* Installing Windows Azure Pack
* Configuring VMM and SPF
* Configuring Windows Azure Pack
* Login as a Tenant and provision a VM and SQL Database

**Pre-requisites.**

* Virtual Machine Manager is installed and configured and:
  + Member of the Contoso.com domain.
  + One or more VMM Clouds created in VMM.
  + One or more VM Networks created in VMM.
* Service Provider Foundation is installed using default install on the server specified above.
  + Running Windows Server 2012 R2
  + Database running on DB01
  + SPF IIS Web service running under a domain account
  + Member of the Contoso.com domain
* SQL Server is installed running SQL 2012
  + With SQL Authentication enabled (Using SA)
  + Member of the Contoso.com domain

Disclaimer: This environment is meant for testing only. This should not be considered guidance for production use, as several decisions made in this blog post are not targeting a production environment.

Let's get started:

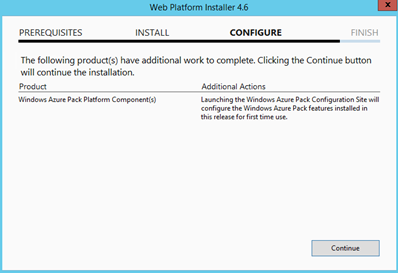
**Installing Windows Azure Pack:**

1. Deploy a Windows Server 2012 R2 GUI server and join it to the domain.
2. Install the following prerequisites:
3. Disable Internet Explorer Enhanced Security.
   1. Install Microsoft Web Platform Installer 4.6 (can be downloaded from [here](https://go.microsoft.com/?linkid=9737537) if the WAP server has no Internet follow this [blog post](http://blogs.technet.com/b/privatecloud/archive/2013/11/06/troubleshooting-installation-and-configuration-of-windows-azure-pack.aspx))
   2. In Windows Server 2012 R2, install the following software through Web Platform Installer, in this order:
      1. Enable Microsoft .NET Framework 3.5 SP 1 in Server Manager.
      2. .NET 4.5 Extended, with ASP.NET for Windows 8.
      3. IIS recommended configuration.
4. Launch WEB PI Installer.
5. Select Products from the top menu.
6. Type: Windows Azure Pack in the search field in the left side.
7. Click Add Windows Azure Pack: Portal and API Express.

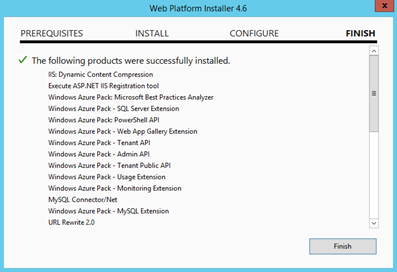


*Figure 1: WAP Express installer in Web PI*

1. Click Install at the bottom of the WEB PI windows.
2. Read the terms of use, Click I Accept.
3. When the Wizard completes the installation, it will present a screen as the one described in the picture below asking to Continue. When clicking in the Continue button, an Internet Explorer Window will be launched.

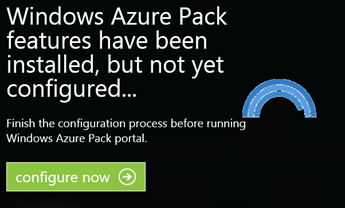


*Figure 2: WAP Install screen in Web PI*



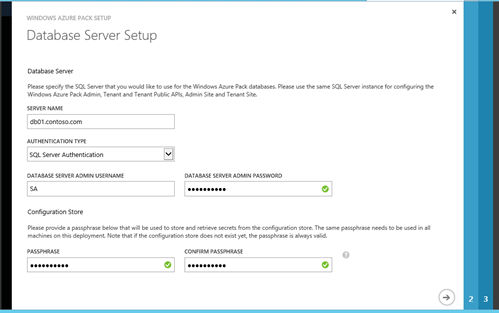
*Figure 3: WAP Install screen in Web PI*

1. In the recently opened Internet Explorer page, copy the URL, and launch a new browser with administrative privileges. When the new browser is opened, paste the URL you obtained before (https://localhost:30101/).
2. In the browser, if you are presented with warnings related to the certificate, click in continue. Then the Windows Azure Pack Setup will be displayed.



