



Azure Stream Analytics

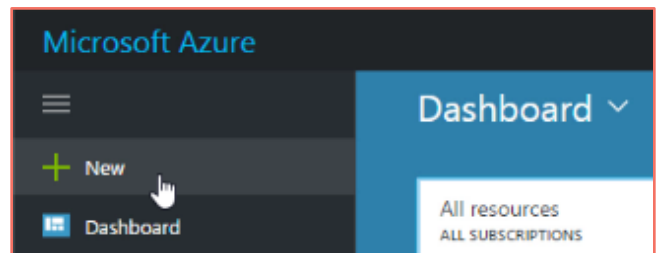
Creating a Linux Virtual Machine

Creating a Linux Virtual Machine (VM) in Azure Stream Analytics can help us test our jobs by generating dummy data using Python script to pass it to an Azure Event Hub.

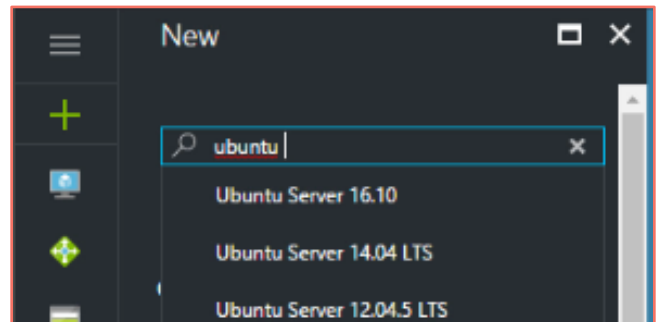
Follow these tips to guide your way through this process.



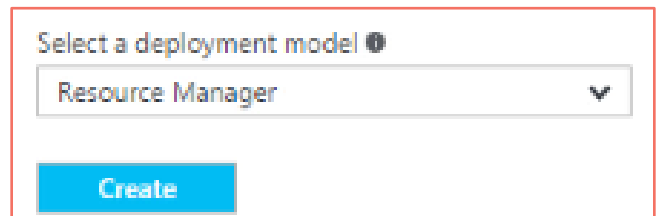
1. In the Azure Dashboard, click **New**.



2. Use the **Search** box to look for **Ubuntu** and select your VM option.



3. After making your selection, click **Create** to start configuring your virtual machine.





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Creating a Linux Virtual Machine

4. Complete the information requested in **Step 1**. Then click **OK**.

- > Name
- > VM Disk Type
- > User Name
- > Authentication Type
- > SSH Public Key
- > Subscription
- > Resource Group
- > Location

Create virtual machine

Basics

1 Basics
Configure basic settings

2 Size
Choose virtual machine size

3 Settings
Configure optional features

4 Summary
Ubuntu Server 14.04 LTS

* Name
TetraASADemo ✓

VM disk type
HDD

User name
tetrauser ✓

* Authentication type
SSH public key Password

* Password
..... ✓

* Confirm password
..... ✓

Subscription
Windows Azure MSDN - Visual Studio Ulti

* Resource group

OK



5. Use **Select** your VM's size in **Step**

2 Size
Choose virtual machine size

3 Settings
Configure optional features

A0 Basic
1 Core
0.75 GB
1 Data disks

A1 Basic
1 Core
1.75 GB
2 Data disks

A2 Basic
2 Cores
3.5 GB
4 Data disks

Select

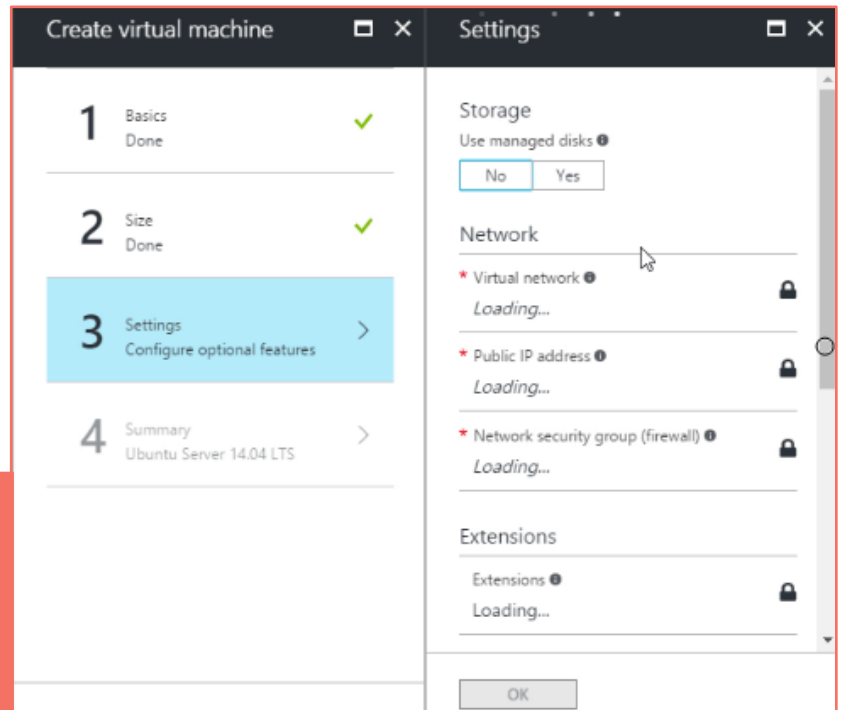




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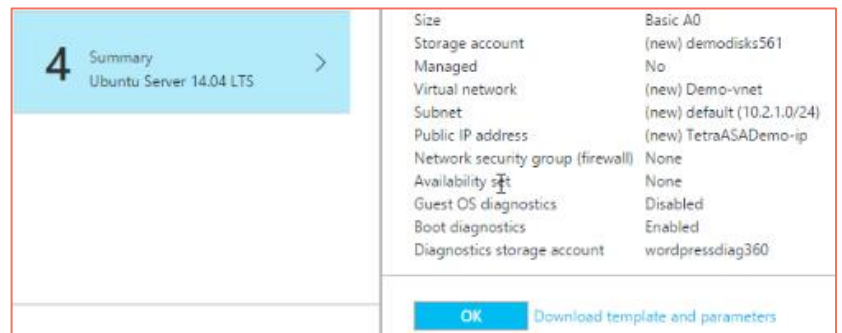
6. Complete the information requested in **Step 3**. Then click **OK**.



