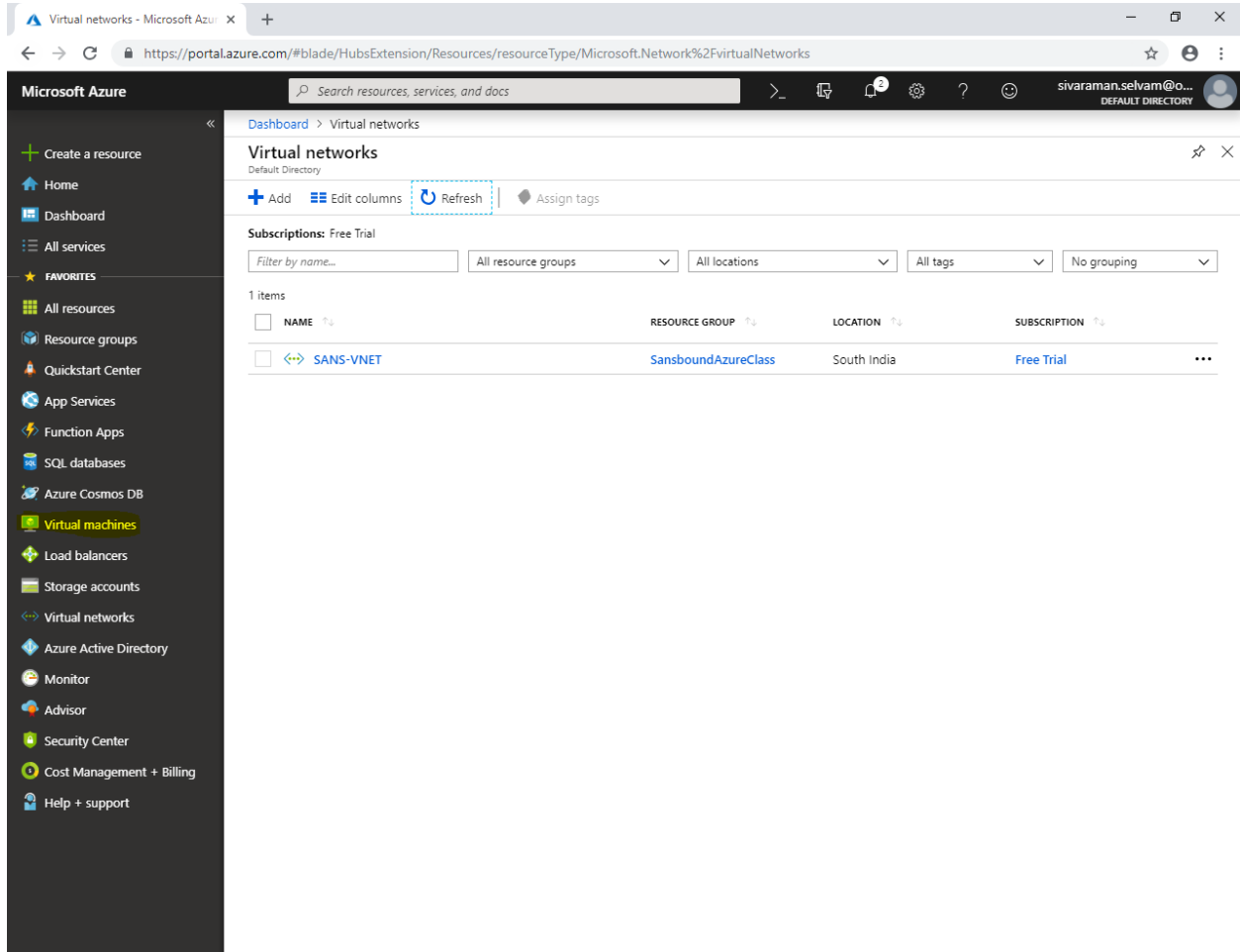


The screenshot shows the Microsoft Azure portal interface for creating a virtual network. The left sidebar contains the navigation menu with options like 'Create a resource', 'Home', 'Dashboard', 'All services', and 'FAVORITES'. The main area is titled 'Virtual networks' and shows a list of virtual networks (currently empty) and a 'Create virtual network' button. The right pane displays the 'Create virtual network' form with the following fields:

- Name: SANS-VNET
- Address space: 10.0.0.0/16 (10.0.0.0 - 10.0.255.255 (65536 addresses))
- Subscription: Free Trial
- Resource group: SansboundAzureClass
- Location: South India
- Subnet:
 - Name: Sans-FrontEndSubnet
 - Address range: 10.0.1.0/24 (10.0.1.0 - 10.0.1.255 (256 addresses))
- DDoS protection: Basic (selected)
- Service endpoints: Disabled (selected)
- Firewall: Disabled (selected)

The 'Create' button is highlighted in yellow at the bottom of the form.

Click on **“Virtual machines”**.



The screenshot shows the Microsoft Azure portal interface. The left sidebar contains a list of services, with "Virtual machines" highlighted. The main content area displays the "Virtual networks" page, which includes a search bar, a "Refresh" button, and a table of virtual networks. The table has one item, "SANS-VNET", with columns for Name, Resource Group, Location, and Subscription.

NAME	RESOURCE GROUP	LOCATION	SUBSCRIPTION
SANS-VNET	SansboundAzureClass	South India	Free Trial

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 'FAVORITES'. The main content area is titled 'Virtual machines' and includes a search bar, a list of actions (Add, Reservations, Edit columns, Refresh, Assign tags, Start, Restart, Stop, Delete, Services), and a filter section. Below the filters, a table header is visible with columns: NAME, TYPE, STATUS, RESOURCE GR..., LOCATION, MAINTENANC..., and SUBSCRIPTION. The table is currently empty, showing a message 'No virtual machines to display' and a 'Create virtual machine' button.

While creating “Virtual machine”

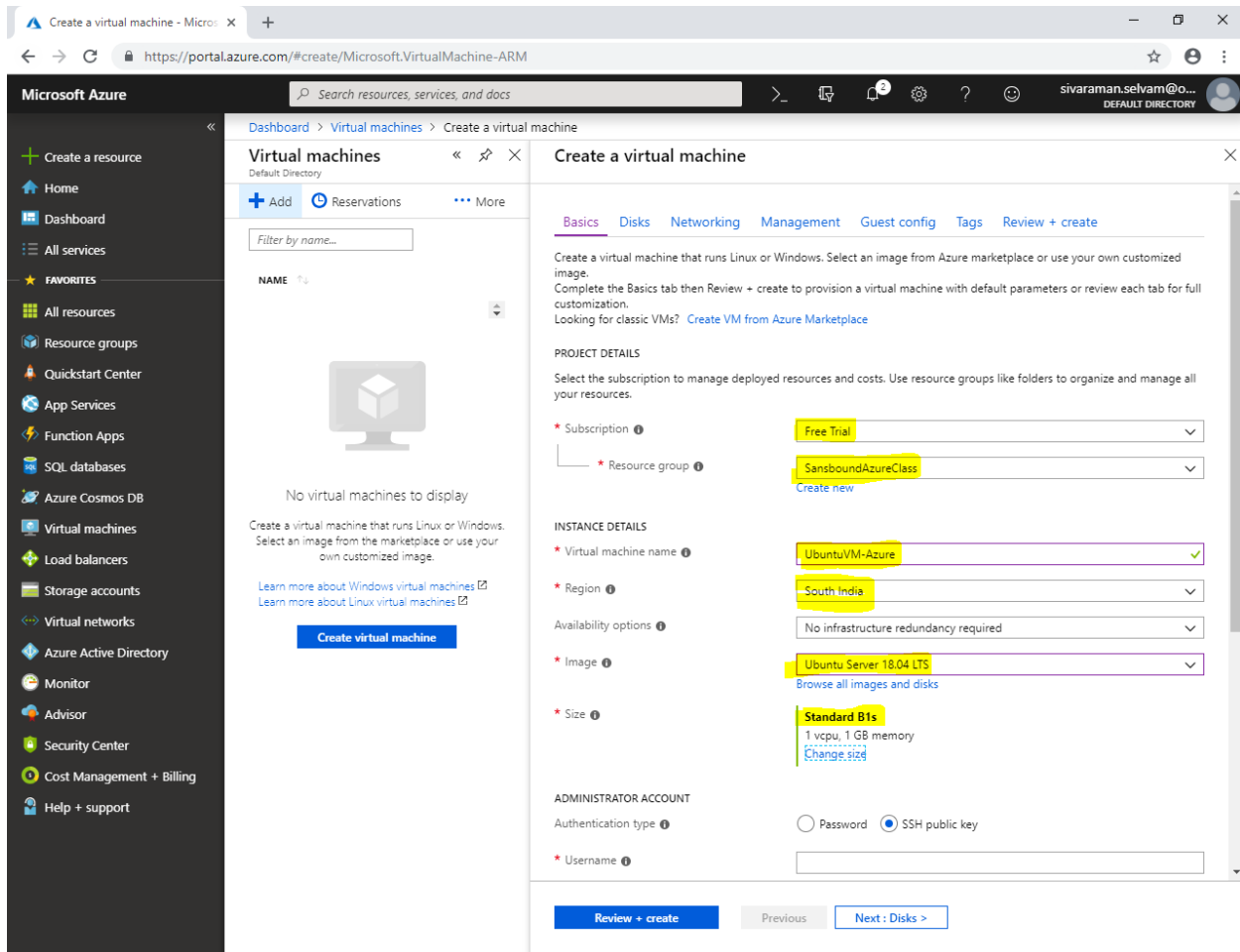
Select “Subscription” as “Free Trial”.

Select “Resource Group” as “SansboundAzureClass”.

Type “Virtual machine name” as “UbuntuVM-Azure”.

Select “Region” as “South India” (You can select any other region as per your wish / requirement).

Change “VM Size” as “Standard B1s”.



