CREATING A ‘CUSTOM’ VIRTUAL MACHINE (VM)

DS 203
2024 – S1

Overview

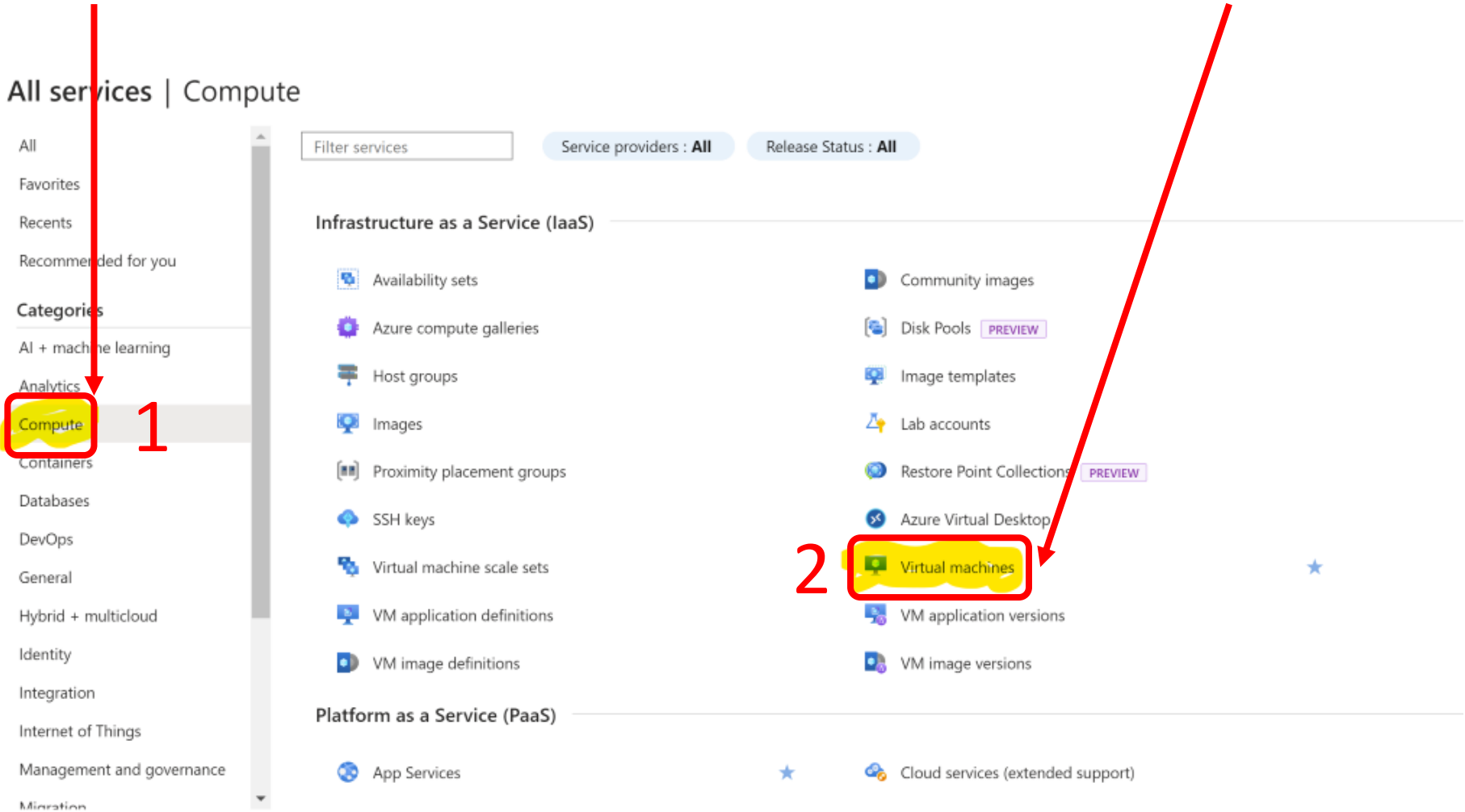
- In the previous step you acquired **Azure Educational Credits**
- The next step involves creating a custom Virtual Machine (VM) using an existing ‘disk image’, with DS203 specific tools pre-installed
  - A disk-image has been created and shared. It will be used.
  - This disk image is based on UBUNTU (Linux) and the following software have been pre-installed: MySQL server, Jupyter Notebook, and SPARK
- Follow all the subsequently outlined steps very carefully!

In case of difficulties …

- Log your issues in the Moodle Forum **Queries and Discussions** and a member of the TA team will respond and guide you.

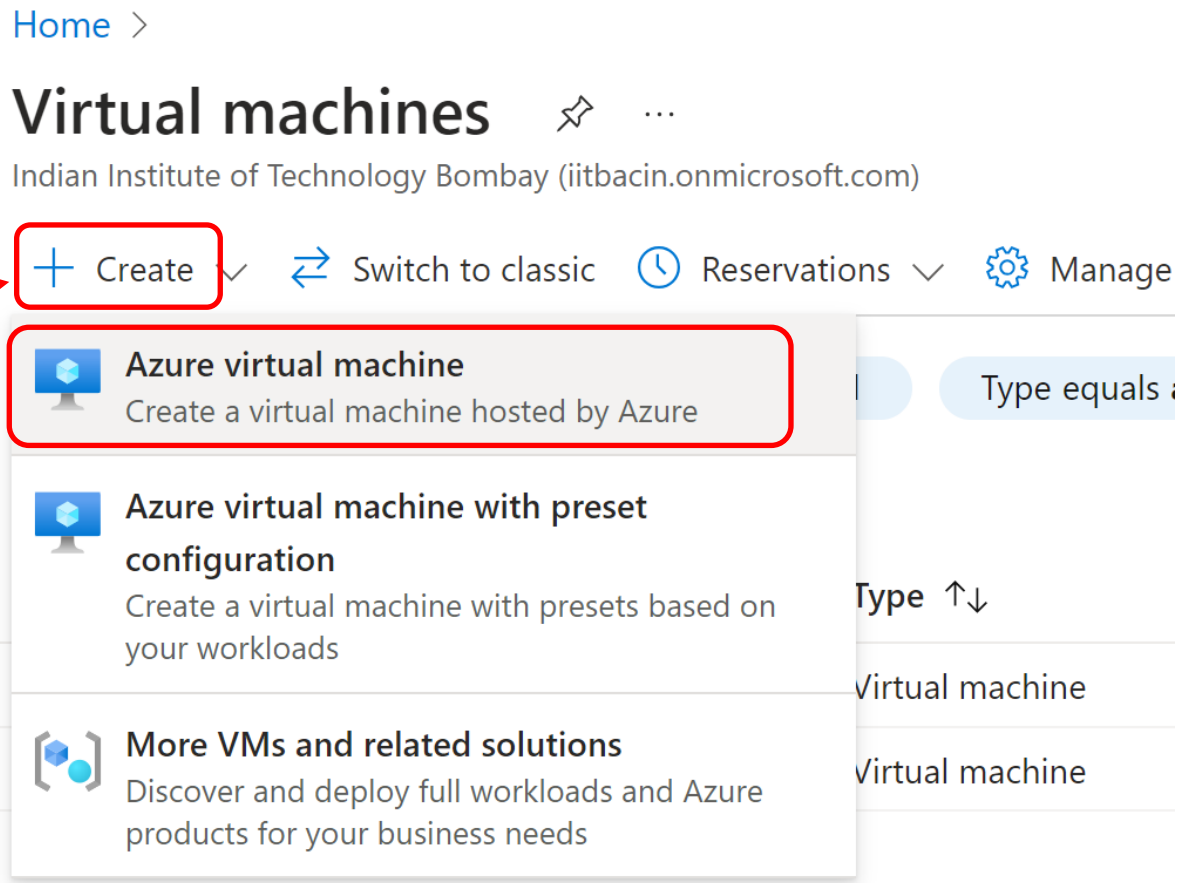
Creating a VM…

- Let’s create our Virtual Machine.
- Click this link: https://portal.azure.com/#allservices/category/All. You will see page shown in image below.
- Click on "Compute" as highlighted in the image and you should see "Virtual Machine". **Click on it.**



