IT Innovation Series:   
LAB BUILD GUIDE

“What’s new in Azure Infrastructure: Improving Datacenter Flexibility with Microsoft, Open Source and Other Technologies” Homebrew Rev 1.0

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# Attendee guide

## How to use this guide

1. Follow the Step-by-step guidance to complete the lab setup
2. Online lab machines simulate machines in your own datacenter, but are created in your own Azure trial or subscription.

## What this guide is for

This guide walks you through the process of building the virtual machines on which to then do the hands-on-labs from our TechNet on Tour / IT Innovation Series Azure Infrastructure events, “What’s new in Cloud Infrastructure: Improving Datacenter Flexibility with Microsoft, Open Source and Other Technologies”.

# Step-by-step guidance – Build the Lab Environment

Follow the instructions below to create your lab infrastructure.

#### Before You Begin

The portal is located at [https://portal.azure.com](https://portal.azure.com/).

#### Azure Subscriptions

This IT Innovation Series event lab requires a valid Azure subscription. While you may use an existing subscription such as a subscription associated MSDN account or existing corporate account, it would preferable to use an Azure Trial subscription for this event. By using a trial subscription, you will avoid any charges against your MSDN or corporate subscription that would result from doing the activities in this camp.

| **Description** | **Steps** |
| --- | --- |
| Creating a new Azure trial account perform the following steps.  Valid for $200 in Azure credits and 30-days evaluation time  **NOTE**: The trial requires a credit card for identity and security purposes only. **It does not ever charge your card** unless you change your subscription to “Pay-as-you-go”. | **Creating a new Azure 30-day Trial Account**   1. Open an InPrivate window in your browser 2. Navigate to [www.live.com](http://www.live.com) and click **Sign up now**. 3. Follow the on-screen instructions to create a new Microsoft Account. 4. Navigate to [www.azure.com](http://www.azure.com) and click **Free Trial**.   Note: Below are the Free Trial details – If you are using an Azure Pass get the pass from the Instructor.   1. Follow the on-screen instructions to activate a new Windows Azure Trial. 2. Navigate to Manage.windowsazure.com and sign in. 3. In Microsoft Azure portal, in the upper left, click your user name, and then click **View my bill**. 4. Click your current trial subscription, and then click **Edit subscription details.** 5. Type a name you will recognize in SUBSCRIPTION NAME, such as ITCamps, and then click the **Done** icon. |

#### Configure your local machine

You will be automating the process of building the lab virtual environment using a combination of PowerShell and Azure Resource Manager templates. Doing this requires you to have PowerShell, plus the most recent Azure PowerShell module loaded onto your machine.

#### Required Software

| **Description** | **Steps** |
| --- | --- |
| Download and install the latest Azure PowerShell cmdlets to your local workstation | 1. Browse to <http://aka.ms/webpi-azps> , and either run the downloaded .exe, or save it and then run it. 2. Take all defaults to complete the installation. |

#### Optional Software

| **Description** | **Software** |
| --- | --- |
| Any additional software that you require will be called out in the lab. The following software may be useful when working with Azure in general. | 1. Remote Server Administration Tools - [http://support.microsoft.com/kb/2693643](http://support.microsoft.com/kb/2693643%20) (Windows 8.1) or [http://www.microsoft.com/en-ca/download/details.aspx?id=45520](http://www.microsoft.com/en-ca/download/details.aspx?id=45520%20) (Windows 10) 2. AzCopy - <http://aka.ms/downloadazcopy> (in Azure Tools) 3. Azure Storage Explorer - <http://azurestorageexplorer.codeplex.com/downloads/get/891668> 4. Microsoft Azure Cross-platform Command Line Tools (installed using the Web Platform Installer) 5. Visual Studio Community 2015 with Microsoft Azure SDK - 2.8.1 (installed using the Web Platform Installer) 6. Msysgit - <http://msysgit.github.io> 7. PuTTY and PuTTYgen – (Use the Windows Installer) <http://www.chiark.greenend.org.uk/~sgtatham/putty/download.html> 8. Microsoft Online Services Sign-In Assistant for IT Professionals RTW - <http://go.microsoft.com/fwlink/?LinkID=286152> 9. Azure Active Directory Module for Windows PowerShell (64-bit version) - <http://go.microsoft.com/fwlink/p/?linkid=236297> |