The screenshot displays the Microsoft Azure portal interface for creating a new virtual machine. The left-hand navigation pane shows the 'Virtual machines' section under 'All resources'. The main content area is titled 'Create a virtual machine' and includes a 'Basics' tab. The 'Basics' tab contains the following configuration details:

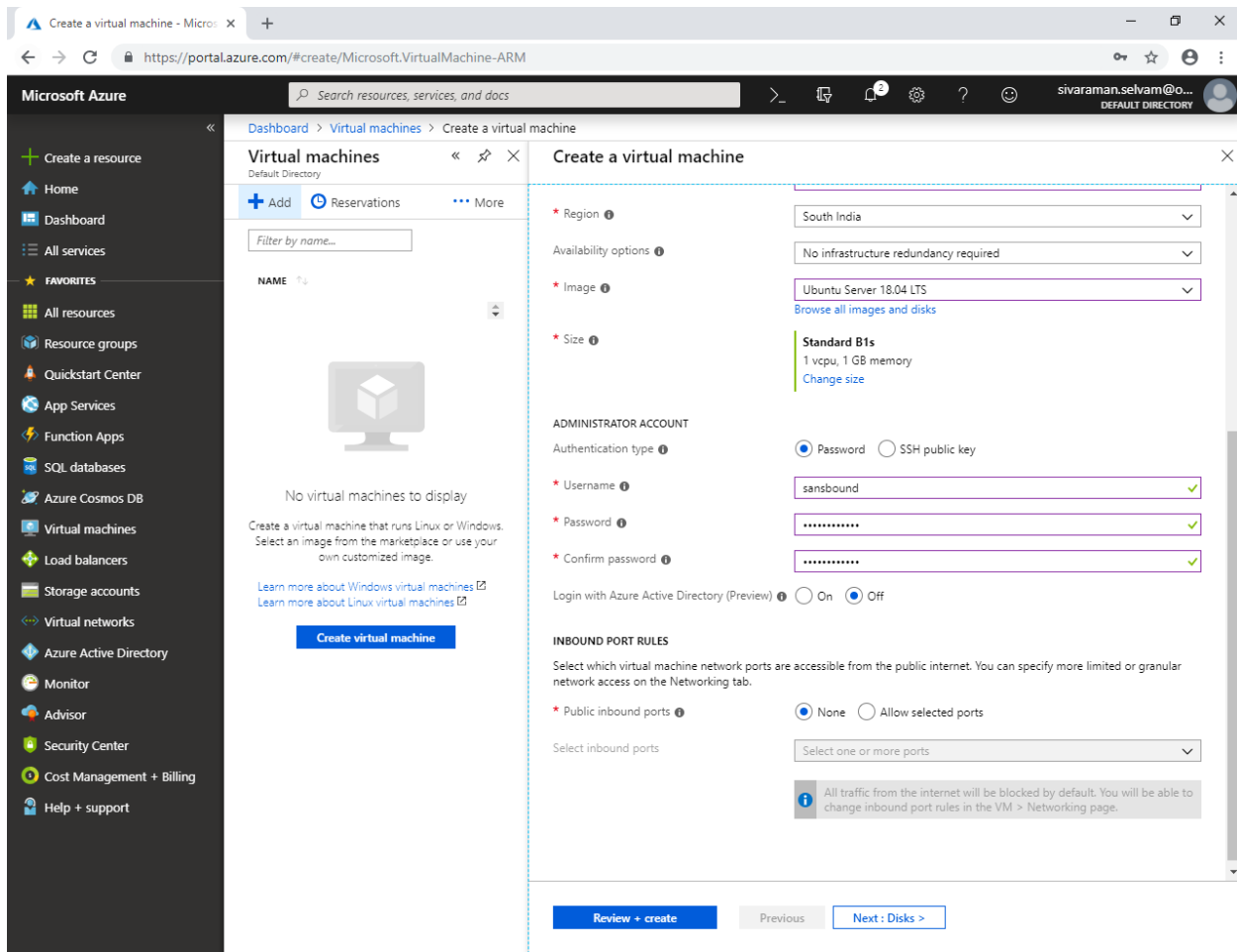
- Subscription:** Free Trial
- Resource group:** SansboundAzureClass
- Virtual machine name:** UbuntuVM-Azure
- Region:** South India
- Availability options:** No infrastructure redundancy required
- Image:** Ubuntu Server 18.04 LTS
- Size:** Standard B1s (1 vcpu, 1 GB memory)
- Authentication type:** SSH public key

The 'Review + create' button is located at the bottom of the form, indicating the next step in the process.

In **“Administrator Account”**, set **“Authentication type”** as **“Password”**.

Type **“Username”** as **“sansbound”**

Type **“Password”** as per your wish.



The screenshot shows the Azure portal interface for creating a virtual machine. The left sidebar contains the navigation menu with options like 'Home', 'Dashboard', 'All services', and 'FAVORITES'. The main content area is titled 'Virtual machines' and shows a 'Create a virtual machine' wizard. The wizard is divided into several sections:

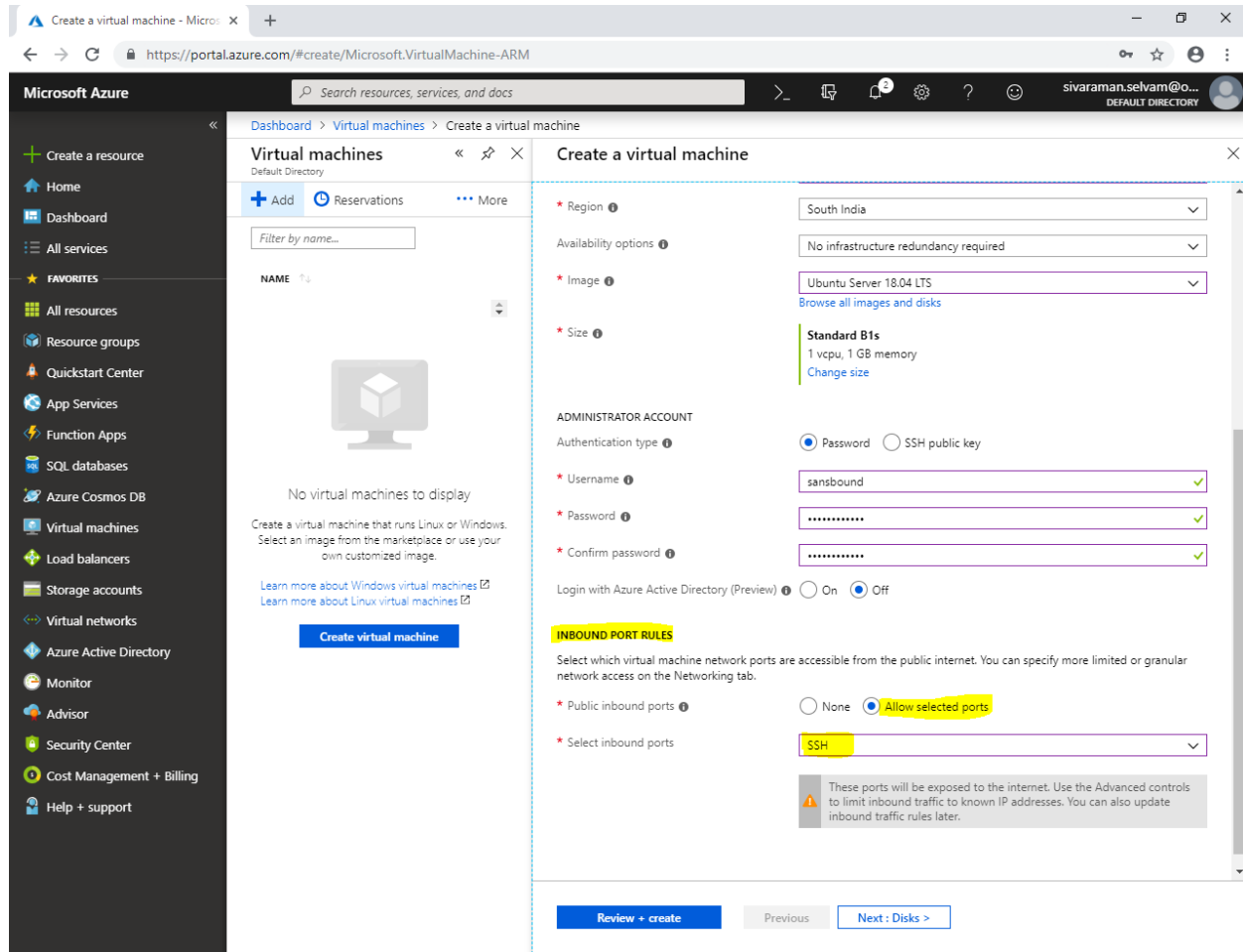
- Region:** South India
- Availability options:** No infrastructure redundancy required
- Image:** Ubuntu Server 18.04 LTS
- Size:** Standard B1s (1 vcpu, 1 GB memory)
- ADMINISTRATOR ACCOUNT:**
 - Authentication type:** Password (selected)
 - Username:** sansbound
 - Password:** [masked]
 - Confirm password:** [masked]
 - Login with Azure Active Directory (Preview):** Off
- INBOUND PORT RULES:**
 - Public inbound ports:** None (selected)
 - Select inbound ports:** Select one or more ports

At the bottom, there are buttons for 'Review + create', 'Previous', and 'Next : Disks >'. A note at the bottom states: 'All traffic from the internet will be blocked by default. You will be able to change inbound port rules in the VM > Networking page.'

In “Inbound Port Rules”

“Public inbound ports” as “Allow selected ports”.

“Select inbound ports” as “SSH”.



The screenshot displays the Azure portal interface for creating a virtual machine. The left sidebar shows the navigation menu with options like 'Create a resource', 'Home', 'Dashboard', 'All services', and 'FAVORITES'. The main content area is titled 'Create a virtual machine' and includes a search bar and a list of virtual machines (currently empty). The right-hand pane shows the configuration details for the new VM, including region, availability options, image, size, and administrator account. The 'INBOUND PORT RULES' section is highlighted, showing the configuration for public inbound ports.

INBOUND PORT RULES

Select which virtual machine network ports are accessible from the public internet. You can specify more limited or granular network access on the Networking tab.

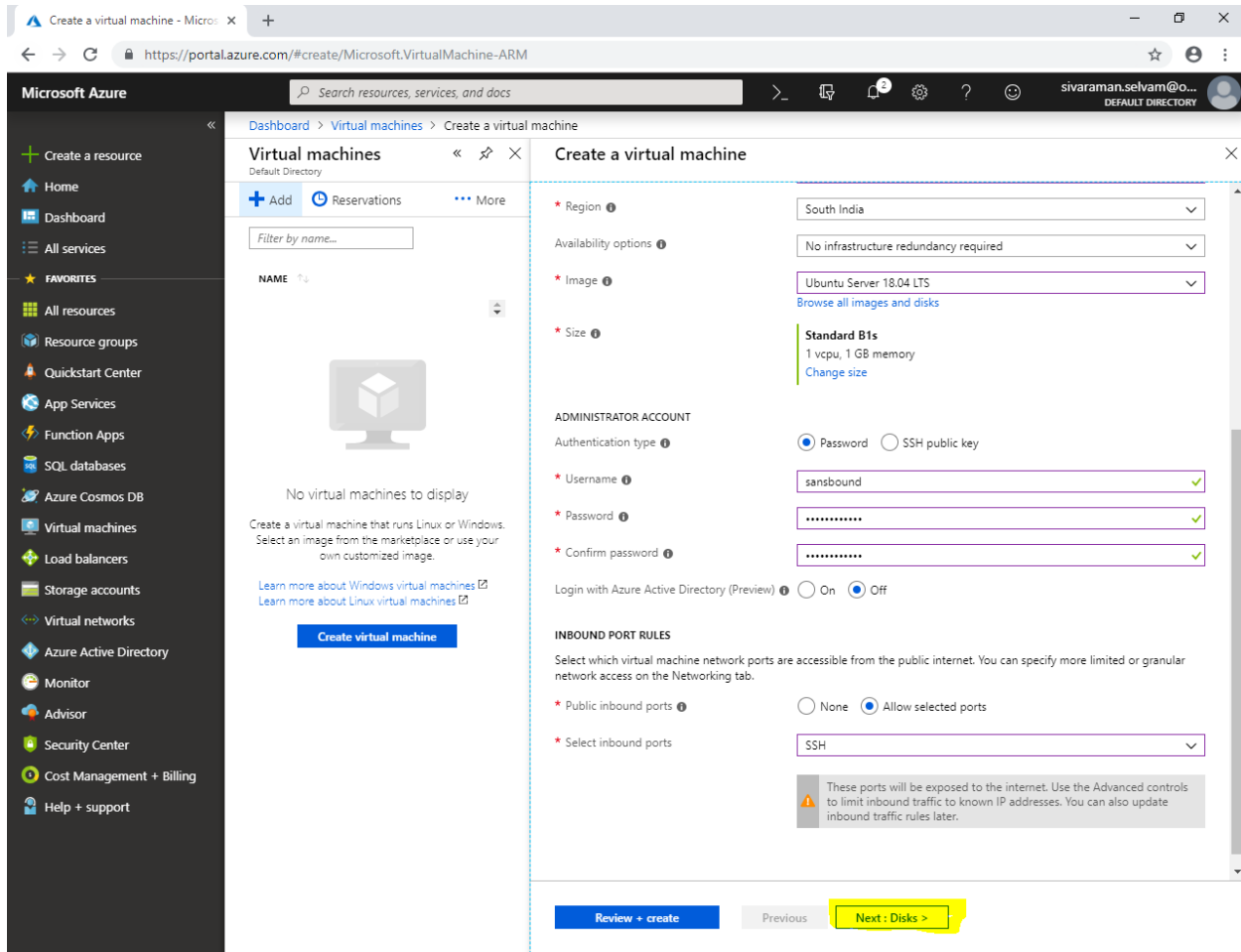
* Public inbound ports ☐ None ☒ Allow selected ports

* Select inbound ports **SSH**

These ports will be exposed to the internet. Use the Advanced controls to limit inbound traffic to known IP addresses. You can also update inbound traffic rules later.