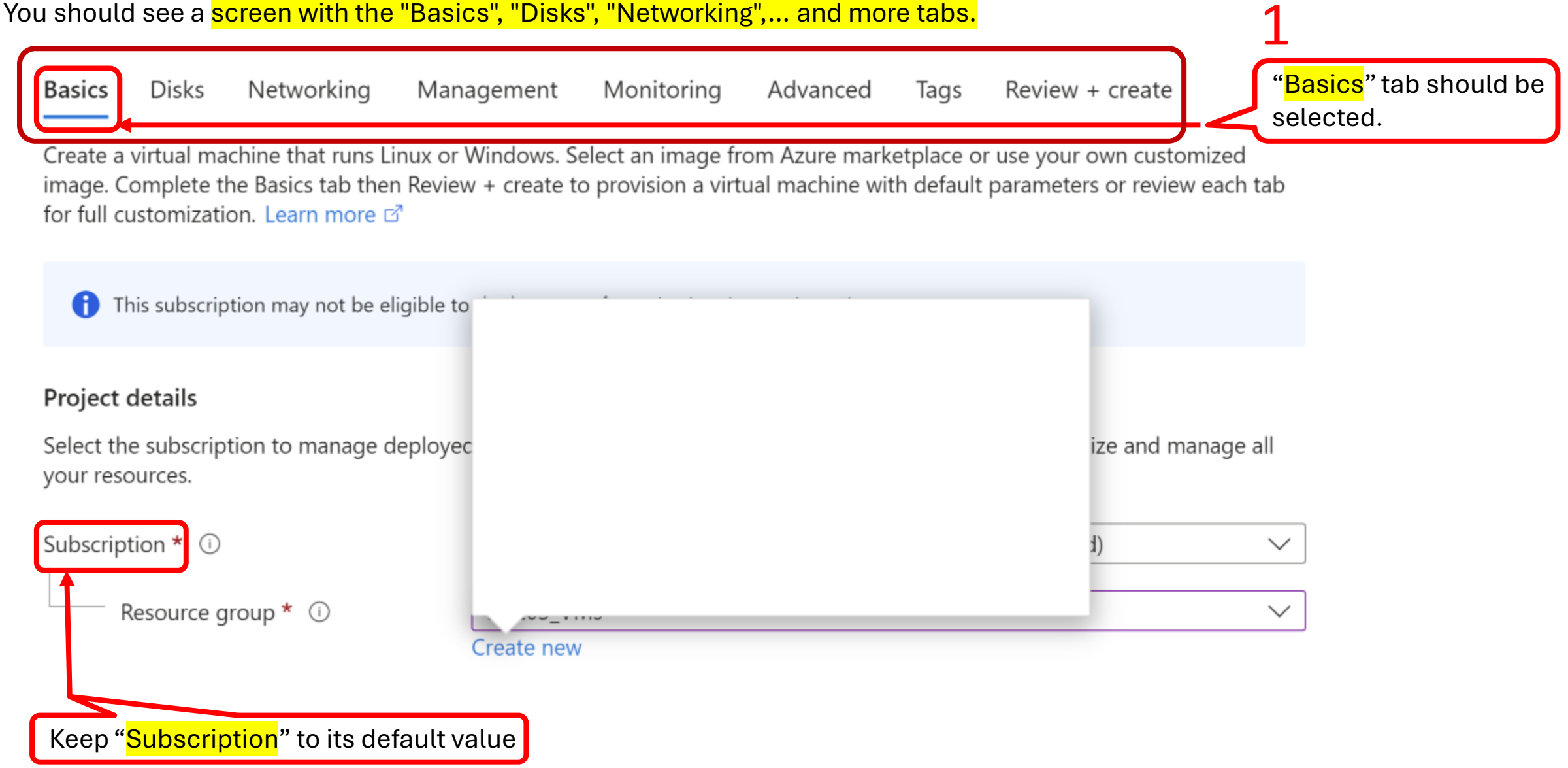
Creating a VM …

- On this page, you will see a dashboard of your VMs (which you don't have yet.)
- Click on the "Create" button
- Choose "Azure virtual machine"

