

# Microsoft Advanced Analytics Lab: Prerequisite activity



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# Overview

## Summary

In the coming weeks you will be taking part in the Microsoft Advanced Analytics Laboratory hosted at a Microsoft Technology Centre (MTC). In order for you to complete the labs we have prepared, you need to ensure that you have an **Azure subscription with admin rights**. This will allow you to create Hadoop clusters that we will utilize during the lab – n.b. you do **not** need to create these clusters before arriving.

Please liaise with your internal IT organization to gain the necessary privileges to complete the lab.

Once your internal IT organization has granted you access to the Azure Portal we highly recommend you complete the sections in this document **before** coming to the lab to test the access granted. This document should take no more than 30 minutes to complete. If you have any difficulties at all then please get in contact with your Microsoft representative.

## Required Software

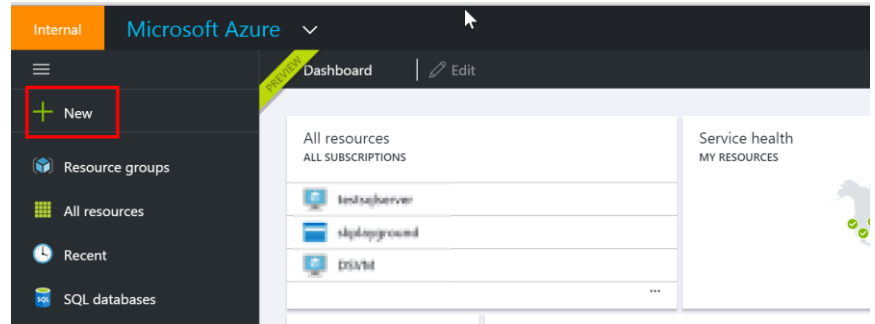
The software required to complete the lab is already installed on a pre-configured VM in Azure called *The Data Science Virtual Machine*. This virtual machine has the following software installed:

- [Visual Studio 2015 Community Edition](#) with R Tools for Visual Studio installed.
- [Azure SDK](#).
- Microsoft R Server
- RTools
- Power BI Desktop
- SQL Server Express 2014
- IPython
- Azure PowerShell
- Azure Storage Explorer

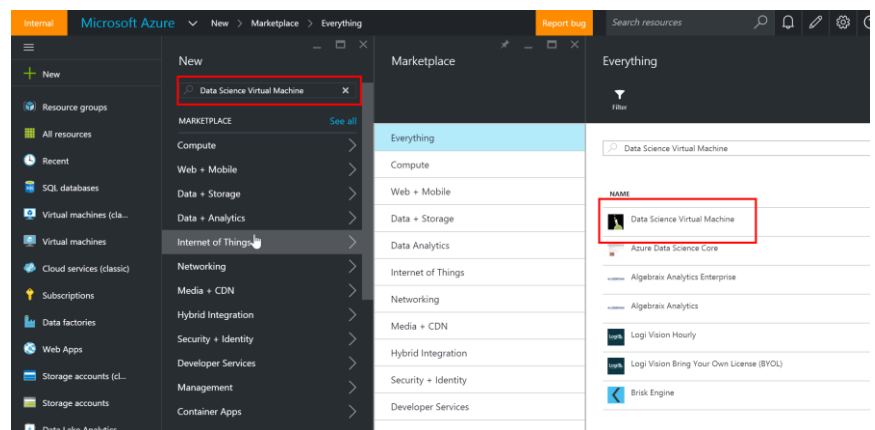
In this prerequisite activity we will also create a standard Azure Machine Learning workspace.

# Create the VM

1. Sign in to the Azure preview portal - <https://ms.portal.azure.com/>
2. Click on **+ New**.



3. In the search box type **Data science virtual machine** press the return key (you will need the Windows version). You should see the following



4. Click on the Data Science Virtual Machine (published by Microsoft)

NAME	PUBLISHER
 Data Science Virtual Machine	Microsoft

5. Click on **Create**.
6. In the **Basics** Blade fill out a **Name** (n.b. this has to be a unique name to the whole of Azure), **User name**, **Password**, **Resource group**. Select a **location** nearest to you (this is the location of the Microsoft data center). Example entry is outlined below:

Basics

\* Name  
aalabtest ✓

\* User name  
aalab ✓

\* Password  
\*\*\*\*\* ✓

\* Subscription  
Microsoft Azure Internal Consumption

\* Resource group  
aalabtest ✓  
[Select existing](#)

