Windows security, Active Directory and Azure AD

TD15 – Module 3 – Section 3

July 2020  
V3.1

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# Windows security, Active Directory and Azure AD Lab step-by-step

## Abstract and learning objectives

This training is designed to provide exposure to many of Microsoft Windows, Active Directory and Azure Active Directory security features.

## Overview

In this Lab, attendees will implement several of the security features Windows, Active Directory and Azure Active Directory security.

## Requirements

1. Attendee’s machine:
   1. Ideal resolution 1920 x 1080
   2. An Internet browser
   3. An RDP client
   4. Internet access without restriction on outbound connections.   
      The following outbound TCP port must be accessible :

* **TCP/80 and TCP/443** to reach Azure Portal
* **TCP/3389** to establish RDP remote connection to virtual machines exposed directly to Internet

or

* **TCP/(49152 to 65535)** to establish RDP remote connection to virtual machines exposed by a Load Balancer

## Before the exercise

Duration: 10 minutes

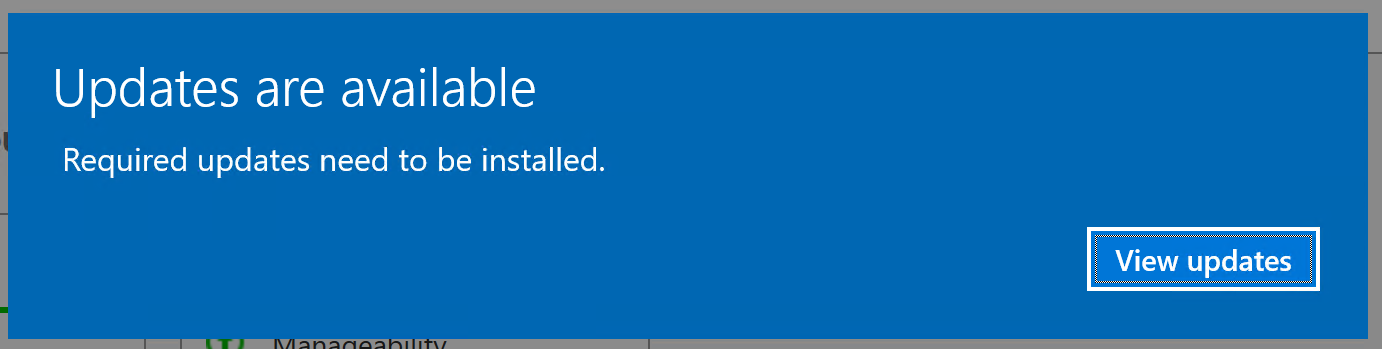
Synopsis: In this section, you will start up your environment for use in the rest of the Lab. You should have the following environment.