Review + create Previous Next : Disks >

Click “Next : Disks >”.



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Dashboard > Virtual machines > Create a virtual machine

Virtual machines

Filter by name...

NAME

No virtual machines to display

Create a virtual machine that runs Linux or Windows. Select an image from the marketplace or use your own customized image.

Learn more about Windows virtual machines

Learn more about Linux virtual machines

Create virtual machine

Create a virtual machine

Region: South India

Availability options: No infrastructure redundancy required

Image: Ubuntu Server 18.04 LTS

Size: Standard B1s (1 vcpu, 1 GB memory)

ADMINISTRATOR ACCOUNT

Authentication type: Password

Username: sansbound

Password:

Confirm password:

Login with Azure Active Directory (Preview): Off

INBOUND PORT RULES

Select which virtual machine network ports are accessible from the public internet. You can specify more limited or granular network access on the Networking tab.

Public inbound ports: Allow selected ports

Select inbound ports: SSH

These ports will be exposed to the internet. Use the Advanced controls to limit inbound traffic to known IP addresses. You can also update inbound traffic rules later.

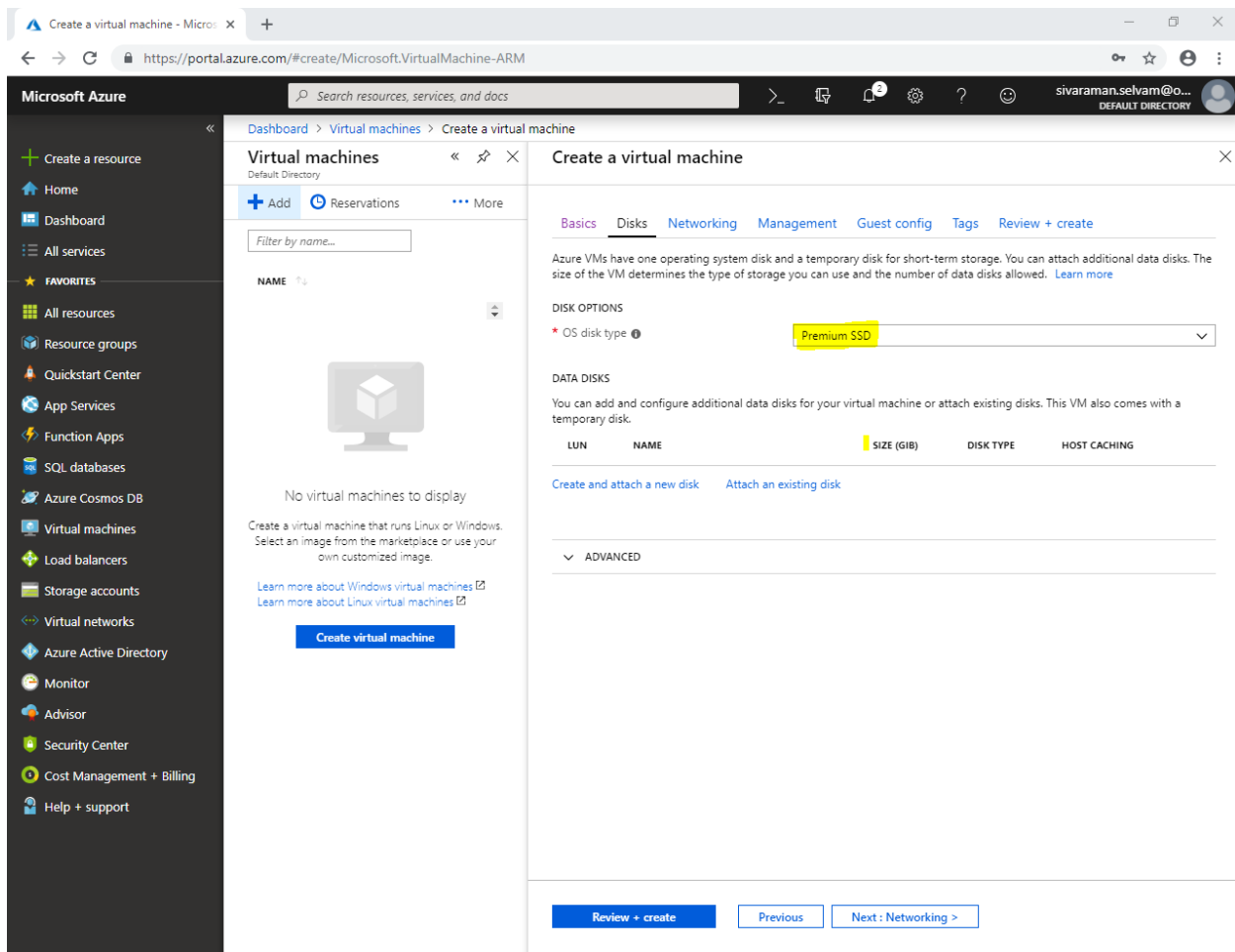
Review + create Previous Next : Disks >

In **"Disks"**.

If you have selected **"Premium SSD"** performance and price will be high.

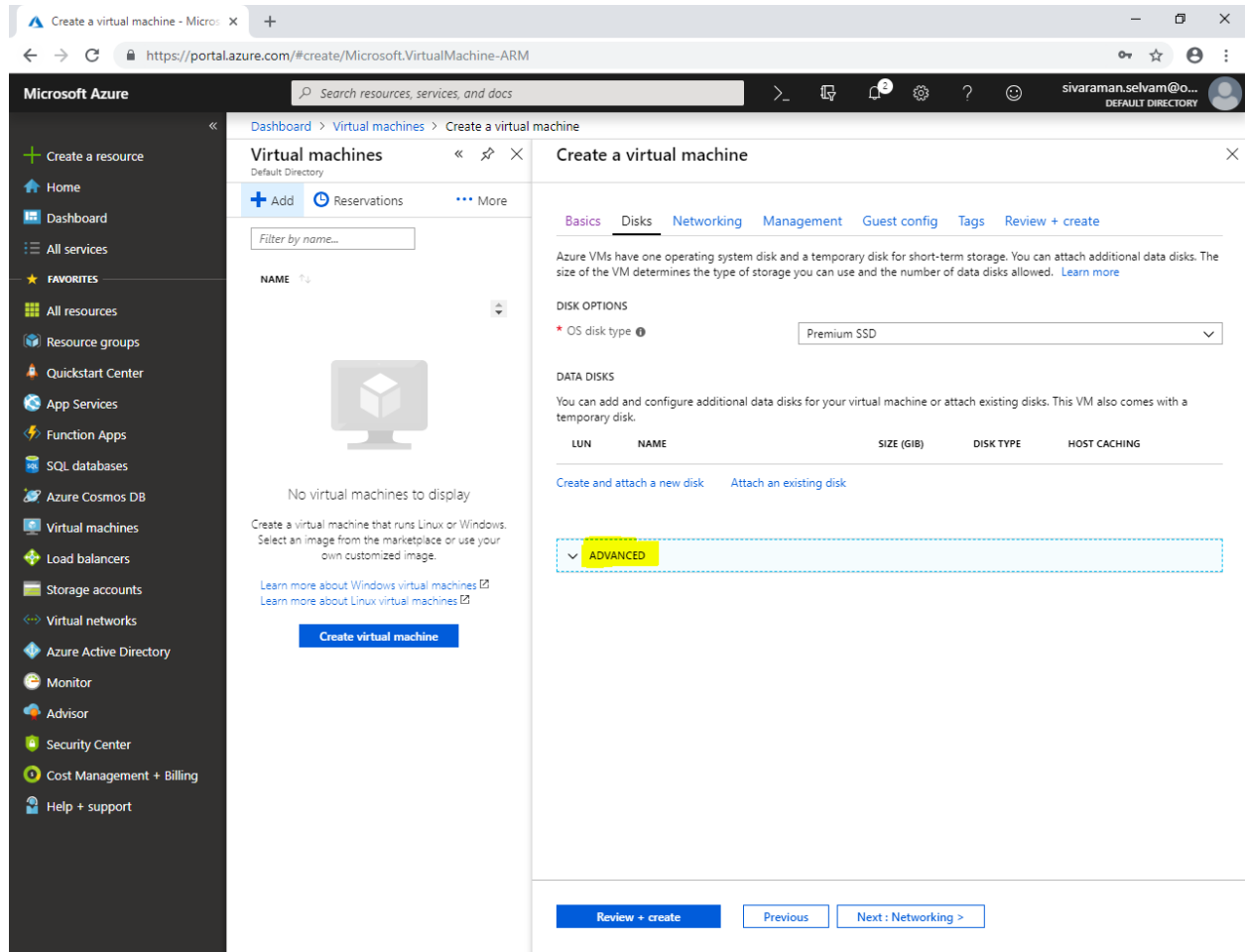
If you have selected **"Standard SSD"** performance and price will be lower than **"Premium SSD"**.

If you have selected **"Standard HDD"** performance and price will be lower than **"Standard SSD"**. It's similar to magnetic hard disk.