\* Location  
North Europe

OK

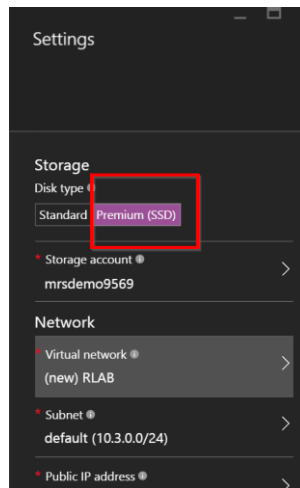
- The Size blade will pop up next. Select **View All** and then **DS3\_V2** (n.b. we will shut down the VM at the end of this lab and you pay an hourly rate for the VM rather than monthly – therefore divide the monthly price by 720hours to get an approximate hourly rate.).

Choose a size  
Browse the available sizes and their features

★ Recommended | [View all](#)

DS1_V2 Standard	DS2_V2 Standard	DS3_V2 Standard
1 Core	2 Cores	4 Cores
3.5 GB	7 GB	14 GB
2 Data disks	4 Data disks	8 Data disks
3200 Max IOPS	6400 Max IOPS	12800 Max IOPS
7 GB Local SSD	14 GB Local SSD	28 GB Local SSD
Load balancing	Load balancing	Load balancing
Auto scale	Auto scale	Auto scale
Premium disk suppo...	Premium disk suppo...	Premium disk suppo...
58.63 GBP/MONTH (ESTIMATED)	117.26 GBP/MONTH (ESTIMATED)	234.53 GBP/MONTH (ESTIMATED)

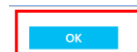
- On the **Settings** blade select **Premium Storage** (if you chose a standard VM size in the previous task, this will automatically resize your VM size to allow the SSD storage):



9. On the **Summary** Blade click **OK**:



Subscription	Microsoft Azure Internal Consumption
Resource group	(new) aalabtest
Location	North Europe
Computer name	aalabtest
User name	aalab
Size	Standard A3
Disk type	Standard
Storage account	(new) aalabtest9290
Virtual network	(new) aalabtest
Subnet	(new) default (10.3.0.0/24)
Public IP address	(new) aalabtest
Network security group	(new) aalabtest
Availability set	None
Diagnostics	Enabled
Diagnostics storage account	(new) aalabtest9290



10. On the **Buy** Blade click **Purchase**:



#### Offer details

Data Science Virtual Machine  
by Microsoft  
Standard A3  
[Terms of use and privacy policy](#) [Pricing for other VM sizes](#) 0.00 GBP/hr

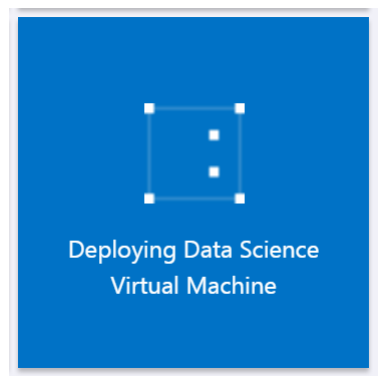
Pricing above does not include [Azure infrastructure costs](#) (e.g., virtual machine compute time or storage) and is based on the pricing tier you have selected. Neither Microsoft subscription credits nor monetary commitment funds may be used to purchase the above offering(s). These purchases are billed separately. If any Microsoft products are listed above (e.g., Windows Server or SQL Server), such products are licensed by Microsoft and not by any third party.

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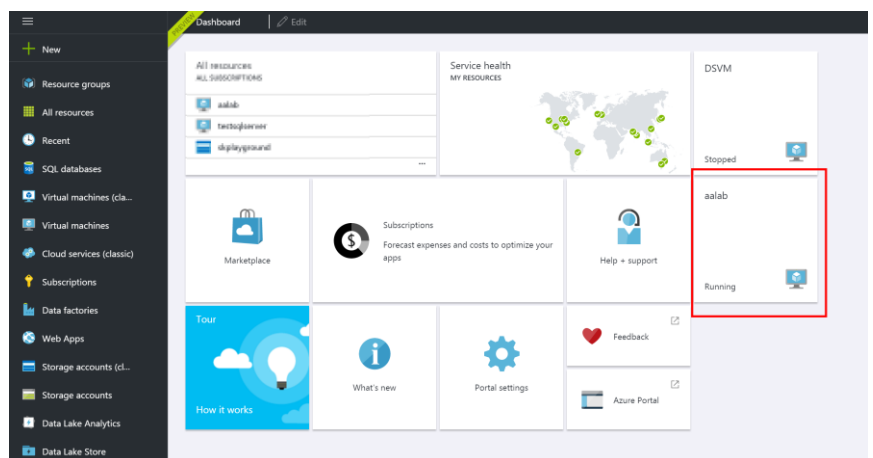
By clicking "Purchase," I (a) agree to the legal terms and privacy statement(s) associated with each offering above, (b) authorize Microsoft to charge or bill my current payment method on a quarterly basis for the fees associated with my use of the offering(s), including applicable taxes, until I discontinue use of the offering(s), and (c) agree that Microsoft may share my contact information with any third-party vendors, if listed above. Microsoft does not provide rights for third-party products or services. See the [Azure Marketplace Terms](#) for additional terms.