#### List of VM to start

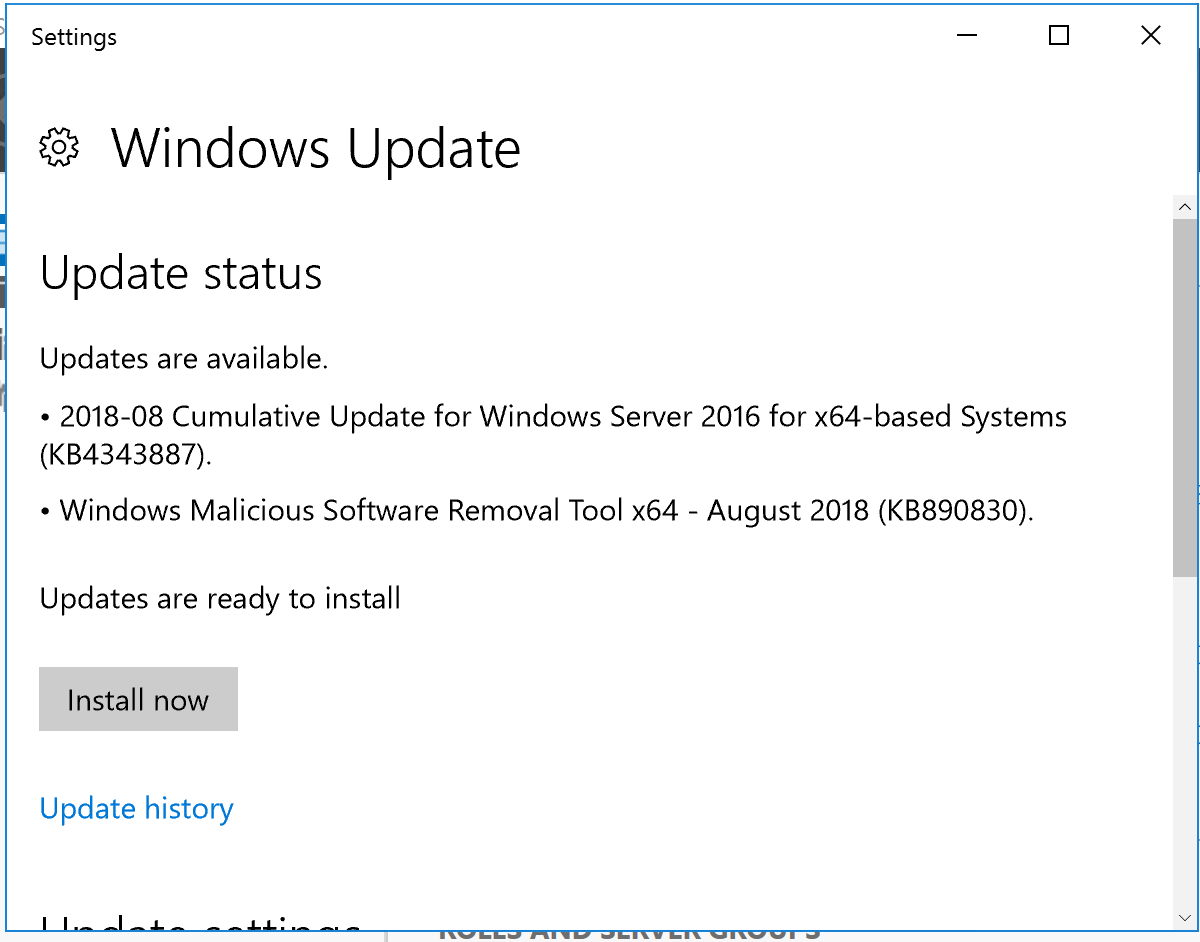
**Remember to start the DCs first and to wait 1 minute before starting the other VMs.**

|  |  |  |  |
| --- | --- | --- | --- |
| Name of VM | Hostname | OS Type | Role |
| ID-FAB-DC1 | CSI-TD-FAB-DC1 | Windows Server 2016 Standard | DC |
| ID-FAB-CLI1 | CSI-TD-FAB-CLI1 | Windows 10 Enterprise | Desktop |

Note that the machines have been provisioned in March 2020.   
Therefore, it is possible to see the following message while connecting for the first time to the servers:



In this case, click on View updates.