Create the Lab Machines

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| Now that you have the PowerShell cmdlets for Azure installed, you’ll be able to launch the automation that will create the lab virtual machine in your Azure subscription. |

| **Summary** | **Steps** |
| --- | --- |
| Launch the PowerShell ISE | 1. Click on the Start button, and type “PowerShell”. 2. Click on “**Windows** **PowerShell ISE**” 3. When opened, make sure the script window is visible. If it is not, click on the round down-tick button to display the script window. |
| Retrieve the automation script. | 1. Switch to your browser. Navagate to [**http://aka.ms/AZInfraLabBaseScript**](http://aka.ms/AZInfraLabBaseScript)  This is the GitHub location containing the .PS1 script file. 2. To the right and above the script, click on the **RAW** button to view the contents of the full script in your browser. 3. Press **CTRL+A** to select the entire script, then **CTRL+C** to copy it to the clipboard. |
| Run the script from the PowerShell ISE | 1. Switch back to the **PowerShell ISE**, and paste (**CTRL-V)** the contents of the clipboard into the script window. 2. Press **CTRL+A** to select the entire script within the script window, and then click on the **Run Selection (F8)** button at the top of the PowerShell ISE. |
| Follow the script instructions | 1. When prompted, enter your credentials and log-in to your Azure Subscription. 2. When prompted, type your initials and press **ENTER** 3. To pick the datacenter region where you’ll be installing the resources, , type (carefully) either “East US” or “West US”, and press **ENTER** 4. After a few seconds you will see a note about approximately how long it will take to complete as the script continues to run. Check back here occasionally to see when it’s complete, and continue only after it returns as having completed successfully (with no errors) |

Configure the Lab Machines

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| Now that you’ve automatically created and provisioned the four virtual machines, there are a few more steps to perform before you can do the labs. |

| **Summary** | **Steps** |
| --- | --- |
| Browse to your new Resource Group in the Azure Portal | 1. Open a browser, and browse to[**http://portal.azure.com**](http://portal.azure.com) 2. Login to your Azure Subscription. 3. On the left, click on **Resource Groups**. 4. You should see a Resource Group named **RG-AZLabxxx** (where xxx are the initials you entered when creating the lab machines). Click on it. 5. You now see the details of your resource group, with the four virtual machines as the first four resources listed. |
| Connect via Remote Desktop to the ADMIN machine | 1. Now we need to connect to a couple of the machines to complete a few manual setup tasks required for the labs. 2. Click on **ADMIN** to display the details of the that virtual machine. 3. In the virtual machine details, click on **Connect**.      1. This downloads an .RDP file that you must open to establish the remote desktop connection. Open it when prompted. 2. When asked to **Enter your credentials**, click on Use another account. For the **User name** enter **contoso\LabAdmin**, and the password is **Passw0rd!.**      1. Click OK. |
| Download and install the latest Azure PowerShell cmdlets to **ADMIN** | 1. The **ADMIN** machine will require the most recent Azure PowerShell module to be installed. 2. Open **Internet Explorer**, browse to [**http://aka.ms/webpi-azps**](http://aka.ms/webpi-azps) , and either run the downloaded Web Platform Installer, or save it and then run it. 3. Take all defaults to complete the installation. |
| Extract the LabFiles | 1. Open the **File Explorer** and navigate to **C:\Labfiles**. 2. Right-click on the **labfiles.zip** file, and select **Extract All…**      1. Modify the destination to read **C:\LabFiles** only (remove the extra “labfiles” folder), and click **Extract**. |
| Install Git, GitHub Desktop, and Visual Studio Code. | 1. The **ADMIN** machine requires some additional installations of supporting utilities such as the GIT engine, the GitHub desktop, and Microsoft Visual Studio Code. Double-click on (or download) each of the following, and take all installation defaults.    1. C:\LabFiles\Utils\**Git-2.7.1-64-bit.exe**    2. C:\LabFiles\Utils\**GitHubSetup.exe**    3. Visual Studio Code: Download and install from [**https://code.visualstudio.com/**](https://code.visualstudio.com/) |
| Connect via Remote Desktop to the **EDGE** machine | 1. Back on your local workstation and in the Azure Portal, click on the machine named **EDGE**. 2. In the virtual machine details, click on **Connect**.      1. This downloads an .RDP file that you must open to establish the remote desktop connection. Open it when prompted. 2. When asked to **Enter your credentials**, click on Use another account. For the **User name** enter **contoso\LabAdmin**, and the password is **Passw0rd!.**      1. Click OK. |
| Extract the LabFiles | 1. Open the **File Explorer** and navigate to **C:\Labfiles**. 2. Right-click on the **labfiles.zip** file, and select **Extract All…**      1. Modify the destination to read **C:\LabFiles** only (remove the extra “labfiles” folder), and click **Extract**. |

This concludes the setup of the lab environment. You’re all set to start the labs!