

USAGE AND BILLING

For Windows Azure Pack

SETUP GUIDE

Usage and Billing for Windows Azure Pack setup and configuration guide

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INTRODUCTION

Usage and Billing for Windows Azure Pack has four components. All of these can be installed from their respective installers:

- I. API Service – IIS Web Application
- II. Aggregation Service – Windows Service
- III. Admin Extension – Windows Azure Pack Admin Portal Extensions
- IV. Tenant Extension – Windows Azure Pack Tenant Portal Extensions

These components can be installed on the same machine or multiple machines.

GENERAL PRE-REQUISITES

Following are some of the installation pre-requisites and checklist.

Cloud Assert Usage and Billing Database:

- a. Ensure that the Database server has at least 8 GB RAM and 4 Virtual CPUs. As Usage and Billing involves lots of data aggregations it is important to have a performant database server.
- b. (Optional) Create a SQL Database and note down the name. For example: CloudAssert.Billing.
- c. Create a database user with read-write, owner and admin privileges just to this database. This database needs db_datareader/db_datawriter permission for the following WAP databases.
 - Microsoft.MgmtSvc.PortalConfigStore
 - Microsoft.MgmtSvc.Store
 - Microsoft.MgmtSvc.Usage

INSTALLATION

Usage and Billing solutions can be installed in two different ways,

- *Single Machine Setup*
- *Distributed Multi-Machine Setup*

General Upgrade Installation Instructions

Pre-Uninstall Steps

1. Take a backup of Cloud Assert billing database and obtain the resource provider username and password settings from Usage and Billing API Service web.config.
2. Take backup of 'Web.config' file located at 'C:\inetpub\MgmtSvc-CloudAssertBilling'.
3. Take backup of 'CloudAssert.WAP.Billing.AgentService.exe.config' file located at 'C:\Program Files\CloudAssertBilling\CloudAssert.WAP.Billing.AgentService'.
4. Take a backup of 'Scripts' folder from 'C:\Program Files\CloudAssertBilling\CloudAssert.WAP.Billing.AgentService' folder if present.
5. Take a backup of the following files (If present) from 'C:\Program Files\CloudAssertBilling\CloudAssert.WAP.Billing.AgentService'.
 - a. CloudAssert.Billing.UsageExtensions.dll
 - b. System.Management.Automation.dll
 - c. CloudAssert.Billing.UsageExtensions
 - d. UsageExtensionsSettings.json
6. Take backups of 'Templates' folders present in 'C:\inetpub\MgmtSvc-CloudAssertBilling' and 'C:\Program Files\CloudAssertBilling\CloudAssert.WAP.Billing.AgentService'.

Uninstallation Steps

1. Uninstall existing Usage and Billing installers from Add or Remove Programs on the respective machines.
2. Delete 'CloudAssertBilling' from 'C:\Program Files' if present after uninstalling Billing Agent Service setup.

Pre – Installation Steps

1. For upgrading from version v1.9.0.22 to v1.9.1.11 (or) v1.9.2.*, the following has to be done before installing the latest build.
 - a. Download the SQL script from [here](#).
 - b. Execute the script in CloudAssertBilling database server

NOTE: Versions less than 1.9.0.22 will not need the script to be executed.

2. For upgrading from version v1.9.1.10 to v1.9.2.*
 - a. Download the SQL script from [here](#).
 - b. Execute the script in *CloudAssertBilling* database server.
3. For upgrading from version v1.9.1.11 to v1.9.2.*
 - a. Download the SQL script from [here](#).
 - b. Execute the script in *CloudAssertBilling* database server.

Post – Installation Steps

The post installation steps need to be followed after the ‘Billing Agent Service’ setup is installed.

1. Stop the billing agent service.
2. Replace the folder ‘*Templates*’ and its contents into ‘*C:\inetpub\MgmtSvc-CloudAssertBilling*’ and ‘*C:\ Program Files\ CloudAssertBilling\ CloudAssert. WAP. Billing. AgentService*’.
3. Replace the ‘*Scripts*’ folder and its contents into ‘*C:\ Program Files\ CloudAssertBilling\ CloudAssert. WAP. Billing. AgentService*’ folder.
4. Replace the following files into ‘*C:\ Program Files\ CloudAssertBilling\ CloudAssert. WAP. Billing. AgentService*’ folder.
 - a. *CloudAssert.Billing.UsageExtensions.dll*
 - b. *System.Management.Automation.dll*
 - c. *CloudAssert.Billing.UsageExtensions*
 - d. *UsageExtensionsSettings.json*
5. Open ‘*CloudAssert.WAP.Billing.AgentService.exe.config*’ file located at ‘*C:\ Program Files\ CloudAssertBilling\ CloudAssert. WAP. Billing. AgentService*’ and compare it with the backup file of the same name (*CloudAssert.WAP.Billing.AgentService.exe.config*). Enable the job processors that are enable in the backup file. For example, *UsageEventsProcessors*, *UsageExtensionProcessor*, etc.

```
<!-- Billing Usage Events Processor -->
<add key="UsageEventsProcessor.Enabled" value="true"/>
<add key="UsageEventsProcessor.ReadBatchSize" value="200"/>
<add key="UsageEventsProcessor.PollingIntervalSeconds" value="120"/>
<add key="UsageEventsProcessor.ErrorBackoffIntervalSeconds" value="240"/>
<add key="UsageEventsProcessor.IsMasterExpirationInSeconds" value="600"/>
```

6. If ‘*UsageExtensionProcessor*’ is enabled in the backup file, set true in the new file and also ensure the ‘*SettingsPath*’ is pointed to ‘*C:\ Program Files\ CloudAssertBilling\ CloudAssert. WAP. Billing. AgentService\ UsageExtensionsSettings.json*’ as seen below.

```
<add key="UsageExtensionsProcessor.Enabled" value="true"/>
<add key="UsageExtensionsProcessor.SettingsPath" value="C:\Program Files\CloudAssertBilling\CloudAssert.WAP.Billing.AgentService\UsageExtensionsSettings.json"/>
<add key="UsageExtensionsProcessor.ReadBatchSize" value="500"/>
<add key="UsageExtensionsProcessor.PollingIntervalSeconds" value="60"/>
<add key="UsageExtensionsProcessor.ErrorBackoffIntervalSeconds" value="120"/>
<add key="UsageExtensionsProcessor.IsMasterExpirationInSeconds" value="600"/>
```

7. Start the Billing agent service.

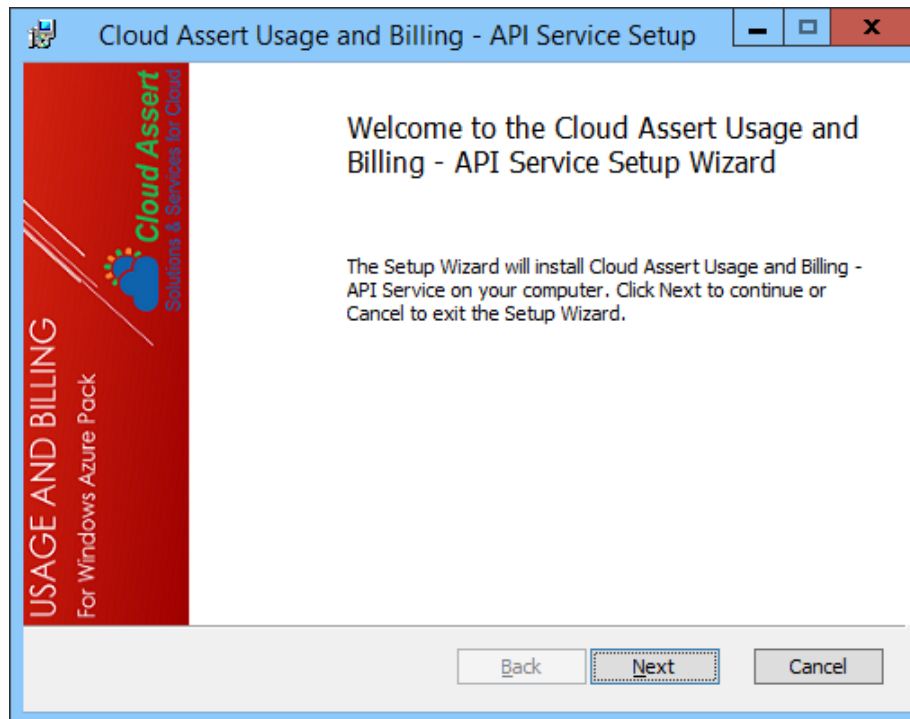
Single Machine Setup

If all the Windows Azure Pack (WAP) components like Admin Portal, Tenant Portal, etc. are setup in a single machine, then all the CloudAssertBilling installers can be installed in the same machine.

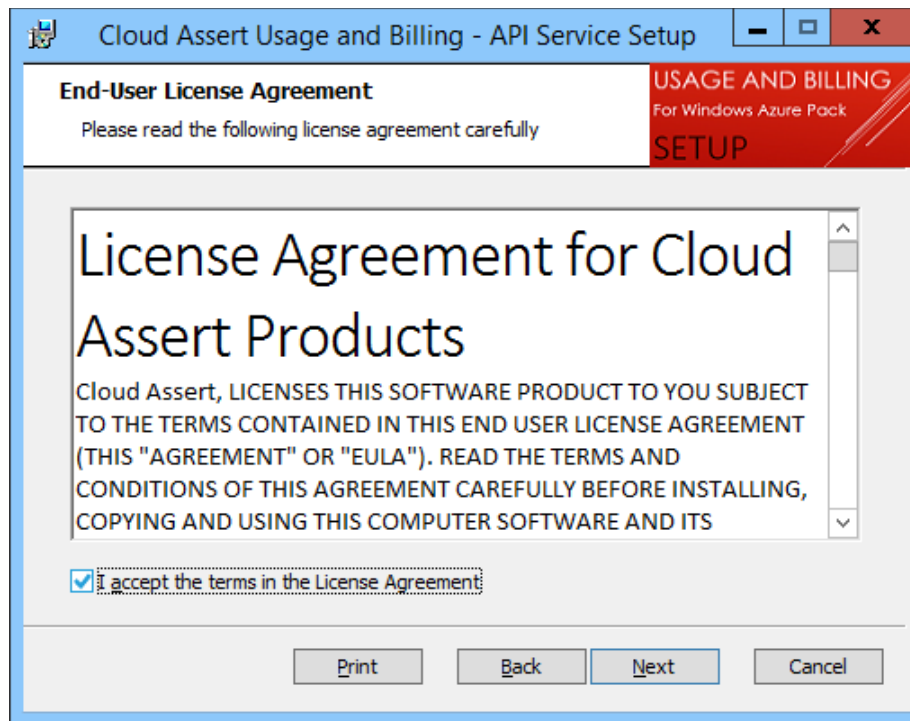
IMPORTANT NOTE: The agent service setup alone is installed after all the preliminary settings and configurations are done. The steps for it are discussed under [Step 10 – Installing Usage and Billing Agent Service](#) section.

1. INSTALL USAGE AND BILLING API SERVICE

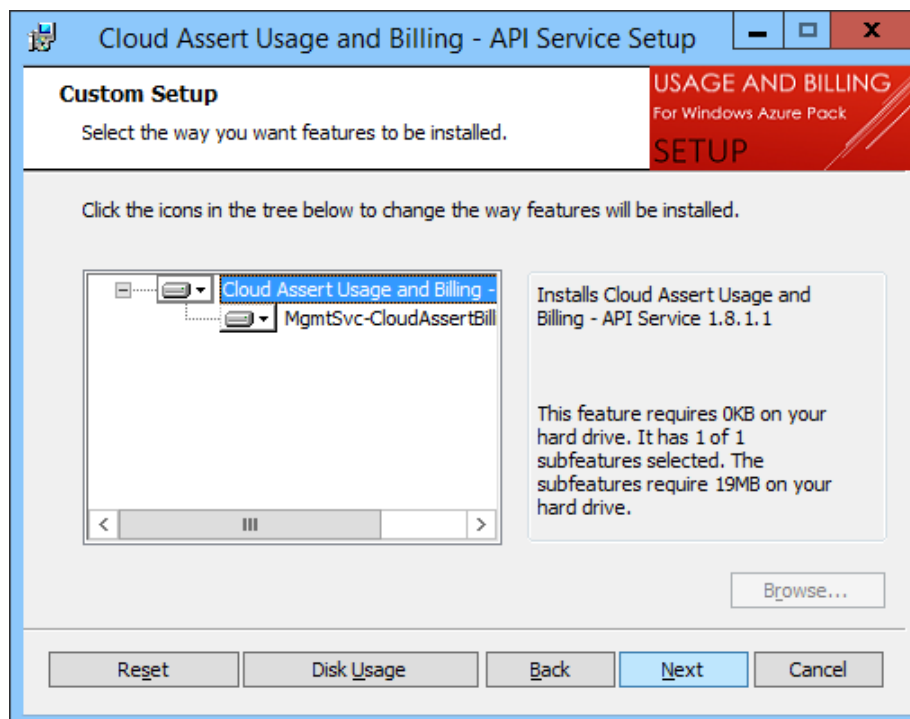
- 1.1. Download the 'CloudAssert.WAP.Billing.Service.Setup' installer after registering into <https://www.cloudassert.com/register>
- 1.2. Click on the installer and click 'Next' button.



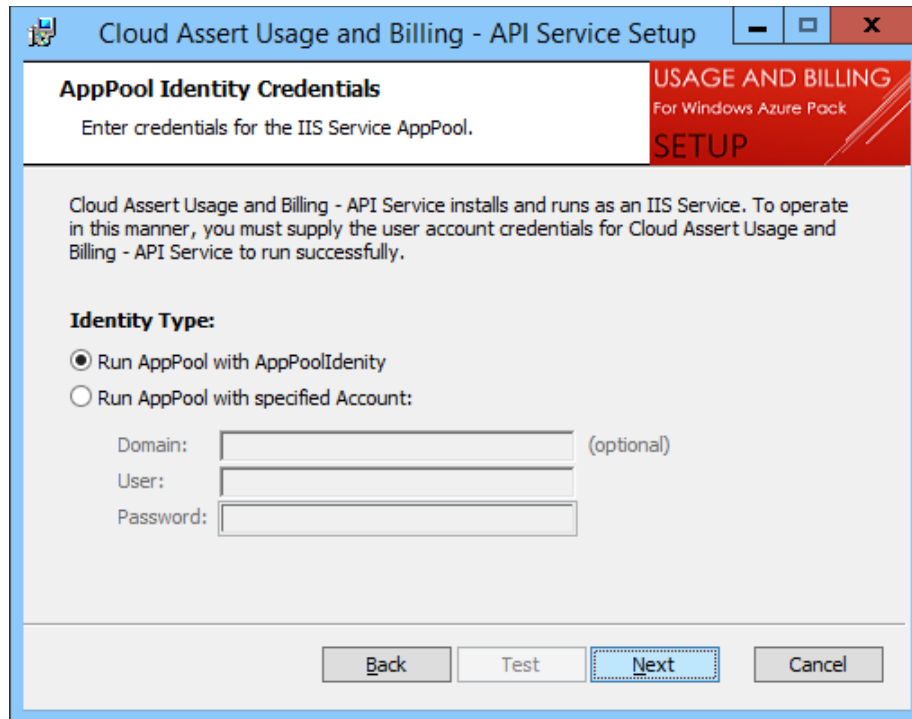
- 1.3. Click the 'I accept the terms in the License Agreement' check box to accept the EULA and click the 'Next' button.



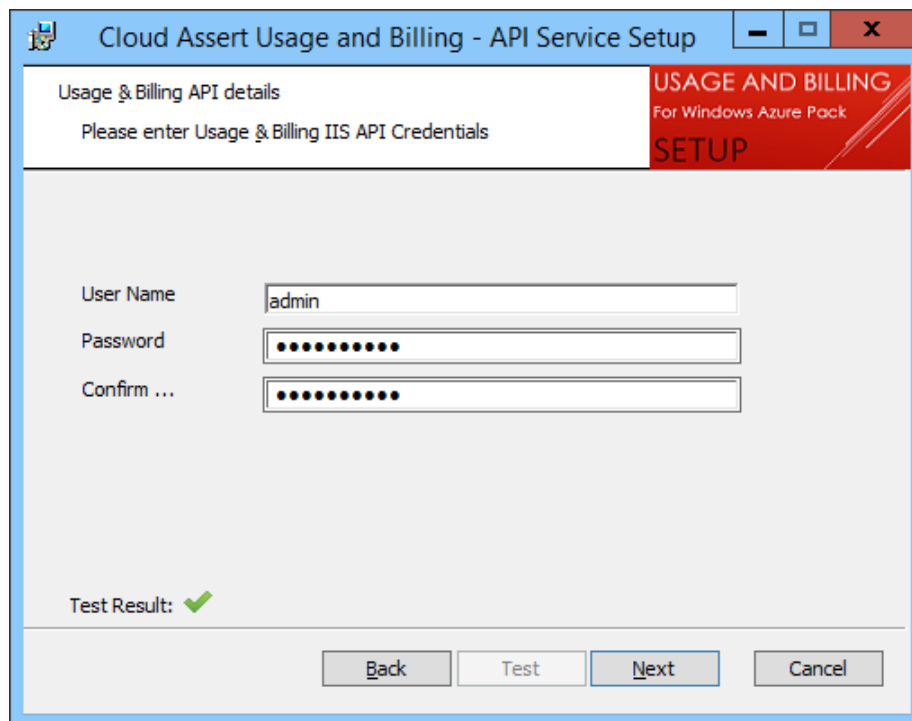
1.4. Click 'Next' button.



1.5. To install the API Service with AppPoolIdentity use the default option. Change the default option if a specific service account needs to be used to run the AppPool. Click the 'Next' button.



- 1.6. Set the user name and password for the API Service resource provider credentials and click the 'Test' button, if the 'Test Result' label displays a green tick mark click 'Next' button. Make a note of the user name and password that is set, it is used while installing the Billing Agent Service Setup.

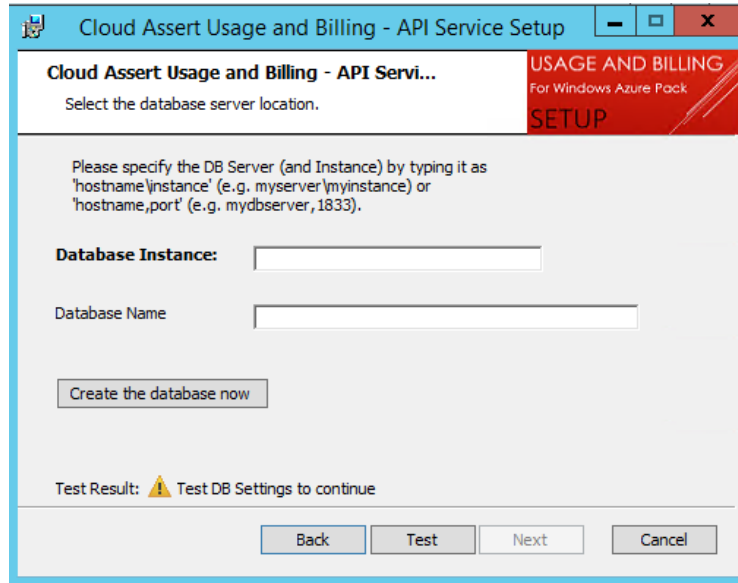


1.7. Specify the database server name, instance name (if any) under 'Database Instance'.

E.g.: 'myserver\myinstance' or 'myserver,portnumber'

1.7.1. Specify the database name (refer [GENERAL PRE-REQUISITES](#)) and click the 'Test' button.

1.7.2. If the 'Test Result' label displays a green tick mark click 'Next' button.

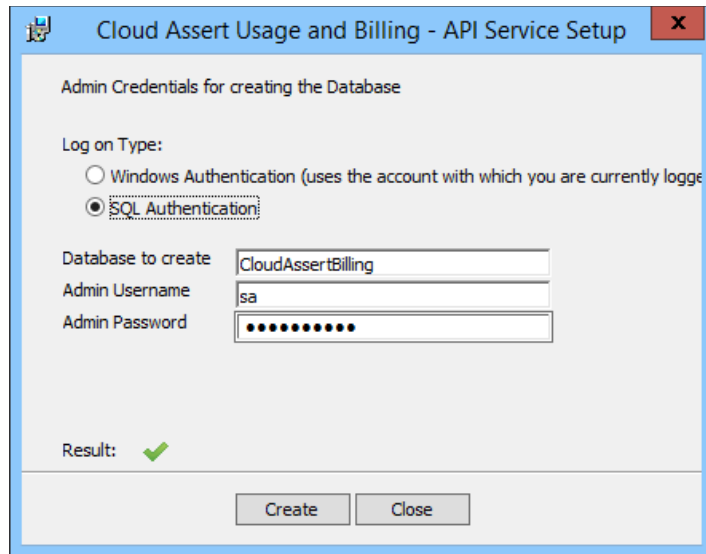


1.8. If the database is not created beforehand, specify the database server name and instance name (if any) under 'Database Instance' and click the 'Create the database now' button.

1.8.1. Select the type of login authentication and specify the database name, login user name and password.

1.8.2. Click 'Create' button, when the 'Result' label displays a green tick close the dialog box.

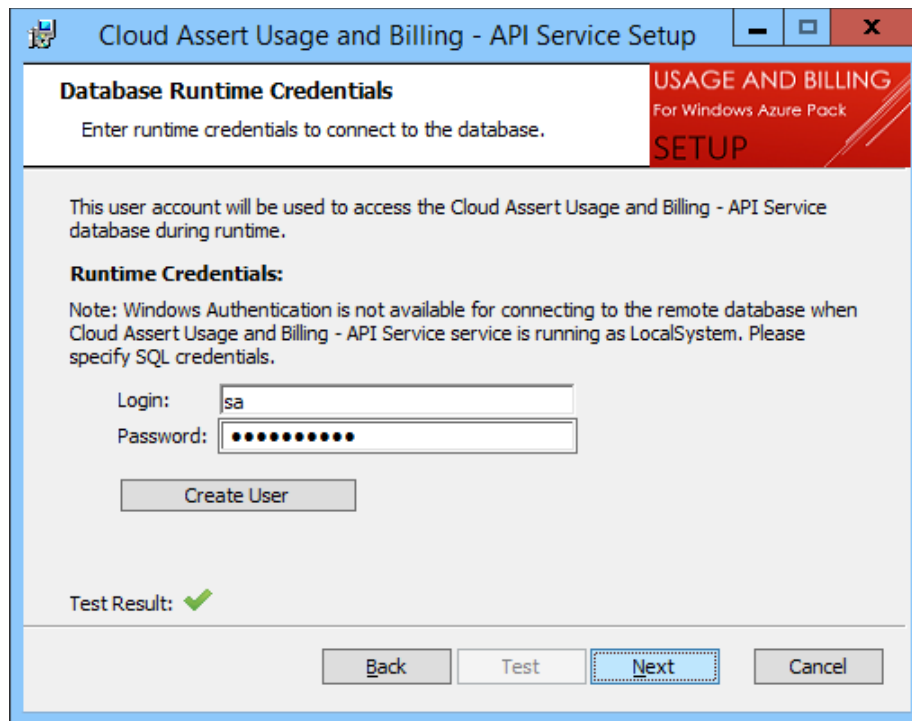
1.8.3. Repeat steps [1.7.1](#) and [1.7.2](#) .



1.9. Specify the login user name and password for the database created. (Example: CloudAssertBilling)

1.9.1. Click the 'Test' button.

1.9.2. If the 'Test Result' label displays a green tick mark click 'Next' button.

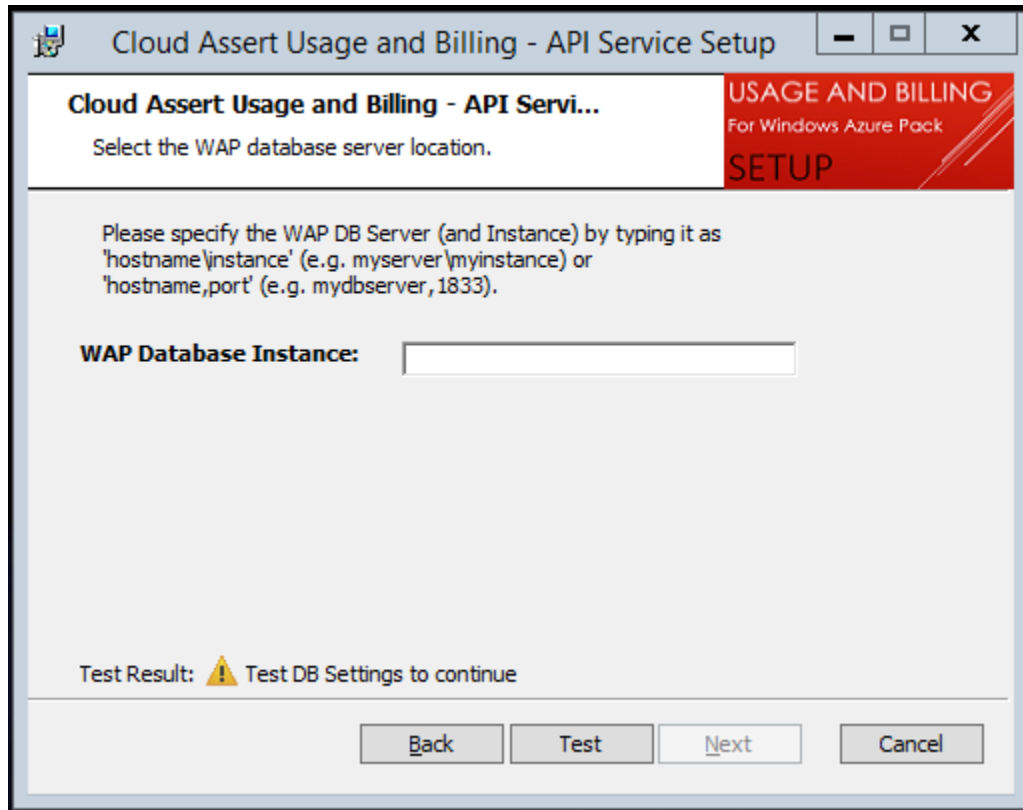


1.10. Specify the WAP database server name, instance name (if any) under 'WAP Database Instance'.

E.g.: 'myserver\myinstance' or 'myserver,portnumber'

1.10.1. Click the 'Test' button.

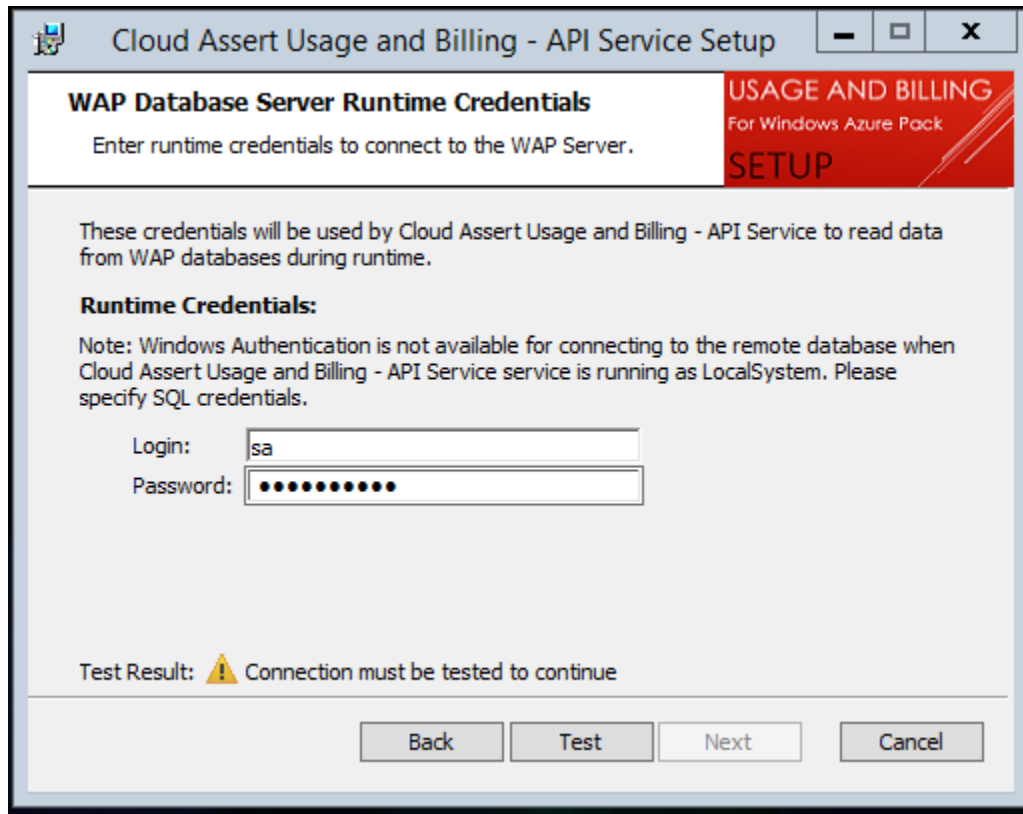
1.10.2. If the 'Test Result' label displays a green tick mark click 'Next' button.



1.11. Specify the login user name and password for the WAP database.

1.11.1. Click the 'Test' button.

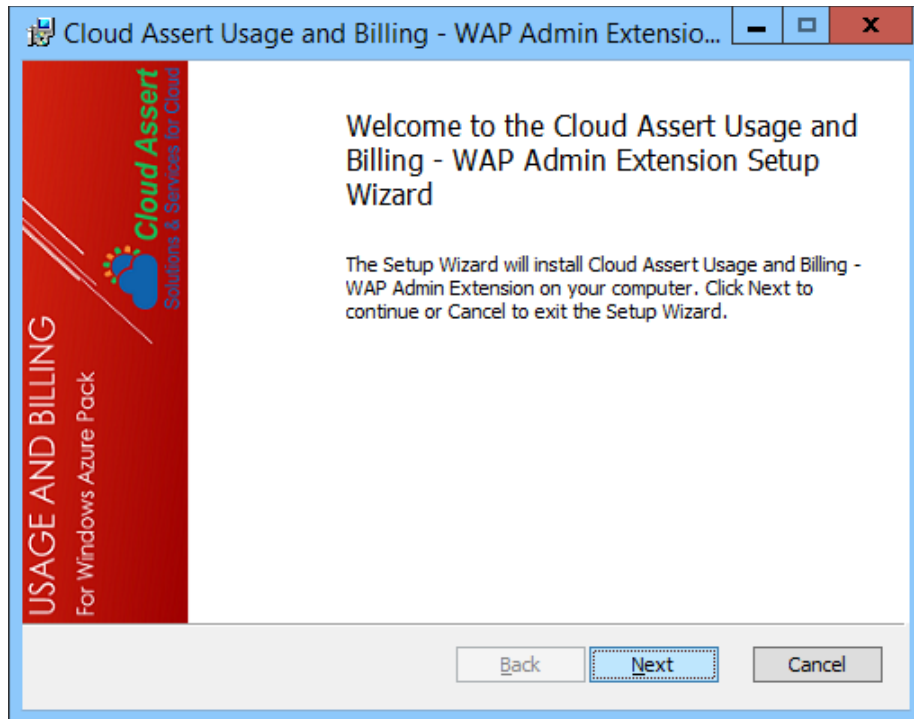
1.11.2. If the 'Test Result' label displays a green tick mark click 'Next' button.



- 1.12. Click 'Install' button to install the Usage and Billing – API Service, click 'Finish' button to exit the installer after completion of the installation.

2. INSTALL USAGE AND BILLING ADMIN EXTENSION

- 2.1. Download the 'CloudAssert.WAP.Billing.Extension.Admin.Setup' installer after registering into <https://www.cloudassert.com/register>
- 2.2. Click on the installer and follow instructions on the installer and click 'Next' till the installer finishes and then click 'Finish' to exit. Sample installer screens shown below:



3. INSTALL USAGE AND BILLING TENANT EXTENSION

3.1. Download the 'CloudAssert.WAP.Billing.Extension.Tenant.Setup' installer after registering into <https://www.cloudassert.com/register>

4.1. Click on the installer and follow instructions on the installer and click 'Next' till the installer finishes and then click 'Finish' to exit.