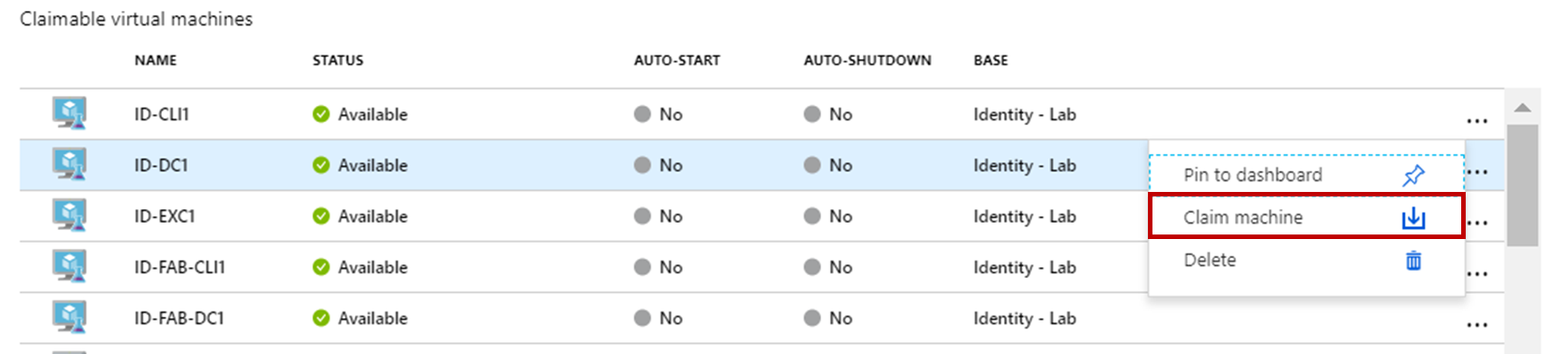
We do not need the latest updates for these labs so you can close this window.

#### How to start and connect to a VM

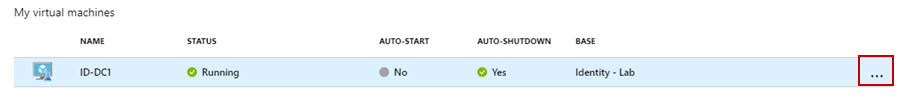
1. Go to Azure portal : <https://portal.azure.com>
2. Sign-in with your student or organizational account
3. Click on the Dev&Test Lab (Select the right subscription if the resource is not displayed)



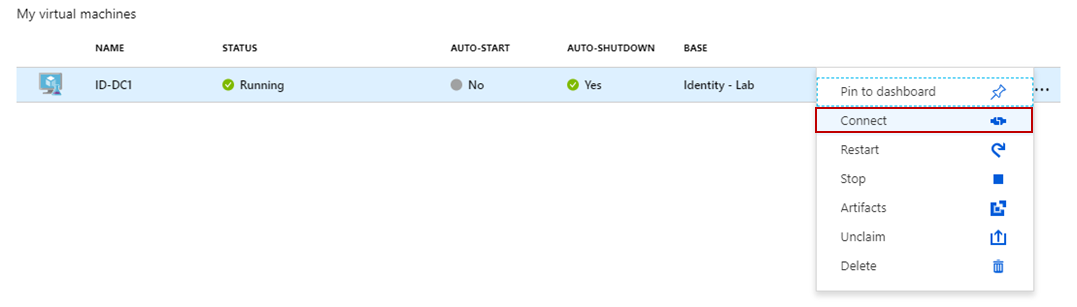
1. To start a VM, click on “Claim machine”



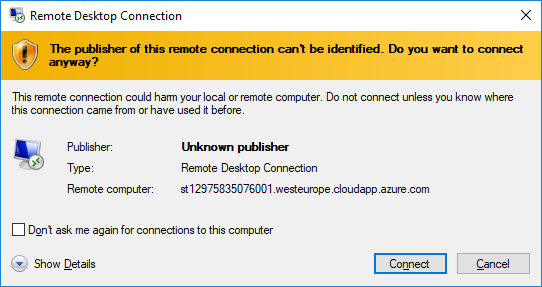
1. When the machine is started, it will be displayed in the “My Virtual Machines” pane.   
   After one minute, the status will be Running. You can wait 30 seconds more before trying to connect on it.



