

Practical 1: Creating a Virtual Machine

Objectives

In this first practical lab, we will:

- Explore the Azure portal
- Create a Virtual Machine
- Install and configure the Hortonworks Sandbox
- Test it works via a Web browser
- Confirm access to the Zeppelin Notebook server

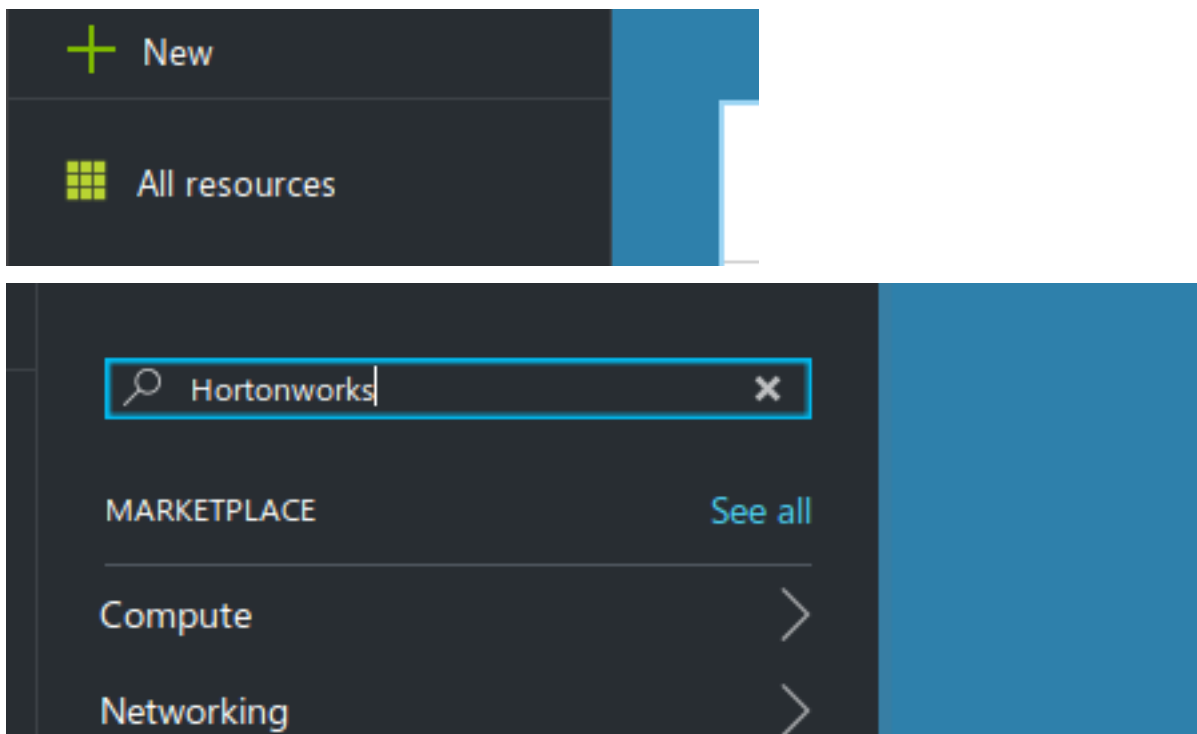
Exercise 1: Creating the VM

Access the Azure portal at: <http://portal.azure.com> and sign in using the account details you have configured with your promotional code.



We are going to create a virtual machine based on a template- the Hortonworks Sandbox. This will preconfigure a Linux virtual machine, Apache Hadoop and Apache Spark big data tools and a range of other components including **Zeppelin Notebook** which makes interacting with Spark quite straightforward.

To create a Virtual Machine, follow these steps:

1.From the portal, click [+ NEW] then choose **Search the marketplace** and then enter **Hortonworks Sandbox**:



2.At the next screen, you will be prompted to choose the correct Hortonworks template. Select **Hortonworks Sandbox with HDP 2.4**

NAME	PUBLISHER	CATEGORY
 Hortonworks Sandbox with HDP 2.4	Hortonworks	Compute
 Hortonworks Data Platform Standard	Hortonworks	Compute

and at the bottom right hand of the page, choose **Resource Manager** from the *Select a deployment model* section.

2. You will be prompted to enter the password. Ambari server will restart.

Select a deployment model ⓘ

Resource Manager



Create

3. At the next screen you will start the configuration process :

On **Tab 1: Basics**

<div>1 Basics Configure basic settings ></div> <div>2 Size Choose virtual machine size ></div> <div>3 Settings Configure optional features ></div> <div>4 Summary Hortonworks Sandbox with HD... ></div> <div>5 Buy ></div>	<div><div>* Name</div><div>HortonworksTest ✓</div></div> <div><div>VM disk type ⓘ</div><div>HDD ▼</div></div> <div><div>* User name</div><div>sparkuser</div></div> <div><div>* Authentication type</div><div>SSH public key Password</div></div> <div><div>* Password</div><div>.....</div></div> <div><div>* Confirm password</div><div>.....</div></div> <div><div>Subscription</div><div>Free Trial ▼</div></div> <div><div>* Resource group ⓘ</div><div><div><input checked="" type="radio"/> Create new <input type="radio"/> Use existing</div><div>HortonWorksTestRG ✓</div></div></div> <div><div>Location</div><div>East US ▼</div></div> <div>OK</div>
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You will need to:

- enter a suitable name for the sandbox
- change **VM disk type** to SSD (it's a bit cheaper)
- set username to **sparkuser** and enter a suitable password
- make sure that you select **Create New** in the Resource group section and give it a suitable name
- Click **[OK]**

Make sure you remember the username and password. Keep them somewhere safe

On **tab 2: Size**

software costs, as well as any discounts for the subscription and location.