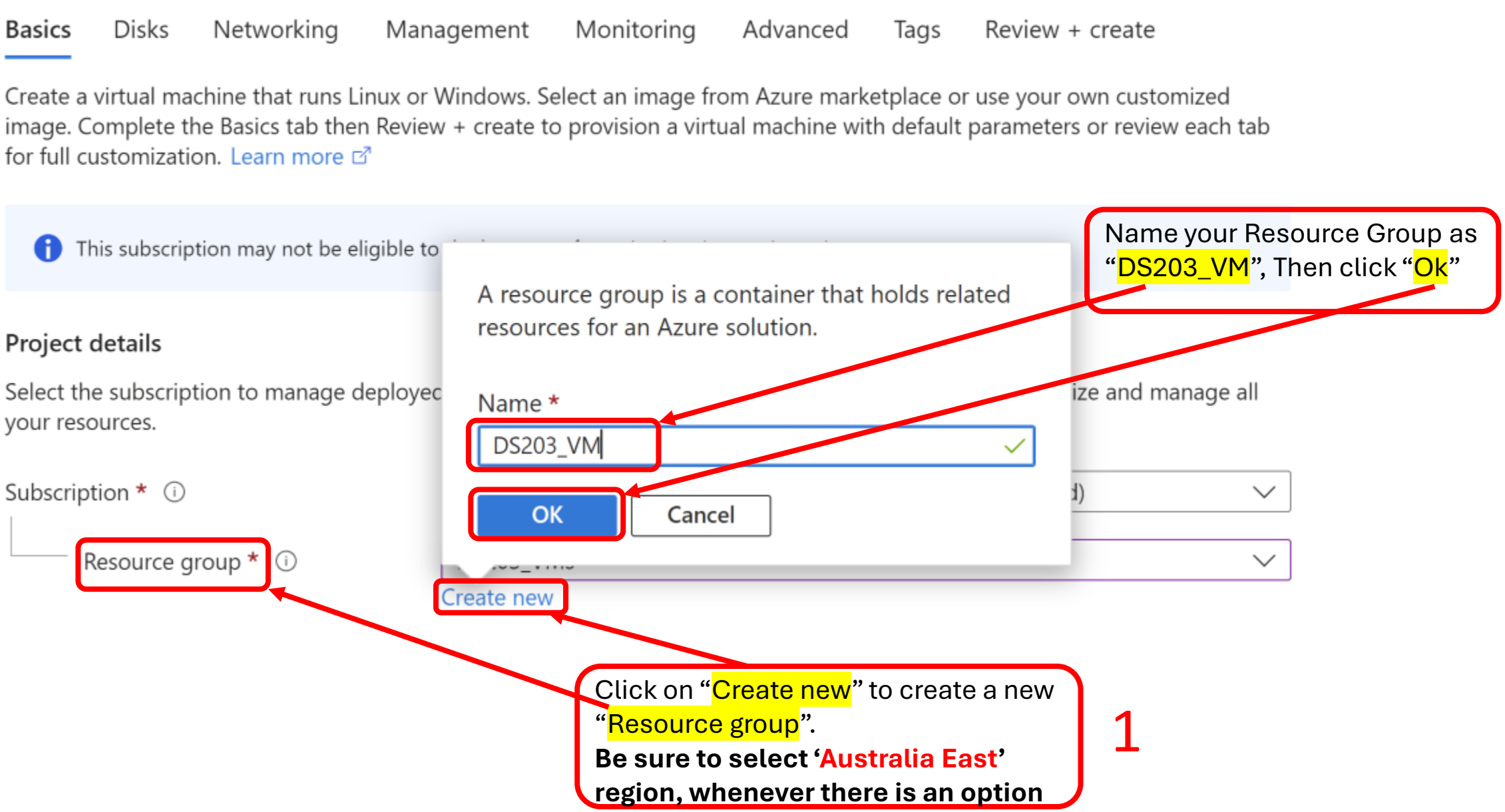


Basics tab

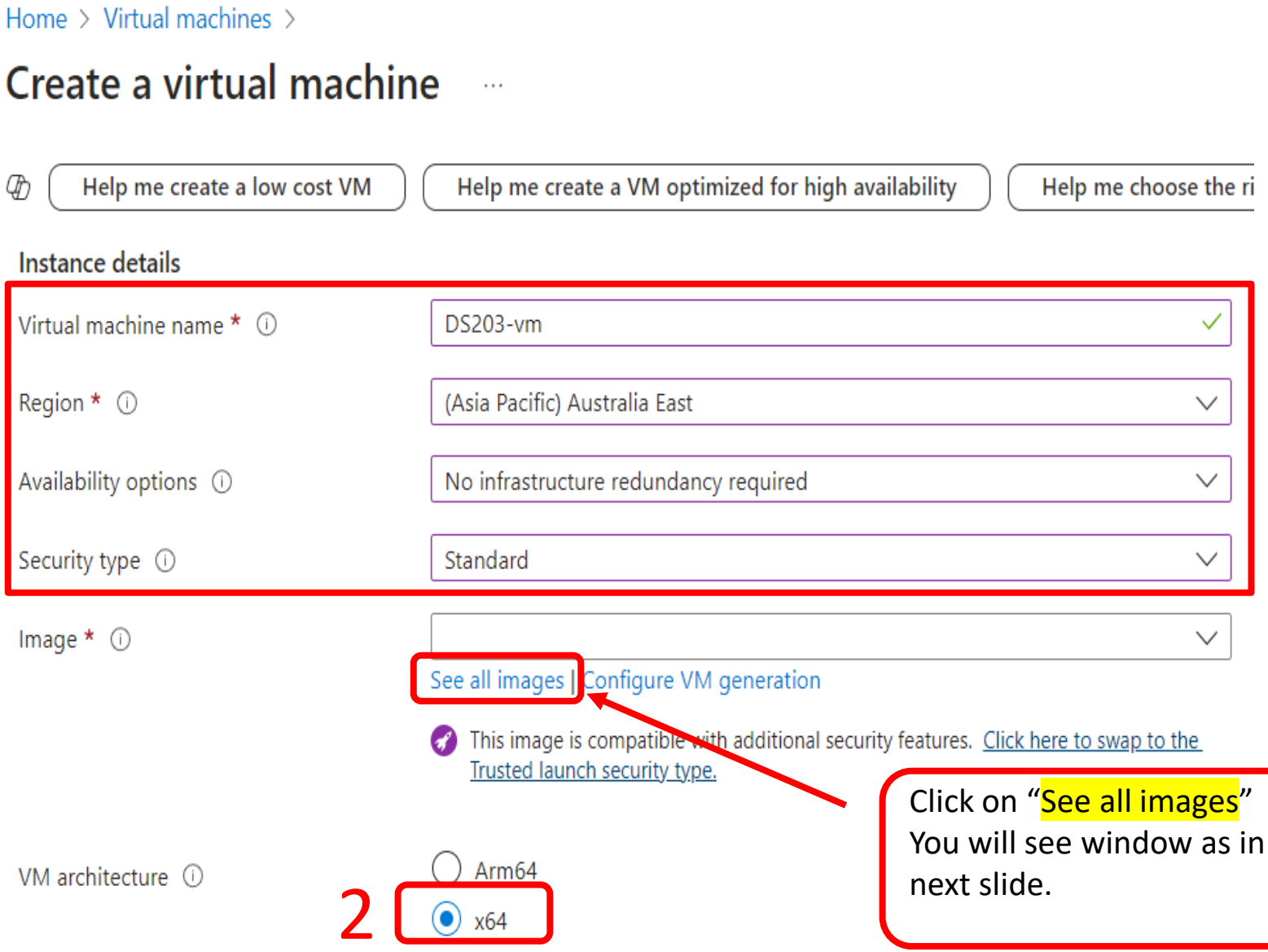
- You should see a screen with the "Basics", "Disks", "Networking",... and more tabs.



Basics tab: Create a resource group



Basics tab: Browse images



1

Set these 4 entries as values in this image.

2

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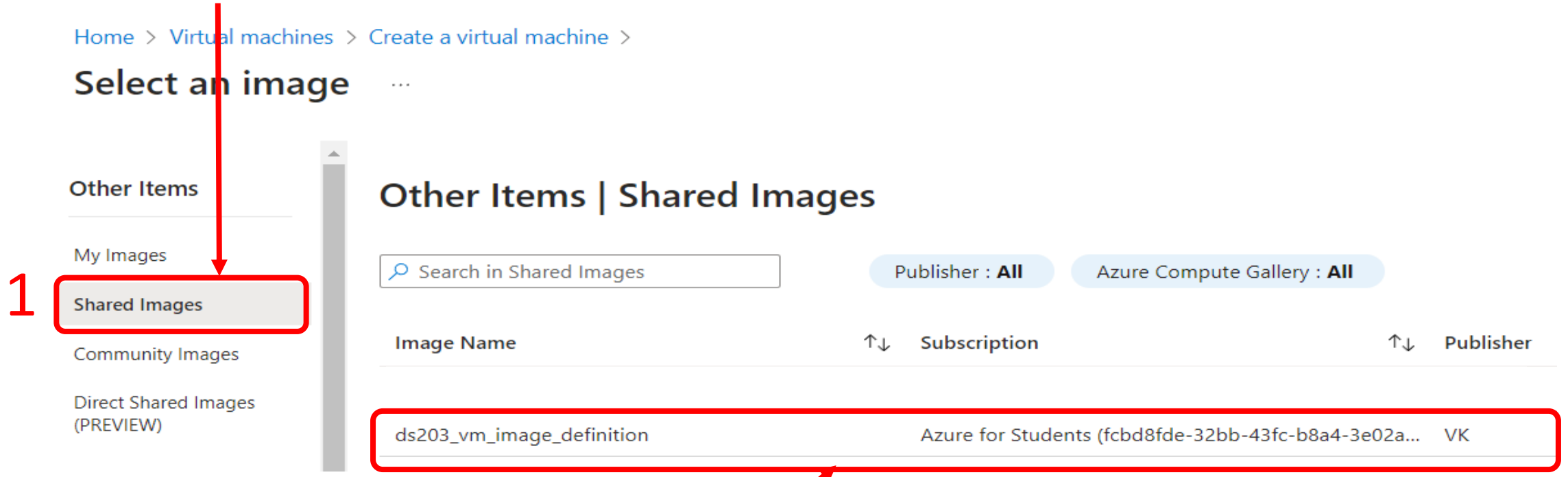
Click on "See all images" You will see window as in next slide.