Distributed Multi-Machine Setup

If the Windows Azure Pack (WAP) components are installed in different machines in the distributed environment, then the Usage and Billing components are required to be installed on different machines respectively.

Note: For upgrade installations refer [General Upgrade Installation Instructions](#) .

IMPORTANT NOTE: The agent service setup alone is installed after all the preliminary settings and configurations are done. The steps for it are discussed under [Step 10 – Installing Usage and Billing Agent Service](#) section.

1. INSTALL USAGE AND BILLING API SERVICE

Pre-Requisites:

- Usage and Billing API Service can co-exist with other WAP Portal components, for example the Usage and Billing API Service can be installed on the same machine as WAP Admin API machine.
- It is better to install the Usage and Billing – API Service in each of the machines where WAP ‘**Admin-API**’ component is installed.
 - Ensure that the machine has at least 4 GB RAM, preferably 8 GB
 - Ensure that firewall is configured to allow access to inbound port 30045
 - Ensure that this machine can talk to the SQL database server on which the Usage and Billing database will be configured (refer [GENERAL PRE-REQUISITES](#)).
 - Ensure that IIS, Asp.Net MVC features and other features similar to the requirements for Windows Azure Pack portal installations are met.
 - Ensure that the machine can connect to internet if the Payment gateway feature is enabled (Licensed Feature).

1.1. Download the ‘CloudAssert.WAP.Billing.Service.Setup’ installer after registering into <https://www.cloudassert.com/register>

1.1. Repeat steps 1.2 to 1.10 from ‘*Install Usage and Billing API Service*’ under ‘*Single Machine Setup*’ section to complete the installation in each of the machines where WAP ‘Admin-API’ component is installed. .

2. INSTALL USAGE AND BILLING ADMIN EXTENSION

2.1. Logon to the machine on which WAP ‘**Admin-Site**’ is installed.

2.2. Download the ‘CloudAssert.WAP.Billing.Extension.Admin.Setup’ installers from:
<https://cloudassertdownloads.blob.core.windows.net/usage-rc/CloudAssert.WAP.Billing.Extension.Admin.Setup.msi>

2.3 Click on the installer and follow instructions on the installer and click ‘Next’ till the installer finishes and then click ‘Finish’ to exit.

2.4 Repeat the above steps for each machine in which WAP ‘**Admin-Site**’ is installed.

3. INSTALL USAGE AND BILLING TENANT EXTENSION

3.1 Logon to the machine on which WAP ‘**Tenant-Site**’ is installed.

3.2 Download the ‘CloudAssert.WAP.Billing.Extension.Tenant.Setup’ installers from:
<https://cloudassertdownloads.blob.core.windows.net/usage-rc/CloudAssert.WAP.Billing.Extension.Tenant.Setup.msi>


3.3 Click on the installer and follow instructions on the installer and click ‘Next’ till the installer finishes and then click ‘Finish’ to exit.

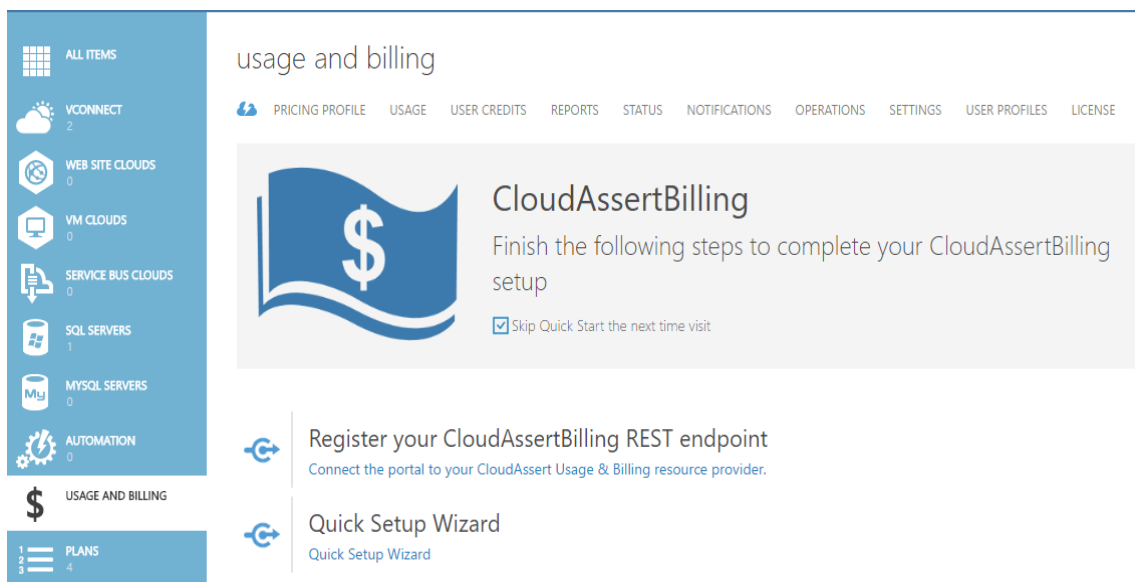
3.4 Repeat the above steps for each machine in which WAP ‘**Tenant-Site**’ is installed.

SETUP CONFIGURATION AND AGENT SERVICE INSTALLATION

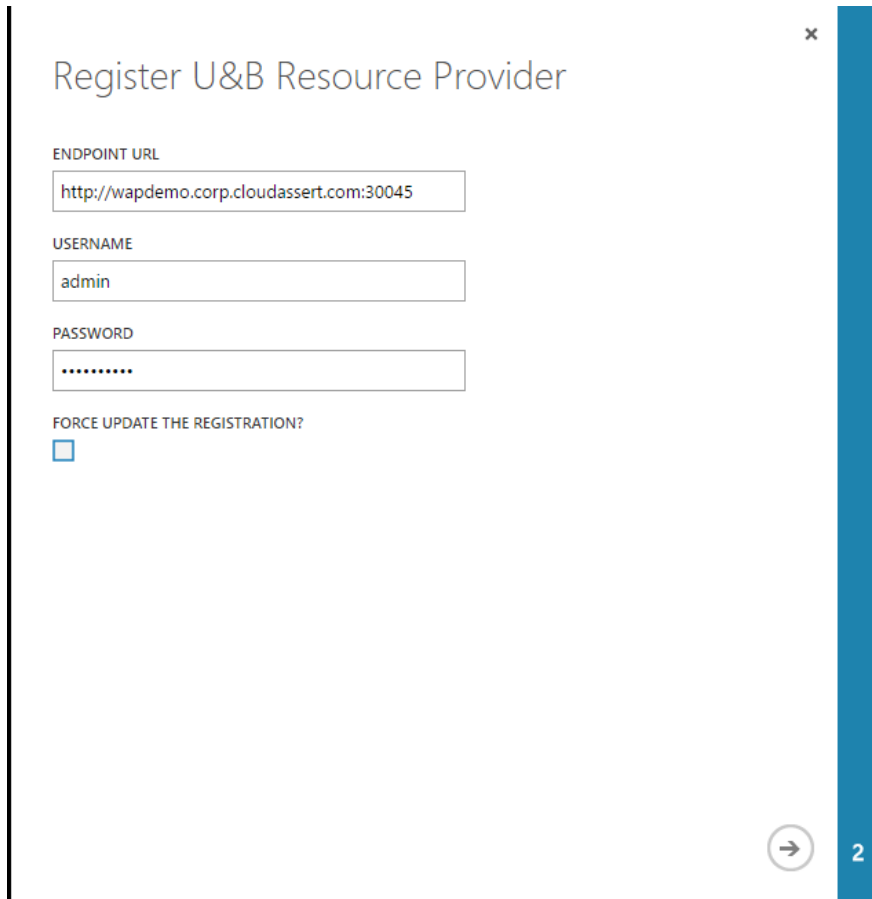
Step 1 - Register Usage and Billing Resource Provider with Windows Azure Pack

Note: If you are upgrading from a previously supported installation, the resource provider registration could be skipped as it might already be registered. If you changed the username or password on the previous step, then do not skip this step and must proceed with updates as mentioned below.

1. Logon to WAP Admin portal, click on Usage and Billing on the Left.
2. Click on the Quick Setup Icon .



3. Click '*Connect the portal to your CloudAssert Usage & Billing resource provider*'.
The following dialog box appears.



Register U&B Resource Provider

ENDPOINT URL

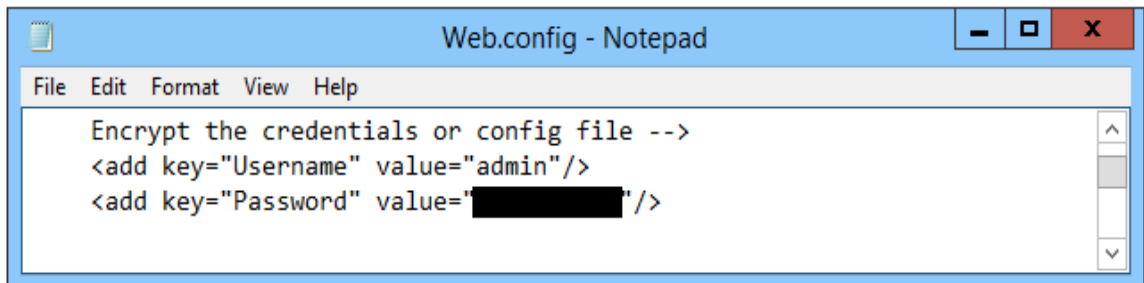
USERNAME

PASSWORD


FORCE UPDATE THE REGISTRATION?

→ 2

4. Enter the Endpoint URL for Usage and Billing API Service.
For example, '<http://CloudAssertBillingAPIServiceMachine:30045/>' or '<http://localhost:30045/>' for single machine setup.
5. Enter the username and password which was used for registering the Usage and Billing API service during the installation (*refer step 1.6 from [Install Usage and Billing API Service](#)*).
6. The username and password can also be obtained from the 'Web.config' file located in the machine where the Usage and Billing API Service is installed. The 'Web.config' file can be found in '*C:\inetpub\MgmtSvc-CloudAssertBilling*'.




```
Web.config - Notepad
File Edit Format View Help
Encrypt the credentials or config file -->
<add key="Username" value="admin"/>
<add key="Password" value="[REDACTED]"/>
```

7. Click  at bottom to complete the registration.
8. If the registration fails, check the username and password again with 'Web.config' of Usage and Billing API service and try again.

Step 2 – Configure Basic Settings for Usage and Billing

After registering the resource provider successfully, the basic settings such as 'Usage Processor Settings', 'WAP Server Settings', 'WAP Admin API Endpoint Settings' and 'Email notification Settings' (Optional) needs to be configured.

1. Logon to WAP Admin portal, click on Usage and Billing on the Left.
2. Click on the Quick Setup Icon .
3. Click 'Quick Setup Wizard'.

STEP 2.1 – CONFIGURING USAGE PROCESSOR SETTINGS

USAGEPROCESSORSETTINGS SETTINGS

Configure Settings

ENDPOINT URL

like https://wapa01.contoso.com:30022/usage

USERNAME

like UsageClient

PASSWORD

To get the Azure Pack usage endpoint user name via Windows Azure Pack Configuration PowerShell Command:

```
Get-MgmtSvcSetting -Namespace UsageService -Name Username
```

If the usage endpoint password is not known or this is the first time setting up a usage and billing solution, use following commands to setup both usage endpoint user name and password:

```
Set-MgmtSvcSetting -Namespace UsageService -Name Username -Value [yourUserName]
Set-MgmtSvcSetting -Namespace UsageService -Name Password -Value [password] -Encode
```

1 ← → 3 4 5

1. Enter the Endpoint URL of WAP Usage Service.
For example, '**http://WAPUsageServiceMachine:30022/usage**'.
2. To get the Azure pack usage endpoint user name, open 'Windows Azure Pack Configuration PowerShell' and type the following command:
Get-MgmtSvcSetting -Namespace UsageService -Name Username
3. If the usage endpoint password is not known or if this is the first time setting up the Usage and Billing solution, use following commands to setup both usage endpoint user name and password:
Set-MgmtSvcSetting -Namespace UsageService -Name Username -Value [yourUserName]
Set-MgmtSvcSetting -Namespace UsageService -Name Password -Value [password] -Encode
4. Enter the username and password in the quick setup wizard and click next.

STEP 2.2 – CONFIGURING WAP DATABASE SERVER SETTINGS

WAPSERVERINFO SETTINGS

Configure Settings

DATABASE SERVER

USE INTEGRATED SECURITY

USER

PASSWORD

1 2 4 5 6

1. Enter the WAP database Server name.
2. Specify the SQL authenticated User name and Password.
3. Click next.

STEP 2.3 – CONFIGURING WAP ADMIN API ENDPOINT SETTINGS

WAPADMINAPIENDPOINTSETTINGS SETTINGS

Configure Settings

ENDPOINT URL

 like https://wapa01.contoso.com:30004

USER DOMAIN

USERNAME

PASSWORD

AUTHENTICATION TYPE

ADMIN AUTH SITE ENDPOINT

ADMIN LOGON TYPE

WAP MEMBERSHIP DB CONNECTION STRING

like "Data Source=localhost; User Id=sa; Password=YOUR_PASSWORD; Initial Catalog=Microsoft.MgmtSvc.PortalConfigStore;" without the quotes

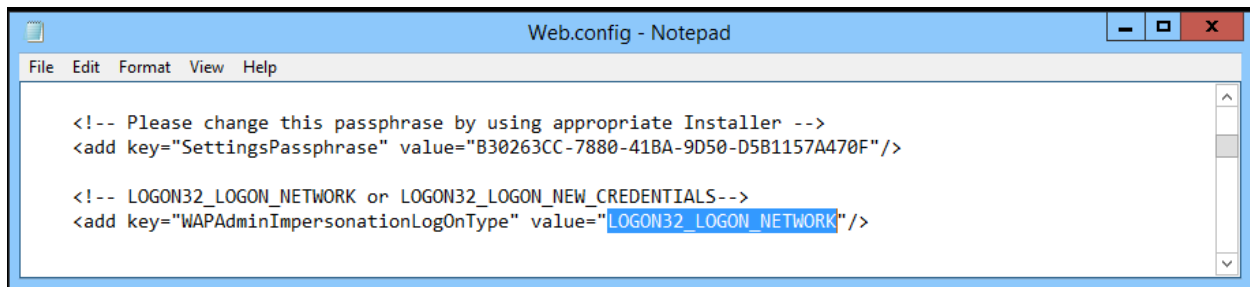
4. Enter the Endpoint URL of WAP Admin API.
For example, **https://AdminAPIMachine:30004**.
5. Specify the Domain name if any.
6. Specify the username and password of the machine in which the WAP Admin API Component is installed.

Note: The username that has to be specified is the user that has permission to access the Windows Azure Pack Admin portal. To know the active admin users open **Windows Azure Pack Configuration Powershell** and execute the cmdlet **Get-MgmtSvcAdminUser**. To add a new admin user, execute the cmdlet **Add-MgmtSvcAdminUser -Principal "Domain\user"** by replacing the Domain and user name accordingly.

7. Select the authentication type 'WINDOWS' or 'ADFS'.
8. Enter the Endpoint URL of WAP WindowsAuthSite.
For example, '**https://WindowsAuthSiteMachine:30072**'.
9. Select the admin logon type. Some of the Logo types are as follows

```
LOGON32_LOGON_BATCH
LOGON32_LOGON_INTERACTIVE
LOGON32_LOGON_NETWORK
LOGON32_LOGON_NETWORK_CLEARTEXT
LOGON32_LOGON_NEW_CREDENTIALS
LOGON32_LOGON_SERVICE
LOGON32_LOGON_UNLOCK
```

10. Logon type can also be directly given in 'Web.Config' file located in the machine where the Usage and Billing API Service is installed. The 'Web.config' file can be found in '*C:\inetpub\MgmtSvc-CloudAssertBilling*'.



11. Enter the WAP membership database connection string as
'Data Source=WAP Server/instance name;User Id=WAP SERVER USERNAME; Password=WAP SERVER PASSWORD; Initial Catalog=Microsoft.MgmtSvc.PortalConfigStore;'
12. Click next.

STEP 2.4 – CONFIGURING EMAIL NOTIFICATION SETTINGS (OPTIONAL)

EMAILNOTIFICATIONSETTINGS SETTINGS

Configure Settings

SMTP HOST
like smtp.googlemail.com

SMTP PORT
like 587

SHOULD AUTHENTICATE WITH SMTP SERVER?

SMTP USER
like cloudassert@gmail.com

SMTP PASSWORD

ADMIN EMAIL IDS (COMMA SEPARATED)

USE SSL TO TALK TO SMTP SERVER?

TENANT PORTAL URL
Azure Pack Tenant Portal URL. Used in email templates

1 2 3 ← → 5

1. Specify the SMTP host name or IP address.
2. Specify the SMTP Port number.
3. Check '*SHOULD AUTHENTICATE WITH SMTP SERVER?*' if the SMTP server requires authentication.
4. Enter the SMTP user id and password. (valid email-id and its password)
5. Check '*USE SSL TO TALK To SMTP SERVER?*' if the SMTP server uses SSL.
6. Specify the '*ADMIN EMAIL ID(S)*', each email id needs to be separated by a comma (,). The notification email is delivered to the email id(s) specified here.
7. Enter the tenant URL.
8. For example, '**https://TenantSiteMachine:30081**'.
9. Click next to complete the basic settings.

Note: Configuring 'Email' notification settings will enable automatic email notifications to users upon successfully subscription creation, deletion, suspension of subscription, invoice warning and due date notification, etc.

STEP 3 – Activating License

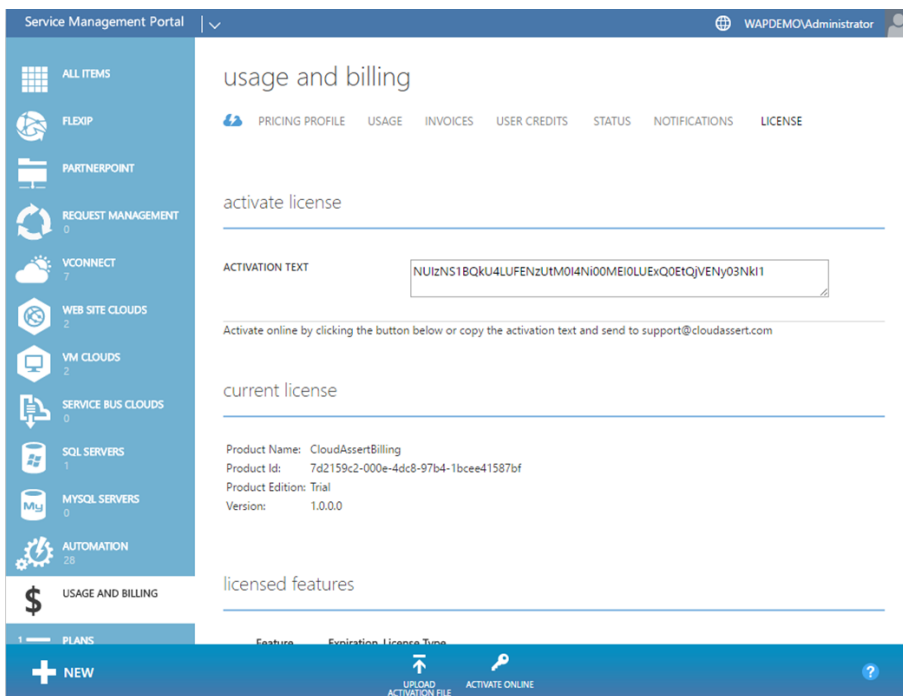
STEP 3.1 - STEPS FOR ACTIVATION

There are two ways to activate the license, first one is online directly from the WAP Usage and Billing Admin Page and the second one is manually via email.

3.1.1 ACTIVATE ONLINE

To activate online, Usage and Billing API service needs to have access to internet. If Admin deployment is inside an isolated network that doesn't have access to internet, please skip this section and follow the steps mentioned in 'Activate via Email'.

1. Navigate to WAP Admin Portal → Usage and Billing → License Tab.
2. Click on the 'Activate Online' button:



3. In the resulting dialog enter license key and email id associated with the license.

ACTIVATE ONLINE

Enter License Details

LICENSE KEY

EMAIL ID

4. Click the submit button and if everything is valid, installation will be activated and administrator will see the confirmation message.

3.1.2 Activate Via Email

If Usage and Billing API Service installation is not connected to internet follow the steps below to activate manually.

1. Navigate to WAP Admin Portal → Usage and Billing → License Tab.
2. Copy the 'Activation Text' and email to 'support@cloudassert.com'.
3. We will generate activation file and reply to you in email.
4. Admin can then 'Upload' the activation file via the Upload button in the License Tab.

STEP 3.2 - CONSIDERATIONS FOR MULTIPLE INSTANCES OF USAGE AND BILLING AND OFFLINE ACTIVATION

When there are more than one Usage and Billing API service deployed for high availability scenarios, the activation must be done multiple times for each of the machine. Currently this cannot be achieved through the admin portal online activation. Follow the steps below to manually activate each installation.

1. Identify a machine in your labs that has internet access, and in that machine download '[VConnect.zip](#)' and extract all the files to a local folder.
2. On each machine that has Usage and Billing API service installed, do the following:
 - a. Copy the VConnect extracted files to the machine's local folder.
 - b. Open a command prompt with 'Run as administrator' and go to the local folder that contains the extracted files.
 - c. Run 'VConnect.exe GetActivationText' and copy the activation text in the result.

- d. Now, go back to the machine identified in Step 1, and open a command prompt with 'Run as administrator' and go to the local folder that contains the extracted VConnect.zip files.
 - e. Run 'VConnect.exe ActivateOffline **licenseKey emailId activationText**', by editing the highlighted text as follows:
 - i. Replace licenseKey and emailId with the values shared earlier
 - ii. Replace activationText with the activation text identified in Step 2.c above
 - f. The above step will generate a License.cal file in the same folder as VConnect.exe. Copy the 'License.cal' file.
 - g. Now go back to the Usage & Billing API service VM where Step 2.c was executed, and paste the generated activation file 'License.cal' in the Usage & Billing API Service bin directory: [C:]\inetpub\MgmtSvc-CloudAssertBilling\bin.
 - h. Recycle the MgmtSvc-CloudAssertBilling application pool using IIS manager.
3. Make sure to perform the above steps by keeping one node in the cluster at a time.
 4. Now if you go to WAP Admin Portal → Usage & Billing → License tab, you should see the production license quotas properly.

Please contact us at support@cloudassert.com for any questions.

Step 4 – Configuring Tenant Site

Once all the basic settings are configured, it is mandatory to configure the 'Web.config' file of the WAP tenant Site.

1. Logon to the machine where WAP Tenant site component is installed.
2. Open 'Windows Azure Pack Configuration PowerShell' and type the following command

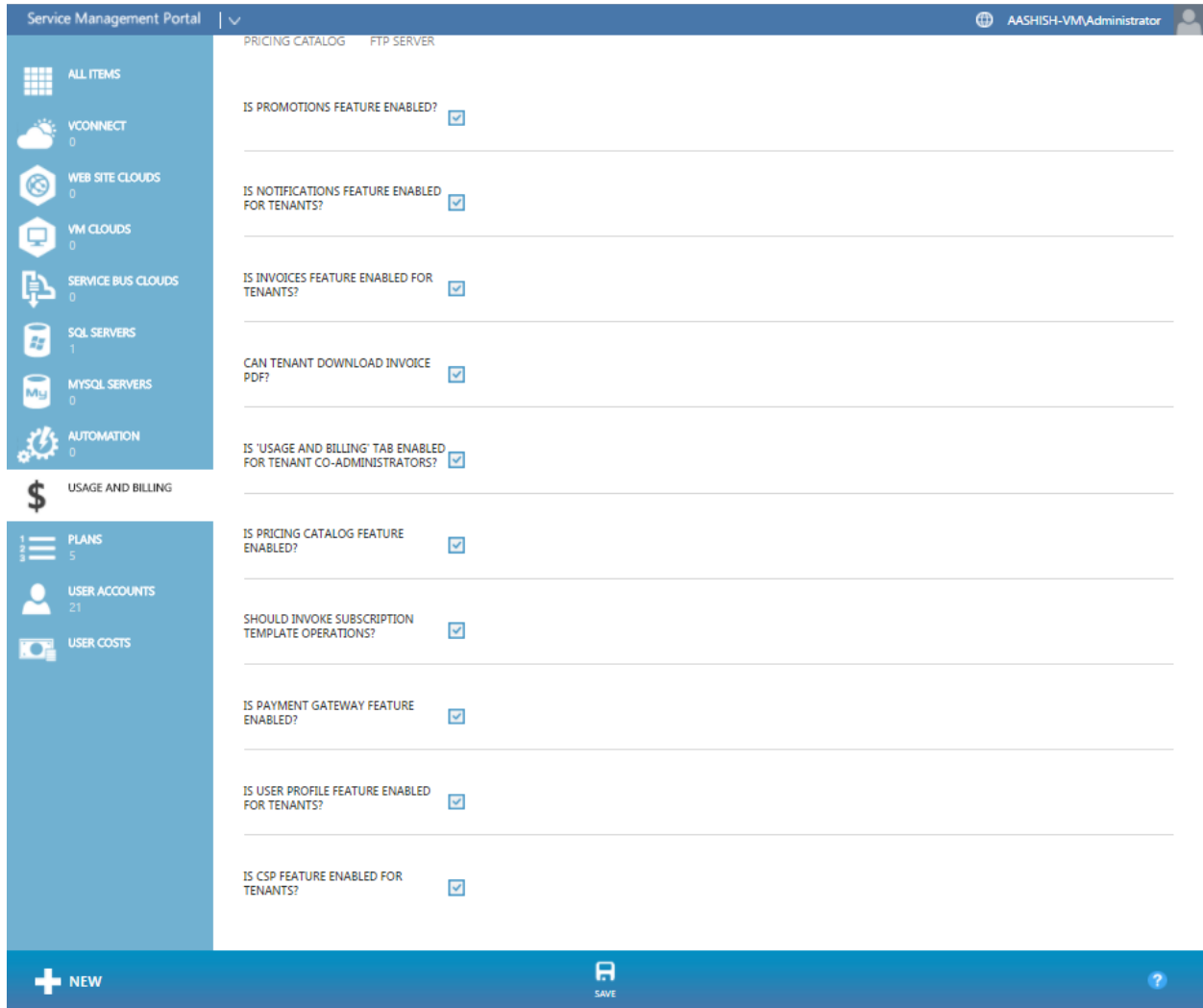

```
Unprotect-MgmtSvcConfiguration -Namespace "TenantSite"
```
3. Navigate to 'C:\inetpub\MgmtSvc-TenantSite' and open 'Web.config' file.
4. Add the following lines under <appSettings> tag:
 - <add key="CloudAssertBilling.Endpoint" value="http://**Cloud Assert Billing API Service Machine:30045**/" />
 - <add key="CloudAssertBilling.Username" value="**username used for registering Usage and Billing Resource provider**" />
 - <add key="CloudAssertBilling.Password" value="**password used for registering Usage and Billing Resource provider**" />
5. Refer '[Step 1 - Register Usage and Billing Resource Provider with Windows Azure Pack](#)' section for knowing the endpoint, username and password.
6. Once the three settings are added save the 'Web.config' file.
7. Give the following command in 'Windows Azure Pack Configuration PowerShell'


```
Protect-MgmtSvcConfiguration -Namespace "TenantSite"
```

Step 5 – Enabling/Disabling Product Features

Once the basic settings have been configured the product feature of Usage and Billing can be enabled or disabled.

1. Logon to WAP Admin portal, click on Usage and Billing on the Left.
2. Click on the 'SETTINGS' Tab.
3. Click 'PRODUCT FEATURES' sub tab.



4. Each of the product feature can be enabled or disabled by checking or unchecking the checkboxes and clicking the 'SAVE' button below.

The following are the description of each product feature that are available in Usage and Billing solution.

IS PROMOTIONS FEATURE ENABLED?

The Promotion Feature is used to create a pricing profile with either One-Time credit or Recurring credit. One-Time credit is given for a fixed number of days for which the tenant need not pay. Recurring credit is a fixed amount that is credited recursively on every month for the tenant.

IS NOTIFICATIONS FEATURE ENABLED FOR TENANT?

The notification feature is used to indicate the tenant that the credit is running low. It sends a notification message to the tenant when the credit limit is met. The administrator can set the credit limit that has to be met in order to send the notification message. Notification can be configured from '*NOTIFICATIONS*' tab under Usage and Billing admin portal.

IS INVOICE FEATURE ENABLED FOR TENANTS?

Enabling this feature allows the tenants to view their invoices. The tenants can also view all their invoices till the previous month (i.e.) invoices from the first month of subscription to the previous month.

CAN TENANT DOWNLOAD INVOICE PDF?

Enabling this feature allows the tenants to download their invoice in a PDF format. In order for this feature to work, the '*IS INVOICE FEATURE ENABLED FOR TENANTS?*' needs to be enabled.

IS 'USAGE AND BILLING' TAB ENABLED FOR TENANT CO-ADMINISTRATORS?

This feature is enabled by default. Disabling this feature hides the 'Usage and Billing' extension from tenant portal for users who are co-administrators of a tenant.

IS PRICING CATALOG FEATURE ENABLED?

The Pricing Catalog Feature allows the tenants to subscribe a plan or add-ons from WAP tenant portal→Usage and Billing→Marketplace tab. Disabling this feature removes the 'Marketplace' tab from the Usage and Billing tenant portal.

SHOULD INVOKE SUBSCRIPTION TEMPLATE OPERATION?

Enabling this feature allows the administrator to implement invocation of custom scripts when subscriptions are created, updated, or deleted by the tenant. The details of the custom script execution are displayed under Admin portal '*OPERATIONS*' tab.

IS PAYMENT GATEWAY FEATURE ENABLED?

This is a licensed feature and it might not be available for trial versions of Usage and Billing solutions. Enabling the feature allows the admin and tenants to pay their invoices through an integrated payment gateway.

IS USER PROFILE FEATURE ENABLED?

This is yet another licensed feature of Usage and Billing solutions. Enabling the feature mandates the tenants to complete a user profile in order to use all the services provided by Usage and Billing.

Note: in-order for Payment gateway to work, both payment gateway feature and user profile feature needs to be enabled.

IS CSP FEATURE ENABLED?

This is yet another licensed feature of Usage and Billing solutions. Enabling the feature will allow the tenants to create customer profile, create users, buy license/add-ons and assign licenses to users in Microsoft partner center from within Usage and Billing Solutions.

Step 6 – Configure Invoice Settings

This is an optional setting that can be configured any time once the basic settings is configured.

1. Logon to WAP Admin portal, click on Usage and Billing on the Left.
2. Click on the 'SETTINGS' Tab.
3. Click 'INVOICE' sub tab.

The screenshot displays the 'usage and billing' configuration interface. The left sidebar contains navigation options: ALL ITEMS, WEB SITE CLOUDS (0), VM CLOUDS (0), SERVICE BUS CLOUDS (0), SQL SERVERS (1), MYSQL SERVERS (0), AUTOMATION (0), USAGE AND BILLING (selected), PLANS (6), USER ACCOUNTS (14), and USER COSTS. The main content area is titled 'usage and billing' and includes a breadcrumb trail: PRICING PROFILE > USAGE > USER CREDITS > REPORTS > STATUS > NOTIFICATIONS > OPERATIONS > SETTINGS > USER PROFILES > LICENSE. Below this, a sub-menu lists: DATABASE, USAGE PROCESSOR, WAP ADMIN API, API SECURITY, PRODUCT FEATURES, INVOICE (selected), EMAIL, WHMCS, and PRICING CATALOG. The 'INVOICE' settings are as follows:

- HEADER CONTENT:
- FOOTER CONTENT:
- INVOICE DUE DATE (IN A GIVEN MONTH):
- NUMBER OF DAYS PRIOR TO DUE DATE FOR SENDING REMINDER E-MAIL:
- COMPANY LOGO PATH:
- COMPANY LOGO POSITION:

At the bottom of the page, there are three buttons: '+ NEW', 'SAVE', and a help icon (?).