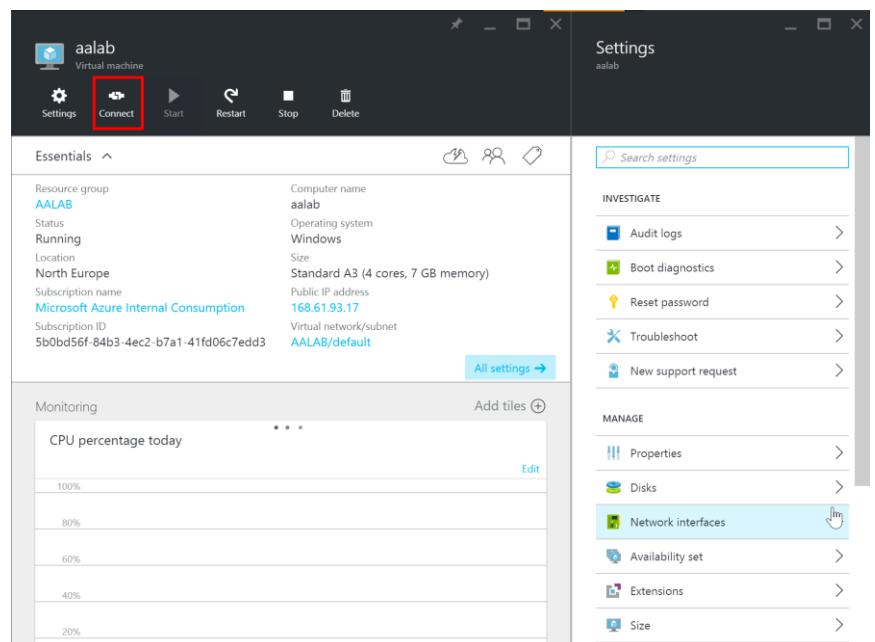
11. On the startboard you will see the VM being deployed. This will take approximately 5-10minutes.