Basics tab: Selecting the image

- After clicking "See all images", You will see following page.
- Click on "Shared Images"



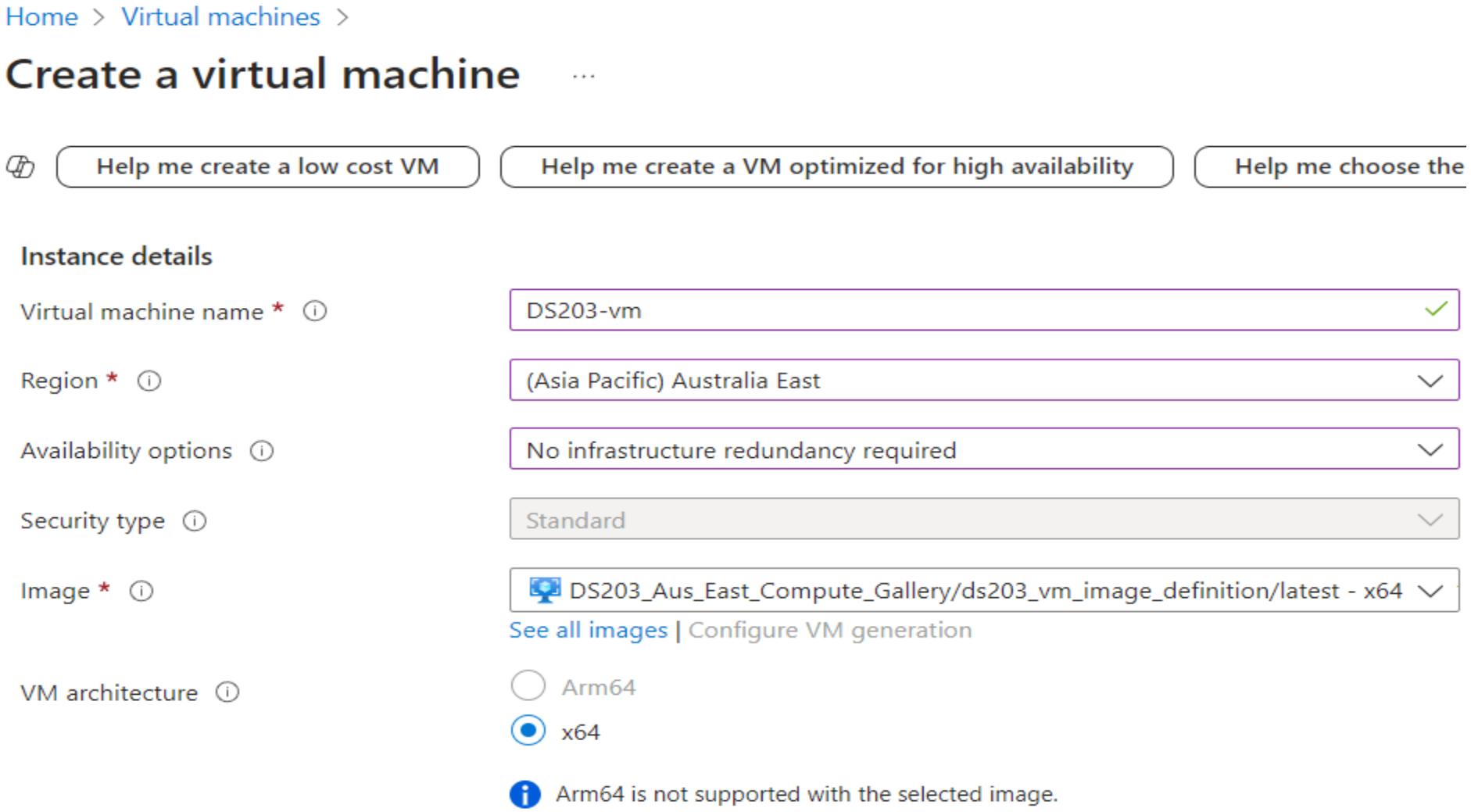
2

We have shared a VM Image with you all. You should be able to see that VM Image here, Select it.
(Make sure, the publisher of the image is "VK"
If you don't see a VM Image here, post a query)

P.S. You might see some other images here too, (incase, someone has shared it with you). You can ignore those as we are not concerned with those Images.

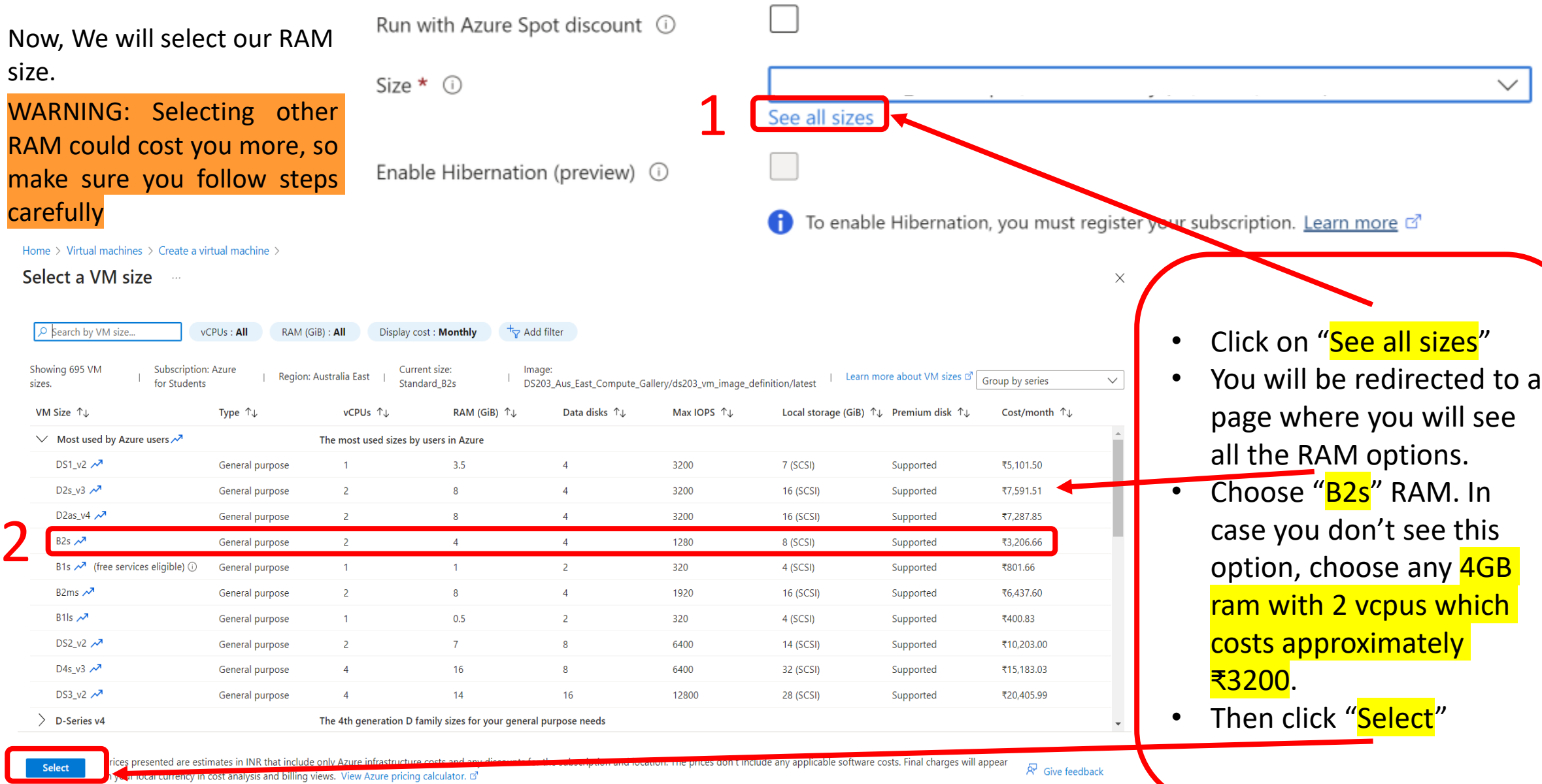
Basics tab: VM Image selected

- After selecting a VM Image, You will be redirected back to creating VM page.
- Your final values for given entries should look like the image below