4. Specify the content to format how the Invoice PDF should look like.
5. Set the *'INVOICE DUE DATE (IN A GIVEN MONTH)'* to send an email notifying the due date to the tenant every month on the specified date. (Optional setting)
6. If the *'INVOICE DUE DATE'* is set, then set the *'NUMBER OF DAYS PRIOR TO DUE DATE FOR SENDING REMINDER E-MAIL'* to send a reminder email notifying the tenant that the due date is approaching (Optional setting even if *'INVOICE DUE DATE'* is set).
7. Set *'TAX RATE (IN %)'* to include the tax amount of the total cost in the invoice. (Optional Setting)
8. Check *'APPLY TAX?'* checkbox in order for the tax rate to take effective.

A screenshot of a configuration form. At the top, there is a label 'APPLY TAX?' followed by a checked checkbox. Below the checkbox is the text 'Tax Rate takes effect only when this is checked'. Below this section is a horizontal line. Underneath the line, there is a label 'TAX RATE (IN %)' followed by a text input field containing the number '10'.

9. Check/Uncheck *'PRORATE MONTHLY FIXED FEE IN PRICING PROFIES?'* to enable/disable proration of fixed fee.
10. Check/Uncheck *'PRORATE FIXED FEE ADD-ONS?'* to enable/disable proration of fixed fee of Add-Ons.

A screenshot of a configuration form showing two checkboxes. The first checkbox is labeled 'PRORATE MONTHLY FIXED FEE IN PRICING PROFIES?' and is checked. Below it is a horizontal line. The second checkbox is labeled 'PRORATE FIXED FEE ADD-ONS?' and is also checked.

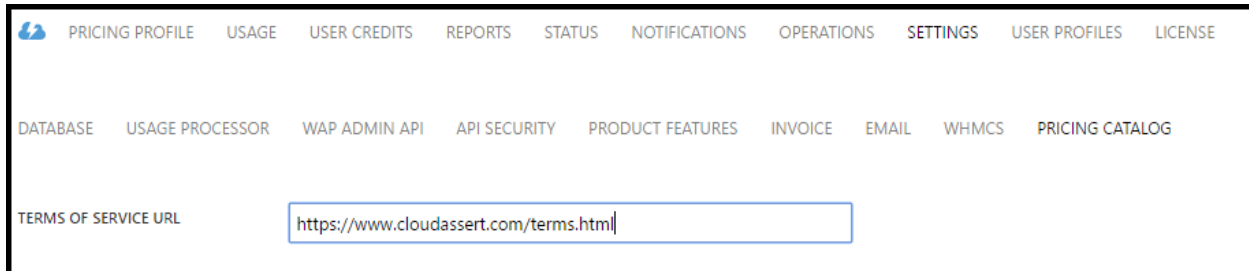
NOTE: The *'APPLY TAX?'* check box is available for versions higher than v1.9.0.2.

The *'PRORATE MONTHLY FIXED FEE IN PRICING PROFIES?'* and *'PRORATE FIXED FEE ADD-ONS?'* check box will be available for versions higher than 1.9.2.12.

Step 7 – Configure Pricing Catalog Terms of Service URL

The pricing catalog terms of service URL needs to be set if the Pricing Catalog feature is enabled from Settings → Product features tab.

1. Logon to WAP Admin portal, click on Usage and Billing on the Left.
2. Click on the '*SETTINGS*' tab.
3. Click '*PRICING CATALOG*' sub tab.

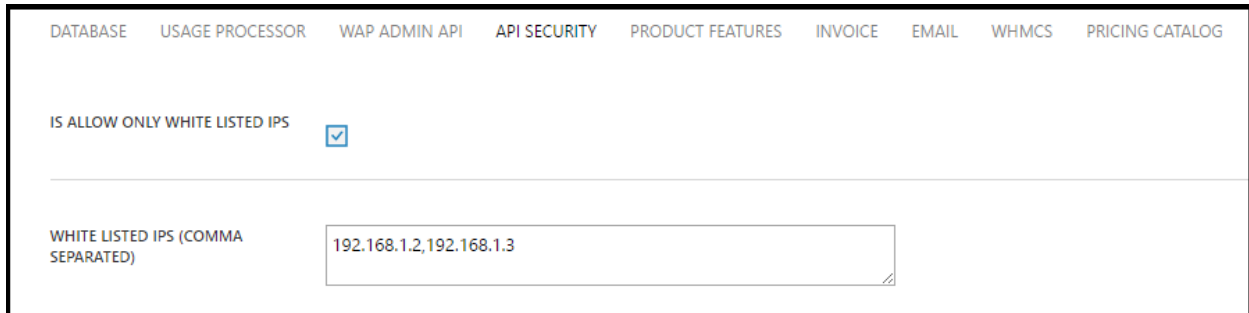


4. Specify the URL to the Terms of Service page and click save button at the bottom.

Step 8 – Configure API Security

The API Security tab allows the admin to specify the whitelisted IPs of machines which can make use of the Usage and Billing API directly.

1. Logon to WAP Admin portal, click on Usage and Billing on the Left.
2. Click on the '*SETTINGS*' tab.
3. Click '*API SECURITY*' sub tab.



4. Check the '*IS ALLOW ONLY WHITE LISTED IPS*' and specify the list of IPs separated by comma.
5. Click '*SAVE*' button.

Step 9 – Customizing MARKET PLACE Tab

The marketplace is tab in tenant portal from which the users can subscribe for any public plan. Admin can advertise a plan by customizing it from the Pricing profile tab of Usage and Billing.

1. Logon to WAP Admin portal, click on Usage and Billing on the Left.
2. Click on the '*PRICING PROFILE*' tab.

- Select a desired pricing profile and click edit button.

✕

PLAN PRICING DETAILS

PROFILE NAME

SET MONTHLY FEE?

MONTHLY FEE

APPLY STANDARD TAX RATE?

PROMO TYPE Recurring Monthly One-Time

PROMO CREDIT AMOUNT

UPDATE PROMO CREDIT TO EXISTING SUBSCRIPTIONS?

MINIMUM COMMITMENT DURATION DAYS

REGION

CURRENCY TEXT

CURRENCY SYMBOL

→ **2**

- Click Next button.

PRICING CATALOG DETAILS
✕

DISPLAY NAME

DISPLAY SEQUENCE ORDER

ADVERTISED AMOUNT

ADVERTISEMENT TEXT

<marquee>Subscribe!!!<!marquee>

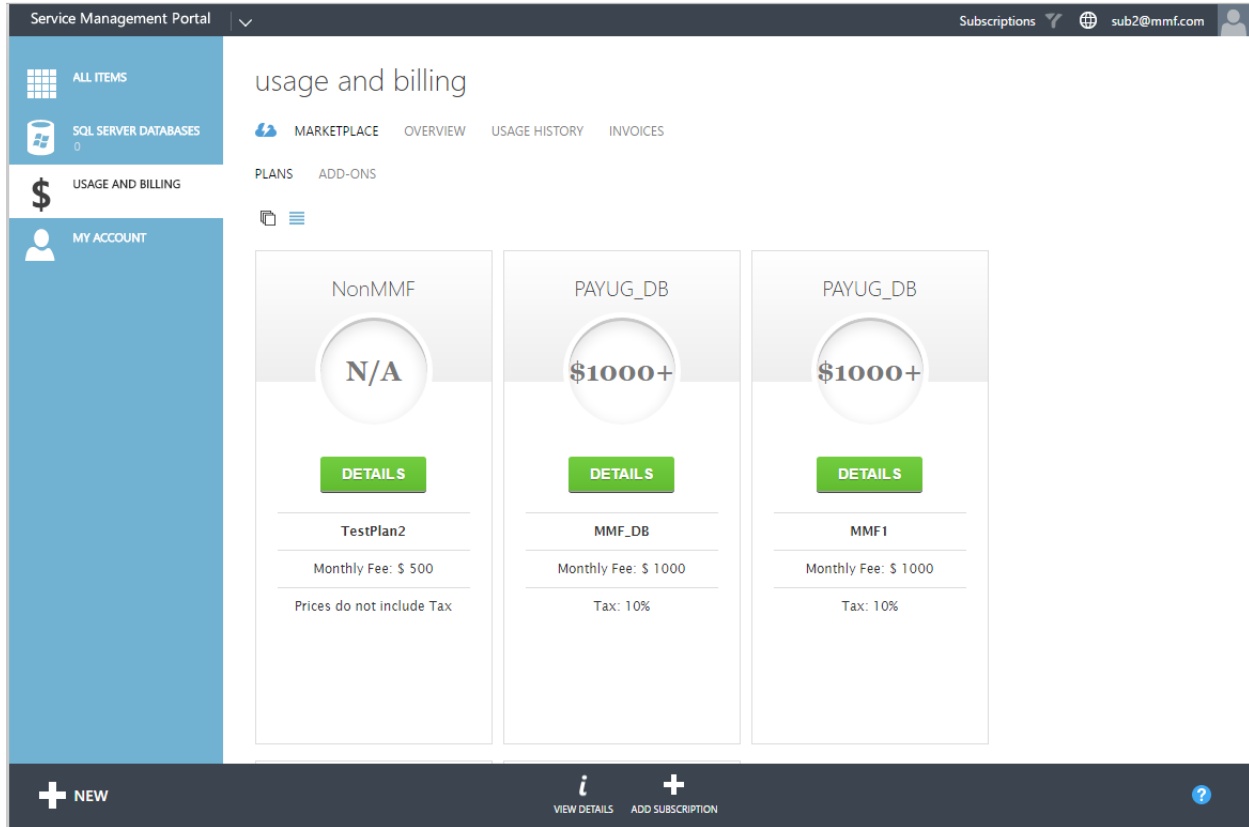
1

← ✓

5. Specify the 'Display Name', 'Display Sequence Order', 'Advertised Amount' and 'Advertisement Text' and click finish button.

NOTE: Specifying the 'Display Sequence Order', orders the pricing catalogs accordingly in the tenant portal 'MARKTPLACE' tab.

Once the pricing profile is linked to a public plan (Refer [Adding Cloud Assert Usage and Billing Service to a WAP Plan](#)), the tenant portal Usage and Billing extension would look like the following image.



The users can subscribe for the plan from the ‘MARKETPLACE’ tab. All the resources and its monthly unit price that are associated with the plan can be seen by clicking the ‘VIEW DETAILS’ button at the button.

Step 10 – Installing Usage and Billing Agent Service

The agent service setup alone is installed after all the preliminary setting are configured in the admin portal. The agent service can be installed in both [Single Machine Setup](#) and [Distributed Multi-Machine Setup](#).

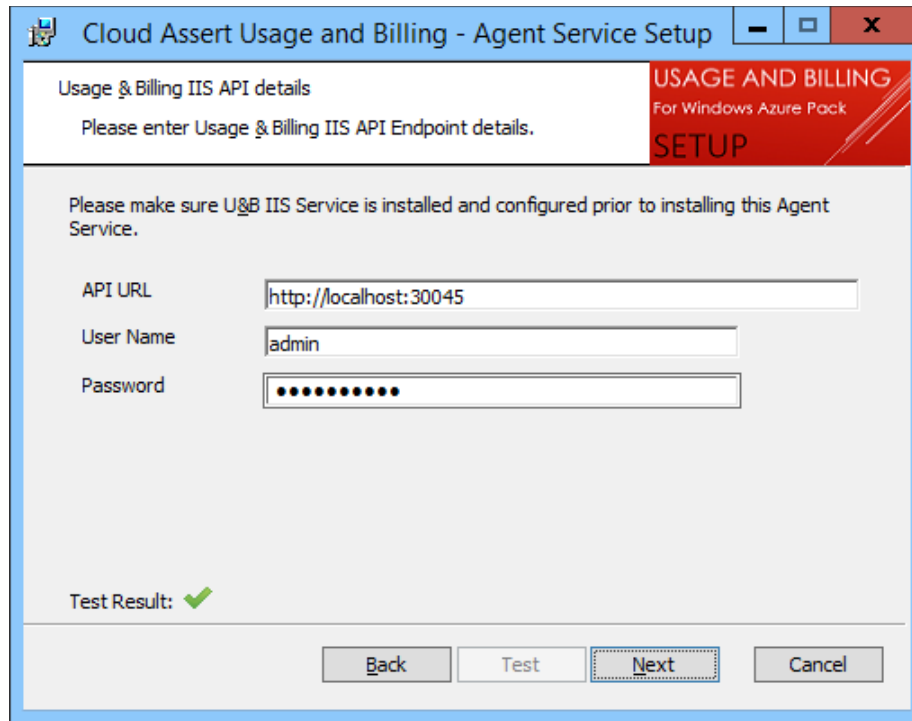
Pre-Requisites for Distributed Setup:

- Choose a machine with at least 4 GB RAM, preferably 8 GB
- Ensure that firewall is configured to allow access to port outbound port 30045
- Ensure that this machine can talk to all WAP endpoints (usually ports 30071 to 30100). Specifically, Admin API endpoint (usually port 30004), Admin Auth endpoint (30072), Usage API endpoint (usually port 30022).

- Ensure that this machine can talk to the SQL database server on which the Usage and Billing database will be configured (refer [GENERAL PRE-REQUISITES](#))
- Ensure that this machine can talk to WHMCS (if WHMCS integration is planned).

Note: Usage and Billing Agent Service supports a master/slave architecture to ensure high availability. This component can be installed in two machines, with one acting as the master and the other acting as a slave (on standby).

- 12.1 Download the 'CloudAssert.WAP.Billing.AgentService.Setup' installer after registering into <https://www.cloudassert.com/register>
- 12.2 Repeat steps [1.2](#) to [1.4](#) from 'Install Usage and Billing API Service' above.
- 12.3 Specify the host name of the machine (localhost for single machine setup) in which the Usage and Billing API service is installed under 'API URL'.
 - 12.1.1 Specify user name and password which was set during the Usage and Billing API installation. (refer [1.6](#))
 - 12.1.2 Click the 'Test' button.
 - 12.1.3 If the 'Test Result' label displays a green tick mark click 'Next' button.



12.2 Repeat steps 1.7 to 1.11 from installing Usage and Billing API Service.

12.3 Click 'Install' button to install the Usage and Billing – Agent Service, click 'Finish' button to exit the installer after completion of the installation.

MANAGING PRICING PROFILES

The Pricing Profiles allows the administrator to set price for each resource and its meters that are specified by the resource providers. The Usage and Billing solution allows the administrators to create three type of pricing profiles which can be associated with a plan:

- i. Fixed Payment Plan
- ii. Pay-As-You-Go Plan
- iii. Fixed Payment + Pay-As-You-Go plan (*available only in versions v1.9.0.7 or higher*)

i. Fixed Payment Plan

A Fixed Payment Plan does not require any meter of resource provider to be configured. A fixed cost is calculated for any number/type of resources used by the tenant. The fixed cost can be given either as Monthly fee, One-Time fee or combination of both. For monthly fee, the cost for first month is prorated from the date of subscription. Similarly, it is prorated for the last month of subscription until the Subscription deleted date. As the name implies the One-Time fee (No proration) will apply to the subscription for one time only. The number of resources that can be created by the tenant is specified by the admin as part of quota settings while adding its service in the plan.

ii. Pay-As-You-Go Plan

A Pay-As-You-Go Plan requires meter of resource provider to be configured in order to generate the usage cost for tenants. Administrator can set a desired price for each meter of a resource provider, the usage cost of the resource for the tenant is calculated accordingly.

iii. Fixed Payment + Pay-As-You-Go Plan

As the name specifies, it's a combination of fixed payment plan and pay as you go plan. A minimum fixed amount can be set in the pricing profile along with it, price for meters of various resource providers are set inside the pricing profile.

Note: If a pricing profile is cloned, all its configuration including the price for each meter, and plan type are copied into the new pricing profile. Pricing profile associated with a plan cannot be deleted provided it has no subscriptions. The trial version of Usage and Billing allows only two pricing profile to be created.

Creating a Fixed Payment Plan

1. Logon to WAP Admin portal, click on Usage and Billing on the Left.
2. Click on the 'PRICING PROFILES' Tab.
3. Click 'ADD' button.

PLAN PRICING DETAILS (BASIC) ×

PROFILE NAME

SET MONTHLY FEE?

MONTHLY FEE

ONE-TIME FEE

REGION

CURRENCY TEXT

CURRENCY SYMBOL

→ 2 3

4. Specify a name for the pricing profile.
5. Check the '*SET MONTHLY FEE?*' check box.
6. Specify the '*MONTHLY FEE*' amount.
7. Specify the '*ONE-TIME FEE*' amount.
8. Specify the '*REGION*', '*CURRENCY TEXT*' and '*CURRENCY SYMBOL*' and click next.

PLAN PRICING DETAILS (ADVANCED) ✕

APPLY STANDARD TAX RATE?

PROMO TYPE Recurring Monthly One-Time

PROMO CREDIT AMOUNT

MINIMUM COMMITMENT DURATION DAYS

← →

1 3

9. If the tax rate needs to be included for the tenants who subscribe for this plan check the 'APPLY STANDARD TAX RATE?' box provided the tax rate is specified under 'SETTINGS' 'INVOICE' tab under Usage and Billing admin portal. (Optional)
10. Specify the 'PROMO TYPE' and specify the 'PROMO CREDIT AMOUNT' if required (Refer [Recurring Credit](#) & [One-Time Credit](#)).
11. Specifying the 'MINIMUM COMMITMENT DURATION' will allow the tenant users to delete their subscriptions only after the expiry date (In the above example, expiry date is 365 days from the date of subscription of the plan). (Optional)
12. Click next.

Note: The next step (shown in the below Figure) appears only if the pricing catalog feature is enabled under 'SETTINGS' 'PRODUCT FEATURES' tab in Usage and Billing admin portal.

PRICING CATALOG DETAILS ×

DISPLAY NAME

DISPLAY SEQUENCE ORDER

ADVERTISED AMOUNT

ADVERTISEMENT TEXT

← ✓

1

13. The name specified under '*DISPLAY NAME*' appears in the 'MARKET PLACE' of Usage and Billing tenant portal.
14. Specify the '*DISPLAY SEQUENCE ORDER*', '*ADVERTISED AMOUNT*' and '*ADVERTISED TEXT*'.
15. Click Finish to create a pricing profile.

Creating / Cloning Pay-As-You-Go Plan

Usage and Billing comes with a pre-loaded pricing profile called as '*default*' pricing profile which is of the type 'Pay-As-You-Go'. This pricing profile contains all the meters of the resources providers. It is better to clone this pricing profile rather than to create a new pricing profile of type pay-as-you-go.

CREATING A PAY-AS-YOU-GO PRICING PROFILE

1. Logon to WAP Admin portal, click on Usage and Billing on the Left.
2. Click on the 'PRICING PROFILES' Tab.
3. Click 'ADD' button.
4. Specify a name for the pricing profile.
5. Uncheck the 'SET MONTHLY FEE?' check box.
6. Specify the 'ONE-TIME FEE' as zero.
7. Repeat steps 8 to 15 from 'Creating a Fixed Payment Plan' section.
8. Click the 'ID' column of the newly created pricing profile to configure the pricing profile.
9. Click 'CREATE METERED PRICING' or 'ADD' button to create a meter for the resource.

METERED RESOURCE PRICING
×

Basic Details

PROVIDER NAME:

SERVICE TYPE:

METERED RESOURCE NAME:

RESOURCE DISPLAY NAME:

FORMULA: Unit Multiplier Custom

UNIT DISPLAY NAME:

IS COLLECTION ENABLED?

Pricing Details

MONTHLY UNIT PRICE:

HOURLY UNIT PRICE:

SAMPLE COST CALCULATOR

RAW USAGE PER HOUR:

FOR DURATION:

WILL BE...: GB HOURS

AND COSTS...: USD

→ 2

10. After specifying all the fields check the 'IS COLLECTION ENABLED?' check box to enable Usage and Billing solution to calculate the usage cost for the resource as specified.
11. Click next

METERED RESOURCE PRICING
Advanced Details

HOURLY UNIT CREDITS:

RECORD TYPE:

REGION:

RESOURCE CONDITIONS:

FILTER PROPERTIES: [Add](#)

1

12. The Advanced detail setting is an optional setting and can be ignored.
13. Refer '*Unit Credit*' to set 'HOURLY UNIT CREDITS' if necessary.
14. Click Finish to configure the price settings for the resource.

CLONING A PAY-AS-YOU-GO PRICING PROFILE

1. Logon to WAP Admin portal, click on Usage and Billing on the Left.
2. Click on the '*PRICING PROFILES*' Tab.
3. Select the default pricing profile labeled as 'default' and click the 'CLONE' button.
4. A dialog box appears prompting to enter a new name for the pricing profile.

CLONE PRICING PROFILE

Enter display name for the new Pricing Profile

ORIGINAL PRICING PROFILE:

NEW PRICING PROFILE:

- Click Finish button.
- Click the 'ID' column of the newly cloned pricing profile.

ID	NAME	PROVIDER -> SERVICE	RESOURCE	UNIT PRICE
235	VM - CPUAllocationCount-Average	systemcenter -> VirtualMachine	CPUAllocationCount-Average	0
236	VM - CPUAllocationCount-Max	systemcenter -> VirtualMachine	CPUAllocationCount-Max	0
237	VM - MemoryAllocated-Average	systemcenter -> VirtualMachine	MemoryAllocated-Average	0
238	VM - MemoryAllocated-Max	systemcenter -> VirtualMachine	MemoryAllocated-Max	0
239	VM - MemoryConsumed-Average	systemcenter -> VirtualMachine	MemoryConsumed-Average	0
240	VM - MemoryConsumed-Max	systemcenter -> VirtualMachine	MemoryConsumed-Max	0
241	VM - CPUPercentUtilization-Medi...	systemcenter -> VirtualMachine	CPUPercentUtilization-Median	0
242	VM - CrossDiskIOPerSecond-Max	systemcenter -> VirtualMachine	CrossDiskIOPerSecond-Max	0
243	VM - CrossDiskIOPerSecond-Medi...	systemcenter -> VirtualMachine	CrossDiskIOPerSecond-Median	0
244	VM - CrossDiskSizeAllocated-Ave...	systemcenter -> VirtualMachine	CrossDiskSizeAllocated-Avera...	0
245	VM - CrossDiskSizeAllocated-Max	systemcenter -> VirtualMachine	CrossDiskSizeAllocated-Max	0
246	VM - NICKBSentPerSecond-Max	systemcenter -> VirtualMachine	*NICKBSentPerSecond-Max	0
247	VM - NICKBSentPerSecond-Avera...	systemcenter -> VirtualMachine	*NICKBSentPerSecond-Avera...	0
248	VM - NICKBReceivedPerSecond-M...	systemcenter -> VirtualMachine	*NICKBReceivedPerSecond-Max	0
249	VM - NICKBReceivedPerSecond-A...	systemcenter -> VirtualMachine	*NICKBReceivedPerSecond-A...	0
250	VM - Site64BitUsage	systemcenter -> VirtualMachine	Site64BitUsage	0
251	VCONNECT VM- Compute Hours	cloudassert-vconnect -> VirtualM...	ComputeUnits	0
252	VCONNECT VM- CPUAllocationC...	cloudassert-vconnect -> VirtualM...	CPUAllocationCount-Max	0
253	VCONNECT VM- MemoryAllocate...	cloudassert-vconnect -> VirtualM...	MemoryAllocated-Max	0
254	VCONNECT VM- MemoryConsum...	cloudassert-vconnect -> VirtualM...	MemoryConsumed-Average	0

- A list of meter resources appears. Select a desired meter resource and click the 'EDIT' button.

METERED RESOURCE PRICING

Basic Details

PROVIDER NAME: systemcenter

SERVICE TYPE: VirtualMachine

METERED RESOURCE NAME: CPUAllocationCount-Average

RESOURCE DISPLAY NAME: VM - CPUAllocationCount-Average

FORMULA: Unit Multiplier Custom
RuntimeSeconds-Sum / 3600

UNIT DISPLAY NAME: CPU Hours

IS COLLECTION ENABLED?

Pricing Details

MONTHLY UNIT PRICE: 150

HOURLY UNIT PRICE: 0.20833333333333334

SAMPLE COST CALCULATOR

RAW USAGE PER HOUR: 1

FOR DURATION: 1 Hour

WILL BE...: Dynamic Value CPU HOURS

AND COSTS...: Dynamic Value USD

8. It is enough to specify either the '*MONTHLY UNIT PRICE*' or the '*HOURLY UNIT PRICE*' and checking the '*IS COLLECTION ENABLED?*' checkbox.
9. Click next button and click finish.

Note: To know more about configuring 'Metered Resource Pricing' click

<http://www.cloudassert.com/Blogs/metered-resources-e28093-setting-up-unit-multiplier-and-monthly-unit-price-53375>

To Know more about 'Setting up Pricing Profiles for System Center Virtual Machines' click

<http://www.cloudassert.com/Blogs/setting-up-pricing-profiles-for-system-center-virtual-machines-53348>

Creating Fixed Payment + Pay-As-You-Go Plan

1. Repeat steps *1* to *4* in '*Creating a Pay-As-You-Go Pricing Profile*' section.
2. Check the 'SET MONTHLY FEE?' check box.
3. Specify the 'MONTHLY FEE' amount.
4. Specify the 'ONE-TIME FEE' amount (optional).
5. Repeat steps *7* to *14* in '*Creating a Pay-As-You-Go Pricing Profile*' section.

NOTE: Creating a 'Fixed + Pay-as-you-go' pricing profile is available for versions higher than v1.9.0.2. In lower versions only two types of pricing profile can be created, 'Fixed Payment' and 'Pay-As-you-Go'.

CONFIGURING RESOURCE CONDITION UNDER ADVANCED DETAILS METERED RESOURCE SETTINGS

Configuring a resource condition is an optional setting which can be ignored while configuring the unit price for a resource. Resource condition is given in order to set different price for the same metered resource. This can be done by cloning a configured metered resource and setting a new unit price for the cloned metered resource. Following is an example to set resource condition for SQL Database based on the Database count.

1. Select a metered resource and click edit.

2. Set the 'MONTHLY UNIT PRICE' as \$10 and copy the 'METERED RESOURCE NAME' (DatabaseCount). Click next.
3. In the 'RESOURCE CONDITION' field paste the copied 'METERED RESOURCE NAME' and give the following condition:

'DatabaseCount > 1 && DatabaseCount <= 2'

METERED RESOURCE PRICING
Advanced Details

HOURLY UNIT CREDITS

RECORD TYPE

REGION

RESOURCE CONDITIONS

FILTER PROPERTIES [Add](#)

1

4. Click Finish Button.
5. Select the newly configured resource from the metered resource list and click the 'CLONE' button.

payasyougo

Provider: Show Enabled Only Advanced View

ID	NAME	PROVIDER → SERVICE	RESOURCE	UNIT PRICE
259	DATABASE UNITS - WEB EDITION	sqlservers → Default	✓ DatabaseCount	10
343	DATABASE UNITS - WEB EDITION...	sqlservers → Default	✓ DatabaseCount	10

✓ Successfully cloned Metered Pricing of Resource 'DatabaseCount'. OK

+ NEW **+** ADD **✎** EDIT **🗑** DELETE **📄** CLONE 1 **?**

6. Select the cloned metered resource and click edit.

7. Change the 'MONTHLY UNIT PRICE' as \$20 and click next.
8. In the 'Resource Condition' field give the following condition and click Finish:
 'DatabaseCount > 2'

The above example demonstrates the use of 'RESOURCE CONDITION' while configuring a metered resource. Based on the conditions specified above, if the tenant creates either one or two Databases, a monthly unit price of \$10 is calculated and if the tenant creates more than two databases a monthly unit price of \$20 is calculated.

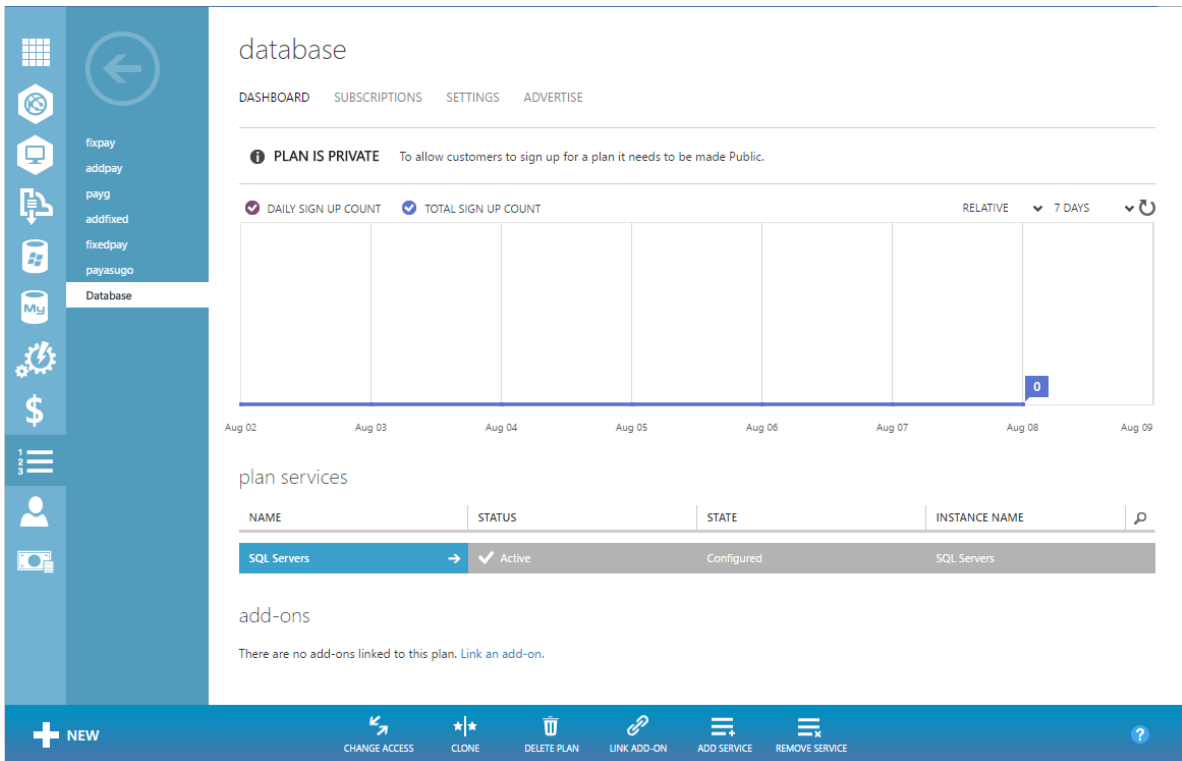
Adding Cloud Assert Usage and Billing Service to a WAP Plan

Once the pricing profile is created and configured, it is essential to add the Cloud Assert Usage and Billing service to a plan and configure the service by selecting a pricing profile and thus associating a pricing profile to a plan.

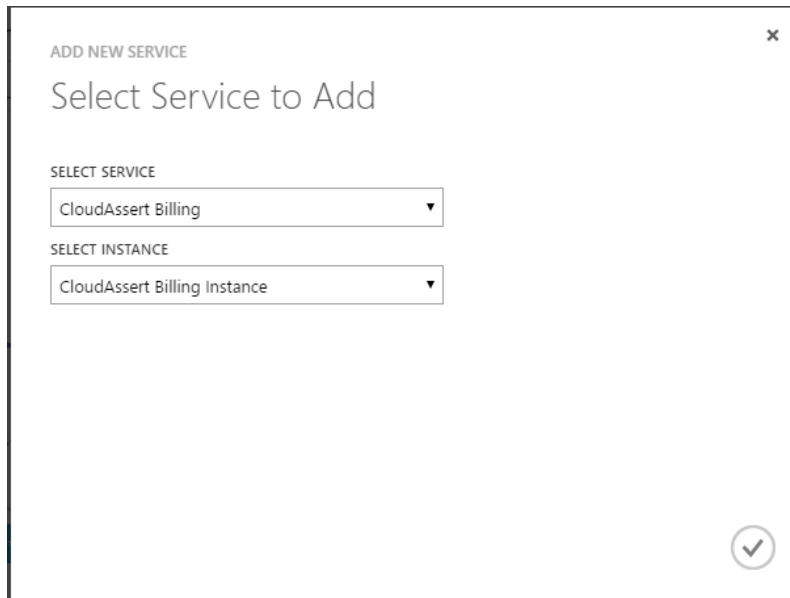
- Logon to WAP Admin portal, click on PLANS on the Left pane.