12. Once it is successfully deployed you will see the following on the startboard:

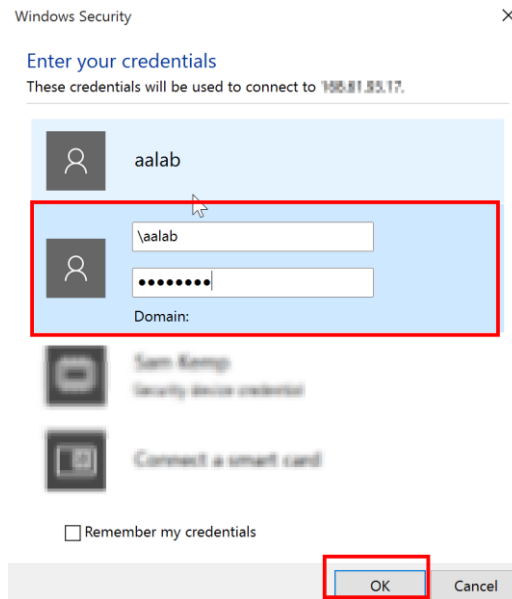


13. Click on the VM you created from the startboard to get the following page:



14. Click on the **Connect** button as highlighted above. Save the RDP file.

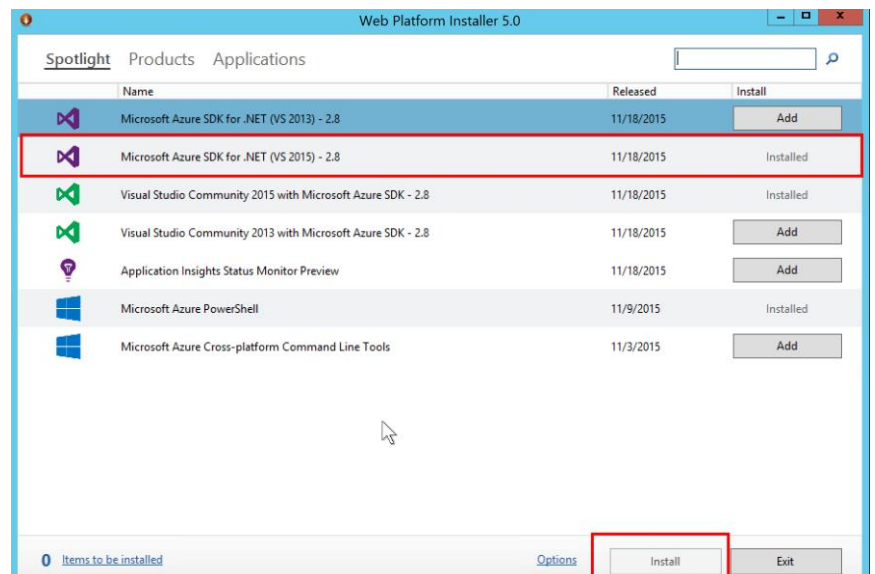
15. Double click on the downloaded RDP file to connect to the VM and enter you credentials (note the \ before the username):



16. Once you have connected to the Data Science Virtual Machine install the Azure SDK by double clicking on the Microsoft Web Platform shortcut on the desktop:



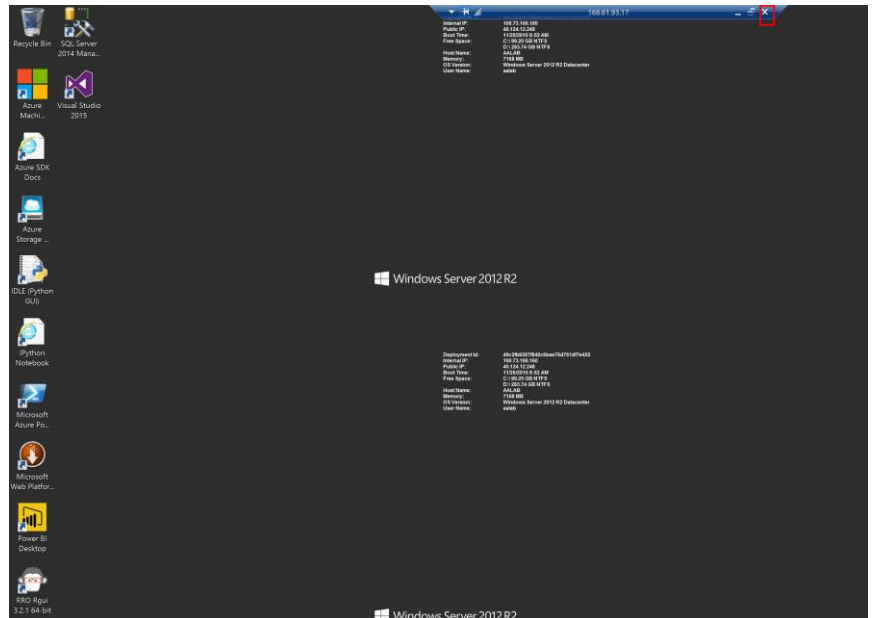
In the installer click on **Add** for **Microsoft Azure SDK for .Net (VS 2015)** - <VERSION NUMBER> and then install:



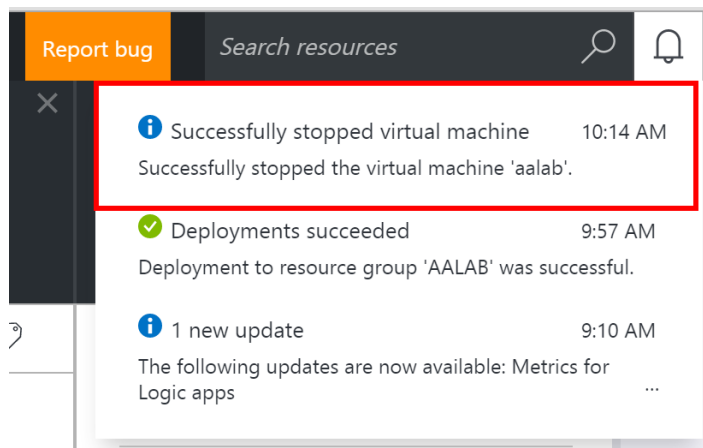
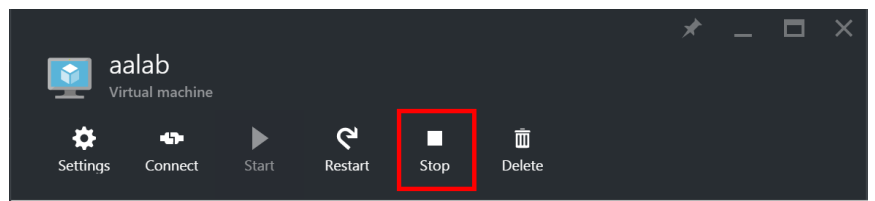
This takes approximately 5minutes to finish installing.