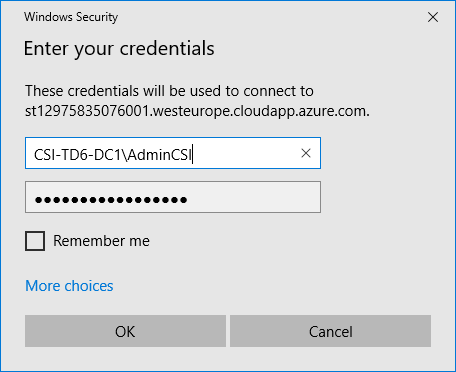
1. Select the running Virtual Machine and at the end of line, click on “…” then select Connect



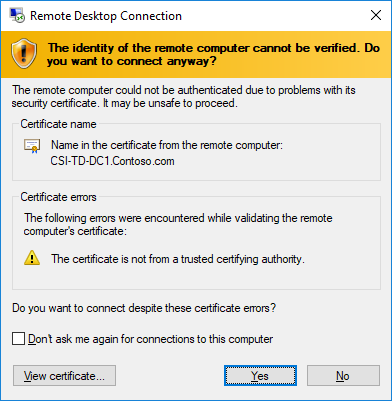
1. A warning is displayed about the publisher. You can ignore the warning and click on Connect.



1. Enter the user name and password to connect to the Virtual Machine detailed in each exercise below.   
   (Do not use your student or organizational account.)



1. A warning on the self-issued certificate is displayed. You can safely ignore this warning by clicking on Yes.



## Exercise 1: GPO with Windows 10 security baseline for PAW

Duration: 30 minutes

Synopsis: In this exercise, attendees will create a GPO to begin the hardening of a PAW.

Of course, in order to secure a PAW more settings need to be enforced.

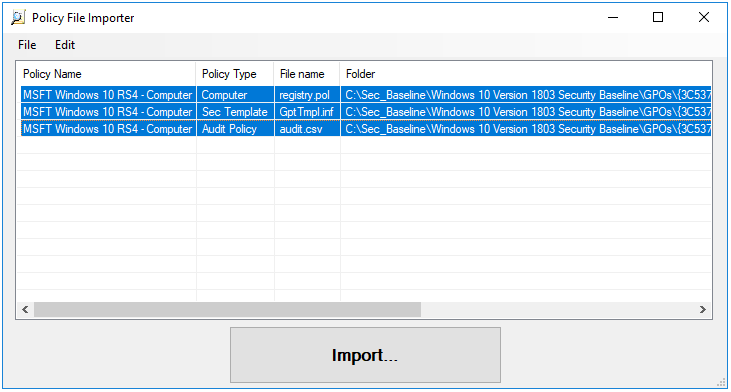
This lab is a quick example to how import a template and how to use Policy Editor to compare a GPO with the actual setting on a PC.

#### Task 1: GPO creation for PAW using Windows 10 Security baseline

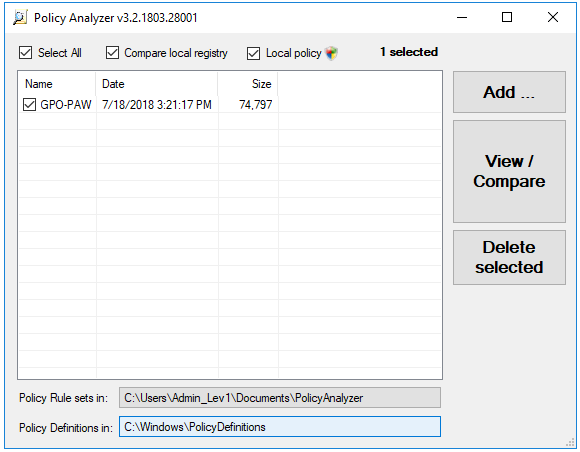
1. Open a session on **CSI-TD-FAB-DC1**
   1. Username: **AdminCSI@fabrikam.com**
   2. Password: **FAB-PiKarAlR@AlBenMo1 (Note that l is a L in lower case)**
2. Launch **Active Directory User and Computer**
3. Create an OU named **PAW**
4. Go the folder **C:\Windows\SYSVOL\sysvol\Fabrikam.com\Policies**
5. Create a folder named **PolicyDefinitions**
6. In **PolicyDefinitions,** create a folder named **en-US**
7. Go the folder **C:\Sec\_Baseline\Windows 10 Version 1803 Security Baseline\Templates**
8. Select all the ADMX file and copy them to the folder:
   1. **C:\Windows\SYSVOL\sysvol\Fabrikam.com\Policies\PolicyDefinitions**
9. Select all the ADMl file and copy them to the folder:
   1. **C:\Windows\SYSVOL\sysvol\Fabrikam.com\Policies\PolicyDefinitions\en-US**
10. Launch **Group Policy Management**
11. In the OU **PAW**
12. Create **New GPO** named **PAW**
13. On the GPO **PAW, Import settings**
    1. **C:\Sec\_Baseline\Windows 10 Version 1803 Security Baseline\GPOs**
    2. In Backup GPOs, choose **MSFT Windows RS4 – Computer**