ADDING USAGE AND BILLING SERVICE TO AN EXISTING PLAN

1. Select a desired plan to which the Usage and Billing service needs to be added.



2. Click the 'ADD SERVICE' button.



ADD NEW SERVICE ✕

Select Service to Add

SELECT SERVICE

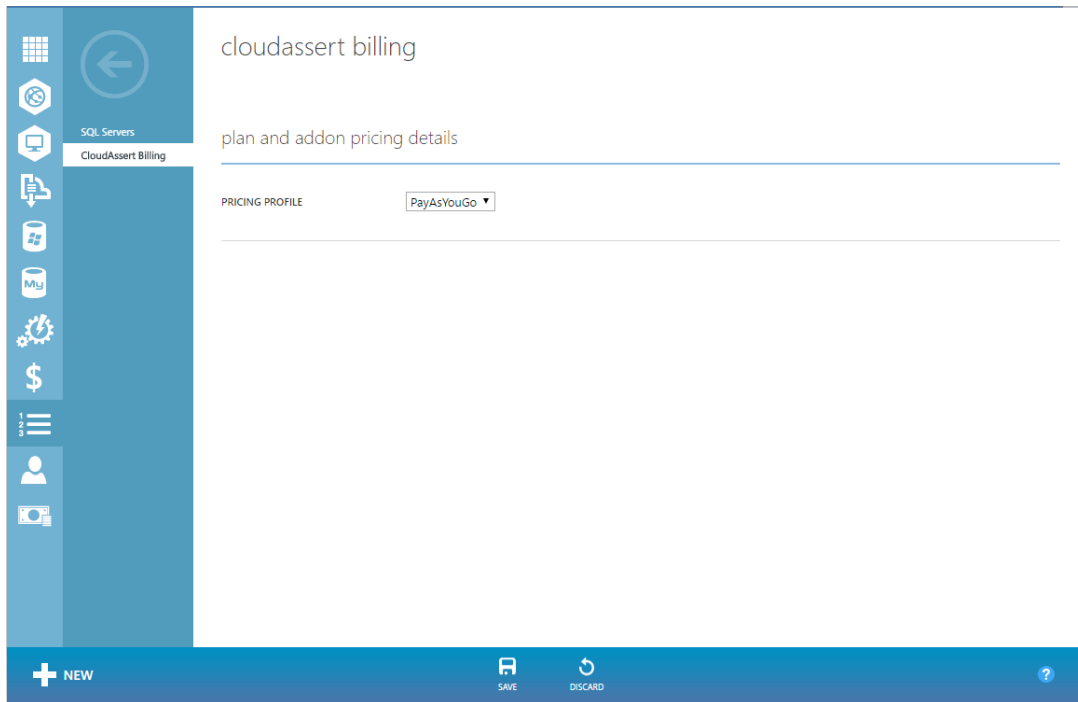
CloudAssert Billing ▼

SELECT INSTANCE

CloudAssert Billing Instance ▼

✓

3. Select the service as 'CloudAssert Billing' and instance as 'CloudAssert Billing instance'.
4. Click Finish.
5. Once the service is added to the plan, select the 'CloudAssert Billing' service from the plan Dashboard tab.



6. From the drop down list select the desired pricing profile and click the save button.
7. Once the changes are saved change the access of the plan as desired.

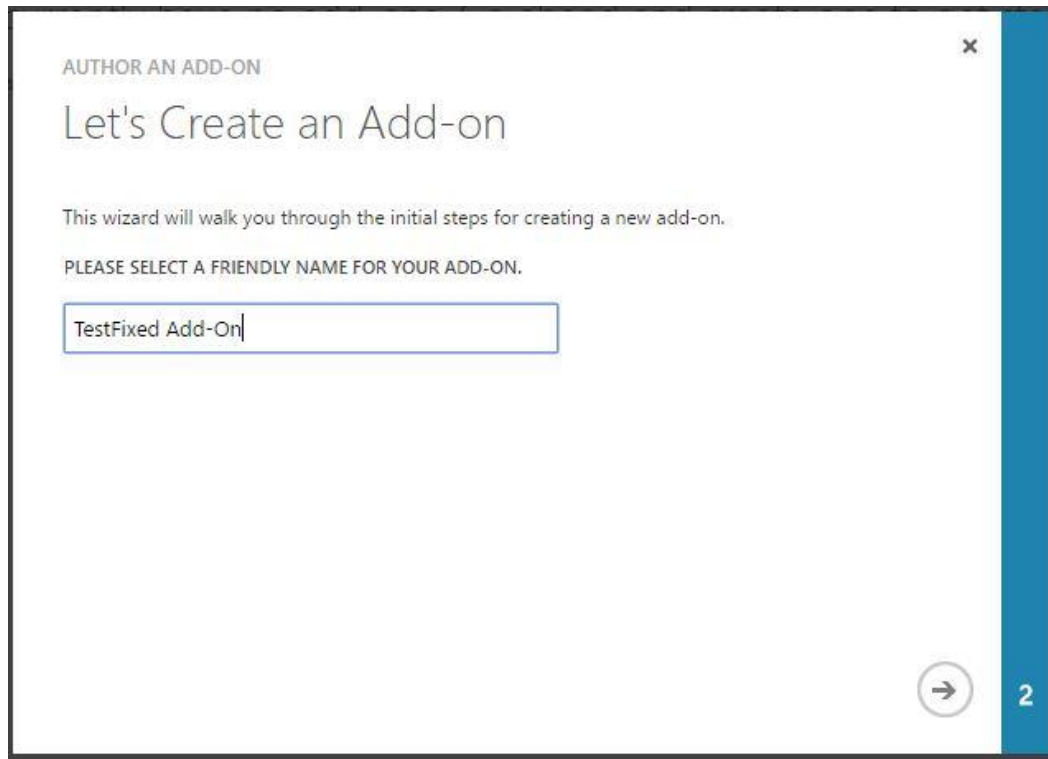
Note: Only public plans will be available for the tenants under the 'MARKETPLACE' tab of Usage and Billing tenant extension (Tenant Portal). The 'CloudAssert Billing' service can also be added while creating a new plan.

Creating Fixed Fee Add-Ons / Add-On deletion block

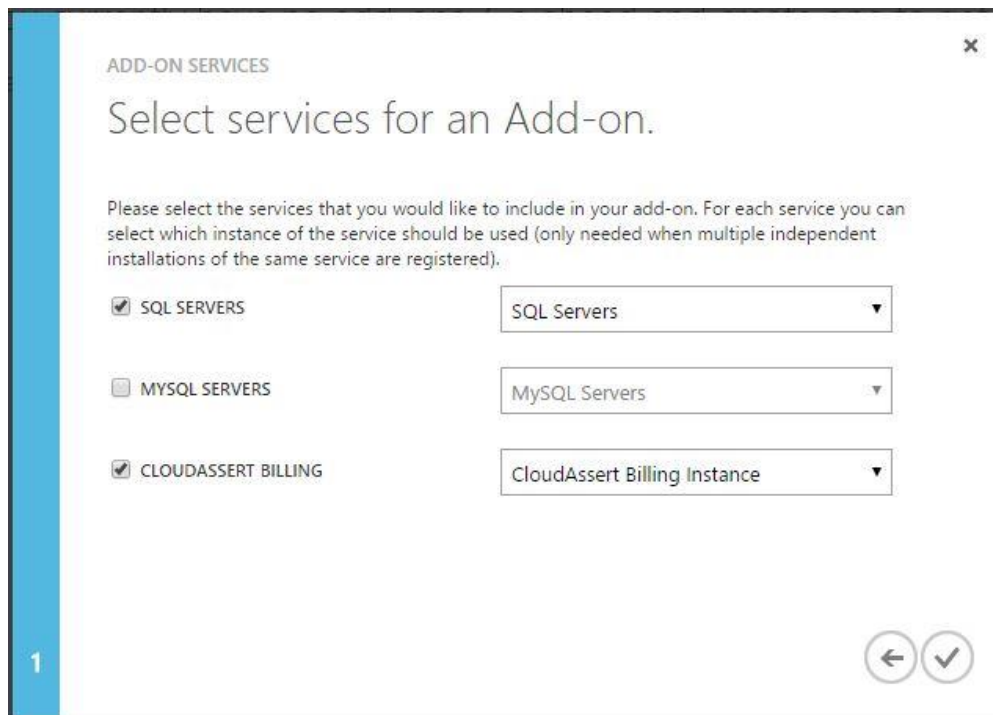
A fixed fee add-on is a type of add-on that allows the tenants to subscribe to it and are charged based on the fixed amount that is set by the admin at the pricing profile level.

Note: Fixed Fee Add-Ons feature is currently available for versions higher than v 1.8.2.2.

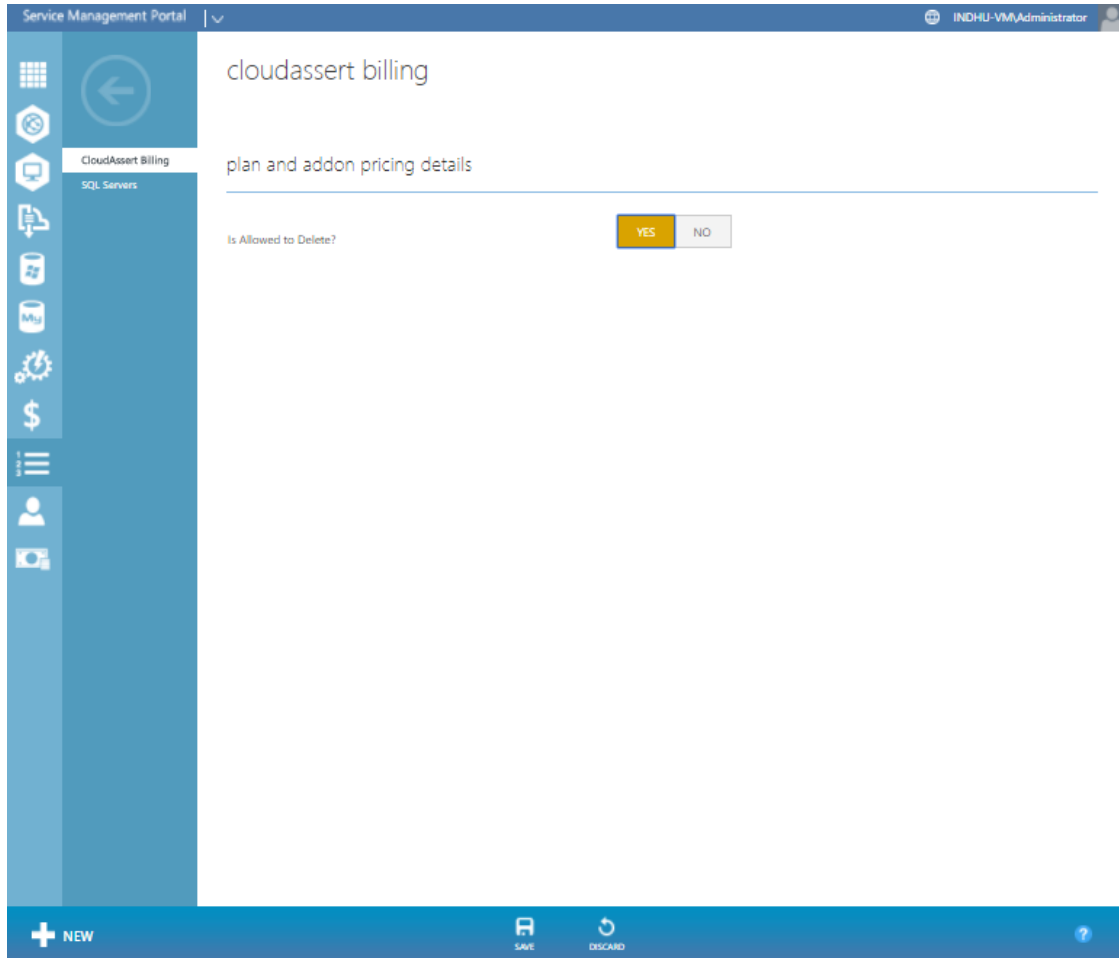
1. Logon to WAP Admin portal, click on 'PLANS' on the Left pane.
2. Click 'Add-Ons' tab
3. Click 'Create New Add-On' or click 'NEW' button from the bottom and click 'Create Add-On'.



- Specify the Add-On name and click next button.

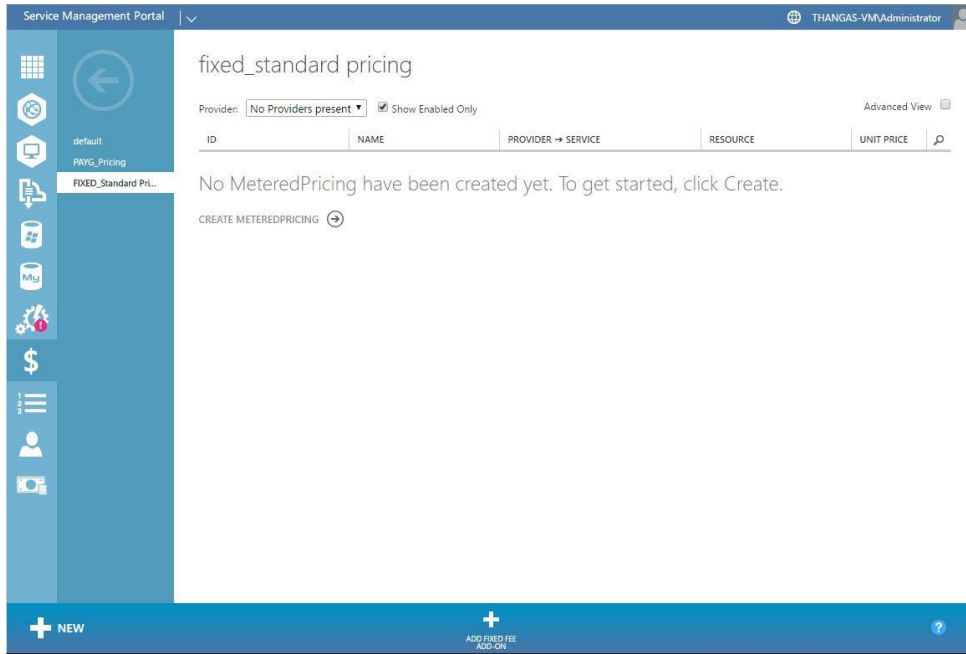


5. Include 'CLOUDASSERT BILLING' service and any other service that is required and click next.
6. Click the newly created add-on and click 'CloudAssert Billing' from the dashboard.



Note: Add-on deletion can be blocked by clicking 'No' button for 'Is Allowed To Delete' and vice versa.

7. Click 'Yes/No' button for 'Is Allowed To Delete?'.
8. Click 'SAVE' button to finish configuring the add-on.
9. Link the Add-on to the desired plan.
10. Click 'USAGE AND BILLING' on the Left pane of the admin portal.
11. Click 'PRICING PROFILE' tab.
12. Select a pricing profile.



13. Click 'ADD FIXED FEE ADD-ON' button from the bottom.

X

FIXED FEE ADD-ON PRICING

Fixed Fee Add-On Details

PROVIDER NAME	<input type="text" value="Add On"/>
SERVICE TYPE	<input type="text" value="FixedFeeAddOn"/>
ADD-ON NAME	<input type="text" value="TestFixed Add-On"/>
ADD-ON DISPLAY NAME	<input type="text" value="FPP Add On"/>
MONTHLY PRICE	<input type="text" value="200"/>

✓

14. Specify the 'PROVIDER NAME' and select the 'ADD-ON NAME' from the list-box.
15. Set the 'MONTHLY PRICE' as desired and click Finish.
16. Logon to the machine(s) where the *Usage and Billing Agent Service Setup* is installed.
17. Open '*CloudAssert.WAP.Billing.AgentService.exe.config*' file from 'C:\Program Files\CloudAssertBilling\CloudAssert.WAP.Billing.AgentService'.
18. Stop the 'Billing Agent Service' from Services.msc.
19. Change '*add key=" UsageEventsProcessor.Enabled"' value from 'false' to 'true'.*

```

CloudAssert.WAP.Billing.AgentService.exe.config - Notepad
File Edit Format View Help
<!-- Billing Usage Events Processor -->
<add key="UsageEventsProcessor.Enabled" value="false" />
<add key="UsageEventsProcessor.ReadBatchSize" value="200" />
<add key="UsageEventsProcessor.PollingIntervalSeconds" value="120" />
<add key="UsageEventsProcessor.ErrorBackoffIntervalSeconds" value="240" />
<add key="UsageEventsProcessor.IsMasterExpirationInSeconds" value="600" />
</appSettings>
    
```

```

CloudAssert.WAP.Billing.AgentService.exe.config - Notepad
File Edit Format View Help
<!-- Billing Usage Events Processor -->
<add key="UsageEventsProcessor.Enabled" value="true" />
<add key="UsageEventsProcessor.ReadBatchSize" value="200" />
<add key="UsageEventsProcessor.PollingIntervalSeconds" value="120" />
<add key="UsageEventsProcessor.ErrorBackoffIntervalSeconds" value="240" />
<add key="UsageEventsProcessor.IsMasterExpirationInSeconds" value="600" />
</appSettings>
    
```

CONFIGURE BILLING ADAPTER TO SUPPORT ADD-ON DELETION APPROVAL / REJECTION FOR 'SYSTEMCENTER' SERVICE

1. Logon to a machine where the WAP Usage Service component is installed.
2. Open 'Windows Azure Pack Configuration PowerShell' from start menu.
3. Run the following command.

```

Set-MgmtSvcNotificationSubscriber -Endpoint http://UsageAndBillingApiMachine:30045/BillingAdapter/ -
Name CloudAssertBilling -AuthenticationMode Basic -AuthenticationPassword
UsageAndBillingApiPassword -AuthenticationUsername UsageAndBillingApiUserName -Enabled $True -
Force -SubscriberType BillingService -ConnectionString "Data Source=DatabaseServername;Initial Catalog=
Microsoft.MgmtSvc.Usage; User Id=SQLAuthenticationUsername; password=
SQLAuthenticationPassword;"
    
```

4. The Usage and Billing API username and password can be obtained from the 'Web.config' file located in the machine where the Usage and Billing API Service is installed. The 'Web.config' file can be found in 'C:\inetpub\MgmtSvc-CloudAssertBilling'.


```

Web.config - Notepad
File Edit Format View Help
Encrypt the credentials or config file -->
<add key="Username" value="admin"/>
<add key="Password" value="██████████"/>
    
```

CONFIGURE SYSTEM CENTER SETTINGS

Configuring the system center settings in Usage and Billing solutions is needed in-order to prevent the deletion of add-ons with VLANs/Virtual Networks being used. Earlier a tenant can subscribe an add-on with VLAN, attach it any VM and can delete the add-on. The tenant continues using the VLAN but will not be charged since the add-on is deleted.

NOTE: The tenant will not be charged for the add-ons with VLAN only if the add-on is given as fixed-fee add-on.

NOTE: In-order to configure the System Center Server Settings, Admin should have a user account on SPF Server with Administrator privilege.

1. Logon to WAP Admin portal, click on Usage and Billing on the Left.
2. Click on the '*SETTINGS*' Tab.
3. Click '*SPF*' sub tab.
4. Enter the System Center Server URL.
For example, '<https://spf.contoso.com:8090/SC2012R2>'.
5. Specify the Domain name if any.
6. Specify the User Name and Password of System Center Server.
7. Click '*SAVE*' button.

MANAGING USER PROFILES

Every tenant is required to complete the User Profile in order to use the Usage and Billing services. Once the tenant completes the User Profile a user signup request is sent to the admin. The admin is notified with an email for every user request if the email settings are configured under *'SETTINGS' 'EMAIL'* sub-tab in the admin portal of Usage and Billing solution. The admin can either approve or reject the request of the tenant after viewing the profile. Upon processing the request, a notification email is sent to the tenant notifying the signup request status. Only the tenants whose request has been approved can use the services provided by the Usage and Billing solution.

If the Payment gateway integration feature (Licensed Feature) is enabled, then the tenant is required to choose the payment method either *'Offline'* or *'Credit Card'* before completing the user profile. A payment profile is required for the tenant who choose their payment method as credit card. To complete the payment profile, the Usage and Billing solution redirects the tenant to *'CyberSource'* web page where the tenant user is required to specify their credit card details. Only when the payment profile is completed a user signup request is sent to the admin for approval. User signup request of credit card users can be auto-approved by checking *'Auto Approve Credit Card Customer's Signup Request?'* check-box under *'USER PROFILE' 'NOTIFICATIONS'* sub-tab tab in the admin portal of Usage and Billing solution.

Note: User Profile is a licensed feature and is available for version higher than v 1.8.1.1 of Usage and Billing.

Enabling User Profile

1. Logon to WAP Admin portal, click on Usage and Billing on the Left.
2. Click on the *'SETTINGS'* Tab.
3. Click *'PRODUCT FEATURES'* sub tab.
4. Enable " Is User Profile Enabled for Tenants?"

IS USER PROFILE FEATURE ENABLED FOR TENANTS?



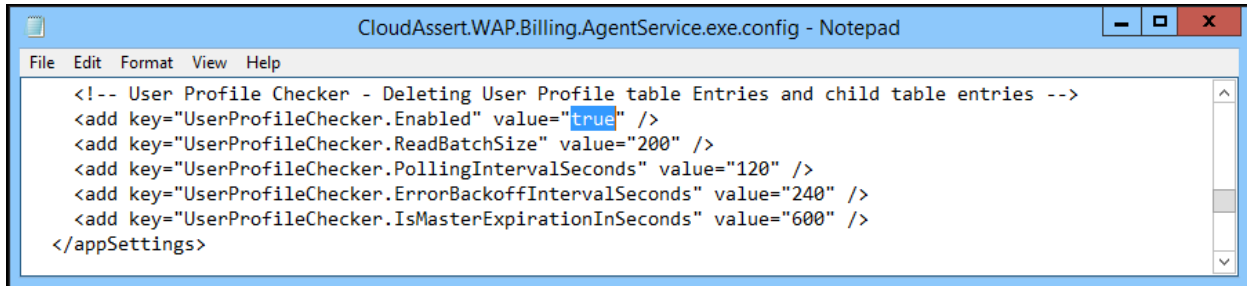
SAVE



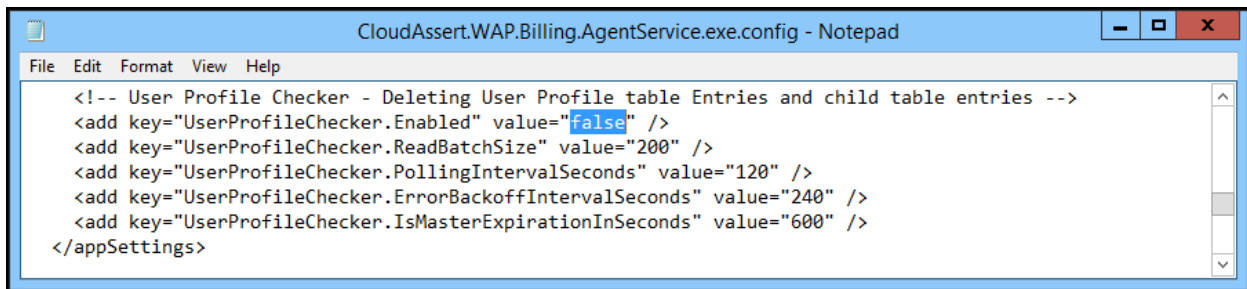
5. Click *'SAVE'* button.

Configuring Settings for ADFS Membership

1. Logon to the machine(s) where the *Usage and Billing Agent Service Setup* is installed.
2. Open 'CloudAssert.WAP.Billing.AgentService.exe.config' file from 'C:\Program Files\CloudAssertBilling\CloudAssert.WAP.Billing.AgentService'.
3. Stop the 'Billing Agent Service' from Services.msc.
4. Change 'add key="UserProfileChecker.Enabled"' value from 'true' to 'false'.



```
CloudAssert.WAP.Billing.AgentService.exe.config - Notepad
File Edit Format View Help
<!-- User Profile Checker - Deleting User Profile table Entries and child table entries -->
<add key="UserProfileChecker.Enabled" value="true" />
<add key="UserProfileChecker.ReadBatchSize" value="200" />
<add key="UserProfileChecker.PollingIntervalSeconds" value="120" />
<add key="UserProfileChecker.ErrorBackoffIntervalSeconds" value="240" />
<add key="UserProfileChecker.IsMasterExpirationInSeconds" value="600" />
</appSettings>
```



```
CloudAssert.WAP.Billing.AgentService.exe.config - Notepad
File Edit Format View Help
<!-- User Profile Checker - Deleting User Profile table Entries and child table entries -->
<add key="UserProfileChecker.Enabled" value="false" />
<add key="UserProfileChecker.ReadBatchSize" value="200" />
<add key="UserProfileChecker.PollingIntervalSeconds" value="120" />
<add key="UserProfileChecker.ErrorBackoffIntervalSeconds" value="240" />
<add key="UserProfileChecker.IsMasterExpirationInSeconds" value="600" />
</appSettings>
```

5. Save the file.
6. Start the 'Billing Agent Service' from Services.msc.

Configuring Notification Settings

1. Logon to WAP Admin portal, click on Usage and Billing on the Left.
2. Click on the 'USER PROFILES' Tab and 'NOTIFICATIONS' sub-tab.


The screenshot displays the 'usage and billing' admin portal interface. At the top, there is a navigation menu with the following items: DASHBOARD, PRICING PROFILE, USAGE, USER CREDITS, STATUS, NOTIFICATIONS, OPERATIONS, SETTINGS, and USER PROFILES. Below the navigation menu, there are two sub-tabs: 'USER REQUESTS' and 'NOTIFICATIONS'. The main content area is divided into three sections: 'company information', 'signup notification settings', and 'default message'. In the 'company information' section, there is a 'COMPANY NAME' label and a 'Change me' button. In the 'signup notification settings' section, there is a checkbox labeled 'Auto Approve Credit Card Customer's Signup Request?' which is checked. Below this, there is a 'DEFAULT MESSAGE' label and a text area containing the message: 'You have not yet provided your User Profile. Please provide details to sign Up.'

3. Fill-in the particulars.
4. Check 'Auto Approve Credit Card Customer's Signup Request?' (Optional) if the 'Payment Gateway Feature' is enabled from 'SETTINGS' 'PRODUCT FEATURES' sub-tab.
5. Click 'SAVE' button once all the message is set.
6. Click 'USER REQUEST' sub-tab to view, approve, reject or delete user signup requests.

usage and billing

 PRICING PROFILE USAGE USER CREDITS REPORTS STATUS NOTIFICATIONS OPERATIONS SETTINGS USER PROFILES LICENSE

USER REQUESTS NOTIFICATIONS

ID	USERID	BILLING FIRST ...	BILLING LAST N...	BILLING COMP...	BILLING EMAIL...	PAYMENT TYPE	SIGNUP DATE	USER STA...	
1	billing@ca.com	Billing	User	CloudAssert	billing@ca.com	Offline	2016-08-03 07:47	Approved	

 VIEW DETAILS

 APPROVE

 REJECT

 DELETE



Note: Do not delete user signup requests of approved tenants. Delete only the request of tenants who have been rejected.

OTHER CONFIGURABLE SETTINGS

App Settings Table

There are few configurable settings in Usage and Billing which can be configured by editing 'dbo.AppSettings' table in the 'CloudAssertBilling' database.

Key	Values	Default	Functionality
MaxHourlyUnitPriceAllowed	Number	100	Does not calculate the usage cost if the hourly unit price for the resource exceeds the 'MaxHourlyUnitPriceAllowed' value
MaxMonthlyUnitPriceAllowed	Number	74400	Does not calculate the usage cost if the monthly unit price for the resource exceeds the 'MaxMonthlyUnitPriceAllowed' value
IsAutoApproveInvoices	Text	False	Invoice will be auto-approved by admin when the value is set to true and will be ready to be processed in WHMCS payment portal.
IsAutoSuspendSubscriptionOnLowCredit	Text	False	When the value is set to true, subscriptions will be auto-suspended when the credit runs out. This works only if 'LowCreditChecker' is enabled Agent Service config file.
PriceCatalogsTheme	Text	EffectivePriceCatalog.html	Changing it changes the appearance of the market place tile. Themes for the tile can be seen in 'C:\inetpub\MgmtSvc-Tenantsite\Content\CloudAssertBilling\Themes' folder. Any customized html file can be placed in this folder and can be set in the app setting table.
PriceCatalogsViewOptions	Text	GridAndTiles	Shows both Grid and List view of plans in the tenant portal MARKETPLACE Tab. Other values are 'Grid' and 'Tile'.
MaximumPurchaseLimitForAddOnAtAnInstance	Number	5	Will not allow the tenants to purchase multiple instances of an add-on beyond '5' at a single purchase.

Key	Values	Default	Functionality
ShowRemainingDaysInOverviewTile	Text	True	When the value is set to false, in the tenant portal overview tab, remaining days will not be shown.
ShowOverviewTileText	Text	False	When the value is set to true, in the tenant portal overview tab, a text will be shown just below the Current bill amount.
TenantOverviewTileText	Text	Prices do not include tax	In the tenant portal overview tab, the specified value will be shown just below the Current bill amount.
CsvColumnOrderForSubscription	Text	SubscriptionId, ProviderName, ServiceType, MeteredResourceDisplayName:ResourceName, ResourceId, PropertiesJson:Properties, ISOCurrencySymbol:CurrencyText, CurrencySymbol:Currency, Units:TotalUnits, Cost:TotalCost, PlanName, SubscriptionName	Contains the column order for the subscription summary csv file. (the value given right to the colon is a friendly name, it is optional)
CsvColumnOrderForAllUsers	Text	AccountAdminEmailId:User, SubscriptionId, PlanName, SubscriptionName:Subscription Name, ISOCurrencySymbol:Currency Text, CurrencySymbol:Currency Symbol, AddOnMonthlyFee:AddOn Cost, ProratedMinimumMonthlyFee:Monthly Fee, TotalCost:Total Cost, BillableCostOnUI:Billable Cost, TotalIncludedOfferCredits:Included Credits, TaxAmount:Tax Amount, SubscriptionProvisionedD	Contains the column order for the subscription summary of all users csv file. (the value given right to the colon is a friendly name, it is optional)

Key	Values	Default	Functionality
		ate:Subscription Created Time	
CsvColumnOrderForAllInvoices	Text	Id:Invoice ID, AccountUserId:User, PlanName:Plan Name, SubscriptionName:Subscription Name, Subscription_Id:Subscription ID, InvoiceStartTime:Start, InvoiceEndTime:End, InvoiceDueDate:Due Date, ProcessingStatusString:Processing Status, PaymentStatusString:Payment Status, IsOfflinePayment:Is Offline Payment, ISOCurrencySymbol:Currency, FinalBillableAmount:Total Amount	Contains the column order for the invoice summary of all users csv file. (the value given right to the colon is a friendly name, it is optional)
DefaultCustomerDomainSuffix	Text	.onmicrosoft.com	This will be suffixed to the domain name when a new customer creates a CSP customer profile from the tenant portal
IncludeExtendedResourceProperties	Text	False	When the value is set to true, the usage cost will be set based on the custom property of the VM.
TimeoutIntervalSeconds	Number	300	Used for subscription sync process after addon is purchased.
PollingIntervalSeconds	Number	20	Waiting time for subscription sync process state checking.
MaxAutoRetry	Number	2	Maximum auto retries for subscription sync process (if it is failed to sync) when addon purchase is failed.