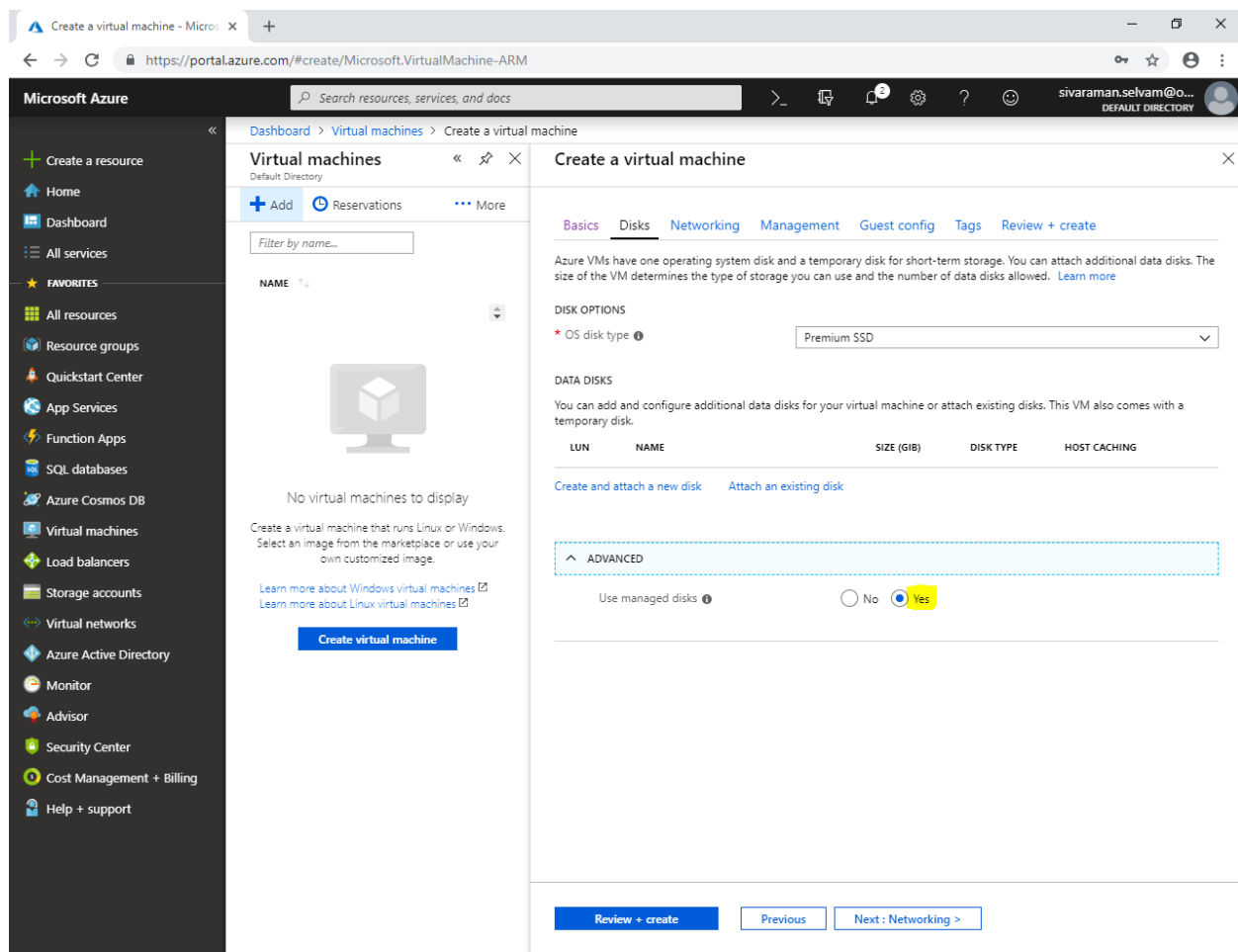
The screenshot displays the Microsoft Azure portal interface for creating a virtual machine. The left sidebar shows the navigation menu with options like 'Create a resource', 'Home', 'Dashboard', and various services. The main content area is titled 'Virtual machines' and includes a 'Create a virtual machine' button. The 'Disks' tab is active, showing the 'OS disk type' as 'Premium SSD'. Below this, the 'DATA DISKS' section is empty, with a table header for 'LUN', 'NAME', 'SIZE (GiB)', 'DISK TYPE', and 'HOST CACHING'. At the bottom, there are buttons for 'Review + create', 'Previous', and 'Next : Networking >'.

Click on **“Advanced”**.



The screenshot shows the Microsoft Azure portal interface for creating a virtual machine. The left sidebar contains the navigation menu with options like 'Create a resource', 'Home', 'Dashboard', 'All services', and 'FAVORITES'. The main area is titled 'Virtual machines' and shows a list of virtual machines (currently empty). The 'Create a virtual machine' wizard is open, with the 'Disks' tab selected. The 'DISK OPTIONS' section shows 'OS disk type' set to 'Premium SSD'. The 'DATA DISKS' section explains that you can add and configure additional data disks. Below this, there are two links: 'Create and attach a new disk' and 'Attach an existing disk'. The 'ADVANCED' option under 'Create and attach a new disk' is highlighted in yellow. At the bottom, there are buttons for 'Review + create', 'Previous', and 'Next : Networking >'. The browser address bar shows the URL: <https://portal.azure.com/#create/Microsoft.VirtualMachine-ARM>.

By default, while we create Virtual machines it will be created with **“Managed disks”**.



The screenshot displays the Microsoft Azure portal interface for creating a new virtual machine. The left sidebar shows the navigation menu with options like 'Create a resource', 'Home', 'Dashboard', and various services. The main content area is titled 'Virtual machines' and shows a 'Create a virtual machine' wizard. The 'DISK OPTIONS' section is expanded, showing 'OS disk type' set to 'Premium SSD'. The 'DATA DISKS' section is empty, and the 'ADVANCED' section shows 'Use managed disks' set to 'Yes'.

Microsoft Azure Search resources, services, and docs

Dashboard > Virtual machines > Create a virtual machine

Virtual machines Default Directory

+ Add Reservations More

Filter by name...

NAME %

No virtual machines to display

Create a virtual machine that runs Linux or Windows. Select an image from the marketplace or use your own customized image.

[Learn more about Windows virtual machines](#) [Learn more about Linux virtual machines](#)

[Create virtual machine](#)

Create a virtual machine

Basics Disks Networking Management Guest config Tags Review + create

Azure VMs have one operating system disk and a temporary disk for short-term storage. You can attach additional data disks. The size of the VM determines the type of storage you can use and the number of data disks allowed. [Learn more](#)

DISK OPTIONS

* OS disk type Premium SSD

DATA DISKS

You can add and configure additional data disks for your virtual machine or attach existing disks. This VM also comes with a temporary disk.

LUN	NAME	SIZE (GiB)	DISK TYPE	HOST CACHING
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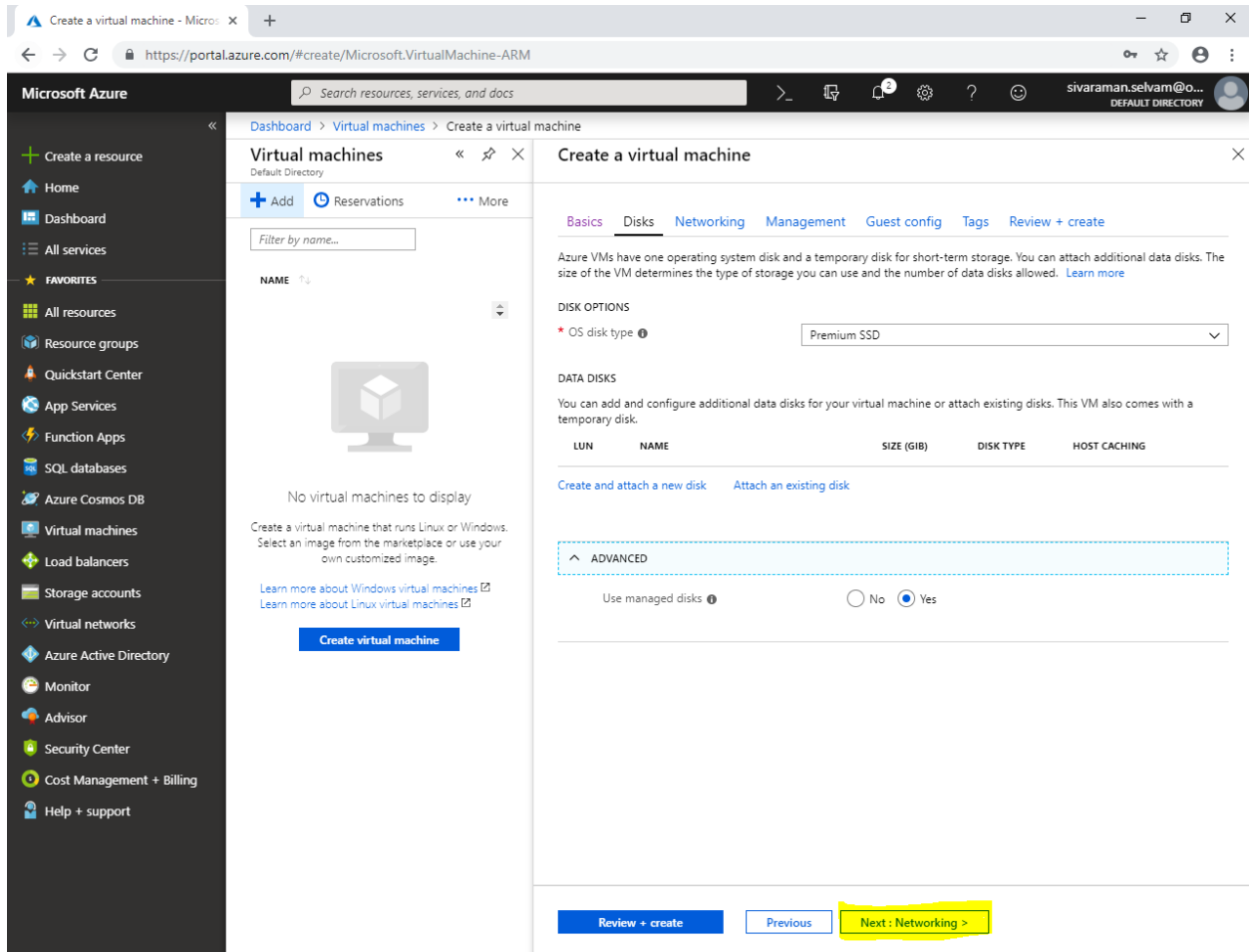
[Create and attach a new disk](#) [Attach an existing disk](#)

ADVANCED

Use managed disks ☐ No ☒ Yes

[Review + create](#) [Previous](#) [Next : Networking >](#)

Click **"Next : Networking >"**.



The screenshot shows the Microsoft Azure portal interface for creating a virtual machine. The left sidebar contains navigation links for various Azure services. The main content area is titled 'Create a virtual machine' and includes tabs for 'Basics', 'Disks', 'Networking', 'Management', 'Guest config', 'Tags', and 'Review + create'. The 'Disks' tab is active, displaying 'DISK OPTIONS' with 'Premium SSD' selected for the OS disk type. Below this, the 'DATA DISKS' section explains that additional data disks can be attached. A table with columns 'LUN', 'NAME', 'SIZE (GiB)', 'DISK TYPE', and 'HOST CACHING' is present, but it is empty. The 'ADVANCED' section shows 'Use managed disks' set to 'Yes'. At the bottom, three buttons are visible: 'Review + create', 'Previous', and 'Next : Networking >', with the last button highlighted in yellow.

In "Networking"

Ensure that "Virtual Network" as "SANS-VNET".

Ensure that "Subnet" as "Sans-FrontEndSubnet".

Ensure that Public IP for Virtual machine.

In NIC "Network Security Group" as "Basic".

In "Public inbound ports" set as "Allow selected ports".

In "Select inbound ports" click "SSH".

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Dashboard > Virtual machines > Create a virtual machine

Virtual machines

Filter by name...

NAME

No virtual machines to display

Create a virtual machine that runs Linux or Windows. Select an image from the marketplace or use your own customized image.

Learn more about Windows virtual machines

Learn more about Linux virtual machines

Create virtual machine

Create a virtual machine

Define network connectivity for your virtual machine by configuring network interface card (NIC) settings. You can control ports, inbound and outbound connectivity with security group rules, or place behind an existing load balancing solution. [Learn more](#)

NETWORK INTERFACE

When creating a virtual machine, a network interface will be created for you.