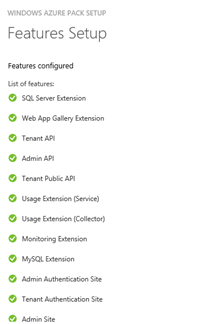
*Figure 4: WAP Install screen in Web PI*

1. In the Database Server page, provide the following information:
   1. Server Name: an instance that accepts SQL Authentication (for example db01.contoso.com).
   2. Authentication type: SQL authentication (Windows Authentication can also be used).
   3. Database server admin username: sa
   4. Password: \*\*\*\*\*\*\*\*
   5. Passphrase: \*\*\*\*\*\*\*\*
2. Click on the arrow for next.



*Figure 5: Database Server setup in WAP install*

1. In the Customer Experience Improvement program select one option and click on Next.
2. In the Features Setup page click on the  to finish the wizard.
3. Once the setup has completed, click in the arrow button.



1. Sign out and Sign in from WAP01 (this needs to be done for the user to be registered correctly in WAP).
2. Open a browser and go to: https://wap01:30091.

**Validating the installation succeeded:**

In order to verify that the installation succeeded do the following:

1. Log on to the WAP Server as Administrator.
2. Start IIS Management Console.
3. Check that the following IIS WEB Sites are created:
4. Logon on the SQL Server (SQL01) as SQL Administrator.
5. Open SQL Management Studio on the SQL Server as SA.
6. Check that the following Databases were successfully created:

|  |  |
| --- | --- |
| *Figure 6: Websites created after WAP Install* | *Figure 7: Databases created after WAP Install* |

**Configuring VMM and SPF**

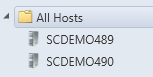
In this section we want to configure the following:

* Virtual Machine Manager (VMM) High Level Configuration
* Service Provider Foundation High Level Configuration

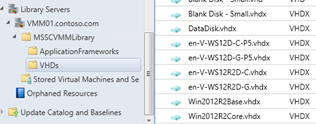
**Virtual Machine Manager (VMM) High Level Configuration**

Things to configure in SCVMM are the following in high level steps.

1. Logon to VMM Server as Administrator.
2. Start the VMM Console.
3. In the SCVMM console go to Fabric – Add Resources – Windows Server Computers in an AD Domain or Untrusted AD domain and add the Hyper-V host to VMM.



1. Once hosts have been added, copy one or more syspreped vhds to the VMM Library (e.g. \\vmm01\MSSCVMMLibrary\VHDs).



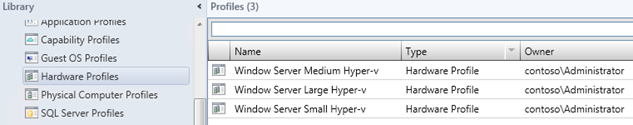
1. Now create one or more clouds in SCVMM (in this case we created two: Contoso and Fabrikam) and assign one or more logical networks to the cloud. Make sure you leave Capability Profiles unchecked.



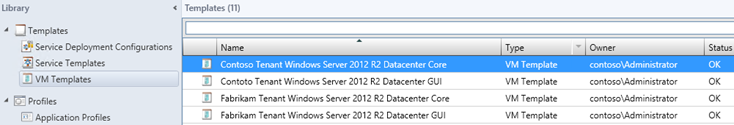
1. Under VM Networks, create a VM Network, a subnet and an IP Pool. Connect the VM Network to a logical network that was assigned to the cloud created earlier. (e.g. Contoso Tenant)



1. Then create one or more hardware profiles (for example, small, medium and large).



1. Create templates from the syspreped VHDs copied to the library (for example, Windows Server 2012 R2 Core and Windows Server 2012 R2 GUI).