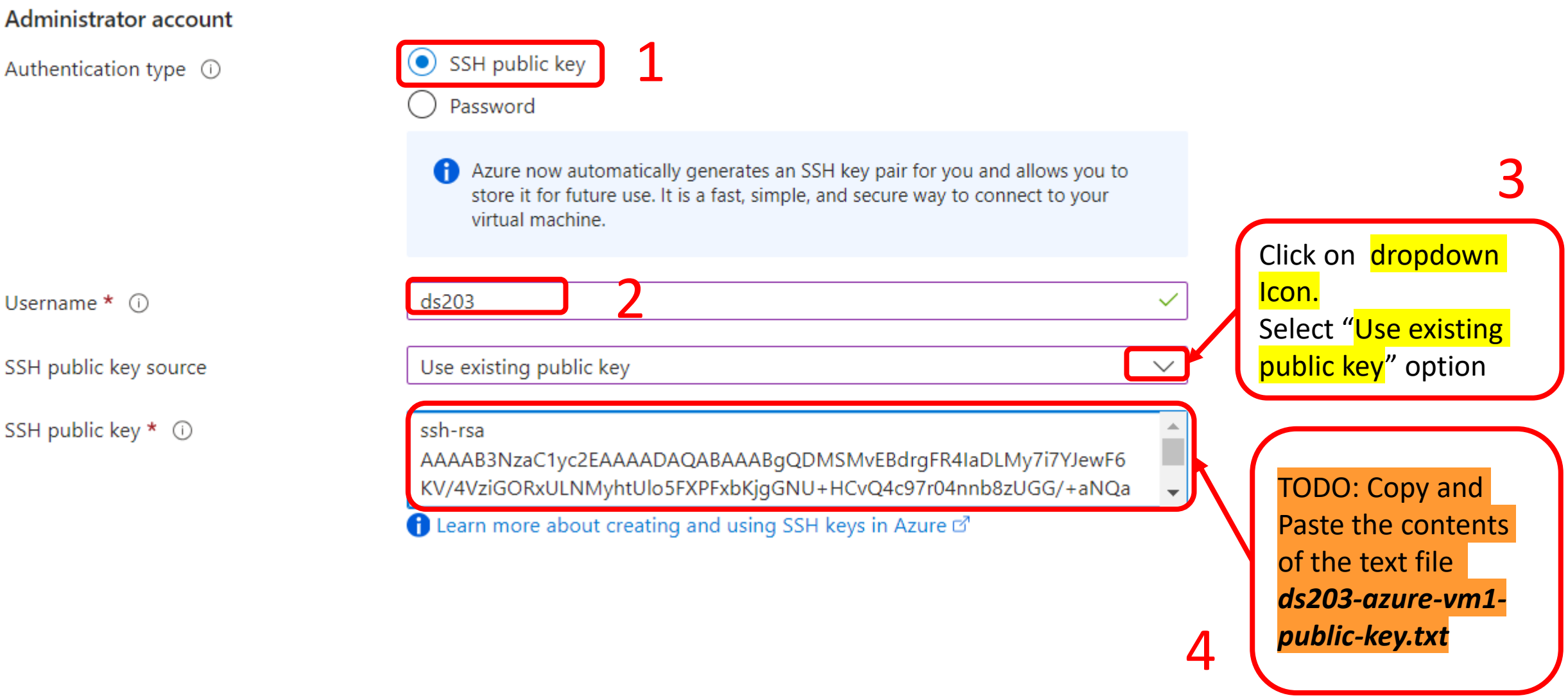
Basics tab: Choosing RAM

- Now, We will select our RAM size.
- WARNING: Selecting other RAM could cost you more, so make sure you follow steps carefully

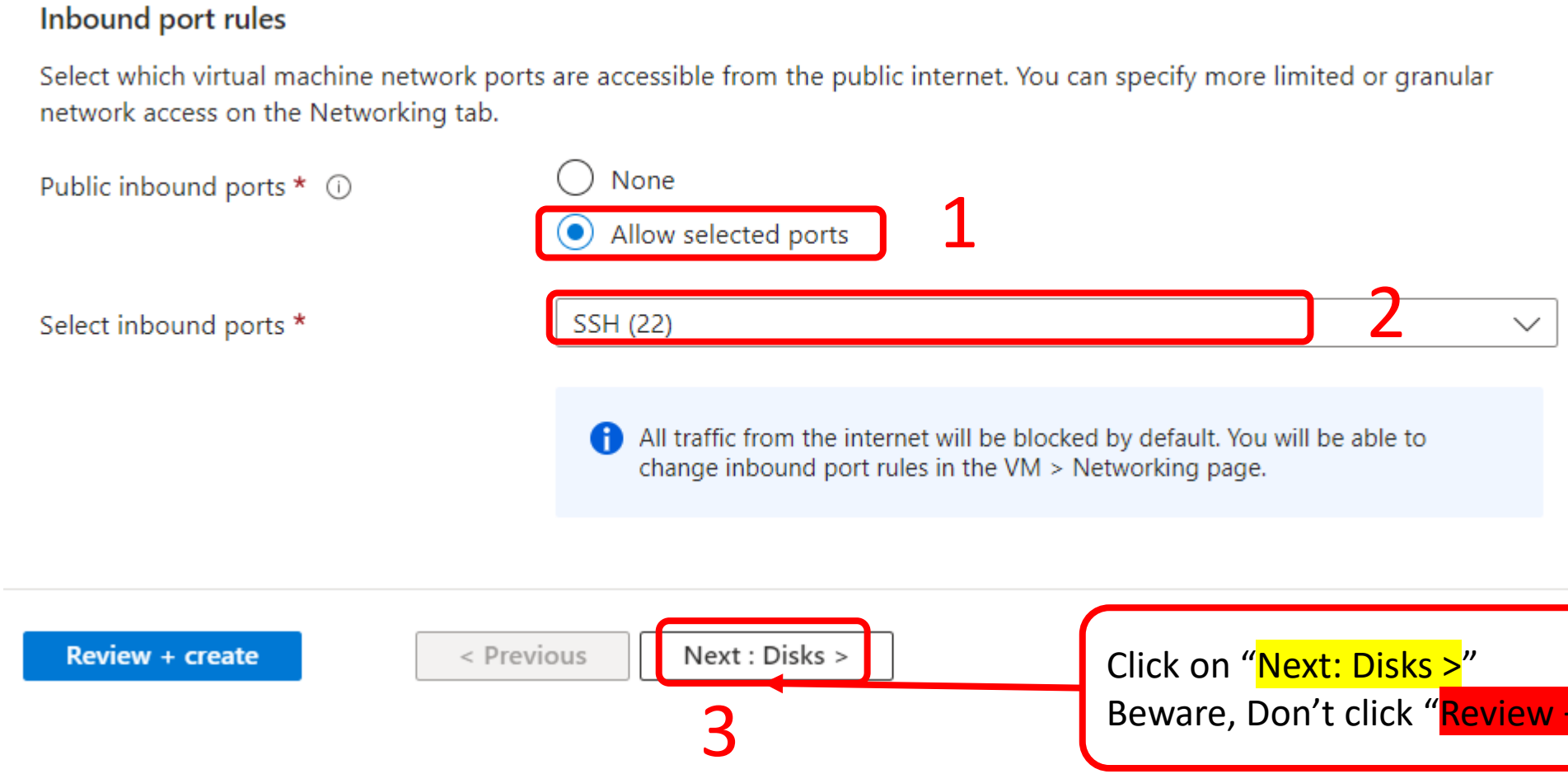


- Click on "See all sizes"
- You will be redirected to a page where you will see all the RAM options.
- Choose "B2s" RAM. In case you don't see this option, choose any 4GB ram with 2 vcpus which costs approximately ₹3200.
- Then click "Select"