CONFIGURE VIRTUAL NETWORKS

* Virtual network SANS-VNET [Create new](#)

* Subnet Sans-FrontEndSubnet (10.0.1.0/24) [Manage subnet configuration](#)

Public IP (new) UbuntuVM-Azure-ip [Create new](#)

NIC network security group ☐ None ☒ Basic ☐ Advanced

* Public inbound ports ☐ None ☒ Allow selected ports

* Select inbound ports SSH

These ports will be exposed to the internet. Use the Advanced controls to limit inbound traffic to known IP addresses. You can also update inbound traffic rules later.

Accelerated networking ☐ On ☒ Off
The selected VM size does not support accelerated networking.

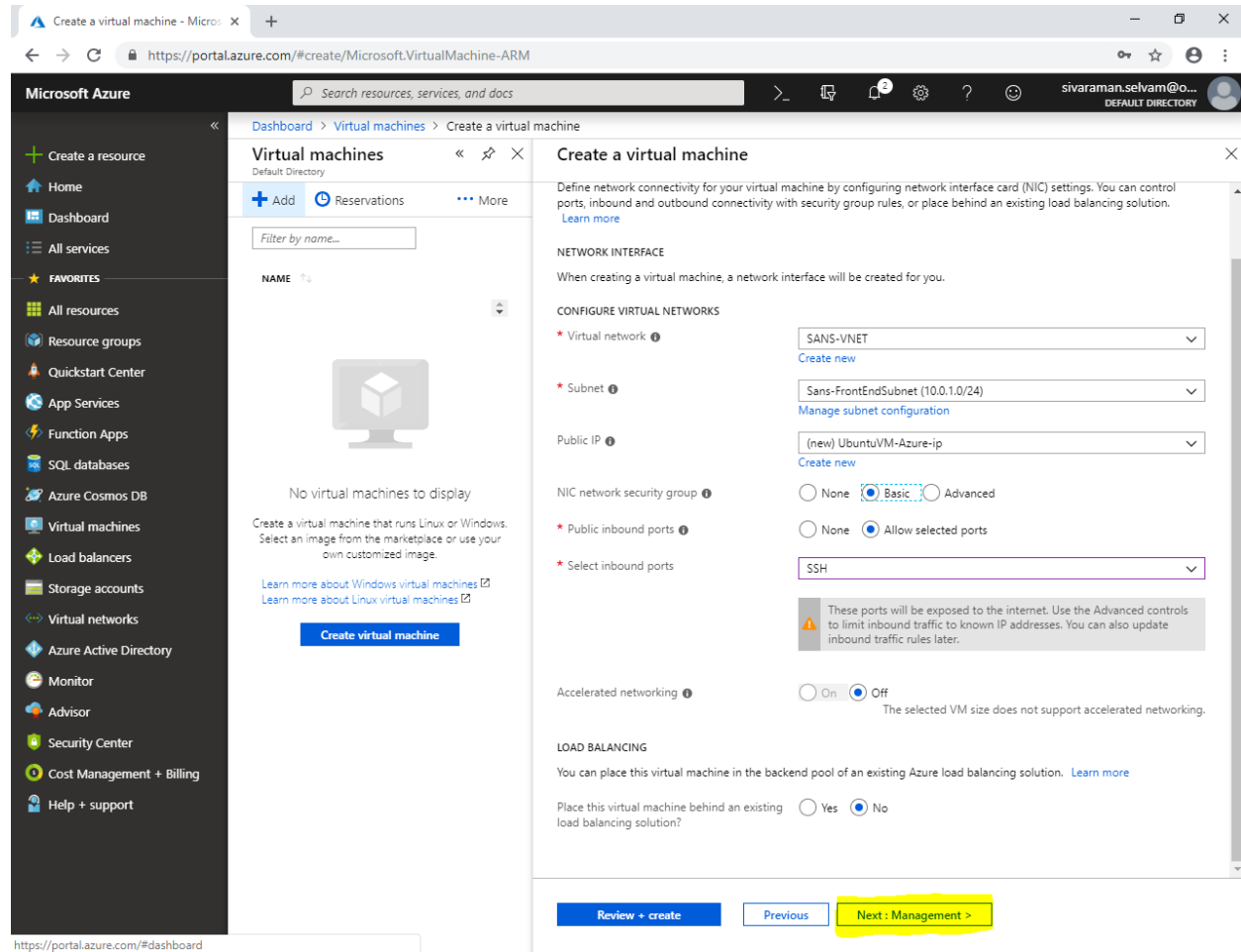
LOAD BALANCING

You can place this virtual machine in the backend pool of an existing Azure load balancing solution. [Learn more](#)

Place this virtual machine behind an existing load balancing solution? ☐ Yes ☒ No

Review + create Previous Next : Management >

Click **"Next : Management >"**.



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 'Virtual machines' and 'Create a virtual machine'. It includes a 'Filter by name...' search bar and a 'Create virtual machine' button. The right pane shows the configuration steps for creating a VM, including 'NETWORK INTERFACE', 'CONFIGURE VIRTUAL NETWORKS', 'NIC network security group', 'Public inbound ports', 'Select inbound ports', 'Accelerated networking', and 'LOAD BALANCING'. The 'Next : Management >' button is highlighted in yellow at the bottom right.

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Dashboard > Virtual machines > Create a virtual machine

Virtual machines

Default Directory

+ Add Reservations More

Filter by name...

NAME

No virtual machines to display

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[Learn more about Windows virtual machines](#)

[Learn more about Linux virtual machines](#)

Create virtual machine

Create a virtual machine

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NETWORK INTERFACE

When creating a virtual machine, a network interface will be created for you.

CONFIGURE VIRTUAL NETWORKS

* Virtual network

SANS-VNET

[Create new](#)

* Subnet

Sans-FrontEndSubnet (10.0.1.0/24)

[Manage subnet configuration](#)

Public IP

(new) UbuntuVM-Azure-ip

[Create new](#)

NIC network security group

☐ None ☒ Basic ☐ Advanced

* Public inbound ports

☐ None ☒ Allow selected ports

* Select inbound ports

SSH

These ports will be exposed to the internet. Use the Advanced controls to limit inbound traffic to known IP addresses. You can also update inbound traffic rules later.

Accelerated networking

☐ On ☒ Off

The selected VM size does not support accelerated networking.

LOAD BALANCING

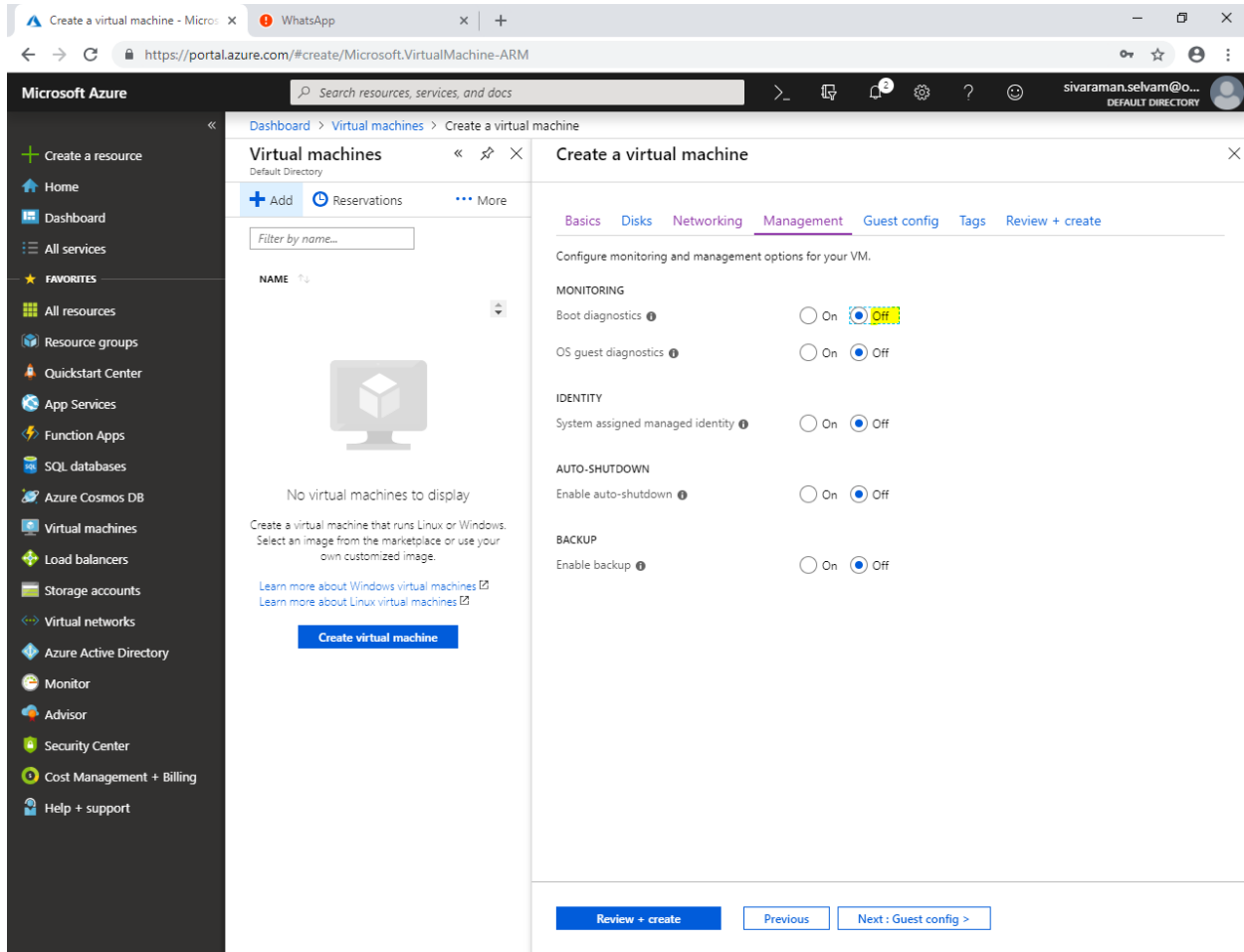
You can place this virtual machine in the backend pool of an existing Azure load balancing solution. [Learn more](#)

Place this virtual machine behind an existing load balancing solution? ☐ Yes ☒ No

Review + create Previous **Next : Management >**

<https://portal.azure.com/#dashboard>

In “Management”.