NOTE: – when creating the VM templates, in Hardware Profiles it's not necessary to select one, for our example we created medium, then click next, and make sure that you select Create a new Windows Operating System Customization Settings, and select the operating system (for example, Windows Server 2012 R2 Datacenter). If this is not selected, the VM will not show up in the Windows Azure Pack Portal.

1. Select Settings.
2. Add the user under which the SPF Web Service (Application Pool) account is running to the Administrators group.
   1. Click Security > User Roles.
   2. Click Administrators > Members.
   3. Click Add and select the user that SPF Web Service (Application Pool) is running with. (e.g contoso\!spf).

**Service Provider Foundation High Level Configuration**

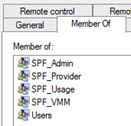
**Add a local user to SPF\_ local groups**

Things to configure in Service Provider Foundation are the following in high level steps.

1. Logon to the SPF Server as Administrator.
2. Start Computer Management.
3. Select Local User and Groups.
4. Create a user you want to use for SPF by right click Users > new user (e.g. spf)

Note: This is not the same as the SPF Web Service (Application Pool). This is a local user on the SPF Server.

1. Click on the user and select the "Member Of" tab.
2. Make the user member of all Groups starting with SPF\_,.

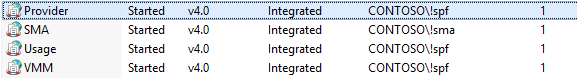


**Verify that the SPF Web Service is running under the right user credentials**

The way SPF executes commands against VMM will be in the context of the user under which the web service is running.

To verify that the SPF Web Service is running under the right service account do the following:

1. Login to the SPF server as an administrator
2. Start IIS Manager
3. Expand SPF Server > Sites and verify that SPF shows in the list.
4. Select Applications Pools under connection menu
5. Verify that both the VMM and Provider Application Pools are running under the account (Identity) that is also a member of the VMM Administrators (e.g. contoso\!spf)



**Configuring the Windows Azure Pack**

In this section we want to configure the following:

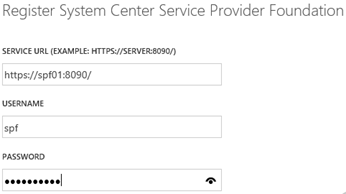
* Configuring VM Clouds Resource Provider in the Windows Azure Pack
* Configure SQL Servers Resource Provider in the Windows Azure Pack
* Configuring a plan in Windows Azure Pack
* Configure an Admin Account and a subscription in the Windows Azure Pack

To do this we need to do the following:

**Configuring VM Clouds Resource Provider in the Windows Azure Pack**

1. Logon to WAP Admin Portal as an administrator (e.g. [https://wap01.contoso.com:30091](https://wap01.contoso.com:30091/))
2. Finish the Intro tour and click Ok.
3. In the main window Select VM Clouds 
4. In the VM Clouds Window select Register System Center Service Provider Foundation.
5. Type the Service URL, Username and Password.

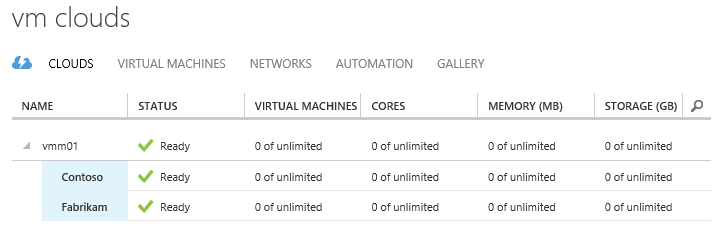
Note: the User name and password is the user created locally on the SPF server and which was added to the SPF groups (e.g. SPF01\spf).