Basics tab: SSH configuration



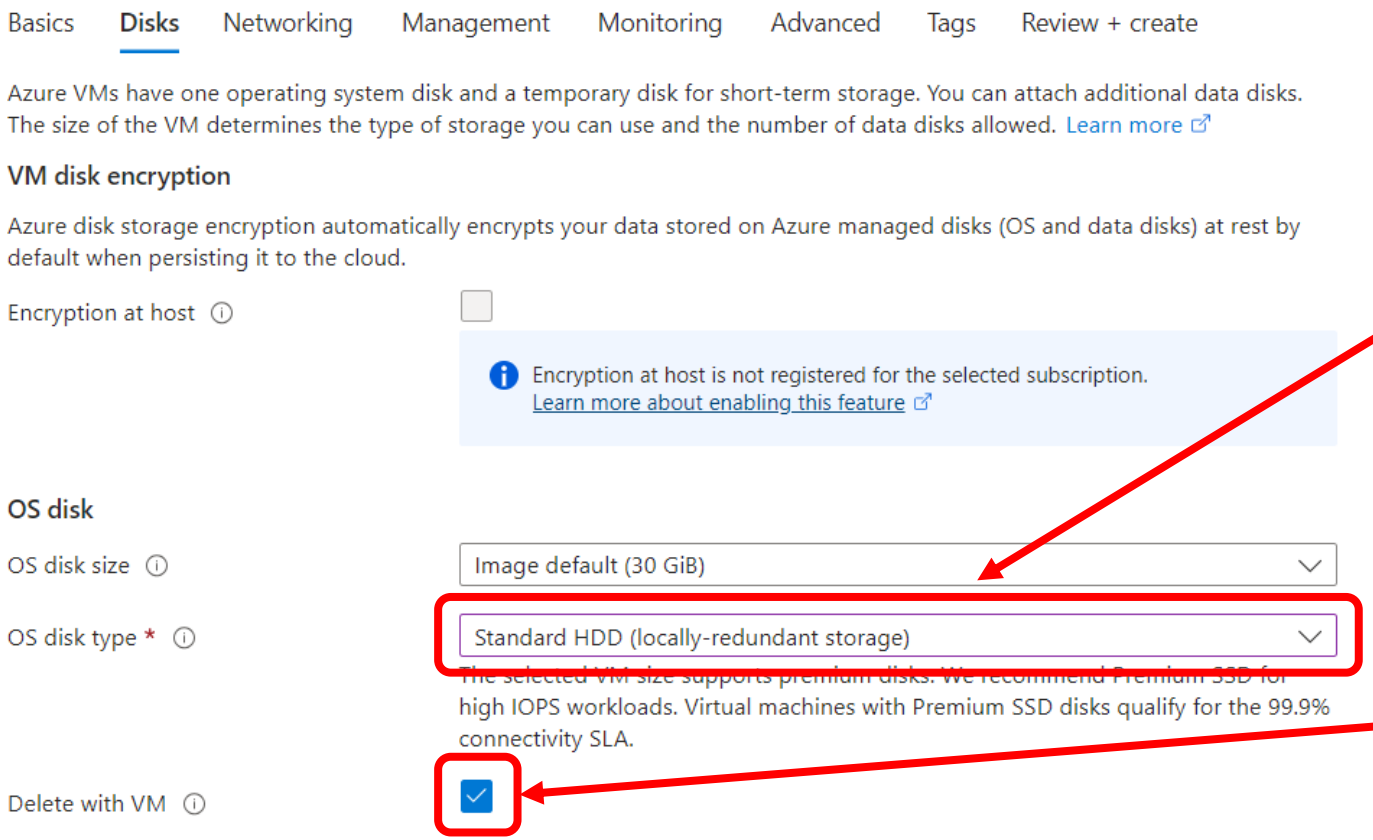
Basics tab: SSH ports



Disks tab: Choosing disk

- Now, You will be redirected to "Disk Creation" tab.
- Let's configure our Disk
- We need to change just 2 settings here, As shown in Image below

Warning: Selecting other option for disk type can cost you more, Please make sure you select the right option