- Storage
- Network Details
- Extension Details
- High Availability Details
- Monitoring Details



7. Review the summary in **Step 4**. If everything is fine, click **OK**.





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Configuring the Linux Virtual Machine

After creating the Linux VM, you need to configure it to send data to your event hub.

Follow these tips to guide your way through this process.



1. Log in to SSH using your credentials and open the **SSH Console**.



2. Run the configuration commands to install the Python libraries I need to push your data to the Event hub.

```
[76%] cmd - ssh tetrauser@52.165.238.68
tetrauser@TetraASADemo:~$ sudo apt-get update
Ign http://azure.archive.ubuntu.com trusty InRelease
Get:1 http://azure.archive.ubuntu.com trusty-updates InRelease [65.9 kB]
Get:2 http://security.ubuntu.com trusty-security InRelease [65.9 kB]
Hit http://azure.archive.ubuntu.com trusty-backports InRelease
Hit http://azure.archive.ubuntu.com trusty Release.gpg
Hit http://azure.archive.ubuntu.com trusty Release
Get:3 http://azure.archive.ubuntu.com trusty-updates/main Sources [395 kB]
Get:4 http://azure.archive.ubuntu.com trusty-updates/restricted Sources [6,327 B]
Get:5 http://security.ubuntu.com trusty-security/main Sources [129 kB]
Get:6 http://azure.archive.ubuntu.com trusty-updates/universe Sources [177 kB]
Get:7 http://azure.archive.ubuntu.com trusty-updates/multiverse Sources [7,759 B]
Get:8 http://azure.archive.ubuntu.com trusty-updates/main amd64 Packages [973 kB]
Get:9 http://security.ubuntu.com trusty-security/universe Sources [51.0 kB]
76% [3 Sources bzip2 0 B] [8 Packages 524 kB/973 kB 54%] [Waiting for headers]
```

The commands you need include:

- **Sudo apt-get update** > Starts the configuration
 - **Sudo apt-get upgrade** > Upgrades all VM installations
 - **Sudo apt-get install** > Installs the required Python version
 - **Sudo apt-get install python-pip** > Installs Python's package manager
 - **Sudo pip install azure** > Installs the Azure resource library for Python.
- NOTE:** You may add any other libraries you need here.
- **Wget + your Python script's URL** > Downloads Python's scripts to the VM





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Pushing Data From the VM to the Event Hub

After creating the Linux VM, you need to configure it to send data to your event hub.

Follow these tips to guide your way through this process.



1. Log in to SSH using your credentials and open the **SSH Console**.



2. Run the configuration commands to install the Python libraries I need to push your data to the Event hub.

```
(76%) cmd - ssh tetrauser@52.165.238.68
tetrauser@TetraASADemo:~$ sudo apt-get update
Ign http://azure.archive.ubuntu.com trusty InRelease
Get:1 http://azure.archive.ubuntu.com trusty-updates InRelease [65.9 kB]
Get:2 http://security.ubuntu.com trusty-security InRelease [65.9 kB]
Hit http://azure.archive.ubuntu.com trusty-backports InRelease
Hit http://azure.archive.ubuntu.com trusty Release.gpg
Hit http://azure.archive.ubuntu.com trusty Release
Get:3 http://azure.archive.ubuntu.com trusty-updates/main Sources [395 kB]
Get:4 http://azure.archive.ubuntu.com trusty-updates/restricted Sources [6,327 B]
Get:5 http://security.ubuntu.com trusty-security/main Sources [129 kB]
Get:6 http://azure.archive.ubuntu.com trusty-updates/universe Sources [177 kB]
Get:7 http://azure.archive.ubuntu.com trusty-updates/multiverse Sources [7,759 B]
Get:8 http://azure.archive.ubuntu.com trusty-updates/main amd64 Packages [973 kB]
Get:9 http://security.ubuntu.com trusty-security/universe Sources [51.0 kB]
76% [3 Sources bzip2 0 B] [8 Packages 524 kB/973 kB 54%] [Waiting for headers]
```

The commands you need include:

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- NOTE:** You may add any other libraries you need here.
- **Wget + your Python script's URL*** > Downloads Python's scripts to the VM

*The script can be stored in an Azure Storage Account or in a Gdrive, for example.





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Pushing Data From the VM to the Event Hub

3. Run the script to push your dummy data into your Event Hub. It should include the following structure:

```
Python <the script's file name> <service bus name>  
<event hub policy name> <event hub policy key> <event hub  
name>
```

Please always **keep the Spaces** separating script elements. Remember to keep your **Event Hub's Shared Access Policies** data handy for this step.



4. Click **Enter** to run your script and start sending dummy data. If you need to stop the script at any time, you can press **ctrl+c**.

Once you have your script running, you will be able to test your event hub and ASA job's performance.

Keep this process handy to stage your ASA jobs and as a best practice before running live data through them.

