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Chapter 1.
CREATING AND USING AN NVIDIA QUADRO VIRTUAL WORKSTATION INSTANCE FROM THE MICROSOFT AZURE MARKETPLACE

NVIDIA® Quadro® Virtual Workstation is an NVIDIA Virtual Machine Image (VMI) preconfigured with Quadro Virtual Workstation software and NVIDIA GPU hardware. The NVIDIA Quadro driver is preinstalled on the VMI and NVIDIA ensures that the image is always up to date with the latest patches, upgrades, and Quadro ISV certifications. Support and technical information are available to help you get started in community forums and additional resources.

1.1. Creating a GPU-Accelerated Virtual Workstation

Prepare for creating a GPU-accelerated virtual workstation from the Microsoft Azure marketplace as follows:

- Ensure that you have a Microsoft Azure account and an active subscription.
- Decide which size of virtual machine (VM) you want to create.
  
  For information about the VM sizes that support Quadro Virtual Workstation, see Quadro Virtual Workstation on Microsoft Azure Release Notes.

- If you are creating an Ubuntu VM and want to use SSH public key authentication for the administrator account, generate an SSH public key.

1. In a web browser, log on to Microsoft Azure portal (https://portal.azure.com).

2. Go to the NVIDIA Quadro Virtual Workstation listing for the guest OS that you want to use:

   - NVIDIA Quadro Virtual Workstation - WinServer 2019
   - NVIDIA Quadro Virtual Workstation - WinServer 2016
   - NVIDIA Quadro Virtual Workstation - Ubuntu 18.04
3. Click the **Plans + Pricing** tab to view hourly pricing for the Quadro Virtual Workstation product.

There are also additional Microsoft Azure infrastructure costs for the GPU, memory, and storage.

4. Select your closest region and set the **Publisher recommendations** option to see the VM sizes in the selected region that support Quadro Virtual Workstation.

Not all VM sizes that support Quadro Virtual Workstation are available in all regions.
5. If the VM size that you want to use is not listed, select a different region until you find the VM size that you want.

6. Click **GET IT NOW** in the right column to view the details of the instance.

7. Click **Continue** to be redirected to the Microsoft Azure portal.
8. Click Create to go to the Create a Virtual Machine page.
9. On the Basics tab, provide the project details and instance details.

   a) Select an existing subscription and select or create a resource group.
   b) Enter the name that you want for the VM.
   c) Select the region where you want the VM to be deployed.
      Ensure that the VM size that you want is available in the selected region. Not all VM sizes that support Quadro Virtual Workstation are available in all regions.
   d) Leave the image at its preset value.
10. If you want a different image size than the default size, specify the size that you want.
    a) Follow the Change size link.
b) In the search box, start typing the VM size that you want.

c) When you see the VM size that you want, select it and click Select.

11. Provide the credentials for the administrator account.
   This account is created for you when the VM is created.

   a) **Ubuntu VMs only:** Select the authentication type.
   b) Enter your choice of user name for the administrator account.
   c) Provide the authentication for the user.
      
      ▶ For password authentication, enter the password and confirm the password.
      ▶ For SSH public key authentication, provide an SSH key.

12. On the **Networking** tab, create or select a network security group and review the default settings to see if they meet your requirements and change any settings as required.
    For example, if you want to communicate with the VM from outside the virtual network, create or select a public IP for your VM.

13. On the remaining tabs for configuring the VM, review the default settings to see if they meet your requirements and change any settings as required.

14. On the **Review + create** tab, review your selections and click Create to provision the VM.
Deployment is complete in a few minutes.

Connect to your VM as explained in one of the following topics:

- **Starting and Connecting to a GPU-Accelerated Virtual Workstation on a Windows VM**
- **Install and configure Remote Desktop to connect to a Linux VM in Azure** on the Microsoft documentation site

### 1.2. Starting and Connecting to a GPU-Accelerated Virtual Workstation on a Windows VM

For instructions for an Ubuntu VM, see Install and configure Remote Desktop to connect to a Linux VM in Azure on the Microsoft documentation site.

1. From the left menu, choose **Virtual machines** and in the list that appears, click the name of your VM.
2. If necessary, start your VM from the Virtual machine page.
Your VM might already be running because when your VM is deployed, it is started for you.

3. Click the Connect icon and in the Connect to virtual machine panel that opens, click Download RDP File.

4. When the download is complete, double-click the RDP file to start a Remote Desktop Connection session on the VM.

5. When you are prompted, log in to the VM with the credentials for the administrator account that you specified when you created the VM.

You are now ready to run your design and engineering software.
1.3. Trying Out your GPU-Accelerated Virtual Workstation with Ansys Discovery Live

Ansys has endorsed the use of the Ansys Discovery Live app with NVIDIA Quadro Virtual Workstation on Microsoft Azure. If you can install the Ansys Discovery Live app in your VM, you can use the app to try out your cloud-based virtual workstation.

1. Open Ansys Discovery Live.

2. Select the sample model of a truck.

3. Make some adjustments to the sample model and notice that the changes are instantaneous as adjustments are made.

4. Instantly visualize your simulation and see the effects of changed geometry in seconds, not hours.

5. View circulation zones and particle flow to achieve a higher degree of confidence.
With NVIDIA Quadro Virtual Workstation images from the Microsoft Azure marketplace powered by NVIDIA GPUs, you can now interact in real-time with simulation results and iterate design alternatives.
Appendix A.
RESOURCES

- *Quadro Virtual Workstation on Microsoft Azure Release Notes*
- NVIDIA Quadro Virtual Workstation listings on Microsoft Azure marketplace:
  - NVIDIA Quadro Virtual Workstation - WinServer 2019
  - NVIDIA Quadro Virtual Workstation - WinServer 2016
  - NVIDIA Quadro Virtual Workstation - Ubuntu 18.04
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