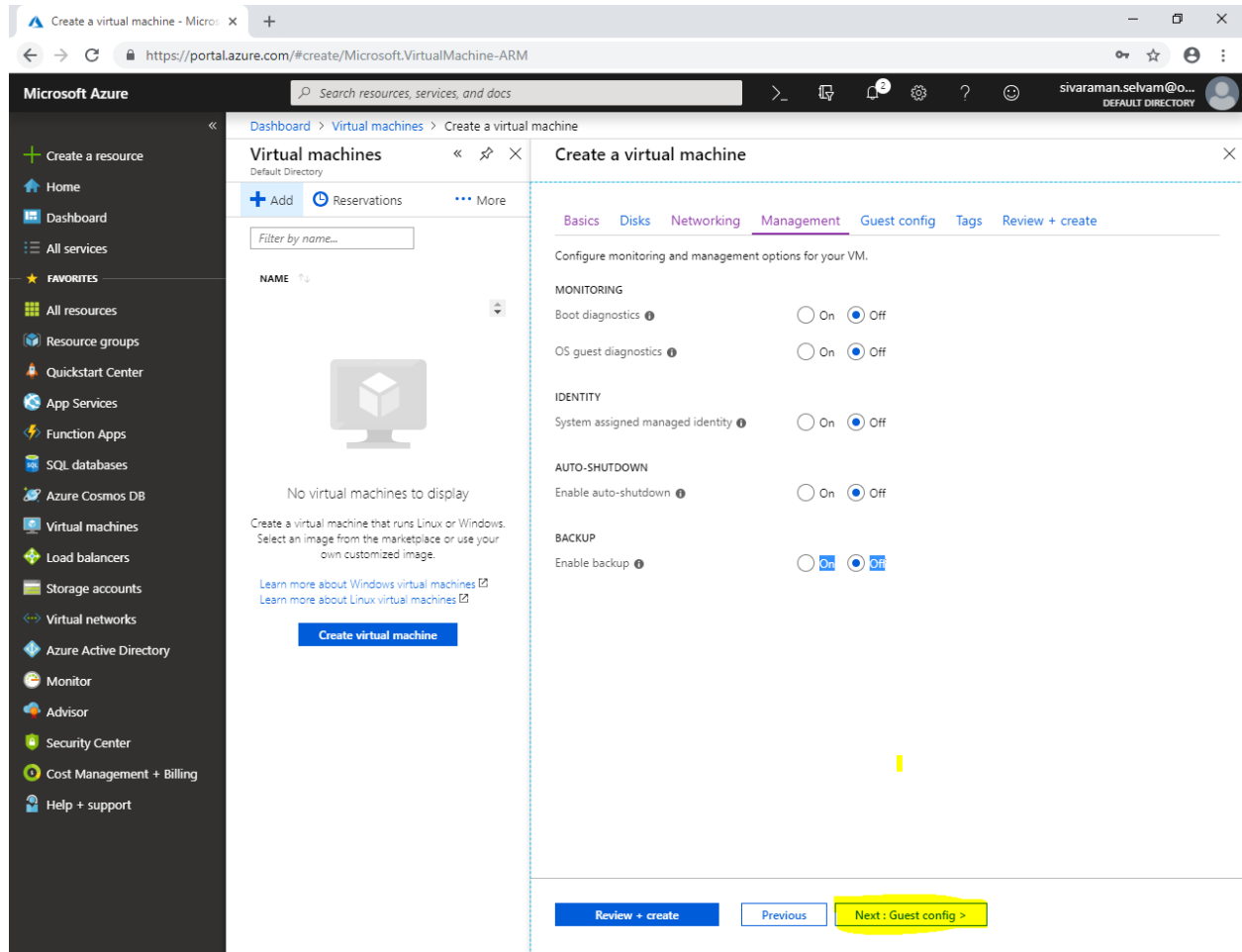
The screenshot shows the Azure portal interface for creating a virtual machine. The left sidebar contains the navigation menu with options like 'Create a resource', 'Home', 'Dashboard', 'All services', and 'FAVORITES'. The main area is titled 'Virtual machines' and shows a list of VMs (currently empty) with a 'Create virtual machine' button. The right pane is the 'Create a virtual machine' wizard, with the 'Management' tab selected. This tab allows configuring monitoring and management options for the VM.

Management Configuration Options:

Category	Option	On	Off
MONITORING	Boot diagnostics	<input type="radio"/>	<input checked="" type="radio"/>
	OS guest diagnostics	<input type="radio"/>	<input checked="" type="radio"/>
IDENTITY	System assigned managed identity	<input type="radio"/>	<input checked="" type="radio"/>
AUTO-SHUTDOWN	Enable auto-shutdown	<input type="radio"/>	<input checked="" type="radio"/>
BACKUP	Enable backup	<input type="radio"/>	<input checked="" type="radio"/>

At the bottom of the wizard, there are buttons for 'Review + create', 'Previous', and 'Next: Guest config >'.

Click **"Next : Guest config >"**.



The screenshot shows the Microsoft Azure portal interface for creating a virtual machine. The left sidebar contains navigation links for various Azure services. The main content area is titled 'Create a virtual machine' and includes a 'Virtual machines' section with a 'Create virtual machine' button. The 'Management' tab is selected, displaying configuration options for monitoring, identity, auto-shutdown, and backup. The 'Next : Guest config >' button is highlighted in yellow.

Microsoft Azure Search resources, services, and docs

Dashboard > Virtual machines > Create a virtual machine

Virtual machines Default Directory

+ Add Reservations More

Filter by name...

NAME

No virtual machines to display

Create a virtual machine that runs Linux or Windows. Select an image from the marketplace or use your own customized image.

[Learn more about Windows virtual machines](#) [Learn more about Linux virtual machines](#)

Create virtual machine

Create a virtual machine

Basics Disks Networking **Management** Guest config Tags Review + create

Configure monitoring and management options for your VM.

MONITORING

Boot diagnostics ☐ On ☒ Off

OS guest diagnostics ☐ On ☒ Off

IDENTITY

System assigned managed identity ☐ On ☒ Off

AUTO-SHUTDOWN

Enable auto-shutdown ☐ On ☒ Off

BACKUP

Enable backup ☐ On ☒ Off

Review + create Previous **Next : Guest config >**

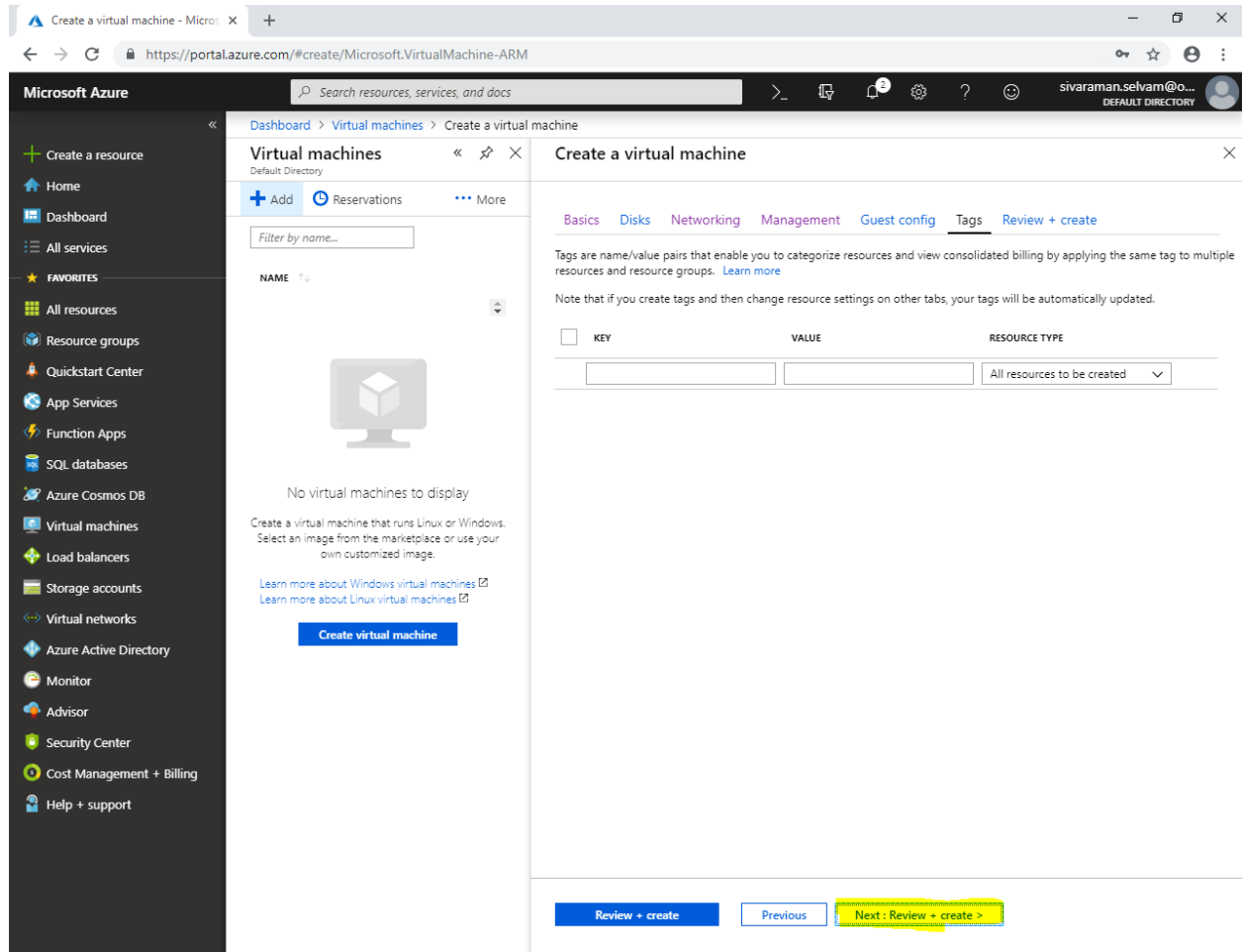
In **"Guest config"**.

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

The screenshot shows the Microsoft Azure portal interface for creating a virtual machine. 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 'Virtual machines' and shows a 'Create a virtual machine' wizard. The 'Guest config' tab is selected, displaying sections for 'EXTENSIONS' and 'CLOUD INIT'. The 'Next : Tags >' button at the bottom right is highlighted in yellow.

In “Tags”

Click “Review + create”.



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 area is titled 'Virtual machines' and shows a 'Create a virtual machine' wizard. The 'Tags' tab is selected, displaying information about tags and a table for adding them. The 'Review + create' button is highlighted in yellow at the bottom right.

Microsoft Azure Search resources, services, and docs

Dashboard > Virtual machines > Create a virtual machine

Virtual machines Default Directory

+ Add Reservations More

Filter by name...

NAME

No virtual machines to display

Create a virtual machine that runs Linux or Windows. Select an image from the marketplace or use your own customized image.