DS1_V2 Standard		DS2_V2 Standard		DS11_V2 Standard	
1	Core	2	Cores	2	Cores
3.5	GB	7	GB	14	GB
	2 Data disks		4 Data disks		4 Data disks
	3200 Max IOPS		6400 Max IOPS		6400 Max IOPS
	7 GB Local SSD		14 GB Local SSD		28 GB Local SSD
	Load balancing		Load balancing		Load balancing
	Premium disk support		Premium disk support		Premium disk support
33.18 GBP/MONTH (ESTIMATED)		66.36 GBP/MONTH (ESTIMATED)		84.08 GBP/MONTH (ESTIMATED)	
DS1 Standard		DS2 Standard		DS11 Standard	
1	Core	2	Cores	2	Cores
3.5	GB	7	GB	14	GB
	2 Data disks		4 Data disks		4 Data disks
	3200 Max IOPS		6400 Max IOPS		6400 Max IOPS
	7 GB Local SSD		14 GB Local SSD		28 GB Local SSD

Select

Choose the option **DS2_V2 standard** and click **[Select]**

Finally, on **tab 5: Buy** click **[Purchase]**. All the options are covered by your credits.

1 Basics Done ✓

2 Size Choose virtual machine size >

3 Settings Configure optional features >

4 Summary Ubuntu Server 14.04 LTS >

Prices presented below are estimates in your local currency that include only Azure infrastructure costs and any discounts for the subscription and location. The prices don't include any applicable software costs. Recommended sizes are determined by the publisher of the selected image based on hardware and software requirements.

★ Recommended | [View all](#)

DS1 Standard ★	DS11 Standard ★	DS2 Standard ★
1 Core	2 Cores	2 Cores
3.5 GB	14 GB	7 GB
2 Data disks	4 Data disks	4 Data disks
3200 Max IOPS	6400 Max IOPS	6400 Max IOPS
7 GB Local SSD	28 GB Local SSD	14 GB Local SSD
Load balancing	Load balancing	Load balancing
Auto scale	Auto scale	Auto scale
Premium disk supp...	Premium disk supp...	Premium disk supp...
38.18 GBP/MONTH (ESTIMATED)	101.81 GBP/MONTH (ESTIMATED)	76.36 GBP/MONTH (ESTIMATED)

5.The final screen will start to create your VM. The process usually takes around 5 minutes.

1 Basics Done ✓

2 Size Done ✓

3 Settings Done ✓

4 Summary Ubuntu Server 14.04 LTS >

i Validation passed

Basics

Subscription	Azure Pass
Resource group	(new) uitarcrg
Location	West Europe

Settings

Computer name	uitarcstudio
User name	uitarcuser
Size	Standard DS1
Disk type	Premium (SSD)
Storage account	(new) uitarcrg3410
Virtual network	(new) uitarcrg
Subnet	(new) default (10.0.0.0/24)
Public IP address	(new) uitarcrstudio
Network security group	(new) uitarcrstudio
Availability set	None
Diagnostics	Enabled
Diagnostics storage account	(new) uitarcrg7589

After the process has completed, you will be presented with a confirmation screen like this one:

The screenshot shows the Azure portal interface for a virtual machine named 'HortonworksTest'. The top bar includes the VM name and 'Virtual machine' label, along with action buttons: Connect, Start, Restart, Stop, and Delete. A left sidebar contains navigation options: Overview (selected), Activity log, Access control (IAM), Tags, Diagnose and solve problems, and a SETTINGS section with Availability set and Disks. The main content area is titled 'Essentials' and displays the following details:

Property	Value
Resource group	HortonWorksTestRG
Status	Running
Location	East US
Subscription name	Free Trial
Subscription ID	5112c6ad-c84f-42e0-aacf-e8829f34ab55
Computer name	HortonworksTest
Operating system	Linux
Size	Standard A5 (2 cores, 14 GB memory)
Public IP address/DNS name label	23.96.94.44/<none>
Virtual network/subnet	HortonWorksTestRG-vnet/default

Below the details, there is a 'Monitoring' section with a 'CPU percentage' chart and an 'Edit' button.

Make sure you note the **Public IP address**. You will need this to access features of the Hortonworks Sandbox.

Exercise 2: Logging into the Zeppelin Notebook for the first time

After the VM has been created, it will have been given a unique IP address.

For example, if your ip address is **123.12.121.14**

You can access your Zeppelin Notebook through your browser at **http://123.12.121.14:9995**