API Service Configuration File

The 'Web.config' file is located at 'C:\inetpub\MgmtSvc-CloudAssertBilling' in the machines where the Cloud Assert Usage and Billing API Service is installed.

```

Web.config - Notepad
File Edit Format View Help
<connectionStrings>
  <!-- Replace setting values starting with '[Replace' and 'localhost' with actual values for your environment -->
  <add name="DefaultConnection" providerName="System.Data.SqlClient" connectionString="Data Source=████████; Initial Catalog=████████; User Id=sa; password=████████;" />
  <add name="WapMembershipDatabase" connectionString="Data Source=localhost; User Id=sa; Password=[ReplaceWithYourPassword]; Initial Catalog=Microsoft.MgmtSvc.PortalConfigStore;" />
</connectionStrings>
<appSettings>
  <!-- Event Log Settings-->
  
```

1. Replace the 'Data Source', 'User Id' and 'Password' values with the WAP server name, database User Id and Password in the following line if already not set.

```

<add name="WapMembershipDatabase" connectionString="Data Source=localhost; User Id=sa; Password=[ReplaceWithYourPassword]; Initial Catalog=Microsoft.MgmtSvc.PortalConfigStore;" />
  
```

Agent Service Configuration File

The job processors of Usage and Billing solutions can be turned on and off by changing the values in the 'CloudAssert.WAP.Billing.AgentService.exe.config' file located at 'C:\Program Files\ CloudAssertBilling\ CloudAssert.WAP.Billing.AgentService' in the machine where the Cloud Assert Usage and Billing Agent Service is installed.

Updating WAP Membership Connection

1. Find the line that has 'WapMembershipDatabase' in it.

```

Web.config - Notepad
File Edit Format View Help
<connectionStrings>
  <!-- Replace setting values starting with '[Replace' and 'localhost' with actual values for your environment -->
  <add name="DefaultConnection" providerName="System.Data.SqlClient" connectionString="Data Source=████████; Initial Catalog=████████; User Id=sa; password=████████;" />
  <add name="WapMembershipDatabase" connectionString="Data Source=localhost; User Id=sa; Password=[ReplaceWithYourPassword]; Initial Catalog=Microsoft.MgmtSvc.PortalConfigStore;" />
</connectionStrings>
<appSettings>
  <!-- Event Log Settings-->
  
```

2. Replace the 'Data Source', 'User Id' and 'Password' values with the WAP server name, database User Id and Password in the following line if already not set.

```

<add name="WapMembershipDatabase" connectionString="Data Source=localhost; User Id=sa; Password=[ReplaceWithYourPassword]; Initial Catalog=Microsoft.MgmtSvc.PortalConfigStore;" />
  
```

Invoice Processor Settings

This setting has to be set as 'TRUE' for WHMCS integration. It sends the invoices of tenants to the WHMCS portal.

```

CloudAssert.WAP.Billing.AgentService.exe.config - Notepad
File Edit Format View Help

<add key="InvoiceProcessor.Enabled" value="true"/>
<add key="InvoiceProcessor.ReadBatchSize" value="1"/>
<add key="InvoiceProcessor.PollingIntervalSeconds" value="300"/>
<add key="InvoiceProcessor.ErrorBackoffIntervalSeconds" value="600"/>
<add key="InvoiceProcessor.IsMasterExpirationInSeconds" value="900"/>
<add key="InvoiceProcessor.IsAutoApproveInvoices" value="false"/>
    
```

Setting 'IsAutoApproveInvoices' value to 'True' from the above image will auto-approve the invoices by admin, and will be made ready for processing by WHMCS. This has to be set in 'App Settings' table also (Refer [App Settings Table](#)).

Invoice notifier Settings

Marking this setting 'True' will auto-suspend the subscription if the tenants fail to pay the invoice on or before the Due date (Refer step 335 & 6 from [Step 6 – Configure Invoice Settings](#)). It is also responsible for sending warning and reminder emails to tenants on invoice due date. It also reactivates the subscriptions automatically upon successful payment of invoice.

```

CloudAssert.WAP.Billing.AgentService.exe.config - Notepad
File Edit Format View Help

<add key="InvoiceNotifier.Enabled" value="true"/>
<add key="InvoiceNotifier.ReadBatchSize" value="1"/>
<add key="InvoiceNotifier.PollingIntervalSeconds" value="300"/>
<add key="InvoiceNotifier.ErrorBackoffIntervalSeconds" value="600"/>
<add key="InvoiceNotifier.IsMasterExpirationInSeconds" value="900"/>
    
```

Low Credit Checker Settings

Marking this setting 'True' will auto-suspend the subscriptions of the user if more credits are consumed beyond the allotted limit. It also sends an email notification to the user upon suspending or reactivating the subscriptions.

```

CloudAssert.WAP.Billing.AgentService.exe.config - Notepad
File Edit Format View Help

<!-- Low Credits Checker - Auto Suspend subscriptions -->
<add key="LowCreditsChecker.Enabled" value="true"/>
<add key="LowCreditsChecker.ReadBatchSize" value="200"/>
<add key="LowCreditsChecker.PollingIntervalSeconds" value="120"/>
<add key="LowCreditsChecker.ErrorBackoffIntervalSeconds" value="240"/>
<add key="LowCreditsChecker.IsMasterExpirationInSeconds" value="600"/>
    
```

Once the setting is set to 'True' in configuration file, it has to be set in the 'App Settings' table as well (Refer [App Settings Table](#)).

FTP Push Setting

This setting will push the invoice csv files to the ftp server location which can be later used by any ERP system.

1. Logon to WAP Admin portal, click on Usage and Billing on the Left.
2. Click on the '*SETTINGS*' Tab.
3. Click '*FTP SERVER*' sub tab.
4. Check the '*IS FTP PUSH ENABLED*' checkbox in order for the invoices to be sent to the FTP/SFTP servers.

Service Management Portal
AASHISH-VMAdministrator

ALL ITEMS

VCONNECT 0

WEB SITE CLOUDS 0

VM CLOUDS 0

SERVICE BUS CLOUDS 0

SQL SERVERS 1

MYSQL SERVERS 0

AUTOMATION 0

USAGE AND BILLING

PLANS 5

USER ACCOUNTS 21

USER COSTS

usage and billing

[DASHBOARD](#)
[PRICING PROFILE](#)
[USAGE](#)
[USER CREDITS](#)
[STATUS](#)
[NOTIFICATIONS](#)
[OPERATIONS](#)
[SETTINGS](#)
[USER PROFILES](#)
[LICENSE](#)

[DATABASE](#)
[USAGE PROCESSOR](#)
[SPF](#)
[WAP ADMIN API](#)
[API SECURITY](#)
[PRODUCT FEATURES](#)
[INVOICE](#)
[EMAIL](#)
[WHMCS](#)
[CSP](#)

FTP SERVER

IS FTP PUSH ENABLED

FTP SERVER HOST ADDRESS
like 192.168.1.100 or localhost

FTP SERVER PORT

FTP USERNAME

FTP PASSWORD

FTP MODE

DESTINATION FOLDER
(OPTIONAL) like invoiceCsv

AUTO APPROVE INVOICES?

INVOICE FILE FORMAT
(OPTIONAL) like Cloud_Assert_{InvoiceCycleDate:yyyy-MMM} (or) [InvoiceCycleDate:yyyy-MMM]_Cloud_Assert

PROCESS FROM DATE
Set a date since WAP existence. Date format YYYY/MM/DD

PROCESS TO DATE
Set a date till which the csv files has to be pushed to the ftp server. Date format YYYY/MM/DD

+ NEW
SAVE
?

5. Specify the fields as seen in the above screenshot.
6. Click 'Save' button.

Note: A manual restart of the Billing Agent service might be required in order for the FTP Push settings to work properly.

Customizing Column Order in CSV Files

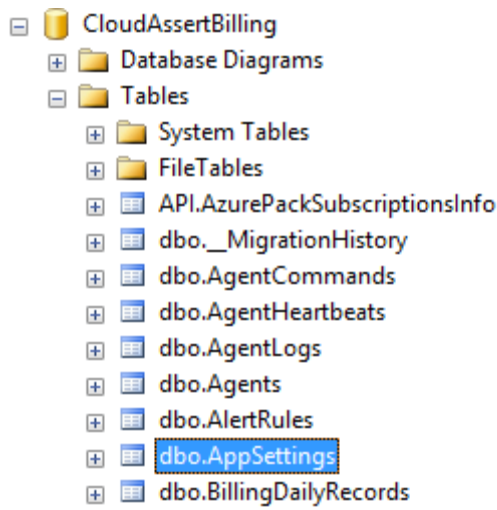
Usage and Billing solutions allows to set the column order, remove unwanted columns and give friendly name for any downloadable csv file. This can be done by editing the [App Settings Table](#) values for 'CsvColumnOrderForSubscription', 'CsvColumnOrderForAllUsers' and 'CsvColumnOrderForAllInvoices'.

Adding Custom Column and Custom Data in Invoice CSV File

Custom column and custom data for each and every column for the invoice CSV file can be added.

ADDING CUSTOM COLUMN

1. Logon to the machine where Usage and Billing database is installed.
2. Navigate to [dbo].[AppSettings] table.



3. Right click on the table name and click 'Edit top 200 Rows'.
4. Search for the key 'CsvColumnOrderForAllInvoices' (Refer [App Settings Table](#)).
5. In the corresponding value add the custom column name anywhere separated by a comma (,).

77	CsvColumnOrderForAllInvoices	, ISOCurrencySymbol:Currency, FinalBillableAmount:Total Amount, CustomColumn
----	------------------------------	--

ADDING CUSTOM DATA

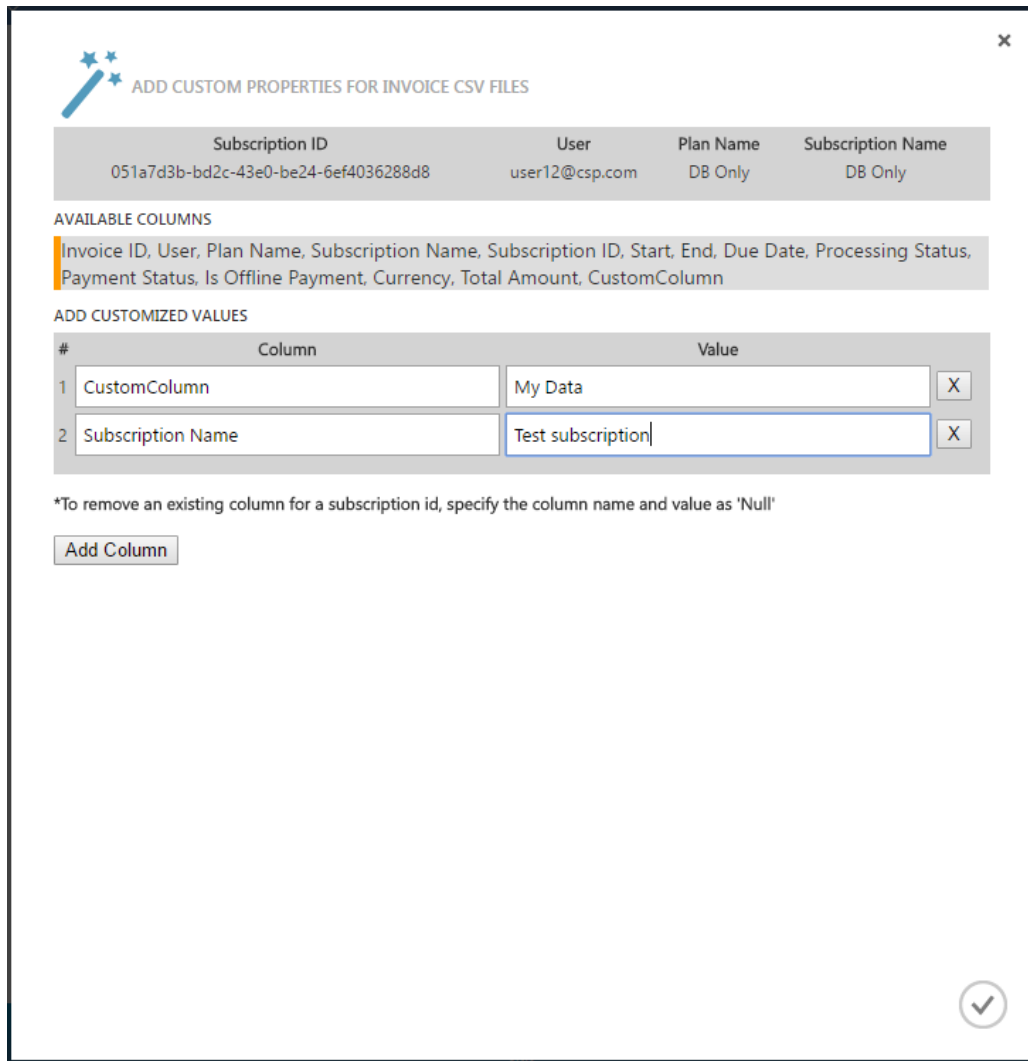
1. Logon to WAP Admin portal, click on Usage and Billing on the Left.
2. Click on the 'USAGE' Tab.
3. Click 'SUBSCRIPTION PROPERTIES' sub tab.

The screenshot shows the 'usage and billing' page in the Service Management Portal. The left sidebar has 'USAGE AND BILLING' selected. The main content area shows a table with the following data:

SUBSCRIPTION ID	USER NAME	PLAN NAME	SUBSCRIPTION ID
051a7d3b-bd2c-43e0-be24-6ef4036288d8	user12@csp.com	DB Only	DB Only
071d5fc5-0aae-446a-b6e4-9e232cc71b18	user1@csp.com	DB Only	DB Only
080c7ec5-5065-4216-a8ea-ffe2c862252c	testuser1@csp.com	DB Only	DB Only
2245a99a-503d-4ca0-9b53-a9c36aab8f05	testuser3@csp.com	DB Only	DB Only
24b37c74-f842-431a-9684-b9d110751aae	user3@csp.com	DB Only	DB Only
2aab7451-7808-4565-81f5-d867f7e464d	user77co@csp.com	DB Only	DB Only
93061b9a-d4aa-48e1-8c09-e2d36fe6f65c	user4@csp.com	DB Only	DB Only
96e29d75-4af6-4038-8a76-ca0e896873d2	user9@csp.com	DB Only	DB Only
9d22cb87-b7e0-4b4a-a57b-0ebc4b9ed6f6	user6@csp.com	DB Only	DB Only
a537494c-de09-483f-a820-4bf1d8d0e703	csptest1@csp.com	DB Only	DB Only
ba0243ac-d73c-4893-ae9e-27ecaa77d09d	testuser2@csp.com	DB Only	DB Only
cd0b66d4-7438-4971-9bfa-a94fcefbdde	testuser4@csp.com	DB Only	DB Only
d45c7369-ad48-49a2-a1c2-48ee03fd2a22	user5@csp.com	DB Only	DB Only
da0c194a-2d2a-44db-8fed-6f552c0c6c63	testuser4@csp.com	DB Only	DB Only
db1cd5f0-2c04-417d-a914-46f12ee9d6b3	newprofile1@csp.com	DB Only	DB Only

At the bottom of the table, there is a '+ ADD' button.

4. Drill down into a desired subscription and click on the 'ADD INVOICE CSV PROPERTIES' button at the bottom.



5. In the following dialog box that appears, specify the column name from the 'AVAILABLE COLUMNS' list and specify the value.
6. Click complete button to save the values.
7. Click 'INVOICES' sub tab under 'USAGE' tab.
8. Click 'Export All Invoices' button at the bottom to download the csv file.

Invoice ID	User	Plan Name	Subscription Name	Subscription ID	Start	End	Due Date	Processing Status	Payment Status	Is Offline	Currency	Total Amount	CustomColumn
2	user12@csp.com	DB Only	Test subscription	051a7d3b-bd2c-43e0-be24-6ef4036288d8	#####	#####	#####	Pending	A None	TRUE	USD	3666.667	My Data
3	user1@csp.com	DB Only	DB Only	071d5fc5-1	#####	#####	#####	Pending	A None	TRUE	USD	6533.333	
4	testuser1@csp.com	DB Only	DB Only	080c7ec5-	#####	#####	#####	Pending	A Paid	FALSE	USD	3436.496	
5	testuser3@csp.com	DB Only	DB Only	2245a99a-	#####	#####	#####	Pending	A None	FALSE	USD	3433.333	

RUN RESET USAGE

Meters' price in Usage and Billing solutions can be reset by using 'RUN RESET USAGE' button.

1. Logon to WAP Admin portal, click on Usage and Billing on the Left.
2. Click on the 'STATUS' Tab.
3. Click 'STATUS' sub tab.
4. Click "RUN RESET USAGE" button.

The screenshot shows the 'usage and billing' page in the Service Management Portal. The left sidebar contains a navigation menu with 'USAGE AND BILLING' selected. The main content area has a 'usage and billing' header and a navigation bar with 'STATUS' selected. A yellow warning banner states 'Your License will expire in 3 day(s)!'. Below this, there are sections for 'Usage Status' and 'Usage Aggregation Status', each with a table. The 'Usage Aggregation Status' table lists various aggregation names and their last processed times. At the bottom of the page, there is a 'RUN RESET USAGE' button.

SERVICE	LAST SEEN TIME (LOCAL TIME)	STATUS	MESSAGE
Usage Status			

AGGREGATION NAME	LAST PROCESSED ID / TIME	LATEST AGGREGATOR TIME (LOCAL TIME) (+0530)
BillingDailyAggregator	8/11/2017 3:06:48 PM	8/28/2017 5:30:00 AM
BillingMonthlyAggregator	8/11/2017 3:06:48 PM	8/1/2017 5:30:00 AM
BillingMonthlySummaryAggregator	8/11/2017 3:06:48 PM	8/1/2017 5:30:00 AM
UsageEventsProcessor	86 (8/11/2017 3:04:34 PM Local Time)	1/1/1753 5:30:00 AM
UsageRecordProcessor	8/11/2017 3:06:48 PM	8/28/2017 3:30:00 PM

RECORD TYPE	COUNT
Errored Hourly Records	0
Errored Daily Records	0
Errored Monthly Records	0

5. Specify the date and time from when the usage cost has to be reset.

RUN RESET USAGE DETAILS

RESET FROM DATE 05/30/2017 X

RESET FROM TIME 01:00 AM UTC

✓

6. Click Finish.

TYPES OF CREDITS IN USAGE AND BILLING

Usage and Billing allows the administrator to set credits for the tenants. There are five types of credits, they are as follows:

- i. Recurring Credit
- ii. One-Time Credit
- iii. User Credit
- iv. Unit Credit
- v. Exclusive Credit

Among the five type of credits 'Recurring Credit' and 'One-time' credit can be set while creating or editing a pricing profile. 'User Credit' is set for each user (tenant), 'Unit Credit' is set at the metered resource pricing level and 'Exclusive Credit' is set for each subscription.

Note: In order for 'Recurring Credit', 'One-time credit' and 'Exclusive credit' to work, '*Is Promotions Feature Enabled?*' Has to be enabled from Usage and Billing admin portal 'SETTINGS' 'PRODUCT FEATURES' tab.

'Unit Credit' can be applied only to subscriptions of plan type '*Pay-As-You-Go Plan*'.

Recurring Credit

Recurring credit is a credit amount that is given as discount for every month to the users who subscribe for the plan.

1. Logon to WAP Admin portal, click on Usage and Billing on the Left.
2. Click on the '*PRICING PROFILES*' Tab.
3. Select a desired pricing profile and click edit. (Recurring credit can be also set while creating a pricing profile. Refer *MANAGING PRICING PROFILES*).

PLAN PRICING DETAILS (ADVANCED) ✕

APPLY STANDARD TAX RATE?

PROMO TYPE Recurring Monthly One-Time

PROMO CREDIT AMOUNT

MINIMUM COMMITMENT DURATION DAYS

← →

1 3

4. Click Next and select 'PROMO TYPE' as 'Recurring Monthly'.
5. Specify the 'PROMO CREDIT AMOUNT'.
6. Click Next and save the pricing profile.

One-Time Credit

As the name indicates one-time credit expires over a period. Any tenant who subscribe for this plan gets a discount for a number of days from the date of subscription of the plan.

1. Logon to WAP Admin portal, click on Usage and Billing on the Left.
2. Click on the 'PRICING PROFILES' Tab.
3. Select a desired pricing profile and click edit. (one-time credit can be also set while creating a pricing profile. Refer [MANAGING PRICING PROFILES](#)).

PLAN PRICING DETAILS (ADVANCED) ×

APPLY STANDARD TAX RATE?

PROMO TYPE Recurring Monthly One-Time

PROMO CREDIT AMOUNT

PROMO PERIOD DAYS

MINIMUM COMMITMENT DURATION DAYS

← → 3

1

4. Click Next and select 'PROMO TYPE' as 'One-time'.
5. Specify the 'PROMO CREDIT AMOUNT'.
6. Specify the 'PROMO PERIOD'.
7. Click Next and save the pricing profile.

➤ From the above screen-shot, any user who subscribe for this plan will be given a discount of \$100 for a period of 30 days from the day of the subscription.

➤ If the user subscribes in the middle of the month (e.g.: on 15th), for the current month \$50 (*calculated for remaining 15 days of the month (15th-30th)*) will be given as discount and in the next month remaining \$50 will be given as discount.

User Credit

Usage and Billing allows the admin to set credits for individual users. User credits can be set to user irrespective of the plan they subscribe.

1. Logon to WAP Admin portal, click on Usage and Billing on the Left.
2. Click on the 'USER CREDIT' Tab.
3. Click 'ADD' button.


USER CREDIT DETAILS ✕

USER ID

CREDIT AMOUNT

Negative credits can be added to an existing user, to deduct his current Credits.

IS LOW CREDITS CHECKER ENABLED?



4. Select the desired 'USER ID' from the select box.
5. Specify the 'CREDIT AMOUNT'.
6. Click Finish to set the credit for the user.

Note: User credits are specific to user and are not dependent on any plan or pricing profile.

- For existing users, credits can be reduced by selecting the 'User Id' from the select box and giving a negative value in the 'Credit Amount' field.
- For example, for a user \$100 credit would have been set. It can be reduced to \$50 by clicking 'Add' button and selecting the same user id from the select box and specifying the credit amount as -50.

SUSPENDING SUBSCRIPTIONS UPON USAGE EXCEEDING ALLOWED CREDITS

Enabling '*Low Credit Checker Settings*' will automatically suspend subscriptions of user if the usage cost exceeds the allowed credit limit. This can be turned off for individual users while setting User Credits.

Note: This feature is available for versions higher than v1.0.9.2.

1. Repeat steps 1 to 3 under '*User Credit*' section.

USER CREDIT DETAILS ✕

USER ID sub1@mmf.com ▼

CREDIT AMOUNT 50

Negative credits can be added to an existing user, to deduct his current Credits.

IS LOW CREDITS CHECKER ENABLED?

✓

2. Checking 'IS LOW CREDITS CHECKER ENABLED?' will suspend the subscriptions of the user upon usage cost exceeding the allowed credit.
3. Unchecking 'IS LOW CREDITS CHECKER ENABLED?' will not suspend the subscriptions of the users.

Unit Credit

Unit credit is given for meters of resource while configuring a 'Pay-As-You-Go plan' (Refer [Creating a Pay-As-You-Go Pricing Profile](#)).

1. Logon to WAP Admin portal, click on Usage and Billing on the Left.

2. Click on the '*PRICING PROFILES*' Tab.
3. Drill down into a desired pricing profile.
4. Select a desired metered resource and click 'EDIT' button.
5. After ensuring that the 'MONTHLY UNIT PRICE' is set, click next button.

METERED RESOURCE PRICING
Advanced Details

HOURLY UNIT CREDITS

RECORD TYPE

REGION

RESOURCE CONDITIONS

FILTER PROPERTIES
[Add](#)

1

6. Specify the 'HOURLY UNIT CREDITS' and click finish to save the metered resource pricing.
 - From the above screen-shot, for every hour of usage \$0.1 is discounted from the usage cost.

Exclusive Credit

Usage and Billing allows the admin to set credits for individual subscriptions. Exclusive credits are specific to subscription and are not dependent on any plan or pricing profile. It can be given in four different ways:

- i. Recurring Monthly Credit
 - Recurring credit is a credit amount that is given as discount for every month to the subscription. For the first month alone, the credit amount will be prorated from the date of subscription.
- ii. Recurring Monthly Credit in Percentage
 - Recurring credit in Percentage is similar to 'Recurring Credit', the only difference is that credit amount computation. For 'Recurring Credit' the specified amount will be directly applied to the subscription but for 'Recurring Credit in Percentage', the credit amount will be calculated as given credit percent of total cost of the subscription. For e.g. If given credit percent = 5 and total cost = 100, then credit amount of 5 will be applied to subscription.

iii. One-Time Credit

- One-time credit is a credit amount that is given as discount to the subscription for one time only.

iv. One-Time Credit in Percentage

- The One-Time Credit in Percentage is similar to 'One-Time Credit' but the credit calculation is different for both. For 'One-Time Credit' the specified amount will be directly applied to the subscription but for "One-Time Credit in Percentage", the credit amount will be computed same as 'Recurring Monthly Credit in Percentage'

Exclusive Recurring Monthly Credit

Exclusive Recurring Monthly credit can be given as direct amount or as percentage. Based on the credit type selected appropriate credit will be applied to the subscription.

1. Logon to WAP Admin portal, click on Usage and Billing on the Left.
2. Click on the 'USAGE' Tab.
3. Click on the 'SUBSCRIPTION PROPERTIES' sub tab.
4. Drill down into a desired subscription and click 'ADD EXCLUSIVE CREDITS' button.

ADD EXCLUSIVE CREDITS FOR SUBSCRIPTION

Subscription ID	User	Plan Name	Subscription Name
cb89eff0-c93b-44f2-b51a-f4478d284a7f	uab@test1.com	UsagePlan	changesubname2

ADD CREDITS

Credit Type	Value
Recurring Monthly Credit	50

5. Select the credit type as *'Recurring Monthly Credit'* or *'Recurring Monthly Credit in Percentage'*.
6. Specify the desired credit value and click Finish.

Exclusive One-Time Credit

Exclusive One-Time credit can be given as direct amount or as percentage. Based on the credit type selected appropriate credit will be applied to the subscription.

- Repeat steps 1 to 4 in *'*

 1. Exclusive Recurring Monthly Credit' section.

ADD EXCLUSIVE CREDITS FOR SUBSCRIPTION

Subscription ID	User	Plan Name	Subscription Name
cb89eff0-c93b-44f2-b51a-f4478d284a7f	uab@test1.com	UsagePlan	changesubname2

ADD CREDITS

Credit Type	Value
One-Time Credit in Percentage	5

2. Select the credit type as *'One-Time Credit'* or *'One-Credit Credit in Percentage'*.
3. Specify the desired credit value and click Finish.

MANAGING PAYMENT GATEWAY INTEGRATION

The integrated payment gateway allows the users to make payments for their consumption of services based on the actual usage. It allows the users to pay their invoice from the Usage and Billing solution.

Note: The payment gateway integration is a licensed feature and will not be available in the trial versions of the Usage and Billing solution. It is available for versions higher than v1.8.2.1.

Enabling Payment Gateway

1. Logon to WAP Admin portal, click on Usage and Billing on the Left.
2. Click on the 'SETTINGS' Tab.
3. Click 'PRODUCT FEATURES' sub tab.
4. Enable " Is Payment Gateway Feature Enabled?"

IS PAYMENT GATEWAY FEATURE
ENABLED?



SAVE



5. Click 'SAVE' button.

Configuring CyberSource for Payment Gateway Integration

1. Logon to <https://www.CyberSource.com/register/> and click 'Register' button at the bottom.

CyberSource
the power of payment

Evaluation Account Sign-up

1 Evaluation Form 2 Review Information 3 Terms and Conditions 4 Registration Complete

By completing the evaluation registration process, you will be able to send test transactions to CyberSource. Your information will not be disclosed to third parties. Please refer to our [Privacy Policy](#) for details. * Required Field

First Name*
Cloud

Last Name*
Test

Company*
Cloud Assert

Website
www.cloudassert.com

Business Email*
support@cloudassert.com

Business Phone*
+1 (800) 569-5610

Country*
United States Minor Outlying Islands

Postal Code
98052

Choose your Merchant ID*
CloudAssertPaymentProfile

Next

2. Open a notepad file and make a note of the Merchant ID and save the file as 'CyberSource_Credential.txt'.
3. Click next till the registration process is complete in the CyberSource registration page.
4. A verification mail will be sent to the email id specified during the registration process.
5. From the verification mail make a note of the Organization Id and the contact email Id in a notepad file (e.g. CyberSource_Credential.txt) and click the link in the mail.
6. Specify the Organization Id and contact email Id and click 'SUBMIT' button.

CyberSource®

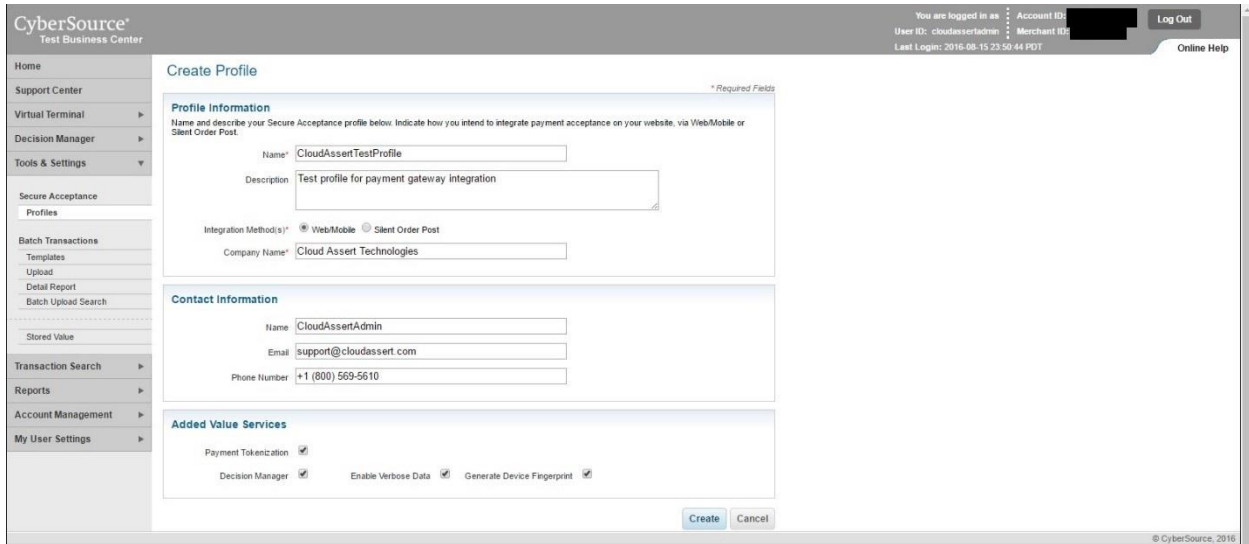
Live Business Center
Test Business Center

Verify Identity

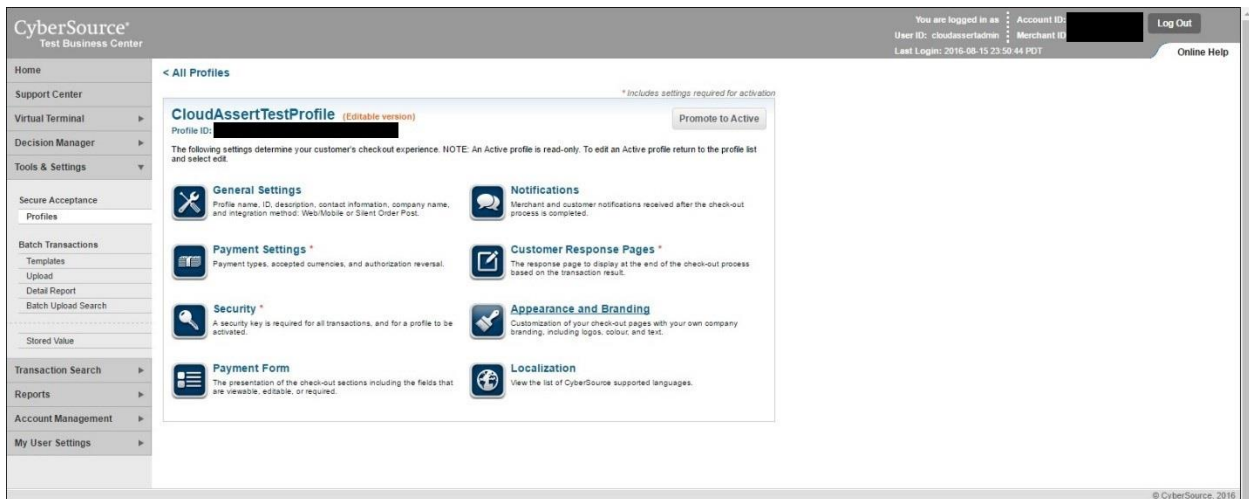
Organization/Merchant ID

Contact Email

7. After completing the Account Admin account and Merchant admin account login to 'https://ebc.cybersource.com/ebc/login/Login.do' if not already logged in. {go to https://ebctest.cybersource.com/ebctest/login/Login.do if you are using the Test environment.}
8. Navigate to Tools & Settings -> Profiles and click Create profile.
9. Specify the details and click create.