1. Verify that the registration goes well.



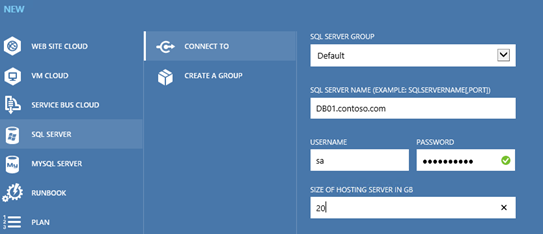
1. Register VMM: Go to VM Clouds – Clouds – Use an existing Virtual Machine Cloud Provider to Provision Virtual Machines, and provide the following info:
   1. Virtual machine manager server: vmm01
   2. Port number (optional):
   3. Remote Desktop Gateway:
   4. Click on register.
2. Verify that VMM Server registers correctly by selecting the server under clouds and verify that all clouds shows for the VMM Server.



**Configure SQL Servers Resource Provider in Windows Azure Pack**

Now we'll configure SQL Server for hosting. To do this do the following:

1. In the WAP Admin Portal go to SQL Servers
2. Click on Add an existing server to the hosting server group.
3. In the wizard provide the following information:
   1. SQL Server Group: Default
   2. SQL Server name: db01
   3. Username: sa
   4. Password: \*\*\*\*\*\*\*\*
   5. Size of hosting server in GB: 20



Note: The SQL Server used for the SQL server must have SQL Authentication enabled for the Service Provider service to work.

1. Verify that the following message shows in the status area.

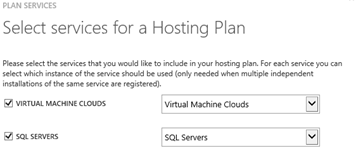


1. Under Servers there should now be a new SQL Server showing.



**Configuring a Plan in Windows Azure Pack**

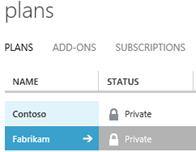
1. In the WAP Admin Portal go to Plans.
2. Click on + New -> PLAN -> CREATE PLAN.
3. Specify a name for the plan (e.g. Contoso).
4. Select the service that should be offered via the plan (e.g. Virtual Machine Clouds and SQL Servers) and click next.



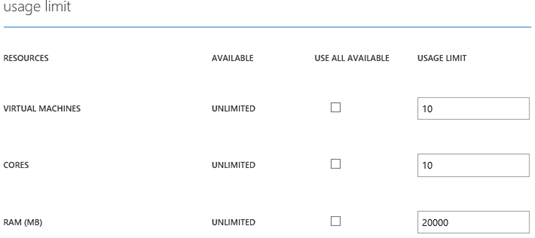
1. Skip add-ons and Click Ok.

Note: In our scenario we created two plans: Contoso and Fabrikam.

1. Under plan verify that the new Plan(s) shows in the list.



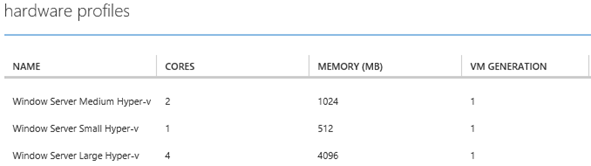
1. Click on the first plan created.
2. Under plan service click on Virtual Machine Clouds.
3. Select the VMM Server (There should only be one in the list).
4. Under Virtual Machine Cloud select the Cloud for which you would like to use with the plan (e.g. Contoso).
5. Under Usage limit specify the usage limits that the plan should use.



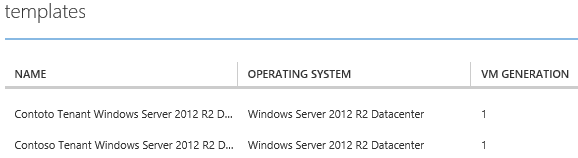
1. Under networks click Add network.
2. Select the VM networks that should be used for the plan and click Ok.



