# Solution M2: Advanced Infrastructure Services

Main goal is to build further on what was demonstrated during the practice

## Tasks (Azure Portal)

To do everything fully automated when using Windows VMs, we must use a custom image

Next steps will follow a less automated approach

One possible solution, using the Azure Portal, may include the following steps:

* Open and login to <https://portal.azure.com>
* Navigate to **Resource Groups** and create a new one, for example **Homework-M2**
* Enter the resource group and click the **+ Add** button
* Search for **Virtual machine scale set** and press **Enter**
* Click on the **Create** button
* Make sure that the **Subscription** and **Resource group** are set to the desired values
* Enter **VMSSHW2** in the **Virtual machine scale set name** text field
* Set the **Region** to **West Europe** for example
* In the **Image** drop-down list select **Windows Server 2019 Datacenter - Gen 1**
* Click on **Select size** link and select for example **Standard\_B1ms**
* Confirm with the **Select** button
* Enter **demoadmin** in the **Username** text box
* Enter **DemoPassword-2020** in the **Password** text box
* Click on the **Next: Disks** button
* Accept the default values and click on the **Next: Networking** button
* Click on the pencil icon next to the only row in the **Network interface** section
* Select the **Allow selected ports** in the **Public inbound ports** section
* In the **Select inbound ports** drop-down list select **HTTP (80)**
* Confirm the changes with the **OK** button
* Select **Yes** in the **Use a load balancer** option
* Accept the default values for the rest of the parameters
* Click on the **Next: Scaling** button
* Accept the default values
* Click on the **Next: Management** button
* Change the **Upgrade mode** to **Automatic - Instances will start upgrading immediately in random order**
* Accept the default values
* Click on the **Next: Health** button
* Accept the default values
* Click on the **Next: Advanced** button
* Please note that **Custom data** is not directly applicable to Windows based machines, so we will skip it
* Click on the **Review + create** button
* Click on the **Create** button
* Once the create operation is complete, navigate to the **Overview** section
* Open a text editor and create a file named **Install-IIS.ps1** with the following content:

powershell Add-WindowsFeature Web-Server;

powershell Add-Content -Path "C:\\inetpub\\wwwroot\\Default.htm" -Value $($env:computername);

* Save and close the file
* Now, return to the **Azure Portal**
* Upload the file you just created to an existing storage account or create a new one and upload it there
* Return in the **Overview** section of the **Virtual machine scale set**
* Click on the **Extensions** option under the **Settings** section
* Then click on the **+ Add** button to add an extension
* Select the **Custom Script Extension** item
* Click on the **Create** button
* Click on the **Browse** button
* Navigate to the storage account and the blob container where you uploaded the file created earlier
* Confirm with the **Select** button
* Finish the extension creation process with the **OK** button
* After a while, the extension will be installed
* Then the machines in the scale set will start to update themselves to the latest model
* You can monitor this process if you go to **Instances** option under the **Settings** section
* Once both machines are updated, you can navigate to the **Overview** section
* Copy the **Public IP address** and paste it in a new browser tab
* Refresh a few times to see that the response is coming from both nodes

## A Reminder

Do not forget to remove the resources created during the homework solution practice. The easiest option to accomplish this would be to delete the resource group