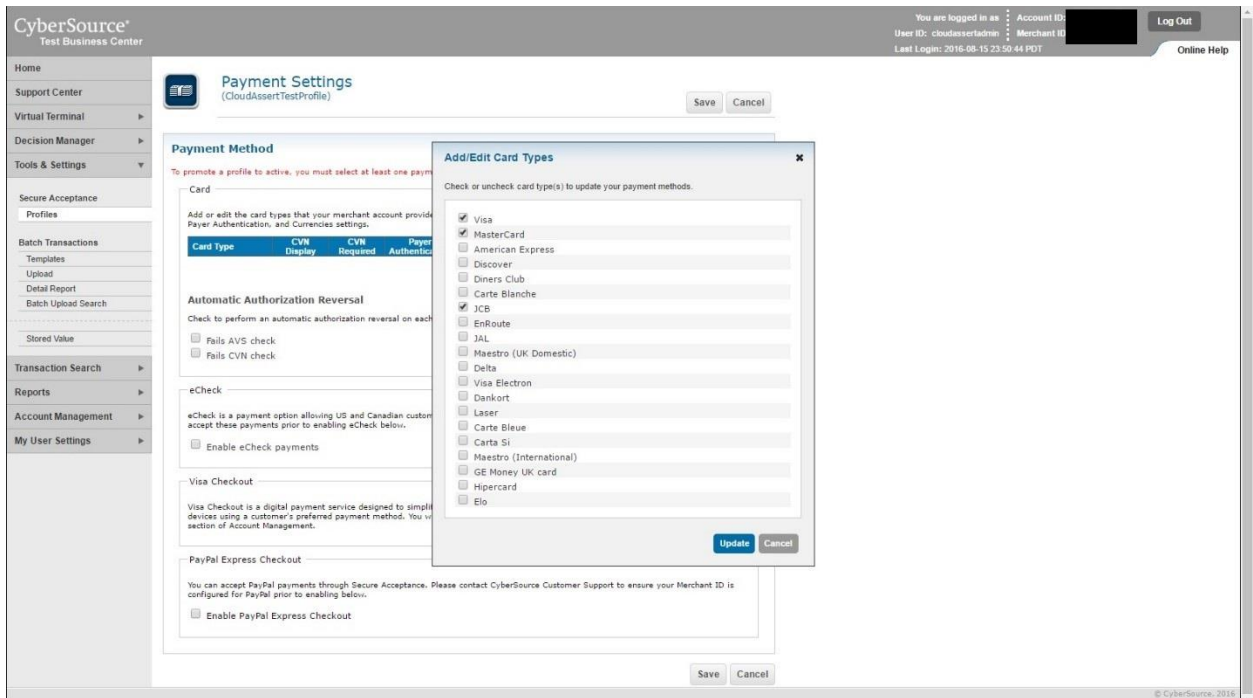


10. Once the profile is successfully created the following screen appears, make a note of the Profile ID from the top of the screen in the notepad file (eg. CyberSource_Credential.txt).



CONFIGURING PAYMENT SETTINGS

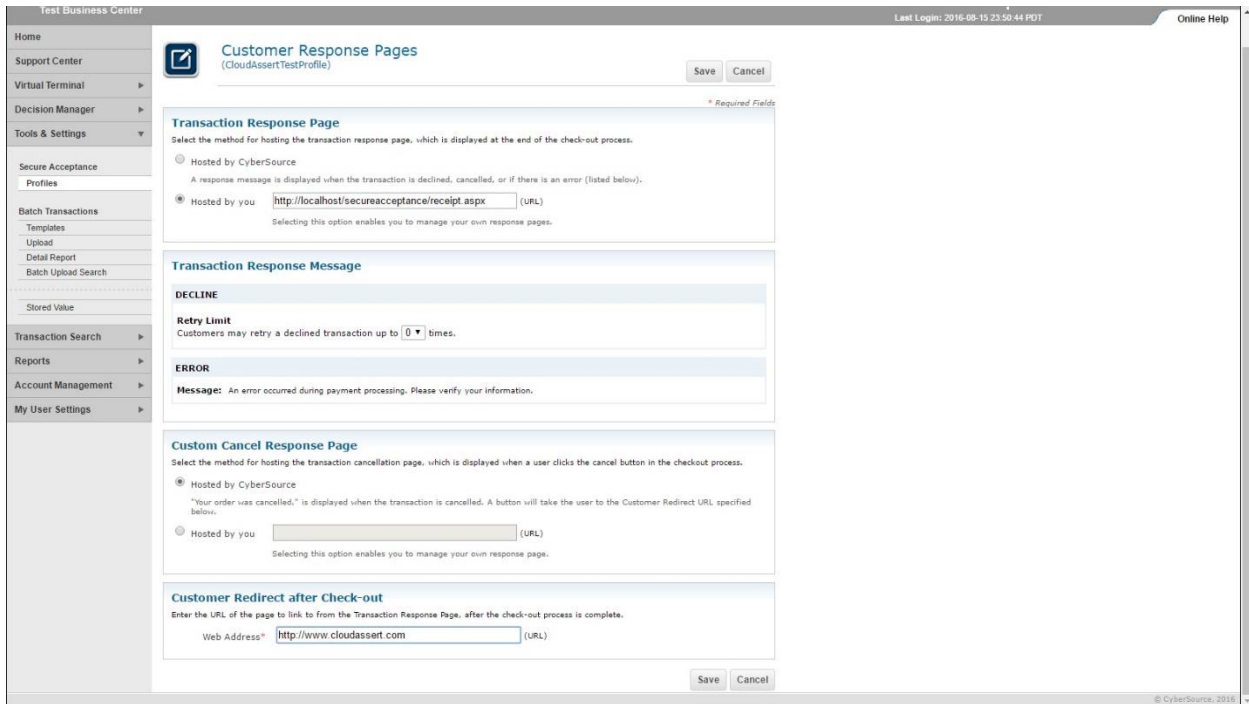
1. Click the 'Payment Settings' icon and click 'Add/ Edit Cards types'.
2. Select the type of card from the list which will be later used by the tenant to make the payments.



3. Click 'Update' button and click 'Save' button.

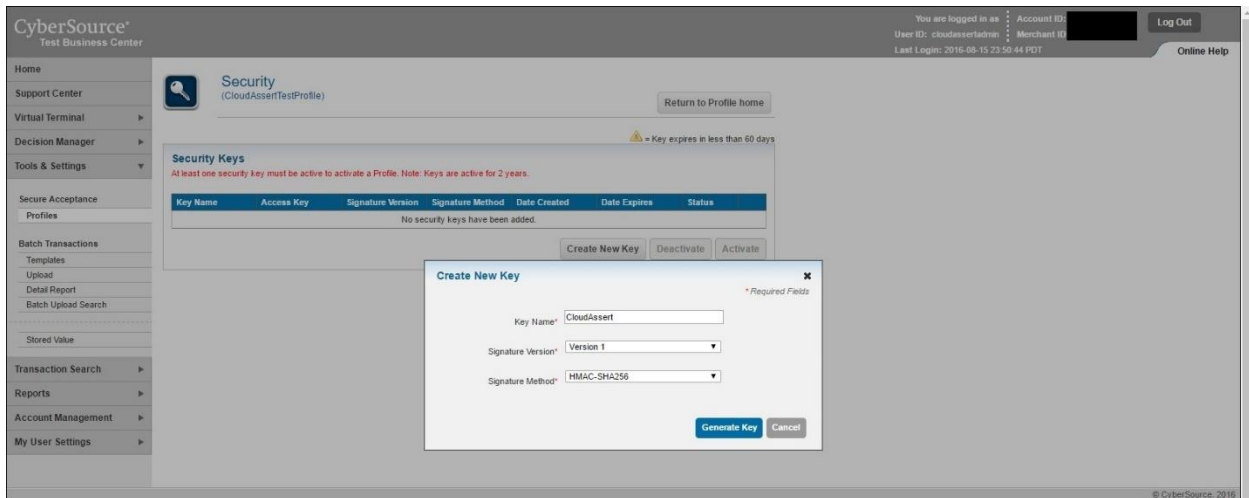
CONFIGURING CUSTOM RESPONSE PAGE

1. Click 'Customer Response Pages' from the profile home screen.
2. Select 'Hosted by you' radio button and specify as 'http://localhost/secureacceptance/receipt.aspx'
3. Specify the 'Web Address' at the bottom and click the 'Save' button.

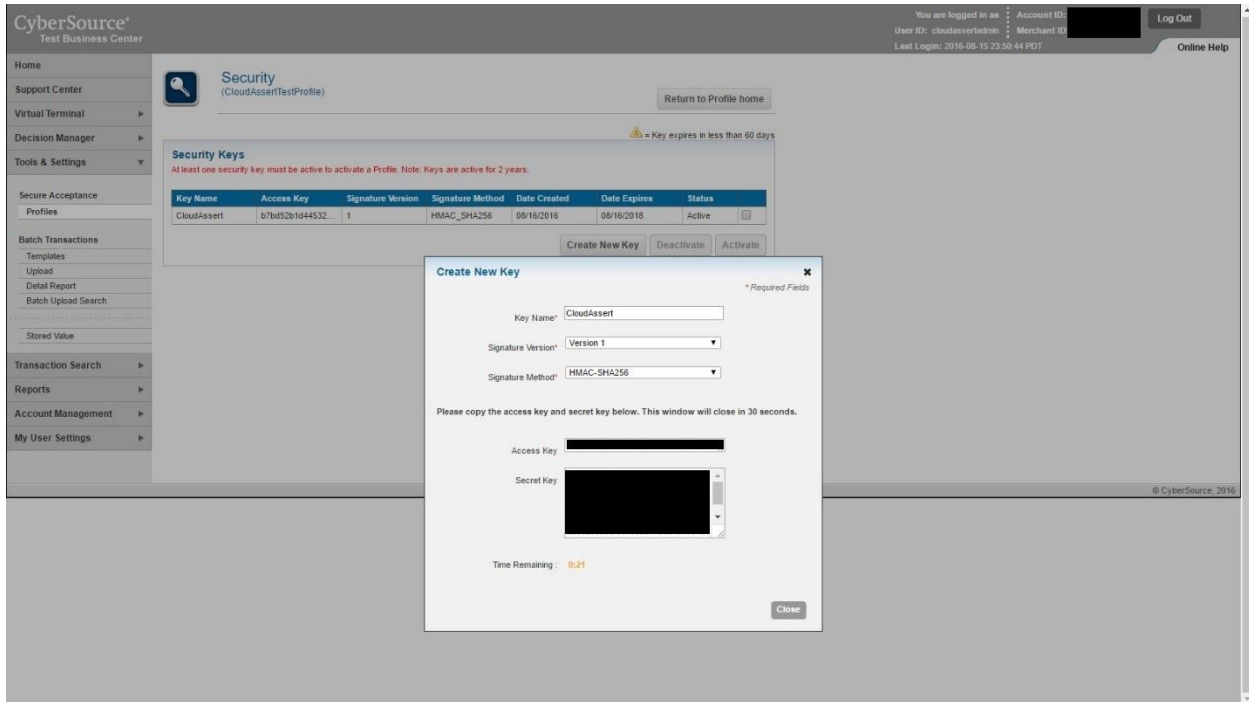


CONFIGURING SECURITY SETTINGS

1. Click 'Security' icon form Profile home screen.
2. Click 'Create New Key' button.



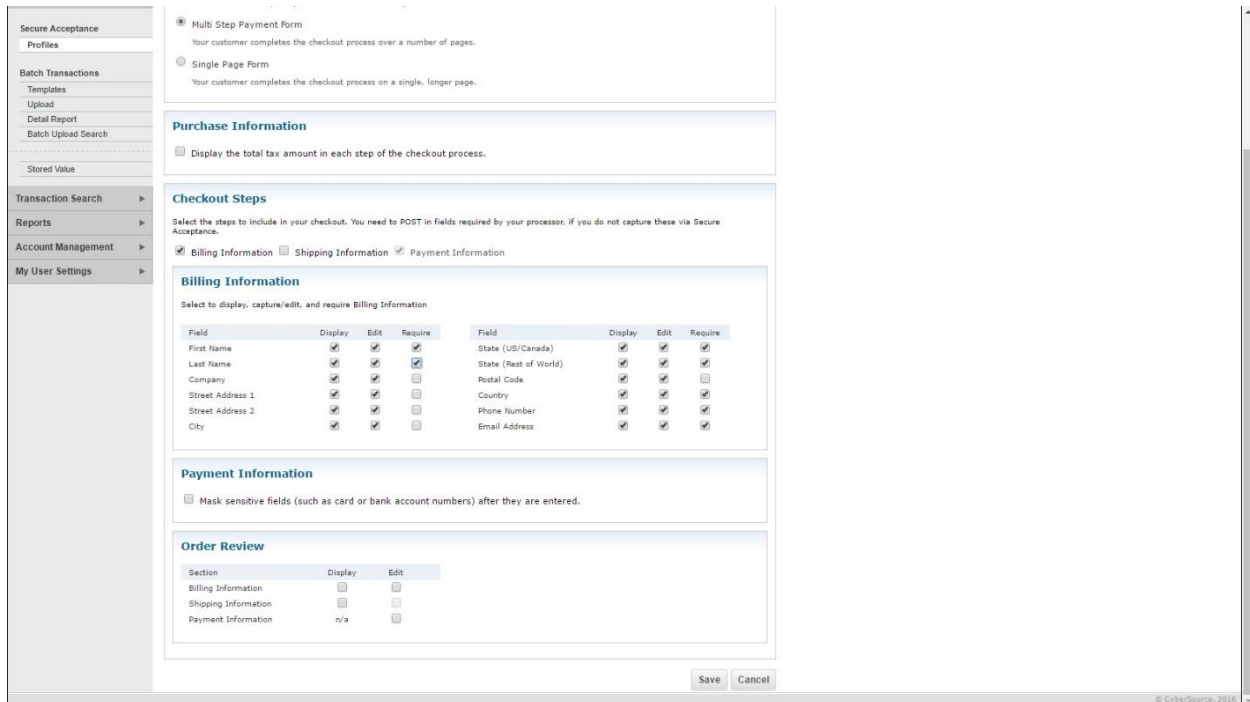
3. Specify the 'Key name', 'Signature Version' version as Version 1 and "Signature Method as HMAC-SHA256 and click 'Generate Key' button.



4. Copy paste the 'Access Key' and 'Secret Key' in a notepad file (e.g. CyberSource_Credential.txt) and click 'Close' button.

CONFIGURING PAYMENT FORM

1. Click 'Payment Form' icon from Profile home screen.
2. Check 'Billing Information' check box from 'Checkout Steps' section.
3. Check the necessary fields and give Read/Write permission for the fields and specify whether the Field is required or not by checking/unchecking necessary fields.
4. Click 'Save' button.



Important Note: Once all the settings are configured in the profile, it is mandatory to click 'Promote to Active' button from Profile home screen.

Configuring Database

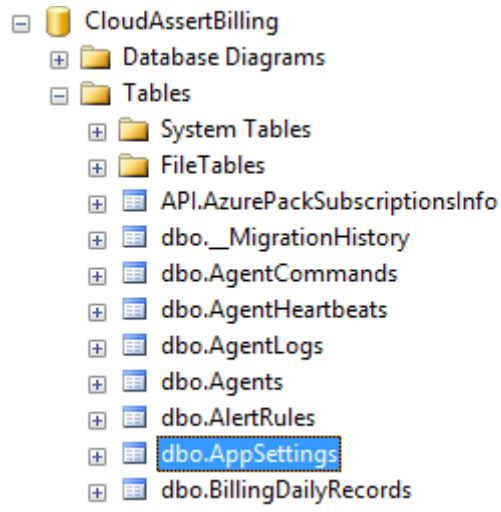
Once the payment gateway settings are configured it is necessary to update the CloudAssertBilling database in-order for the payment gateway integration to take effective.

PRE-REQUISITES

- All the credentials such as 'Merchant Id', 'Merchant Profile Id', 'Access Key' and 'Secret/Security Key' must be saved into a notepad file. (e.g. CyberSource_Credential.txt)
1. These credential need to be encrypted before inserting them to the database.
 2. Write to support@cloudassert.com requesting the above credentials to be encrypted.
 3. A SQL query will be sent within 1 to 2 business days.
 4. Run the query in the SQL Management Studio.

Configuring Postback Call

6. Logon to the machine where Usage and Billing database is installed.
7. Navigate to [dbo].[AppSettings] table.



8. Right click on the table name and click 'Edit top 200 Rows'.
9. Search for 'PostbackUrlForAdmins' and 'PostbackUrlForTenants'.
10. Replace the Admin URL and Tenant URL in the highlighted area as seen in the below image.

71	1...	Postback UrlForAdmins	https://<AdminSiteMachine>.30091/CloudAssertBillingAdmin/PaymentPostback	PaymentGateway	System
72	1...	Postback UrlForTenants	https://<TenantSiteMachine>.30081/CloudAssertBillingTenant/PaymentPostback	PaymentGateway	System

11. Save the table.

MANAGING WHMCS INTEGRATION

Usage and Billing solution is capable of integrating with WHMCS to process the invoices of tenants and integrate with popular payment gateways to make payments. Features supported:

- Automated user and subscription creation in Azure Pack, when a new user orders a product in WHMCS
- Automated email notification to user with login information for Windows Azure Pack portal
- Automated Subscription life cycle sync with Windows Azure Pack and WHMCS
- WHMCS Invoice generation based on tenant user usage in Windows Azure Pack

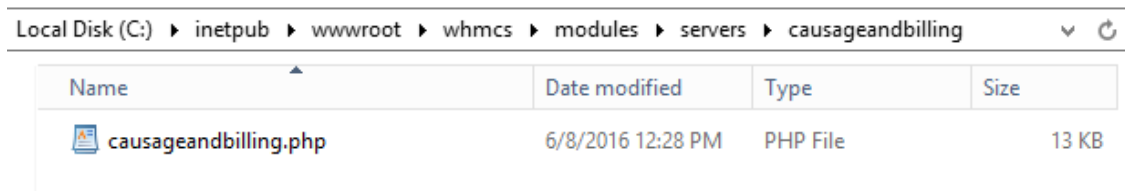
Configuring WHMCS Settings

PRE-REQUISITES

1. Download WHMCS (v6 or later) and install it in a machine with optimal configuration.

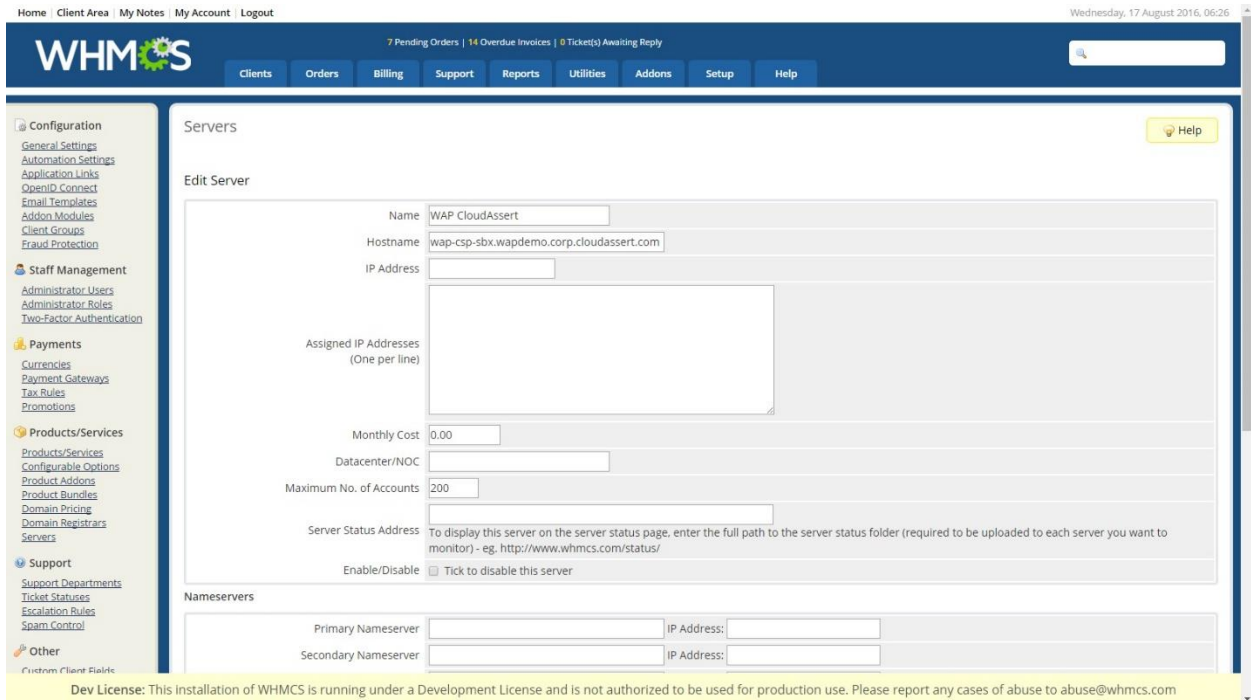
USAGE & BILLING PHP MODULE

1. Go to the machine where Usage & Billing API Service is setup.
2. Copy the C:\inetpub\MgmtSvc-CloudAssertBilling\WHMCSModule\causageandbilling folder to the \modules\servers folder under WHMCS website folder in WHMCS machine (e.g., C:\inetpub\wwwroot\whmcs\modules\servers).



ADDING U&B API SERVER

1. Login to WHMCS admin portal in the web browser
2. Click Setup→Products/Services→Servers.
3. Click Add New Server Button.



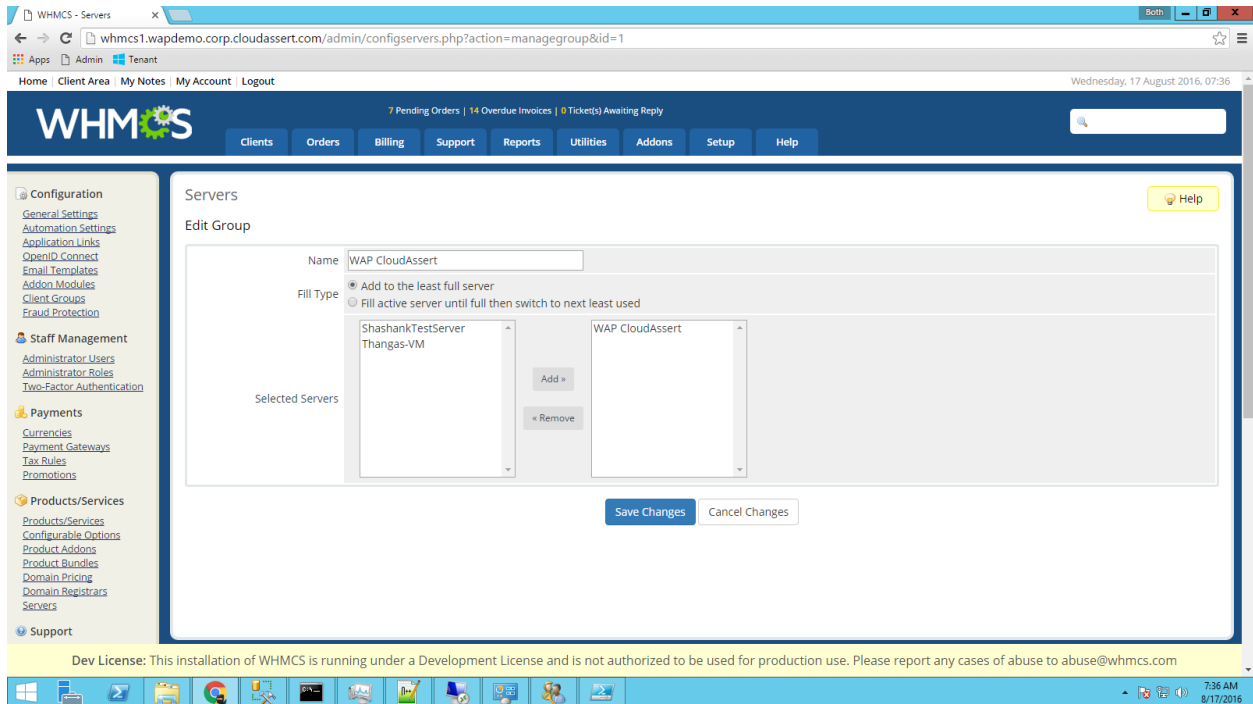
4. Specify the name, Hostname or the IP Address of the machine where the Usage and Billing API Service setup is installed.
5. Under 'Server Details' section specify select the type as 'Causageandbilling', give the username and password which was given during the installation of Usage and Billing API setup. (*Refer [Install Usage and Billing API Service](#)*).

The screenshot shows the WHMCS configuration interface. On the left is a sidebar with navigation links. The main content area is divided into sections: 'Datacenter/NOC' with fields for 'Maximum No. of Accounts' (set to 200) and 'Server Status Address'; 'Nameservers' with five rows for 'Primary' through 'Fifth Nameserver' and their 'IP Address'; and 'Server Details' with a dropdown for 'Type' (set to 'Causageandbilling'), 'Username' (set to 'admin'), 'Password' (masked), and an 'Access Hash' field. A 'Secure' checkbox is also present. At the bottom of the form are 'Save Changes' and 'Cancel Changes' buttons.

6. Click 'Save Changes' button.

ADDING A SERVER GROUP

1. Once the server is created and save successfully click 'Create New Group' button from Server home screen.
2. Specify the group name and select the server(s) that needs to be added to the group from the list of available servers.

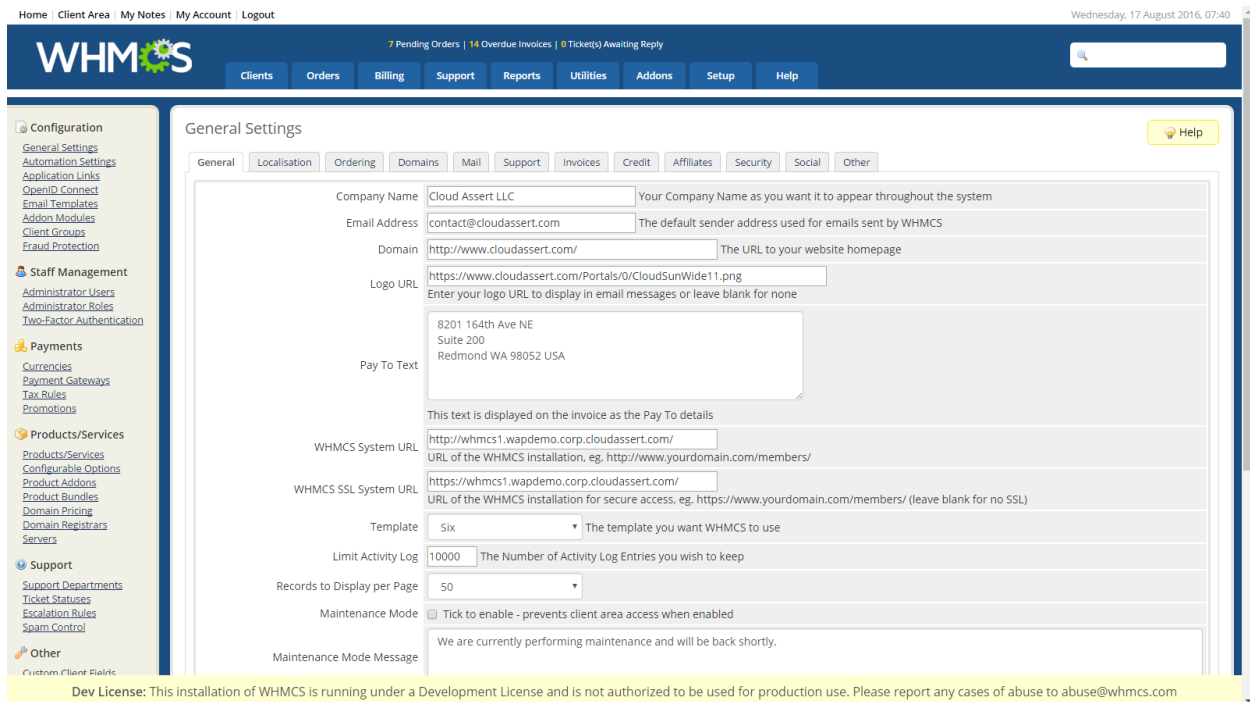


3. Click 'Save Changes' button.

CONFIGURING GENERAL SETTINGS

1. Select Setup → General Settings tab from the home screen.

CLOUD ASSERT USAGE AND BILLING SETUP GUIDE

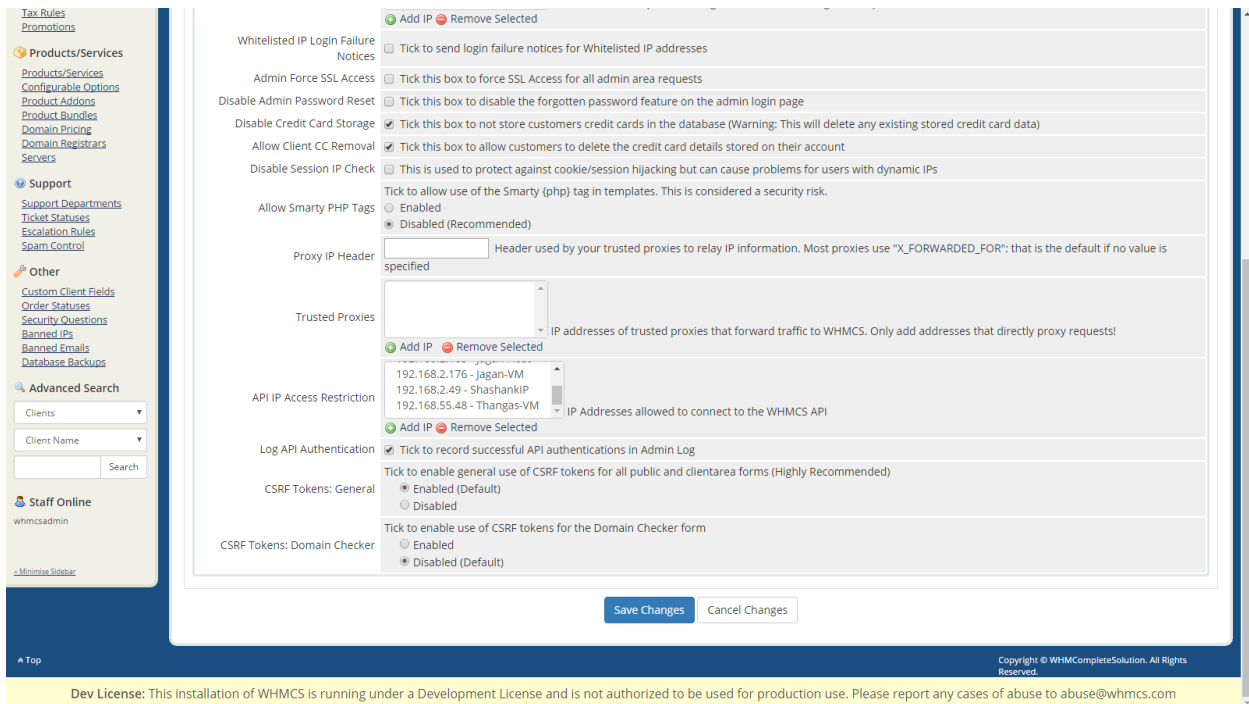


The screenshot shows the WHMCS General Settings page. The top navigation bar includes 'Home', 'Client Area', 'My Notes', 'My Account', and 'Logout'. The main navigation bar has 'Clients', 'Orders', 'Billing', 'Support', 'Reports', 'Utilities', 'Addons', 'Setup', and 'Help'. The left sidebar lists various configuration categories: Configuration, Staff Management, Payments, Products/Services, Support, and Other. The main content area is titled 'General Settings' and contains several fields for configuration:

- Company Name: Cloud Assert LLC
- Email Address: contact@cloudassert.com
- Domain: http://www.cloudassert.com/
- Logo URL: https://www.cloudassert.com/Portals/0/CloudSunWide11.png
- Pay To Text: 8201 164th Ave NE, Suite 200, Redmond WA 98052 USA
- WHMCS System URL: http://whmcs1.wapdemo.corp.cloudassert.com/
- WHMCS SSL System URL: https://whmcs1.wapdemo.corp.cloudassert.com/
- Template: Six
- Limit Activity Log: 10000
- Records to Display per Page: 50
- Maintenance Mode: Tick to enable - prevents client area access when enabled
- Maintenance Mode Message: We are currently performing maintenance and will be back shortly.