17. Close the VM by clicking the **X** on the blue bar highlighted below:





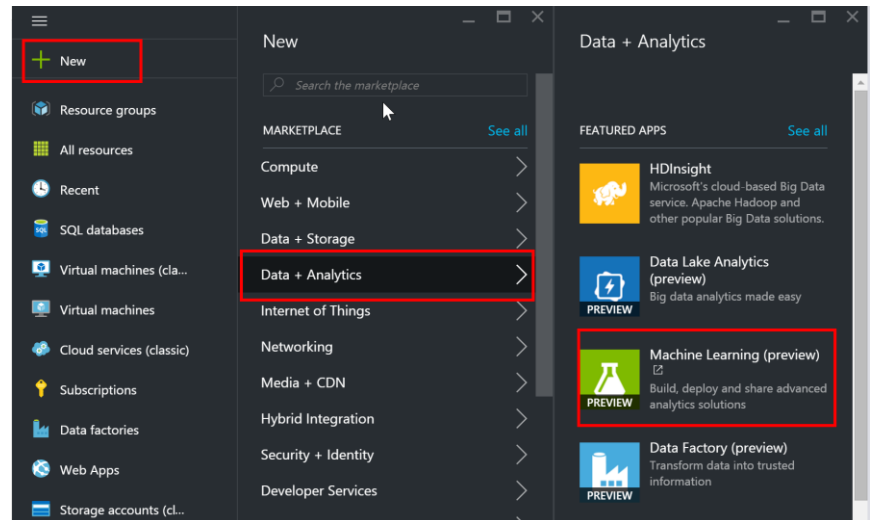
18. Shutdown the VM by clicking on the **Stop** button on the VM blade in the Azure preview portal (this will take a couple of minutes).



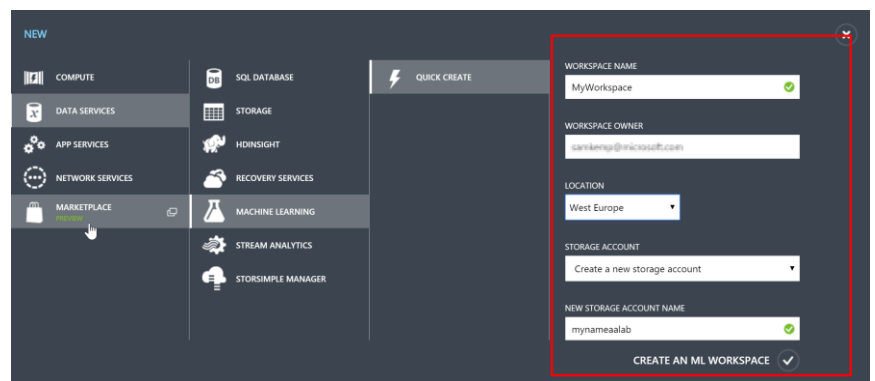
19. If you managed to successfully complete all these steps, then you are ready for the Microsoft R lab!

# Create an Azure ML Workspace

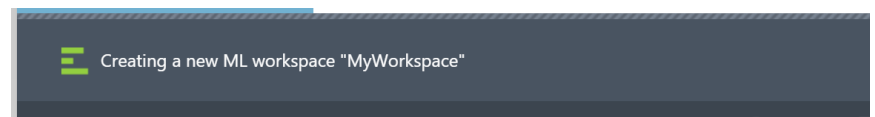
1. Sign in to the Azure preview portal - <https://ms.portal.azure.com/>
2. Click on **+ New > Data + Analytics > Machine Learning**



3. This will take you to the **Management Portal**



4. Enter a Workspace name, the workspace owner will be prepopulated, select a location closest to you, select **create a new storage account** and enter a valid name for the account.
5. Click **Create an ML Workspace**. This will start to be provisioned.