[Learn more about Windows virtual machines](#) [Learn more about Linux virtual machines](#)

[Create virtual machine](#)

Create a virtual machine

Basics Disks Networking Management Guest config **Tags** Review + create

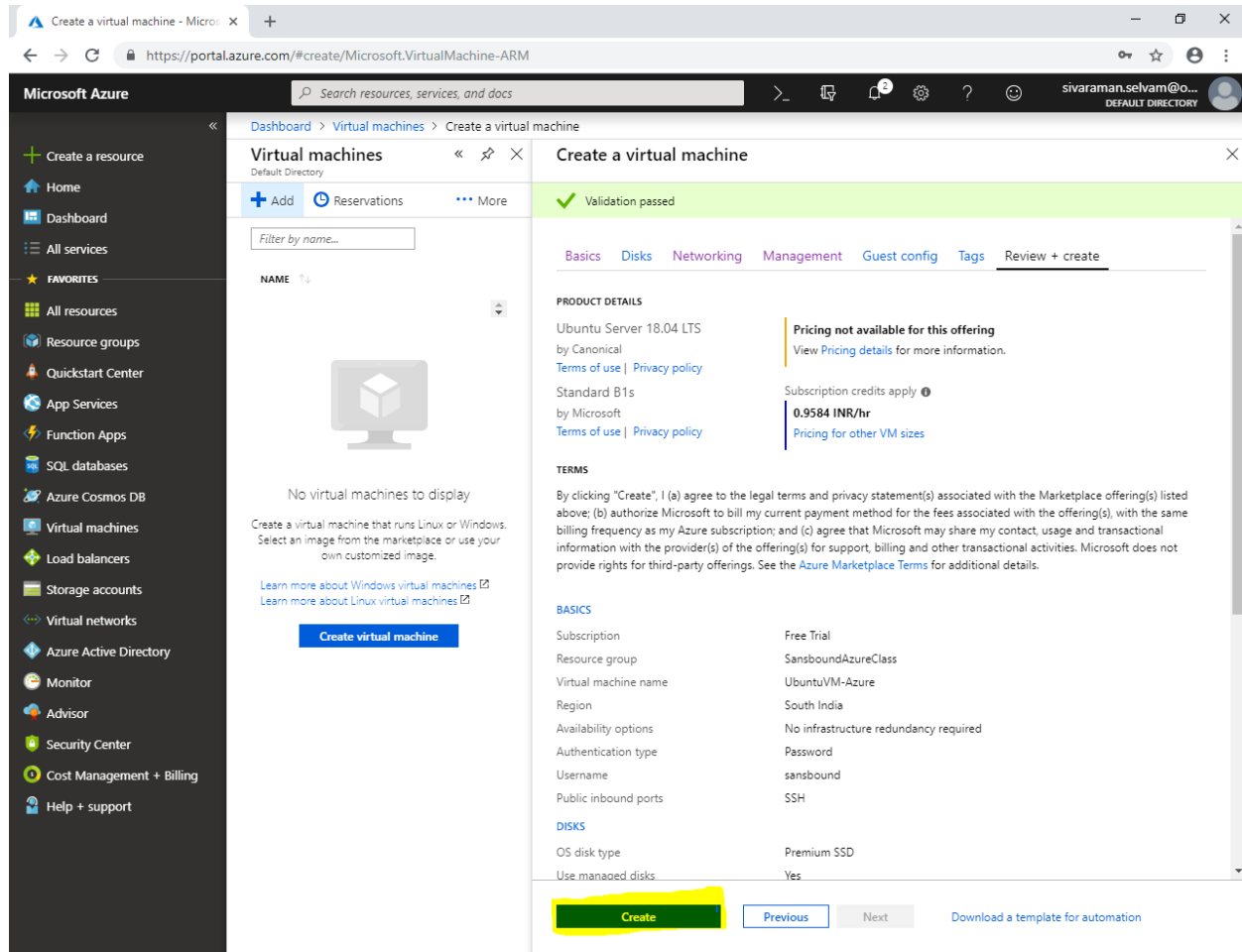
Tags are name/value pairs that enable you to categorize resources and view consolidated billing by applying the same tag to multiple resources and resource groups. [Learn more](#)

Note that if you create tags and then change resource settings on other tabs, your tags will be automatically updated.

<input type="checkbox"/>	KEY	VALUE	RESOURCE TYPE
<input type="checkbox"/>			All resources to be created

[Review + create](#) [Previous](#) [Next : Review + create >](#)

Click **“Create”**.



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

PRODUCT DETAILS	
Ubuntu Server 18.04 LTS by Canonical Terms of use Privacy policy	Pricing not available for this offering View Pricing details for more information.
Standard B1s by Microsoft Terms of use Privacy policy	Subscription credits apply ⓘ 0.9584 INR/hr Pricing for other VM sizes

TERMS

By clicking "Create", I (a) agree to the legal terms and privacy statement(s) associated with the Marketplace offering(s) listed above; (b) authorize Microsoft to bill my current payment method for the fees associated with the offering(s), with the same billing frequency as my Azure subscription; and (c) agree that Microsoft may share my contact, usage and transactional information with the provider(s) of the offering(s) for support, billing and other transactional activities. Microsoft does not provide rights for third-party offerings. See the [Azure Marketplace Terms](#) for additional details.

BASICS

Subscription	Free Trial
Resource group	SansboundAzureClass
Virtual machine name	UbuntuVM-Azure
Region	South India
Availability options	No infrastructure redundancy required
Authentication type	Password
Username	sansbound
Public inbound ports	SSH

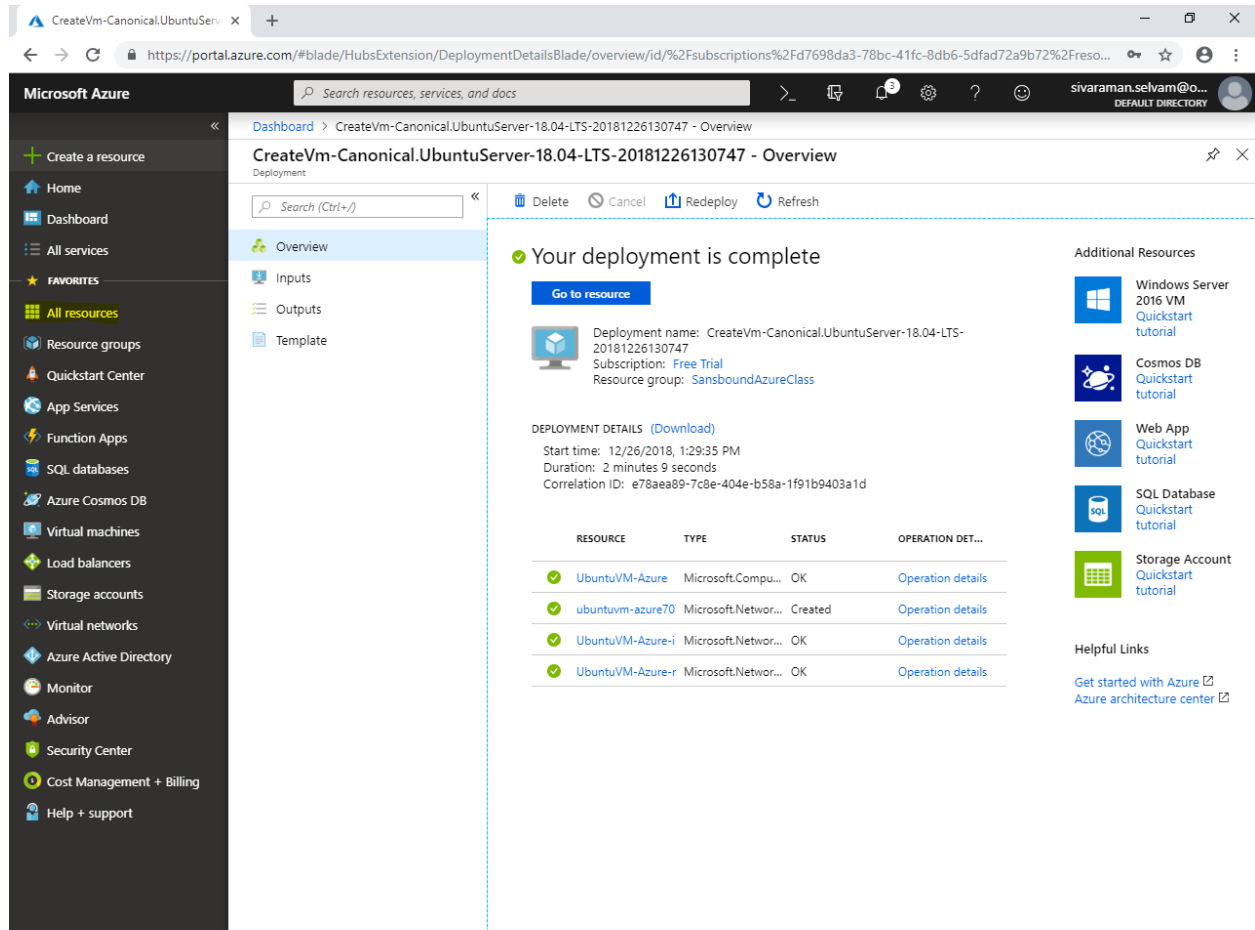
DISKS

OS disk type	Premium SSD
Use managed disks	Yes

At the bottom of the configuration pane, the 'Create' button is highlighted in yellow, with 'Previous' and 'Next' buttons. A link to 'Download a template for automation' is also visible.

Your virtual machine has been created with **Managed disks with Premium SSD**.

Click on **“All resources”**.



The screenshot shows the Microsoft Azure portal interface. The left sidebar contains navigation options like 'Home', 'Dashboard', 'All services', and 'FAVORITES'. The 'All resources' link is highlighted. The main content area displays the 'Overview' page for a specific deployment. A green checkmark indicates 'Your deployment is complete'. Below this, deployment details are listed: Start time (12/26/2018, 1:29:35 PM), Duration (2 minutes 9 seconds), and Correlation ID. A table lists the resources created, all with a status of 'OK'. On the right, there are 'Additional Resources' and 'Helpful Links'.

Microsoft Azure Search resources, services, and docs

Dashboard > CreateVm-Canonical.UbuntuServer-18.04-LTS-20181226130747 - Overview

CreateVm-Canonical.UbuntuServer-18.04-LTS-20181226130747 - Overview

Deployment

Search (Ctrl+/)

Delete Cancel Redeploy Refresh

✓ Your deployment is complete

[Go to resource](#)

Deployment name: CreateVm-Canonical.UbuntuServer-18.04-LTS-20181226130747
Subscription: [Free Trial](#)
Resource group: [SansboundAzureClass](#)

DEPLOYMENT DETAILS (Download)

Start time: 12/26/2018, 1:29:35 PM
Duration: 2 minutes 9 seconds
Correlation ID: e78aea89-7c8e-404e-b58a-1f91b9403a1d

RESOURCE	TYPE	STATUS	OPERATION DET...
✓ UbuntuVM-Azure	Microsoft.Compu...	OK	Operation details
✓ ubuntuvm-azure70	Microsoft.Networ...	Created	Operation details
✓ UbuntuVM-Azure-i	Microsoft.Networ...	OK	Operation details
✓ UbuntuVM-Azure-r	Microsoft.Networ...	OK	Operation details