At the bottom of the page, a yellow banner reads: 'Dev License: This installation of WHMCS is running under a Development License and is not authorized to be used for production use. Please report any cases of abuse to abuse@whmcs.com'

2. Specify the necessary fields under all the sub-tabs.
3. For end of month (post-usage) invoicing, disable automatic invoice on order creation by choosing 'Just show the order completed page' option under Ordering tab → Auto Redirect on Checkout.
4. Under Security tab → API IP Access Restriction field, click 'Add IP' button and specify the IP address of the U&B API server that was created earlier.



5. Click 'Save Changes' button.

CONFIGURING PRODUCTS / SERVICES SETTINGS

1. Click Setup→Products/Services and click 'Create a New Group' to create a new Product Group (e.g., Pay-as-you-go Plans)
2. Click Setup→Products/Services and click 'Create a New Product'
3. Specify the necessary details under 'Details' tab and save them.
4. Under 'Pricing' tab specify Payment Type as 'Recurring' and configure One Time/Monthly Price (for advertising the product) and save the settings.
5. Under 'Module Settings' tab select the Module Name as 'Causageandbilling' and click 'Save Changes'.
6. Once it gets saved select the Server Group created earlier.

CLOUD ASSERT USAGE AND BILLING SETUP GUIDE

The screenshot shows the WHMCS interface for editing a product. The top navigation bar includes 'Home', 'Client Area', 'My Notes', 'My Account', and 'Logout'. The main header displays '7 Pending Orders | 14 Overdue Invoices | 0 Ticket(s) Awaiting Reply' and a search bar. The left sidebar contains a menu with categories like Configuration, Staff Management, Payments, Products/Services, Support, and Other. The main content area is titled 'Products/Services' and 'Edit Product'. It features several tabs: Details, Pricing, Module Settings, Custom Fields, Configurable Options, Upgrades, Free Domain, Other, and Links. The 'Module Settings' tab is active, showing fields for 'Module Name' (Causageandbilling) and 'Server Group' (WAP CloudAssert). Below these are two columns of settings for 'CA Billing Service'. The first column includes 'Is use Host Name' (checked), 'Validate SSL Certificate' (unchecked), and 'CA Billing Service - Host Name' (empty). The second column includes 'API Port Number' (30045), 'Is update Next Due Date on Create' (checked), and 'CA Billing Service - API Port Number' (empty). At the bottom, there are four radio buttons for automatic setup: 'Automatically setup the product as soon as an order is placed' (selected), 'Automatically setup the product as soon as the first payment is received', 'Automatically setup the product when you manually accept a pending order', and 'Do not automatically setup this product'. 'Save Changes' and 'Cancel Changes' buttons are at the bottom right. A yellow banner at the bottom reads: 'Dev License: This installation of WHMCS is running under a Development License and is not authorized to be used for production use. Please report any cases of abuse to abuse@whmcs.com'.

7. Check 'CA Billing Service - Is use Host Name' if the server created uses host name to connect, if it uses IP Address to connect, the check box can be left blank.
8. Check 'Automatically setup the product as soon as an order is placed' radio button.
9. Click 'Custom Fields' tab.
10. Specify the Field Name as 'SubscriptionID' and Field Type as 'Text box', click 'Save Changes'

CLOUD ASSERT USAGE AND BILLING SETUP GUIDE

Home | Client Area | My Notes | My Account | Logout

7 Pending Orders | 14 Overdue Invoices | 0 Ticket(s) Awaiting Reply

WHMCS

Configuration | Staff Management | Payments | Products/Services | Support | Other

Products/Services

Help

Changes Saved Successfully!
Your changes have been saved.

Back to Product List

Details | Pricing | Module Settings | Custom Fields | Configurable Options | Upgrades | Free Domain | Other | Links

Add New Custom Field

Field Name	SubscriptionID	Display Order	0
Field Type	Text Box		
Description		The explanation to show users	
Validation		Regular Expression Validation String	
Select Options		For Dropdowns Only - Comma Separated List	
<input type="checkbox"/> Admin Only <input type="checkbox"/> Required Field <input type="checkbox"/> Show on Order Form <input type="checkbox"/> Show on Invoice			

Save Changes | Cancel Changes

Dev License: This installation of WHMCS is running under a Development License and is not authorized to be used for production use. Please report any cases of abuse to abuse@whmcs.com

11. Add another custom field. Specify the Field Name as 'Windows Azure Pack Plan', Field type as 'Drop Down' and specify an appropriate Windows Azure Pack Plan name in the Select Options field.

Home | Client Area | My Notes | My Account | Logout

7 Pending Orders | 14 Overdue Invoices | 0 Ticket(s) Awaiting Reply

WHMCS

Configuration | Staff Management | Payments | Products/Services | Support | Other

Products/Services

Help

Changes Saved Successfully!
Your changes have been saved.

Back to Product List

Details | Pricing | Module Settings | Custom Fields | Configurable Options | Upgrades | Free Domain | Other | Links

Add New Custom Field

Field Name	SubscriptionID	Display Order	0
Field Type	Text Box		
Description	SubscriptionID	The explanation to show users	
Validation		Regular Expression Validation String	
Select Options		For Dropdowns Only - Comma Separated List	
<input checked="" type="checkbox"/> Admin Only <input type="checkbox"/> Required Field <input type="checkbox"/> Show on Order Form <input checked="" type="checkbox"/> Show on Invoice			

Delete Field

Field Name	Windows Azure Pack Plan	Display Order	0
Field Type	Drop Down		
Description	Windows Azure Pack Plan	The explanation to show users	
Validation		Regular Expression Validation String	
Select Options	GoldPlan	For Dropdowns Only - Comma Separated List	
<input type="checkbox"/> Admin Only <input checked="" type="checkbox"/> Required Field <input checked="" type="checkbox"/> Show on Order Form <input checked="" type="checkbox"/> Show on Invoice			

Delete Field

Add New Custom Field

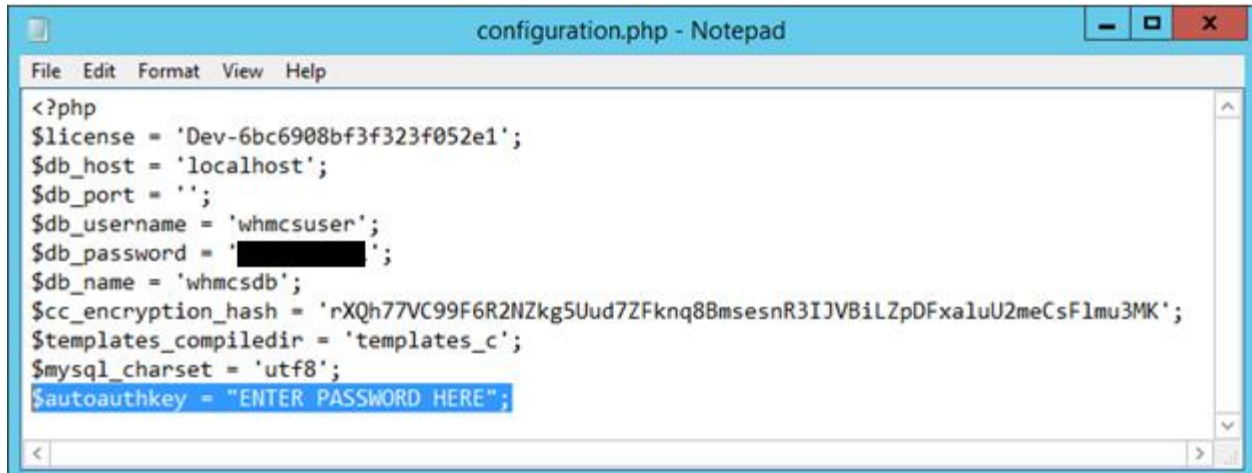
Field Name		Display Order	0
------------	--	---------------	---

Dev License: This installation of WHMCS is running under a Development License and is not authorized to be used for production use. Please report any cases of abuse to abuse@whmcs.com

12. For the SubscriptionID and Windows Azure Pack Plan custom fields, enable the appropriate checkboxes as shown in the above screenshot.
13. Click 'Save Changes'.

UPDATING AUTH KEY

1. Logon to the machine where WHMCS is installed.
2. Open 'configuration.php' from WHMCS website folder (e.g., 'C:\inetpub\wwwroot\whmcs').



```

configuration.php - Notepad
File Edit Format View Help
<?php
$license = 'Dev-6bc6908bf3f323f052e1';
$db_host = 'localhost';
$db_port = '';
$db_username = 'whmcsuser';
$db_password = '██████████';
$db_name = 'whmcsdb';
$cc_encryption_hash = 'rXQh77VC99F6R2NZkg5Uud7ZFknq8BmsesnR3IJVBiLZpDFxaluU2meCsF1mu3MK';
$templates_compiledir = 'templates_c';
$mysql_charset = 'utf8';
$autoauthkey = "ENTER PASSWORD HERE";

```

3. Make a note of the password that is specified.
4. Save the Document.
5. Restart WHMCS web server.

CONFIGURING WHMCS IN USAGE AND BILLING SETTINGS

1. Logon to WAP Admin Portal, Click Usage and Billing from the left pane.
2. Click Settings → WHMCS tab.
3. Check the following check boxes:
 - a. SYNCTOENABLED?
 - i. This enables publishing of invoices to WHMCS
 - b. SHOW BILLING PORTAL LINK TO TENANTS?
4. SYNCFROMENABLED? Check box field is obsolete. Leave it as it is.

usage and billing

PRICING PROFILE USAGE USER CREDITS REPORTS STATUS NOTIFICATIONS OPERATIONS **SETTINGS** USER PROFILES LICENSE

DATABASE USAGE PROCESSOR WAP ADMIN API API SECURITY PRODUCT FEATURES INVOICE EMAIL WHMCS PRICING CATALOG

SYNCFROMENABLED?

new WHMCS Orders will automatically trigger new subscription creation and user creation in Azure Pack

SYNCTOENABLED?

SHOW BILLING PORTAL LINK TO TENANTS?

URL

like http://WHMCSserver/whmcs/includes/api.php.
Make sure the Billing Agent machine IP is added to allowed IP Address in WHMCS Settings

USERNAME

PASSWORD

NEXTDUEDAYONPRODUCTACTIVATION

AUTOAUTHKEY

TENANTLOGINURL

PRODUCTIDCSV

comma separated product IDs from WHMCS, only these product IDs will auto trigger subscription creation in Azure Pack. Like: 1,2,5,6

- Specify the URL field as *https://**WHMCSInstalledMachine**/includes/api.php*.

6. Specify the WHMCS administrator username and password.
7. Change the Next Due Day On Product Activation (default is 20th). This denotes the invoice due date.
8. Enter the Auth Key specified in the 'configuration.php' file in the WHMCS installed machine (Refer [Updating Auth Key](#)).
9. Specify the Tenant Logon URL as *https://**WHMCSInstalledMachine**/dologin.php*.
10. Leave PRODUCTIDCSV field as empty (this field is obsolete).
11. Click 'SAVE' button.
12. Ensure WAP Admin API Settings are configured (refer [Step 2.3 – Configuring WAP Admin API Endpoint Settings](#)).

SIGNING UP A NEW TENANT USER

1. Tenants can sign up as new users and place orders from WHMCS portal. If Tenant needs to be onboarded by an admin to WHMCS, then follow the instructions below.
2. Click Clients → Add New Clients. Specify the fields and click 'Save Changes' button.

3. Click Product / Services tab.

The screenshot displays the WHMCS Client Profile interface. The client is 'Ravi C K'. The current product is 'VMware Plan'. The server is 'WAP CloudAssert (8/200 Acc)'. The domain is 'www.whois intoDNS'. The status is 'Active'. The vCPU is '4 vCPU \$70.00 USD'. The edition is 'Web'. The billing cycle is 'Monthly'. The payment method is 'PayPal'. The registration date is '2016/03/09'. The next due date is '2016/04/20'. The subscription ID is '51b8deee-02b7-454d-b44d-19d0fbb02b54'. The Windows Azure Pack Plan is 'GoldPlan'.

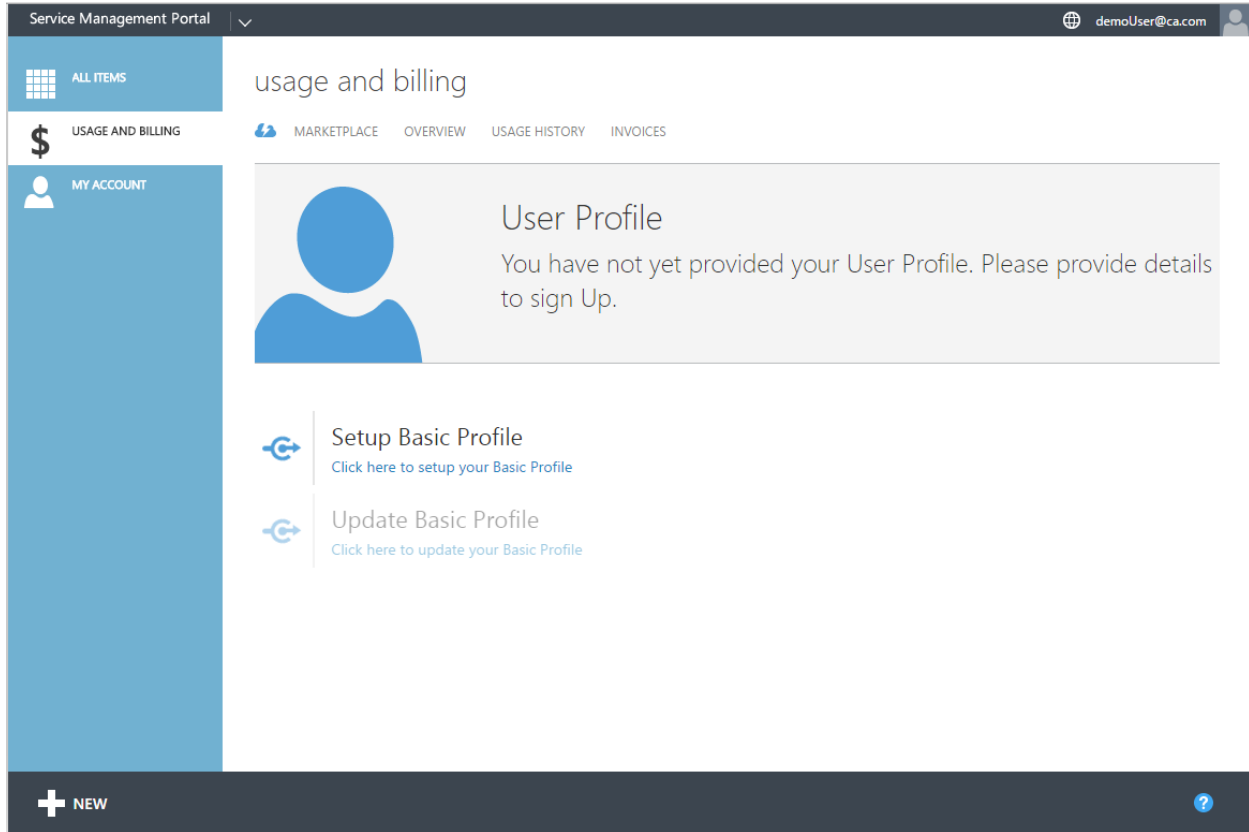
Dev License: This installation of WHMCS is running under a Development License and is not authorized to be used for production use. Please report any cases of abuse to abuse@whmcs.com

4. Select the Product/Service field and the server from the respective list boxes.
5. Specify the next Due Date, Billing Cycle and Payment method.
6. Specify the SubscriptionID of the tenant.
7. Select the Windows Azure Pack Plan and click 'Save Changes' button.

Note: The WHMCS gateway integration is a licensed feature and will not be available in the trial versions of the Usage and Billing solution

CREATING A SUBSCRIPTION WITH USAGE AND BILLING

1. Logon to WAP tenant portal, click on Usage and Billing on the Left.



2. Click '*Click here to setup your Basic Profile*' under 'Setup Basic Profile'

USER PROFILE ✕

Please enter your Billing details

FIRST NAME	<input type="text" value="demo"/>	POSTAL CODE	<input type="text" value="98052"/>
LAST NAME	<input type="text" value="user"/>	COUNTRY	<input style="border-bottom: 1px solid black;" type="text" value="United States"/>
COMPANY	<input type="text" value="Cloud Assert Technologies"/>	STATE	<input style="border-bottom: 1px solid black;" type="text" value="Washington"/>
ADDRESS LINE1	<input type="text" value="8201 164th Ave NE"/>	PHONE NUMBER	<input type="text" value="8005695610"/>
ADDRESS LINE2	<input type="text" value="Suite 200,"/>	EMAIL ADDRESS	<input type="text" value="demoUser@ca.com"/>
CITY	<input type="text" value="Redmond"/>		

✓

3. Fill the particulars and press next. The following screen appears.

Service Management Portal
demoUser@ca.com

ALL ITEMS

USAGE AND BILLING

MY ACCOUNT

usage and billing

MARKETPLACE OVERVIEW USAGE HISTORY INVOICES

User Profile

Your Sign Up Request is sent and awaiting approval. It may take upto 1 to 2 business days for the request to get processed. Please contact admin for further assistance.

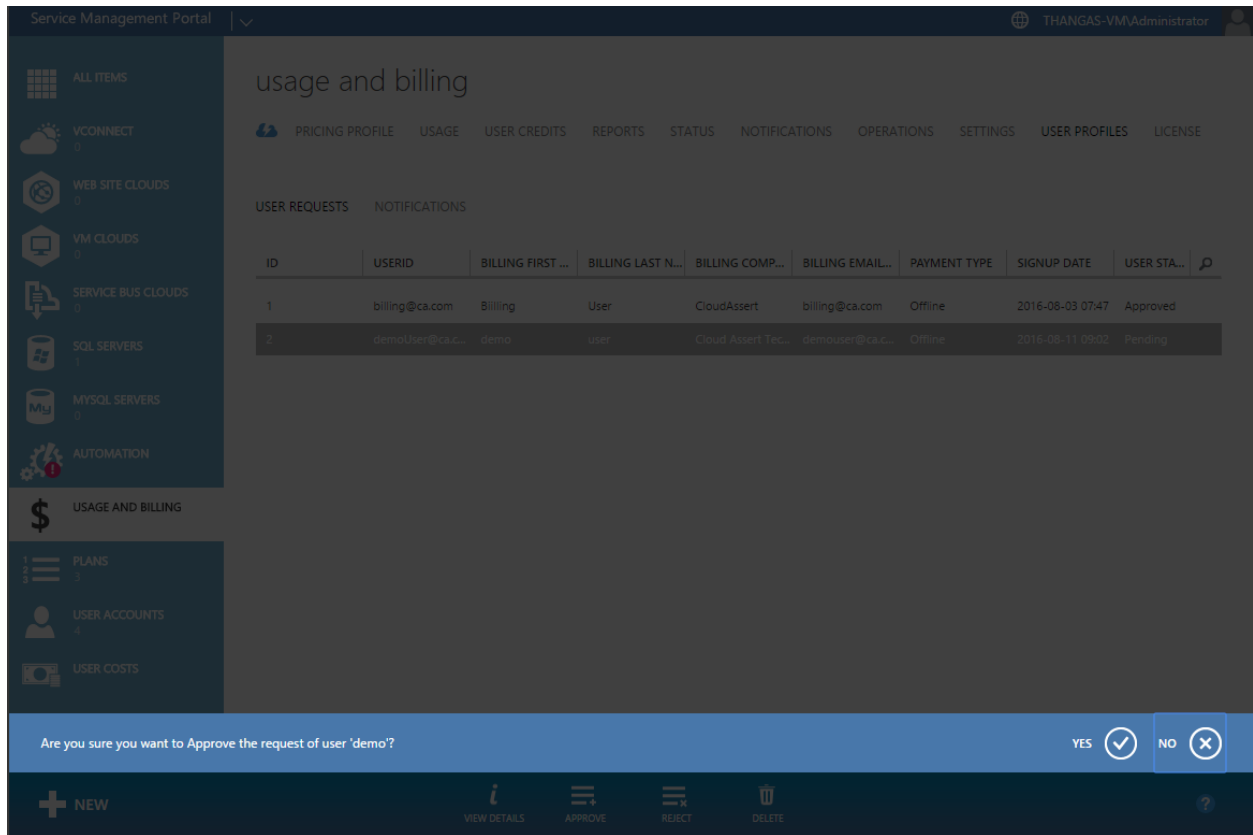
[Setup Basic Profile](#)
Click here to setup your Basic Profile

[Update Basic Profile](#)
Click here to update your Basic Profile

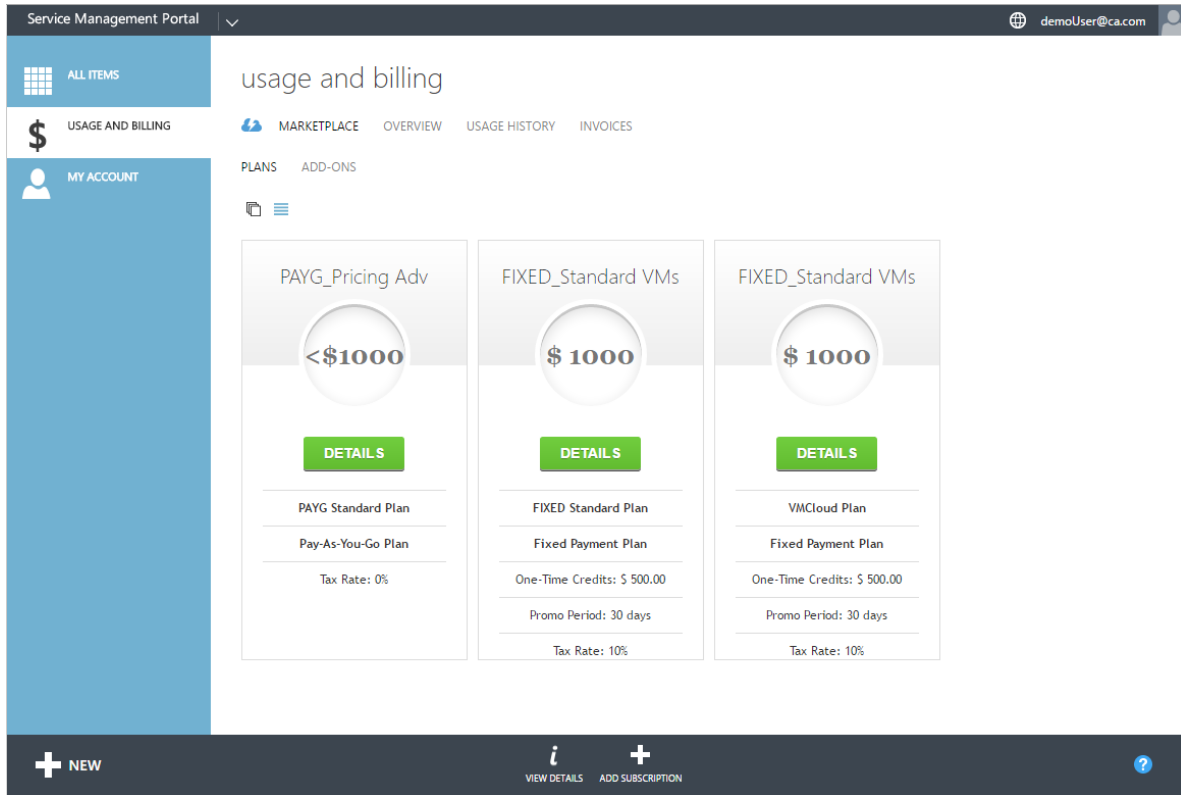
✓ Successfully saved User Profile
OK ✓

+ NEW
1 ?

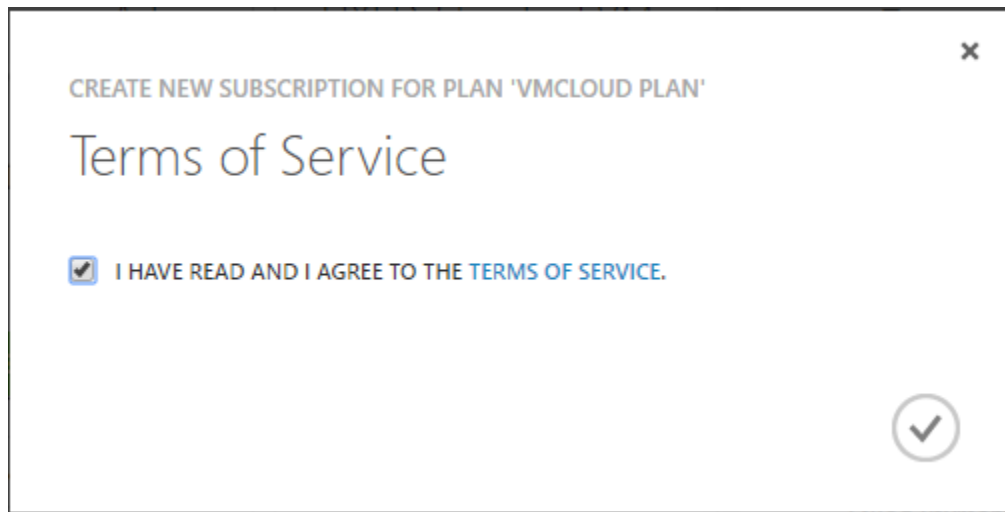
4. Logon to WAP Admin portal, click on Usage and Billing on the Left.
5. Click on the 'USER PROFILES' Tab and 'USER REQUEST' sub-tab.
6. Select the user request and click the 'APPROVE' button.



7. Go back to the tenant portal and click 'MARKETPLACE' tab.



- From the listed plans/add-ons select any and click the 'ADD SUBSCRIPTION' button.



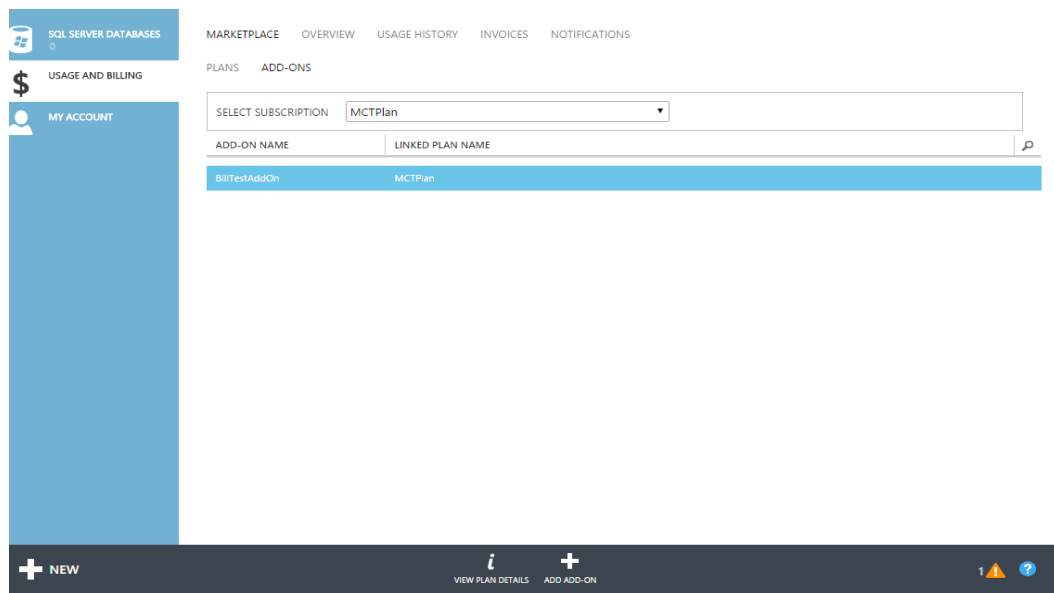
- Check the check-box that appears in the 'Terms of Service' dialog box to agree to the terms of conditions.
- Click next to complete the subscription process.

PURCHASING MULTIPLE INSTANCES OF AN ADDON

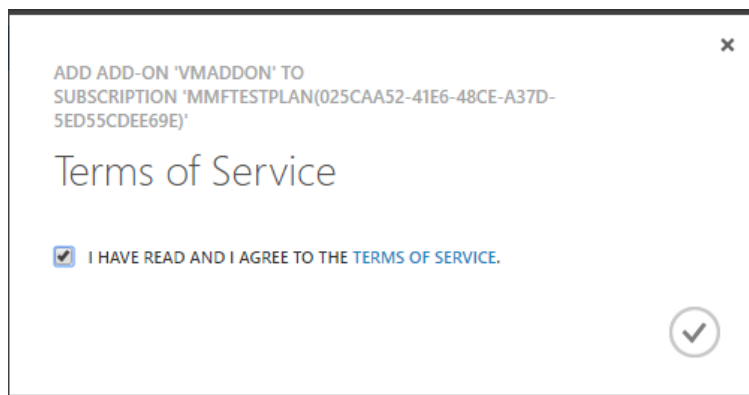
Usage and Billing solution allows the tenants to purchase multiple instance of an add-on with a single click.

NOTE: This feature is available for versions higher than v1.9.0.2.

1. Logon to WAP tenant portal, click on Usage and Billing on the Left.
2. Click 'MARKETPLACE' tab.
3. Click 'ADD-ONS' sub tab.



4. Select a desired subscription and add-on and click 'ADD ADD-ON' button.
5. Tick the check box under Terms of Service dialog box and click the complete button.



6. Specify the number of instances to purchase and click the complete button present in the dialog box.

✕

Purchase Add-On 'VMAddOn'

AVAILABLE PURCHASE LIMIT - 9

NUMBER OF INSTANCES TO PURCHASE:

Estimated Total Monthly Cost: \$30.00

✓

NOTE: The default purchase limit for an add-on at a single purchase is '5'. To increase this limit changes to '*MaximumPurchaseLimitForAddOnAtAnInstance*' in App Setting table has to be done. Refer [App Settings Table](#).

MANAGING CSP INTEGRATION

Usage and Billing solution has integrated with Microsoft Cloud Service Provider to self-service licenses from with Windows Azure Pack tenant portal.