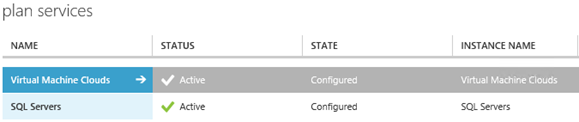
1. Click Add hardware profiles.
2. Select the hardware profiles that should be used for the plan and click Ok.



1. Click Add Templates and select the templates that should be used for the plan.

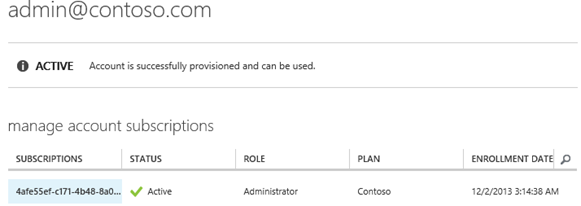


1. Under Additional settings select the actions that should be allowed within the plan
2. Click Save
3. Verify that the plan service shows as configured and Active for both services



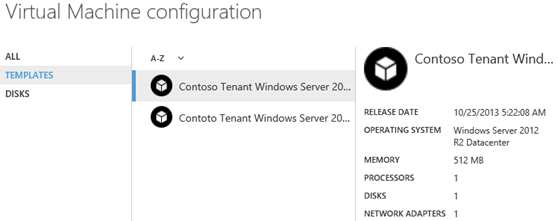
**Configure a Admin Account and a subscription in Windows Azure Pack**

1. In the WAP Admin main menu click User Accounts
2. Click + New -> User Account > Quick Create >
3. Provide the following information:
   1. E-mail: eg. admin@contoso.com
   2. Password: \*\*\*\*\*\*\*
   3. Select a plan (e.g. Contoso)
4. Click Create.
5. Click on the newly created user and verify that a subscription shows.



**Login as a Tenant and provision a VM and SQL Database to a Cloud.**

1. Open a browser and go to the WAP Tenant Portal (e.g. [https://wap01.contoso.com:30081](https://wap01.contoso.com:30081/))
2. Specify the user account created earlier and password (e.g. [admins@contoso.com](mailto:admins@contoso.com))
3. Click on Submit.
4. Finish the introduction wizard.
5. Click on Virtual Machines.
6. Click Create a virtual Machine Role.
7. Select Standalone Virtual Machine.
8. Select From Gallery -> Templates.
9. Select a template in the list and click Next.



1. Provide the following information of the VM.
   1. Name: e.g. Contoso01
   2. Password:
   3. Product Key

Note: Depending on what kind of sysperped image is used, it's necessary to provide a product key. Only if the image is build using a Volume License image it might not be needed to provide a product key.

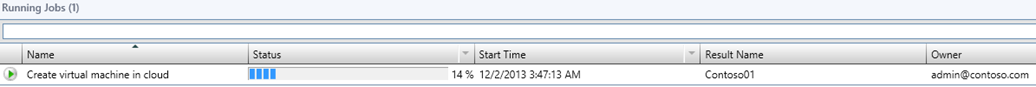
1. Select a network for the Virtual Machine e.g. Contoso Tenant (this is the network that was selected when creating the plan).



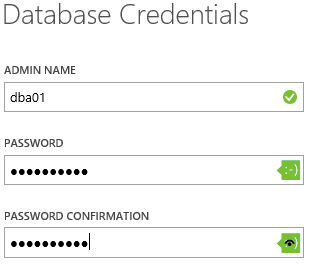
1. Click Next



1. Go to Virtual Machine Manager.
2. Start the VMM Console.
3. Select Job and Select Running
4. Verify that one job shows provisioning the virtual machine.



1. Go back to the WAP Tenant Portal.
2. Select SQL Server Databases.
3. Click Add a New Database.
4. Specify a Name for the Database (e.g. DB01).
5. Click Next.
6. Provide a User Name and a Password (e.g. dba01).



1. Click Ok to create the Database.
2. Verify that the job completes with success.



1. Click on All Items.
2. Verify that a VM and a Database shows in the list.