Using Dropdown menu select "Standard HDD" option

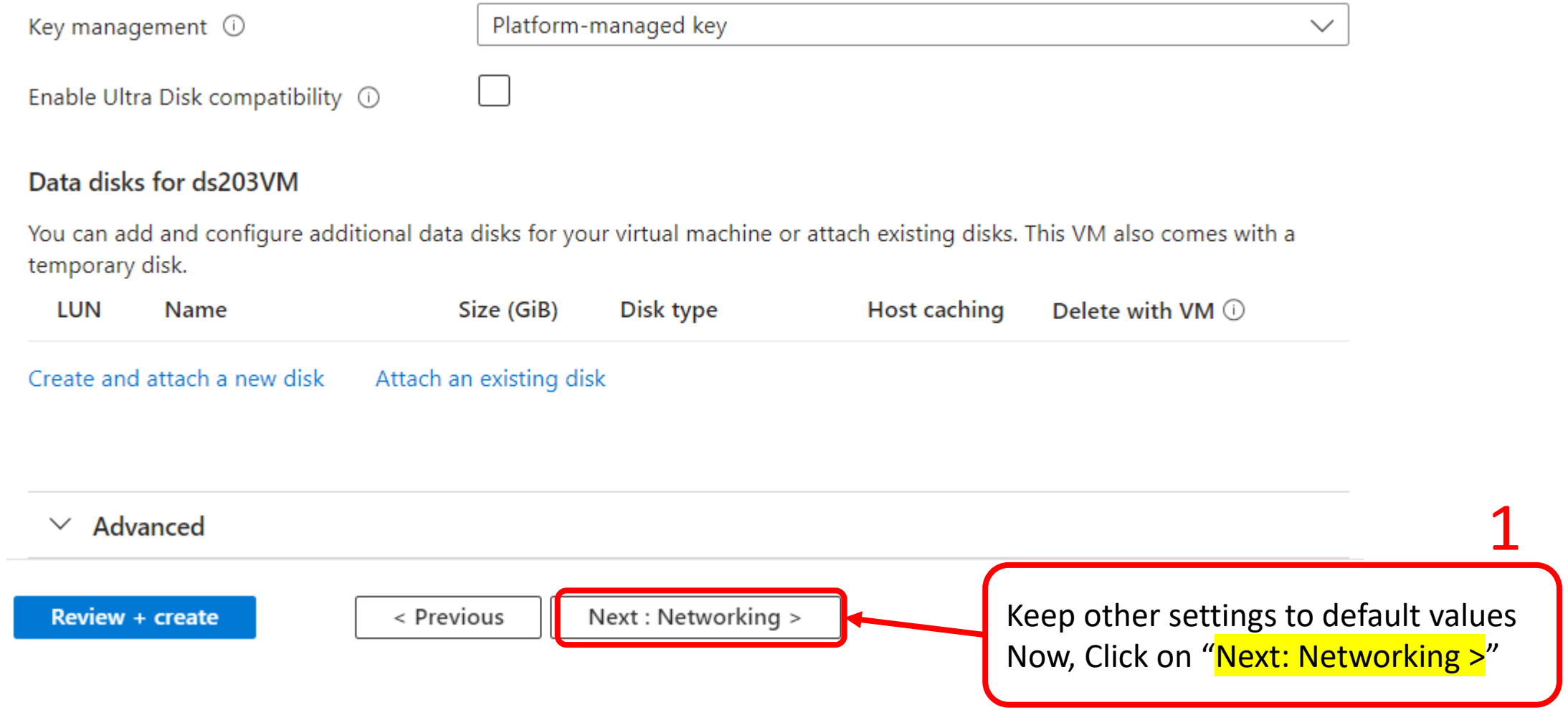
1

2

Tick "Delete with VM" checkbox

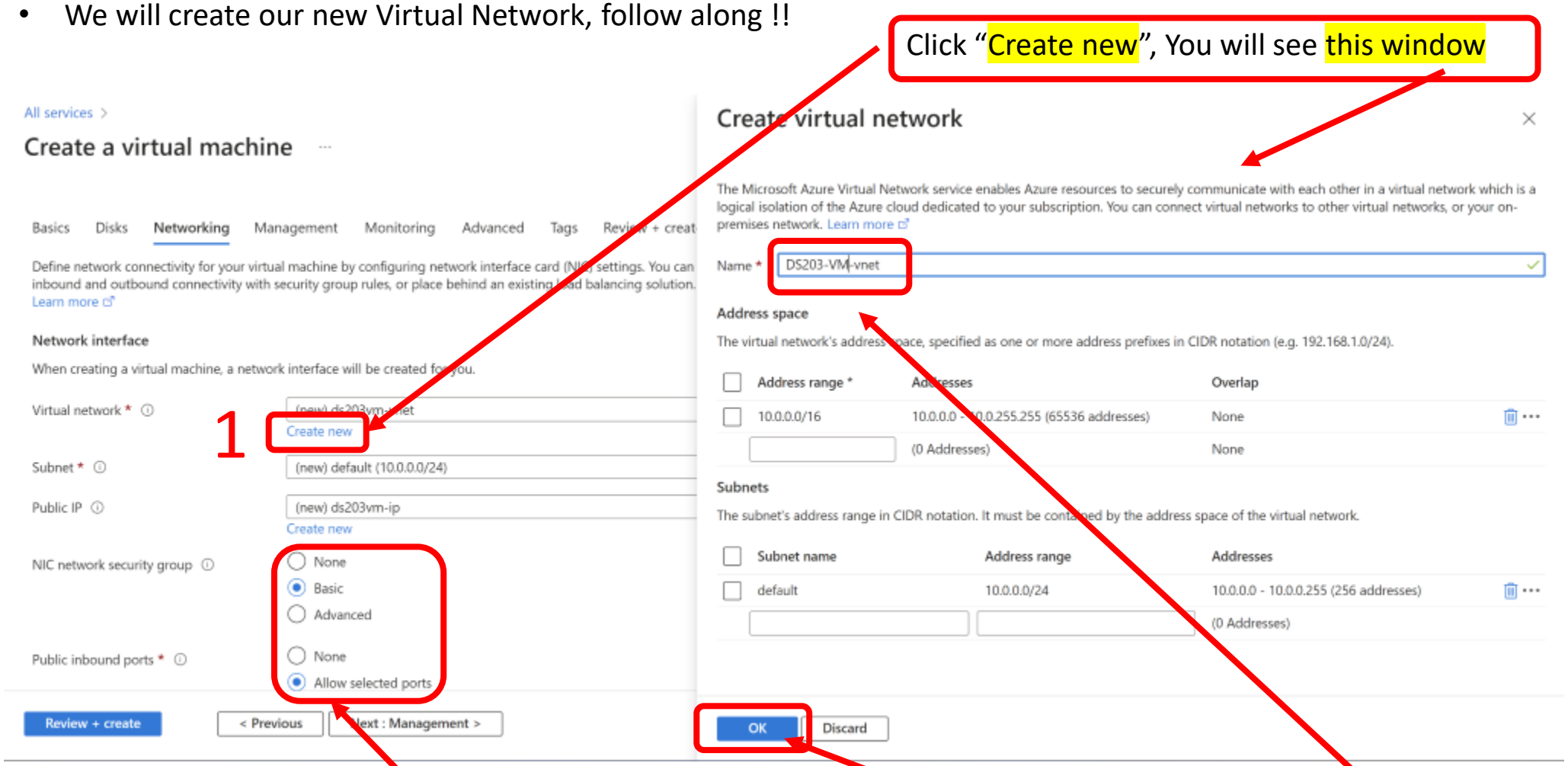
Disks tab

- Now, You will be redirected to Networking Tab.

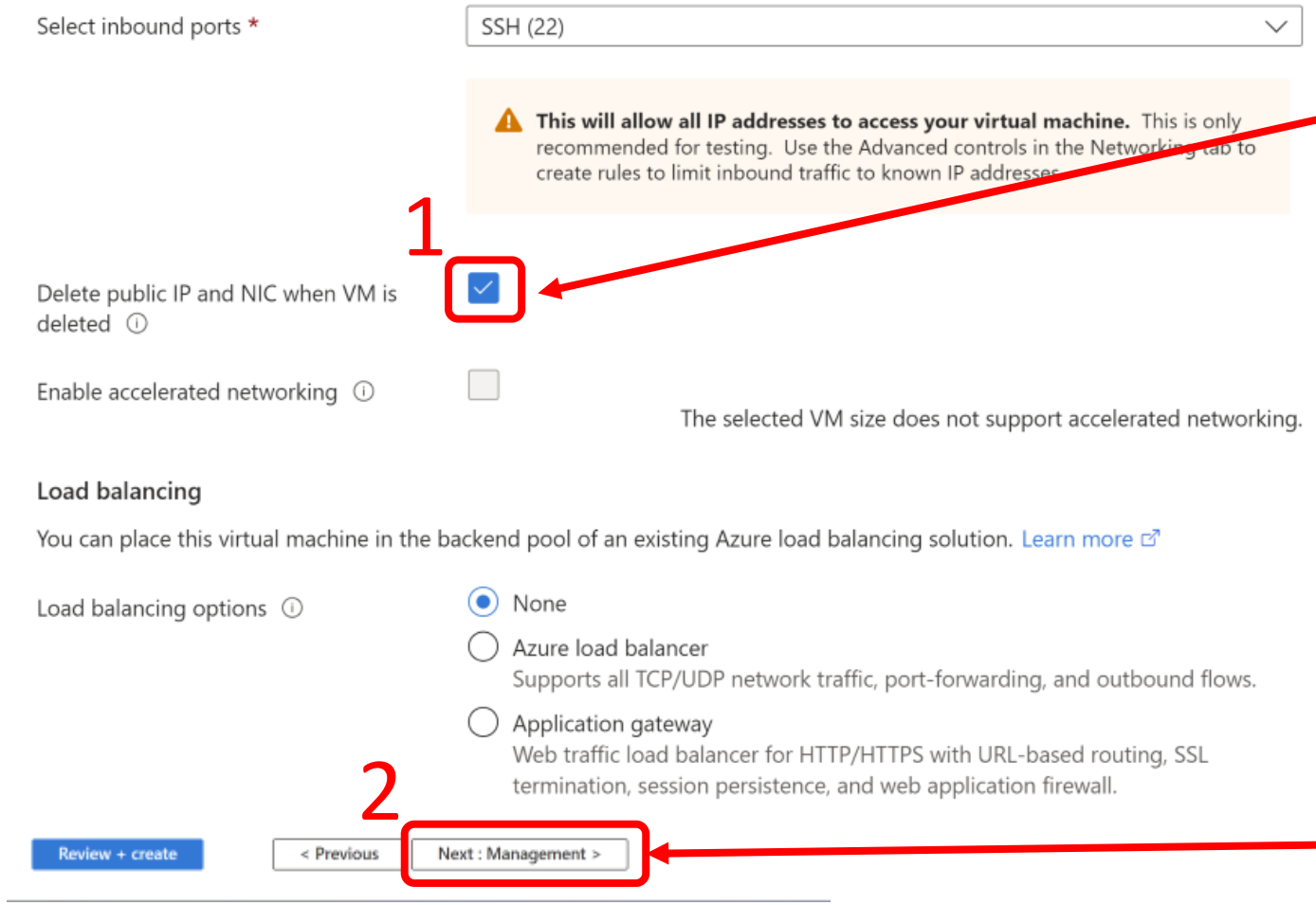


Networking tab: Create a virtual network

- We will create our new Virtual Network, follow along !!



Network Tab (Cont.)