#### Task 2: Use Policy Analyzer to compare GPO

1. Open a session on **CSI-TD-FAB-CLI1**
2. Go to the **C:\Sec\_Baseline\PolicyAnalyzer**
3. Launch **PolicyAnalyzer**
4. Click **Add**
5. Click **File** and **Choose Add files from GPO(s)**
6. Browse to the folder **C:\Sec\_Baseline\Windows 10 Version 1803 Security Baseline\GPOs\{3C537678-BBC4-4F10-AACE-5D44C468CC6C}**
   1. This folder contains a copy of the GPO that has been imported in the PAW GPO
7. Click **Select Folder**
8. Select the 3 rows and click **Import**



1. In the **Save imported Policy Rules**, enter **GPO-PAW**
2. Checked **Compare local Registry** and **Local Policy**
3. Ensure that **Select All** is checked
4. Click **View/Compare**



1. IF asked, enter the following credentials
   1. Username: **AdminCSI@fabrikam.com**
   2. Password: **FAB-PiKarAlR@AlBenMo1 (Note that l is a L in lower case)**
2. Review the Results
3. Close **Policy Viewer**
4. Close **Policy Analyzer**
5. Switch back to **CSI-TD-FAB-DC1**
6. Launch **Active Directory Users and Computers**
7. Move **CSI-TD-FAB-CLI1** from Computers to the OU **PAW**
8. At the next PC reboot the GPO PAW will execute and enforce the setting defined in the imported template.

## Questions:

1. Why using a dedicated workstation?

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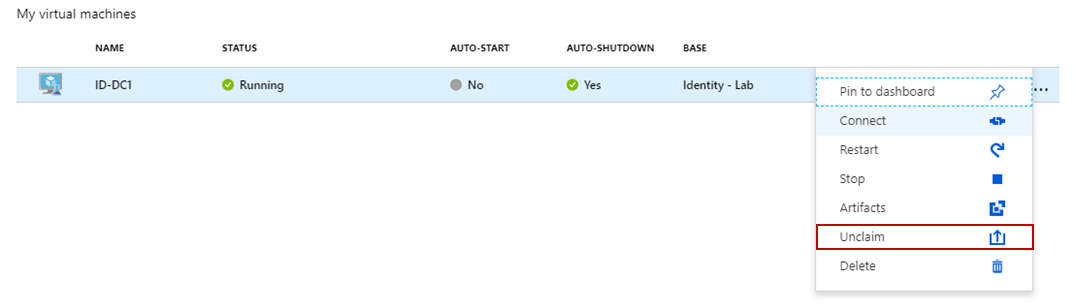
## After the Lab

Duration: 10 minutes

In this exercise, attendees will deallocate and remove any Azure resources that were started in support of the lab.

#### Task 1: Stop and deallocated all the VMs

1. Properly shutdown all the VMs
2. Deallocate the VM in the Azure Portal
3. To Stop a VM, simply click on Unclaim.



1. All the VMs used from TD08 to TD15 can now be removed