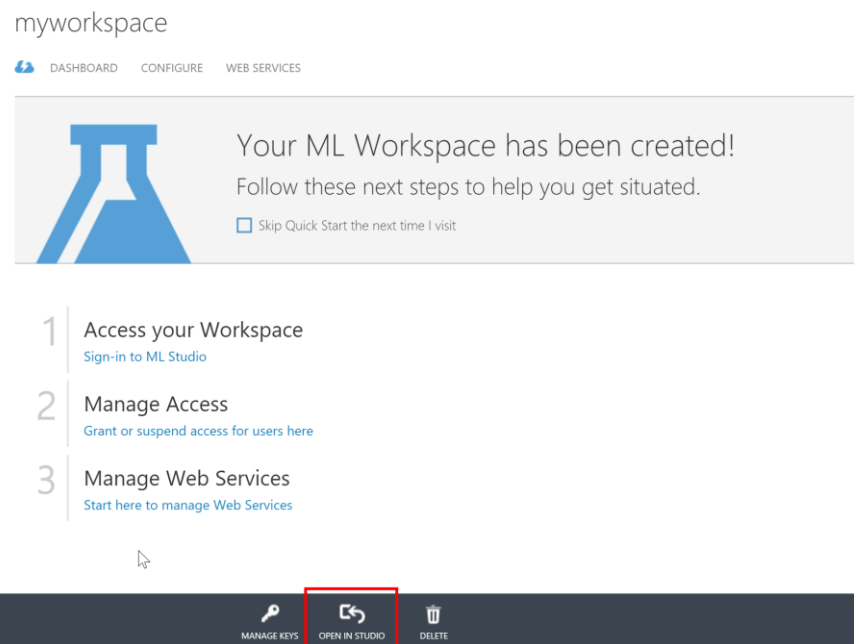


6. Once the workspace has been provisioned you will see it appear:

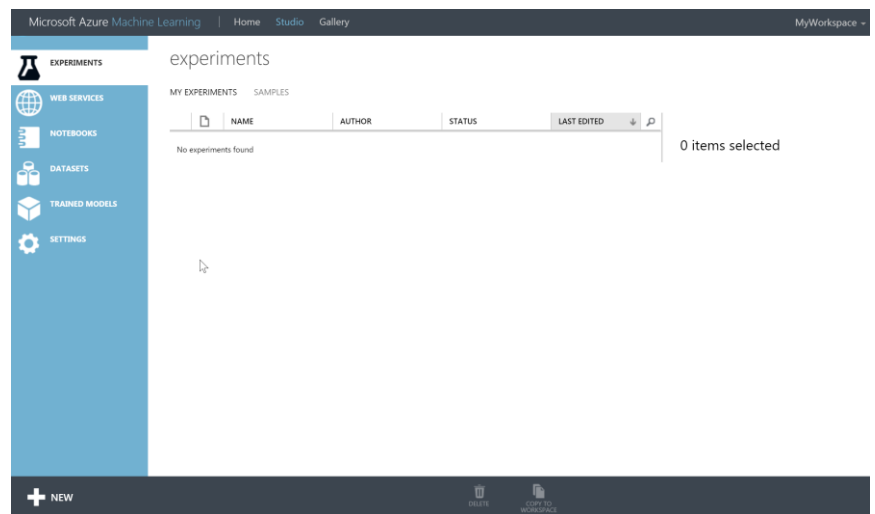
machine learning

NAME	STORAGE	STATUS	OWNER	SUBSCRIPTION	LOCATION	
Default	sankarpaz@microsoft.com	Online	sankarp@microsoft.com	Microsoft Azure Internal C...	South Central US	
Provisioned	sankarpaz@microsoft.com	Online	sankarp@microsoft.com	Microsoft Azure Internal C...	South Central US	
Provisioned-West Europe	westeuropelab	Online	sankarp@microsoft.com	Microsoft Azure Internal C...	West Europe	
MyWorkspace	mynamaalab	Online	sankarp@microsoft.com	Microsoft Azure Internal C...	West Europe	

7. Select the workspace, which takes you to the dashboard below. Click on **OPEN IN STUDIO**:



8. You should now be in Azure ML Studio – Bookmark the web page!



9. If you are eager to explore Azure ML before the lab then the following link has videocasts, webinars and documentation links:

- <https://europewest.studio.azureml.net/#>

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