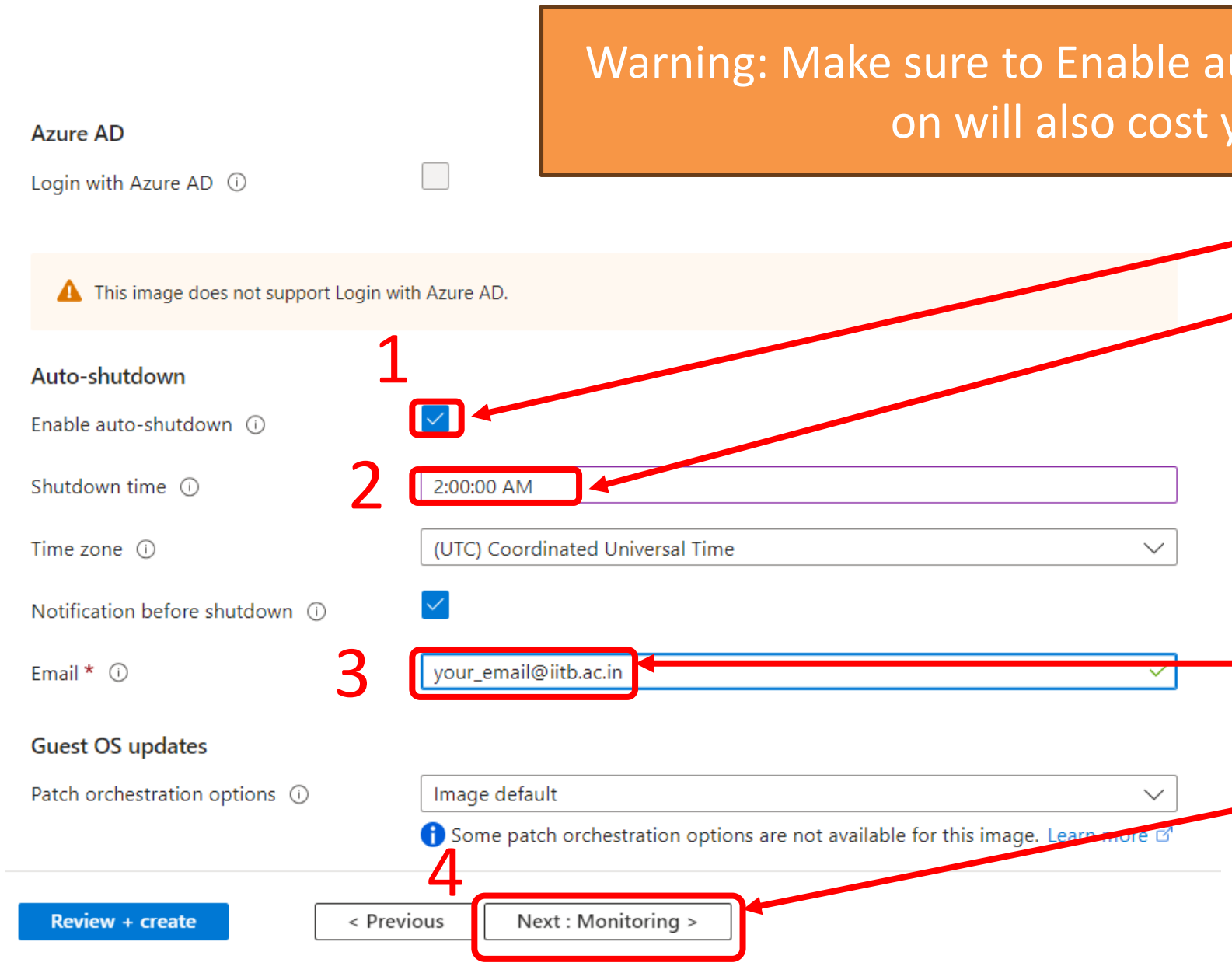


Tick "Delete public IP…" checkbox,
Keep other setting to default values.

Click on "Next: Management >"

Management tab (Cont.): Auto Shutdown

Warning: Make sure to Enable auto-shutdown. VM just kept on will also cost you credits !!



Tick "Enable auto-shutdown". And set the "Shutdown time" as shown in the image, or whatever time of the night you are sure to be asleep!

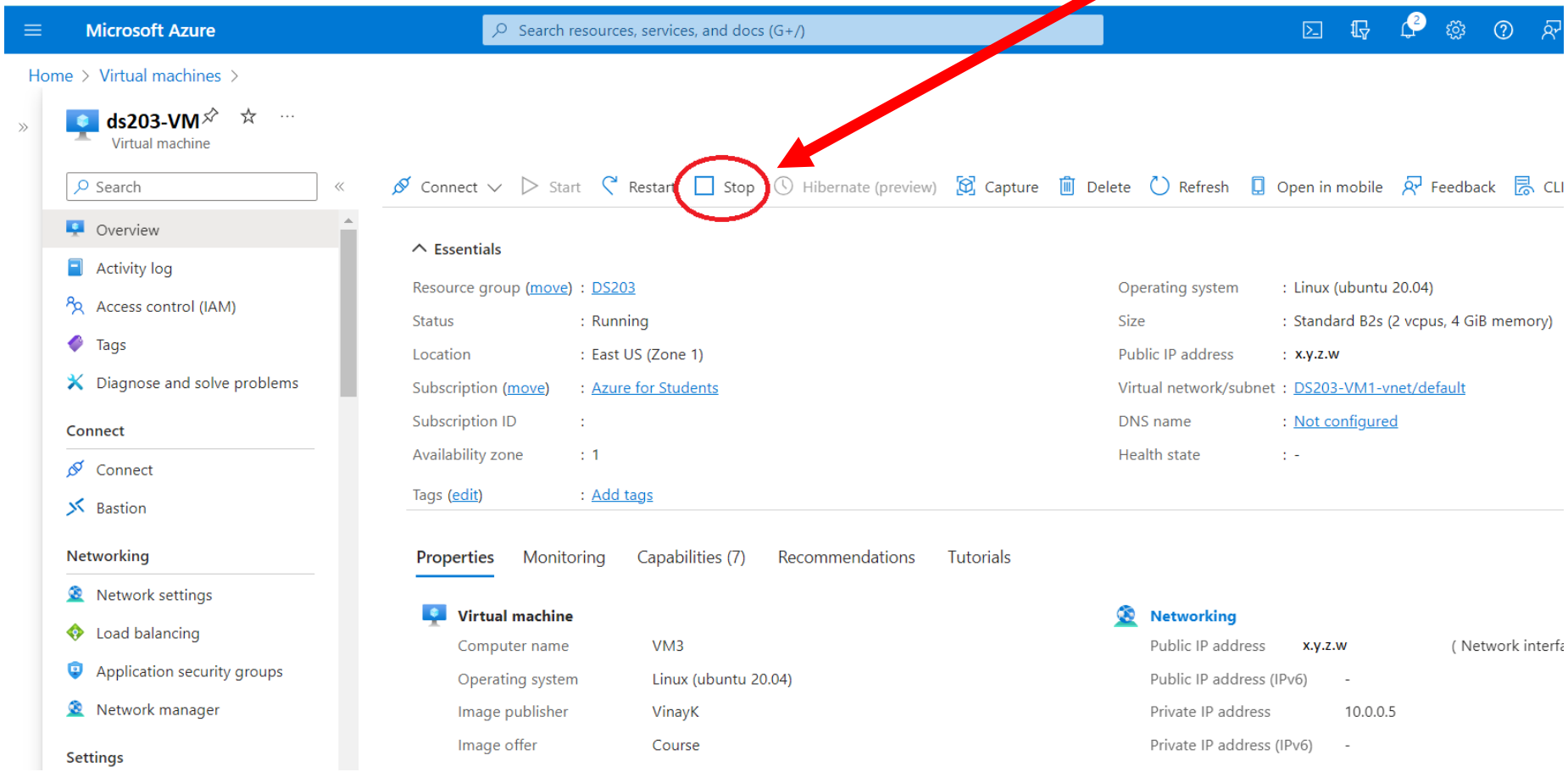
Type your IITB email address, And click on "Next: Monitoring >"

Almost there !

- Keep the next three tabs "Monitoring", "Advanced" and "Tags" as default.
  When you click "Next: Review + create", azure will run a validation on your VM and it should pass.
  Click on "Create" and your VM should be created/deployed.

IMPORTANT ** IMPORTANT ** IMPORTANT

- Once you are through with your work on / with the VM, be sure to **STOP** it to pause the Billing for this resource! Go to this link: [Virtual machines]



The next steps …

- Now that the virtual machine has been created … and started
- You need some applications to connect to the VM for various purposes:
  - A terminal : to manage the VM
  - A file transfer program to move files to / from the VM
  - A MySQL client to work with the MySQL server running on the server
  - A ‘network tunnel’ to be able to access Jupyter Notebook
    - These topics are covered in the slide decks that follow …