Additional Resources

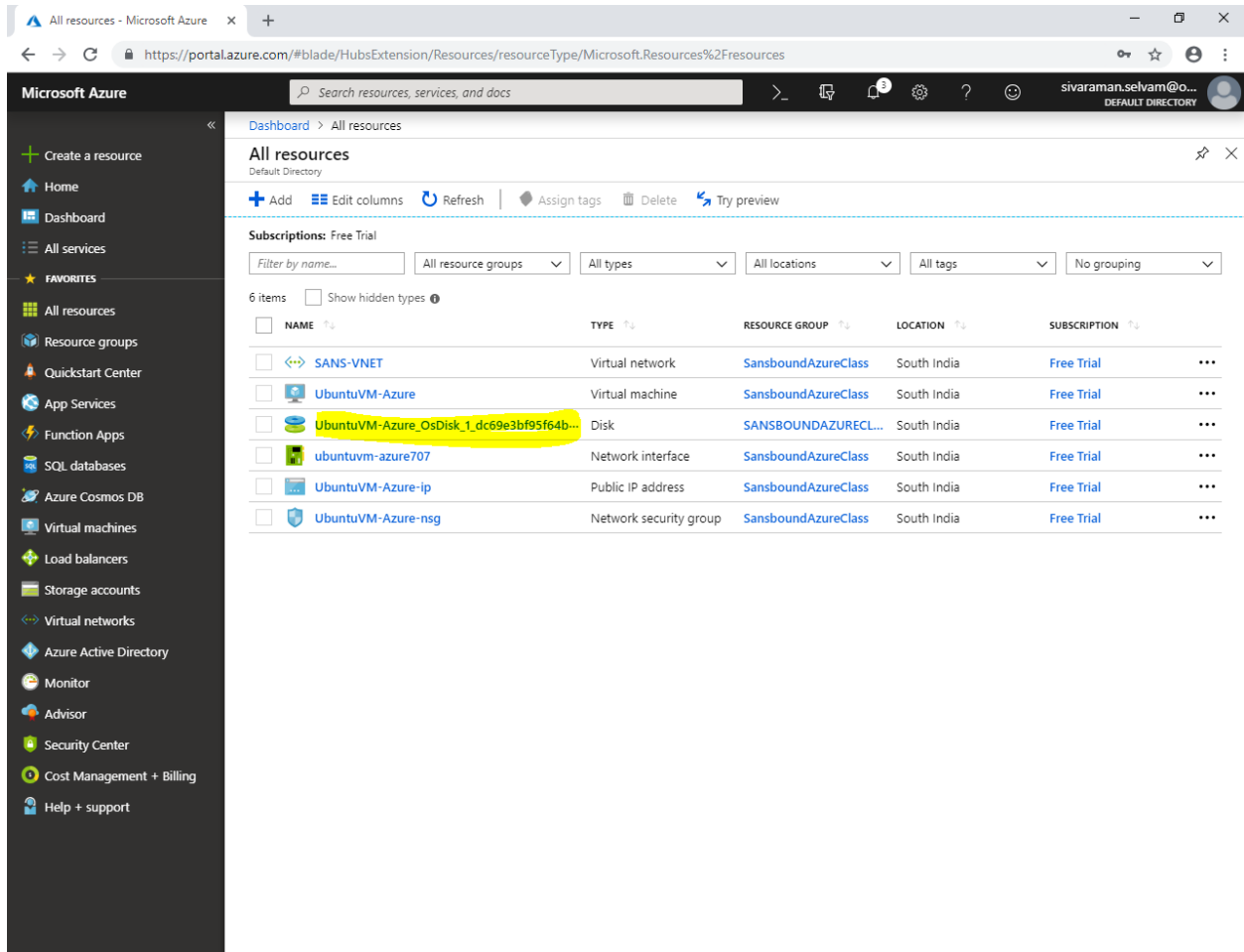
- [Windows Server 2016 VM Quickstart tutorial](#)
- [Cosmos DB Quickstart tutorial](#)
- [Web App Quickstart tutorial](#)
- [SQL Database Quickstart tutorial](#)
- [Storage Account Quickstart tutorial](#)

Helpful Links

- [Get started with Azure](#)
- [Azure architecture center](#)

This is the managed disk which you have created.

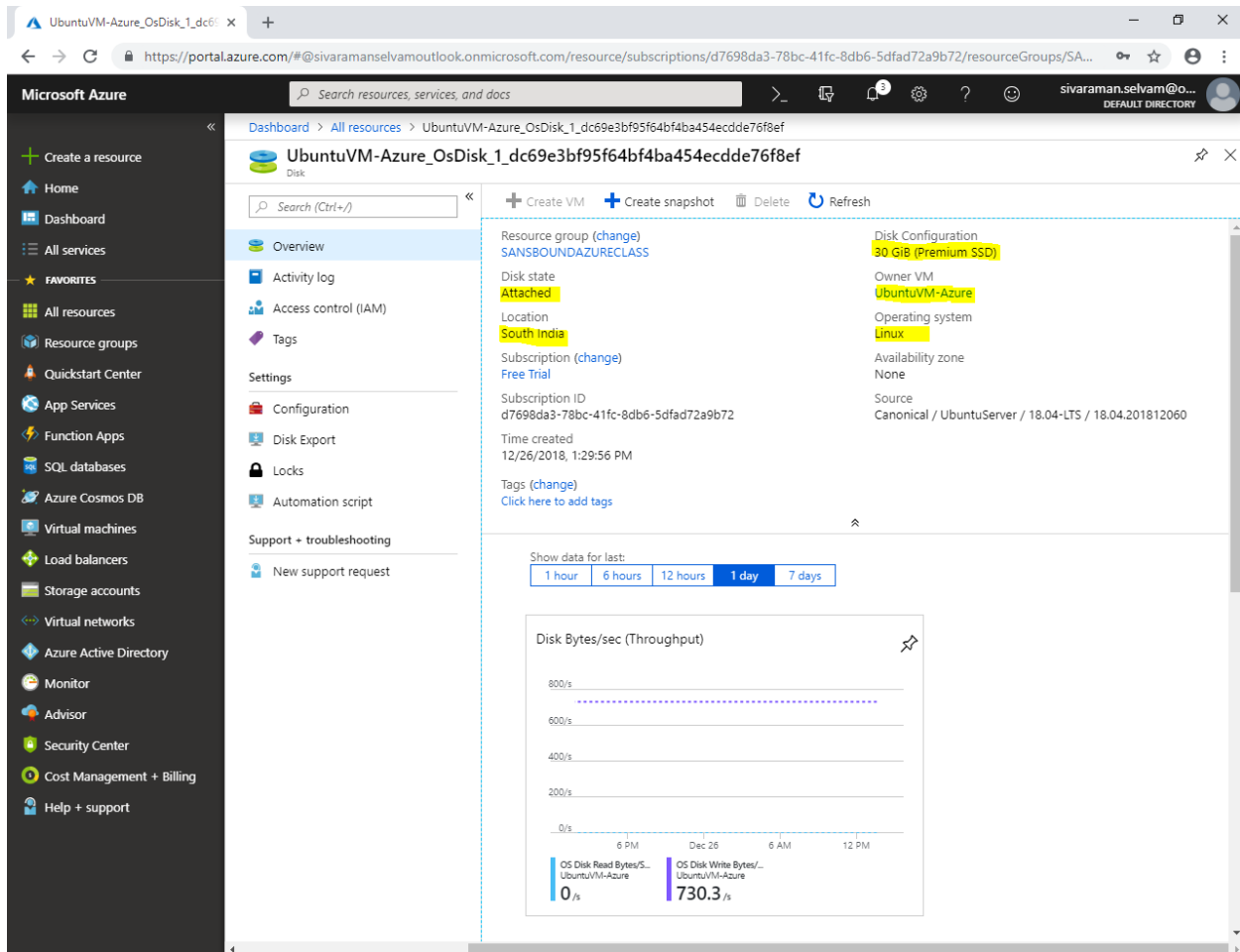
Click **"Ubuntu-VM OS disk"**.



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 'All resources' with a table of resources. The resource 'UbuntuVM-Azure_OsDisk_1_dc69e3bf95f64b...' is highlighted in yellow.

NAME	TYPE	RESOURCE GROUP	LOCATION	SUBSCRIPTION
SANS-VNET	Virtual network	SansboundAzureClass	South India	Free Trial
UbuntuVM-Azure	Virtual machine	SansboundAzureClass	South India	Free Trial
UbuntuVM-Azure_OsDisk_1_dc69e3bf95f64b...	Disk	SANSBOUNDAZURECL...	South India	Free Trial
ubuntum-azure707	Network interface	SansboundAzureClass	South India	Free Trial
UbuntuVM-Azure-ip	Public IP address	SansboundAzureClass	South India	Free Trial
UbuntuVM-Azure-nsg	Network security group	SansboundAzureClass	South India	Free Trial

In **“Overview”** you are able to see the **“Disk configuration”**, **“Disk state”**, **“Owner VM”**, **“Location”** and **“Operating System”** details.



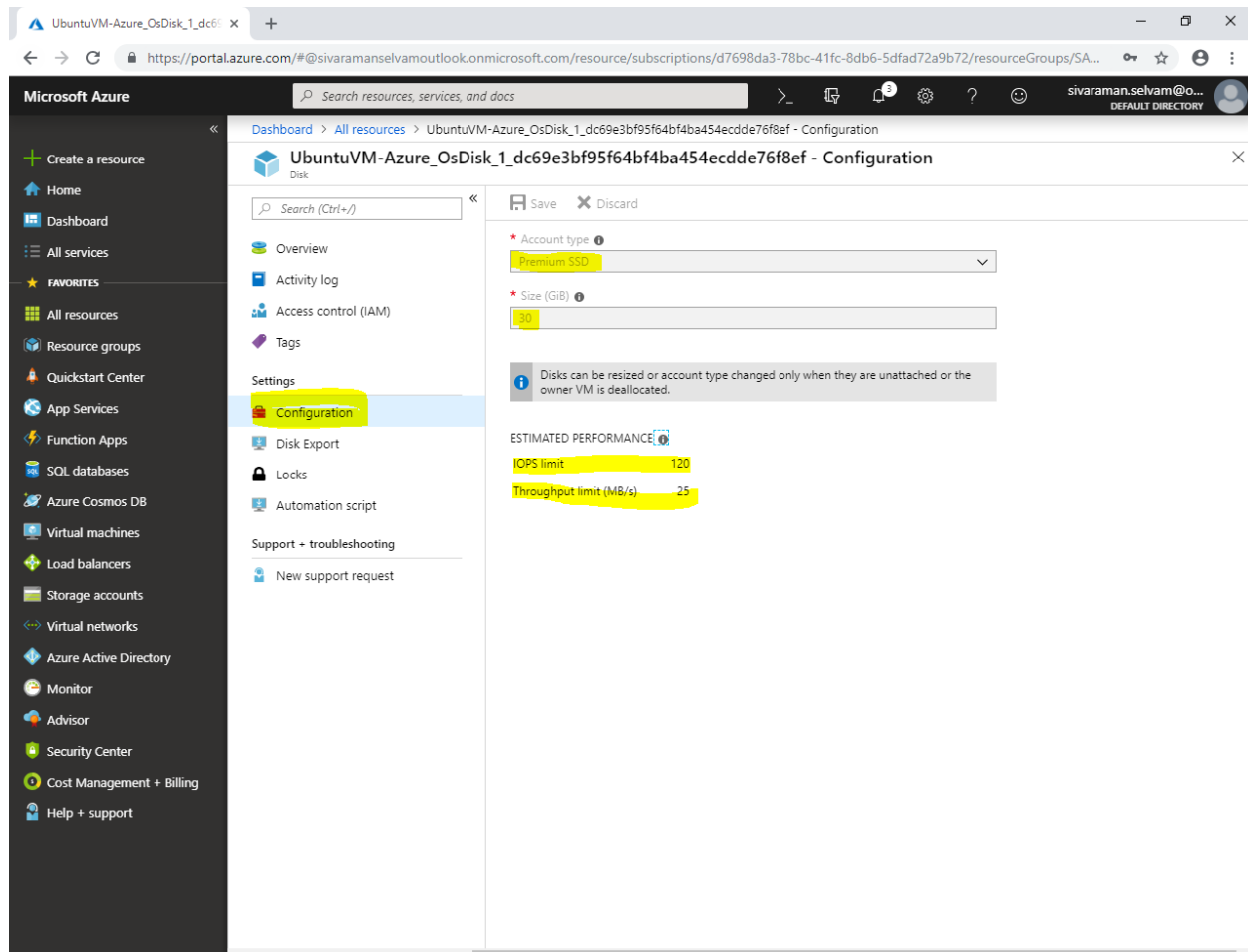
Click on **“Configuration”**.

Account Type **“Premium SSD”** is selected.

Size of Disk(s) is **30 GiB**

IOPS limit: **120**

Throughput limit (MB/s): **25**



We will discuss feature of Managed disks briefly later.