Note: This is a licensed feature and will not be available by default along with the Usage and Billing solutions. In order for the CSP integration to work properly, the machine where the Usage and Billing API service installed must have a constant internet connection

Configuring CSP Admin Settings

1. Logon to WAP Admin portal, click on Usage and Billing on the Left.
2. Click on the 'Settings' tab and then click 'CSP' sub tab.

The screenshot displays the 'usage and billing' configuration page for CSP integration. The page includes a navigation menu with options like DASHBOARD, PRICING PROFILE, USAGE, USER CREDITS, STATUS, NOTIFICATIONS, OPERATIONS, SETTINGS, USER PROFILES, and LICENSE. Below the menu, there are several configuration fields:

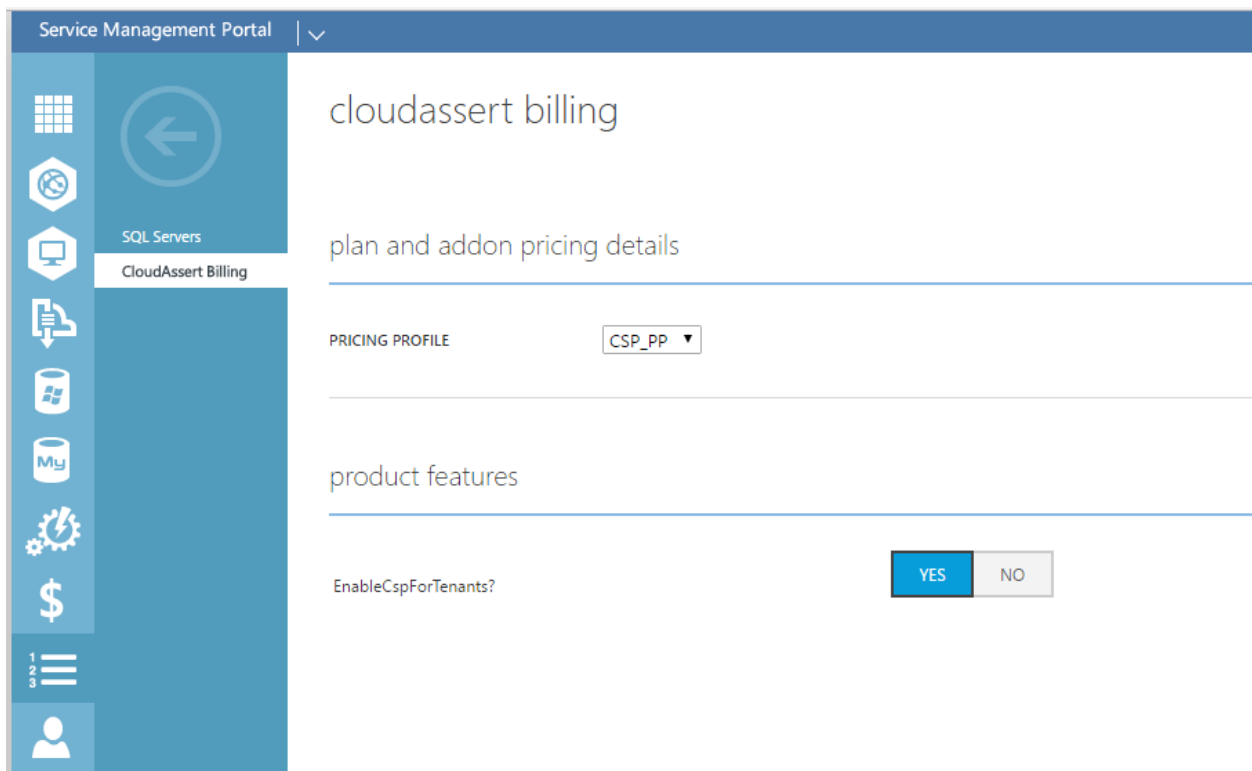
- PARTNER SERVICE API ENDPOINT:** (like https://api.partnercenter.microsoft.com)
- AUTHENTICATION TYPE:**
- AUTHENTICATION AUTHORITY ENDPOINT:** (like https://login.windows.net)
- AUTHENTICATION APPLICATION ID:**
- DOMAIN:**
- USER NAME:**
- PASSWORD:**
- RESOURCE URL:** (like https://api.partnercenter.microsoft.com)
- REDIRECT URL:** (like http://localhost)
- MARKET:** (Provide the same Market used to create CSP account (like 'US'))
- LANGUAGE:** (like 'En')
- CULTURE:** (like 'en-US')

At the bottom of the form, there is a blue bar containing a 'SAVE' button and a help icon.

3. Enter the Endpoint URL of Partner service API.
For example, 'https://api.partnercenter.microsoft.com'
4. Select the authentication type 'USER'.
5. Enter the Endpoint URL of Authentication authority.
For example, 'https://login.windows.net'
6. Specify the Authentication Application Id and domain name.
7. Specify the username and password of the Microsoft partner center account.
8. Enter the Resource and Redirect URL.
9. Specify the Market which was used while signing up in the Microsoft partner center portal.
10. Enter the Language and Culture.

Enabling CSP feature

20. Logon to WAP Admin portal and click on Plans on the left.
21. Drill down in to a Plan and then CloudAssert Billing service.
22. Click 'Yes' button for 'EnableCspForTenants?'.
23. Click Save.

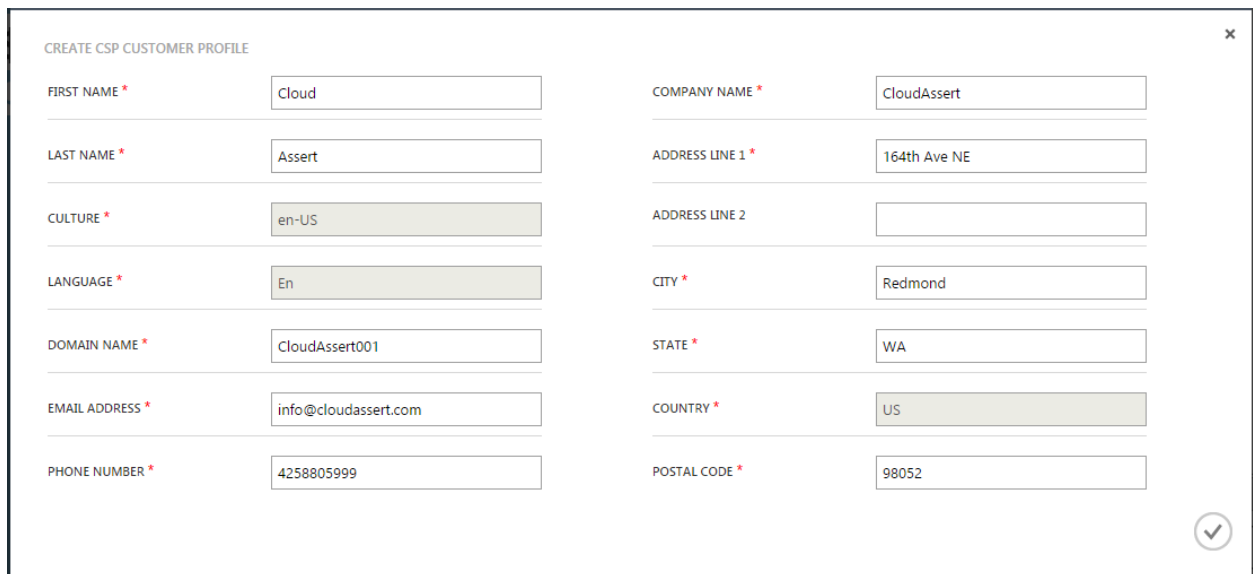


Walkthrough of CSP in the Tenant Portal:

Purchase a subscription from the Plan with CSP feature enabled (Refer [CREATING A SUBSCRIPTION WITH USAGE AND BILLING](#)). Now the CSP tab will appear in the Usage and Billing tenant portal.

CREATING CUSTOMER PROFILE

1. Logon to the tenant portal, click on Usage and Billing on the left.
2. Click on the 'CSP' tab and then click 'Profile' sub tab.



CREATE CSP CUSTOMER PROFILE

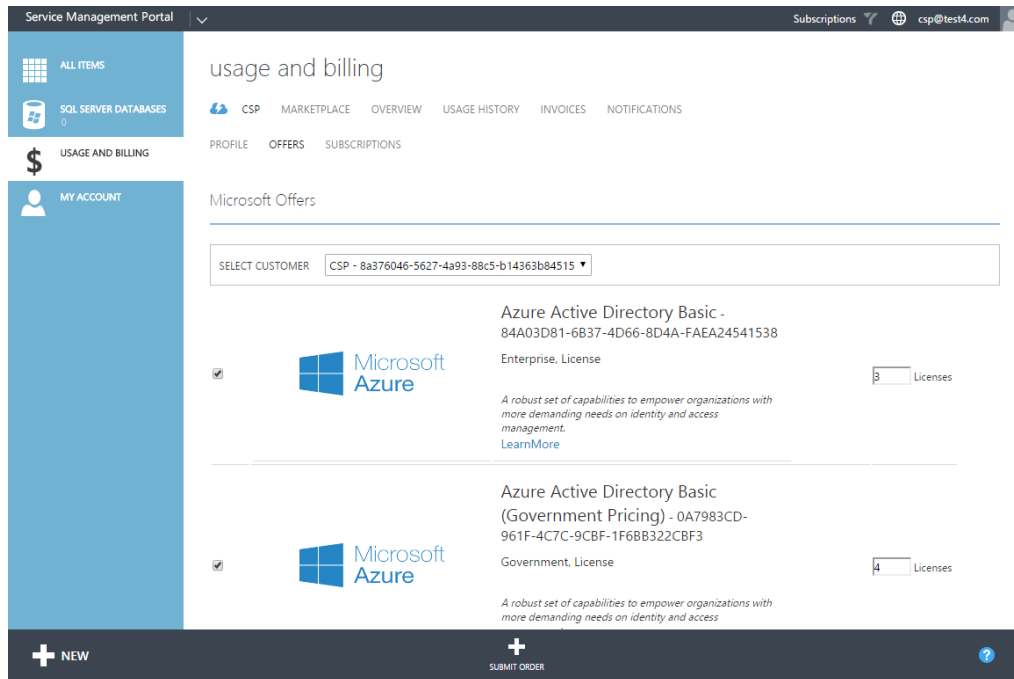
FIRST NAME *	<input type="text" value="Cloud"/>	COMPANY NAME *	<input type="text" value="CloudAssert"/>
LAST NAME *	<input type="text" value="Assert"/>	ADDRESS LINE 1 *	<input type="text" value="164th Ave NE"/>
CULTURE *	<input type="text" value="en-US"/>	ADDRESS LINE 2	<input type="text"/>
LANGUAGE *	<input type="text" value="En"/>	CITY *	<input type="text" value="Redmond"/>
DOMAIN NAME *	<input type="text" value="CloudAssert001"/>	STATE *	<input type="text" value="WA"/>
EMAIL ADDRESS *	<input type="text" value="info@cloudassert.com"/>	COUNTRY *	<input type="text" value="US"/>
PHONE NUMBER *	<input type="text" value="4258805999"/>	POSTAL CODE *	<input type="text" value="98052"/>

✓

3. Click 'Create' button.
4. Fill the particulars.
5. Click Finish to create a customer profile.

PLACING AN ORDER

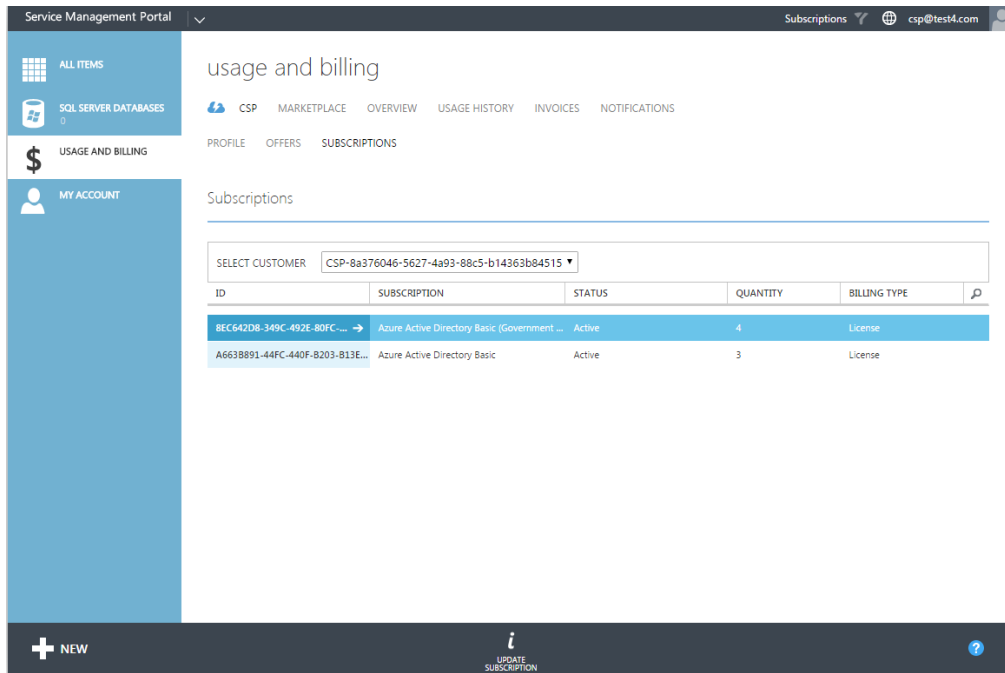
1. Logon to the tenant portal, click on Usage and Billing on the left.
2. Click on the 'CSP' tab and then click 'Offers' sub tab.



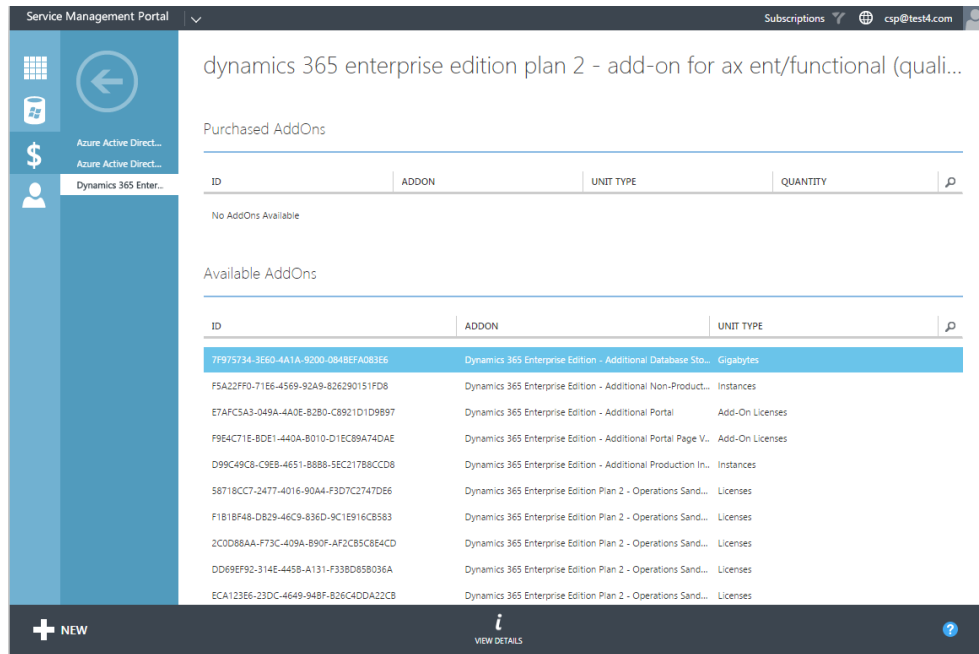
3. Select a customer.
4. Select the offers and specify the license quantity.
5. Click 'Submit Order' button to buy the selected offers.

PURCHASING ADD-ONS

1. Logon to the tenant portal, click on Usage and Billing on the left.
2. Click on the 'CSP' tab and then click 'Subscriptions' sub tab.



3. Drill down into a subscription.



4. Select an Add-on and click 'View Details' button.

✕

Add-On - Dynamics 365 Enterprise Edition -
Additional Database Storage (Government Pricing)

Description

1 GB of additional structured database storage to expand the shared storage capacity of a Dynamics 365 customer engagement applications tenant.

RANK: 27

ID: 7F975734-3E60-4A1A-9200-084BEFA083E6

COUNTRY: US

IS AUTORENEWABLE: true

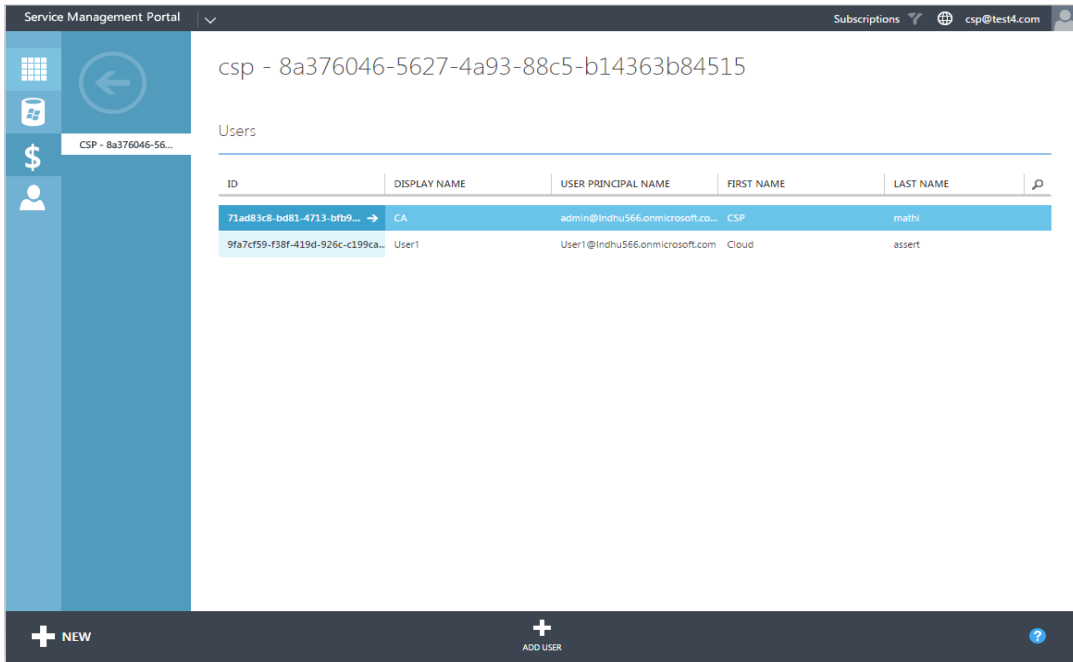
QUANTITY: Gigabytes

✓

5. Enter the License quantity
6. Click Finish to purchase the selected add-on.

CREATING USER ACCOUNT

1. Logon to the tenant portal, click on Usage and Billing on the left.
2. Click on the 'CSP' tab and then click 'Profile' sub tab.
3. Drill down inside a customer profile.



4. Click 'Add' button.

CREATE NEW USER ✕

DISPLAY NAME

FIRST NAME

LAST NAME

EMAIL ALIAS

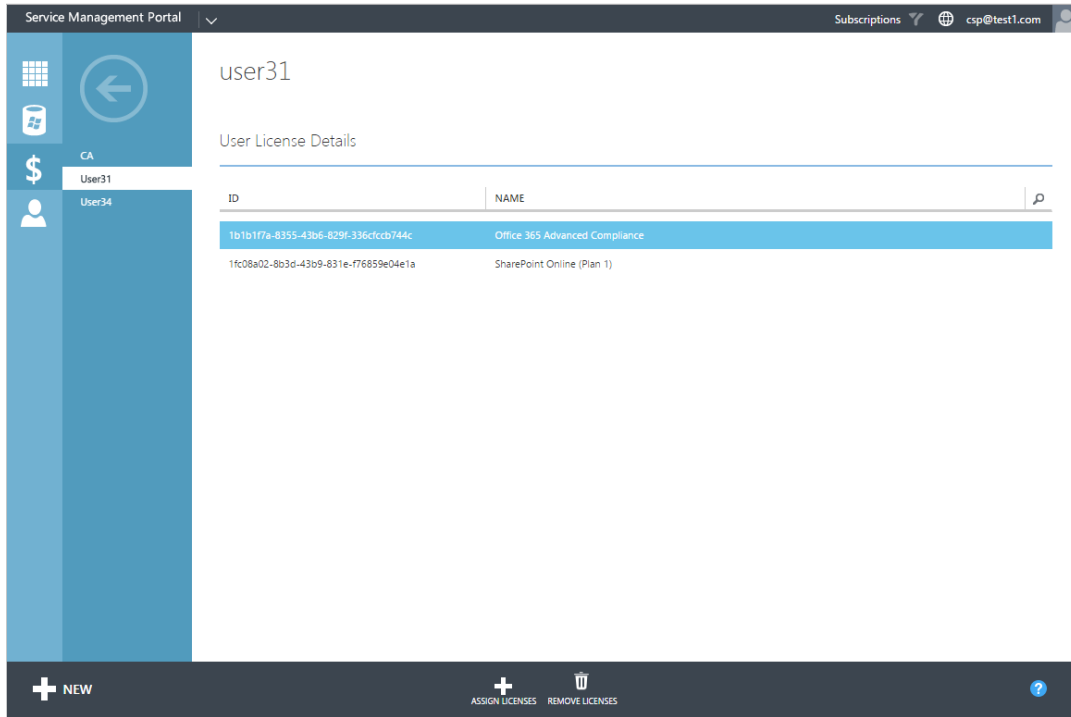
PASSWORD

5. Specify the User details.

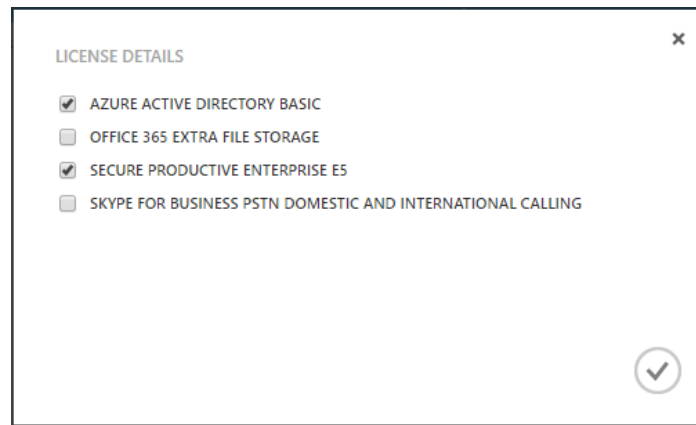
6. Click Finish to create a user.

ASSIGNING LICENSES TO USERS

1. Logon to the tenant portal, click on Usage and Billing on the left.
2. Click on the 'CSP' tab and then click 'Profile' sub tab.
3. Select a Customer profile and drill down to a user.



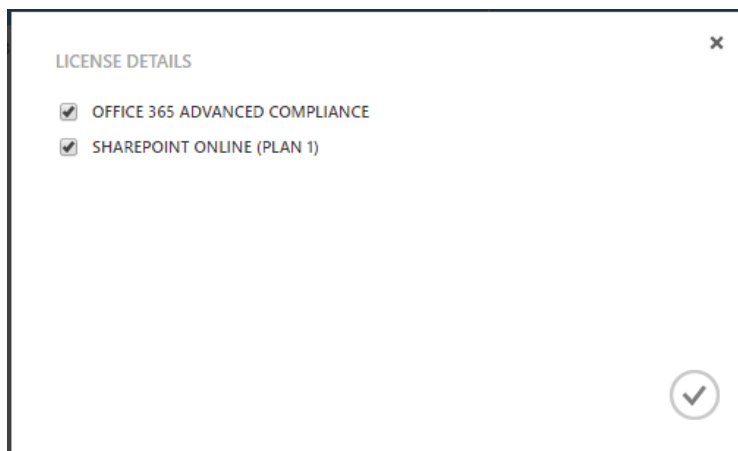
4. Click 'Assign Licenses' button.



5. Select the desired license.
Click Finish to assign the selected license(s) to the user.

REVOKING LICENSES OF USERS

1. Repeat steps 1 to 3 from *Assigning Licenses to UserS*.
2. Click 'Remove Licenses' button.



3. Select the licenses as desired.
4. Click Finish to remove the assigned licenses of the User.

USING CSP LICENSE UPDATER TOOL TO UPDATE PRICING PROFILE WITH CSP LICENSE AND ADD-ONS COST

Every month the costs for each and every license and add-on differs. The CSP LicenseUpdaterTool updates the license and add-ons cost in the pricing profiles.

Download the tool from [here](#).

DOWNLOADING CURRENT MONTH PRICE LIST

1. Login to the Microsoft partner portal <https://partnercenter.microsoft.com>.
2. Click 'Pricing and Offers' from the left pane.

The screenshot shows the Microsoft Partner Center interface. The top navigation bar includes 'Microsoft Partner Center', 'Programs', 'How-to', 'Support', and 'Find a Partner'. The left sidebar contains a navigation menu with 'Pricing and offers' selected. The main content area is titled 'Pricing and offers' and is divided into two columns: 'License-based services' and 'Usage-based services'. Under 'License-based services', there is a list of months from June 2017 (Preview) to December 2016. Under 'Usage-based services', there is a list of months from May 2017 (Current) to January 2017. A blue star icon is visible in the top right corner of the main content area.

3. Under License based services, click the current month to download the price list.

PREPPING THE LICENSE LIST

1. Open the price list that is available as an .xlsx file.
2. Click on the worksheet that has the appropriate currency code (eg. USD).

CLOUD ASSERT USAGE AND BILLING SETUP GUIDE

A	B	C	D	E	F	G	H	I	J	K
A/C/D/U	Valid-From	Valid To Date	Offer Display Name	Offer ID	License Agreement	Purchase Unit	Secondary License	End Customer Type	List Price	ERP Price
ADD	20170501	99991231	Dyn365 for Operations Activity, Enterprise	6130626e-bee0-4e76-8ab1	Corporate	1 Month(s)	NON-SPECIFIC	CLOUD RESELLER C	35.00	43.80
			Dyn365 for Operations Activity, Enterprise	45a5c94f-8f85-404f-a4ab-	Government	1 Month(s)	NON-SPECIFIC	CLOUD RESELLER G	29.75	37.20
			Dyn365 for Operations Activity, Enterprise	1ec83327-72dd-481c-acc4-	Academic	1 Month(s)	NON-SPECIFIC	CLOUD RESELLER F	19.25	24.10
			Dyn365 for Operations Activity, Enterprise	eca4378b-b97e-4f23-ae73-	Academic	1 Month(s)	NON-SPECIFIC	CLOUD RESELLER S	14.00	17.50
			Office 365 Threat Intelligence	efe1183a-8fa0-4138-bf0a-	Government	1 Month(s)	ADDON	CLOUD RESELLER G	6.40	8.00
			Office 365 Threat Intelligence (Government)	7e614c9d-1738-4bf8-a963-	Government	1 Month(s)	ADDON	CLOUD RESELLER G	5.60	7.00
			Office 365 Threat Intelligence for faculty	f8aa0b4e-0799-4149-8dbc-	Academic	1 Month(s)	ADDON	CLOUD RESELLER F	2.40	3.00
			Office 365 Threat Intelligence for students	5fd2b092-f47a-44c2-a79f-	Academic	1 Month(s)	ADDON	CLOUD RESELLER S	1.80	2.30
			Skype for Business Plus CAL for faculty	8637b090-a710-44e8-96ec-	Academic	1 Month(s)	NON-SPECIFIC	CLOUD RESELLER F	1.20	1.50
			Skype for Business Plus CAL for students	17853361-4de9-487f-b897-	Academic	1 Month(s)	NON-SPECIFIC	CLOUD RESELLER S	0.40	0.50
UNC	20170501	99991231	Active Directory Basic	84a03d81-6b37-4d66-8d4c-	Corporate	1 Month(s)	NON-SPECIFIC	CLOUD RESELLER C	0.80	1.00
			Active Directory Basic (Government)	0a7983cd-961f-4c7c-9cbf-	Government	1 Month(s)	NON-SPECIFIC	CLOUD RESELLER G	0.70	0.90
			Active Directory Basic for Faculty	7da6cd50-24d3-477f-8848-	Academic	1 Month(s)	NON-SPECIFIC	CLOUD RESELLER F	0.00	0.00
			Active Directory Basic for Students	afb11d0e-f236-4915-a38a-	Academic	1 Month(s)	NON-SPECIFIC	CLOUD RESELLER S	0.00	0.00
			Active Directory Premium P1	16c9f982-a827-4003-a88e-	Corporate	1 Month(s)	NON-SPECIFIC	CLOUD RESELLER C	4.80	6.00
			Active Directory Premium P1 (Government)	ceca6875-f3ba-4f9a-916f-	Government	1 Month(s)	NON-SPECIFIC	CLOUD RESELLER G	4.08	5.10
			Active Directory Premium P1 for Faculty	3e3e9ccc-cdd4-4c7d-8644-	Academic	1 Month(s)	NON-SPECIFIC	CLOUD RESELLER F	0.50	0.60
			Active Directory Premium P1 for Students	2084c385-65b3-4fac-867b-	Academic	1 Month(s)	NON-SPECIFIC	CLOUD RESELLER S	0.20	0.30
			Active Directory Premium P2	e59159fc-6f67-4599-b3cb-	Corporate	1 Month(s)	NON-SPECIFIC	CLOUD RESELLER C	7.20	9.00
			Active Directory Premium P2 for Faculty	da22b4b5-e211-4e95-905c-	Academic	1 Month(s)	NON-SPECIFIC	CLOUD RESELLER F	0.75	0.90
			Active Directory Premium P2 for Students	190adaa1-f3fc-40d3-94f3-	Academic	1 Month(s)	NON-SPECIFIC	CLOUD RESELLER S	1.00	1.30
			Information Protection Plan 1	648bf77b-1f0a-4911-8066-	Corporate	1 Month(s)	NON-SPECIFIC	CLOUD RESELLER C	1.60	2.00

6. Repeat steps 2 to 5 for any other desired currency code.

A/C/D/U	Valid-From	Valid To Date	Offer Display Name	Offer ID	License Agreement	Purchase Unit	Secondary License	End Customer Type	List Price	ERP Price
ADD	20170501	99991231	Dyn365 for Operations Activity, Enterprise	6130626e-bee0-4e76-8ab1	Corporate	1 Month(s)	NON-SPECIFIC	CLOUD RESELLER C	275.49	344.40
			Dyn365 for Operations Activity, Enterprise	45a5c94f-8f85-404f-a4ab-	Government	1 Month(s)	NON-SPECIFIC	CLOUD RESELLER G	234.17	292.70
			Dyn365 for Operations Activity, Enterprise	1ec83327-72dd-481c-acc4-	Academic	1 Month(s)	NON-SPECIFIC	CLOUD RESELLER F	151.52	189.40
			Dyn365 for Operations Activity, Enterprise	eca4378b-b97e-4f23-ae73-	Academic	1 Month(s)	NON-SPECIFIC	CLOUD RESELLER S	110.20	137.80
			Office 365 Threat Intelligence	efe1183a-8fa0-4138-bf0a-	Government	1 Month(s)	ADDON	CLOUD RESELLER G	50.38	63.00
			Office 365 Threat Intelligence (Government)	7e614c9d-1738-4bf8-a963-	Government	1 Month(s)	ADDON	CLOUD RESELLER G	44.08	55.10
			Office 365 Threat Intelligence for faculty	f8aa0b4e-0799-4149-8dbc-	Academic	1 Month(s)	ADDON	CLOUD RESELLER F	18.89	23.60
			Office 365 Threat Intelligence for students	5fd2b092-f47a-44c2-a79f-	Academic	1 Month(s)	ADDON	CLOUD RESELLER S	14.17	17.70
			Skype for Business Plus CAL for faculty	8637b090-a710-44e8-96ec-	Academic	1 Month(s)	NON-SPECIFIC	CLOUD RESELLER F	9.44	11.80
			Skype for Business Plus CAL for students	17853361-4de9-487f-b897-	Academic	1 Month(s)	NON-SPECIFIC	CLOUD RESELLER S	3.15	3.90
UNC	20170501	99991231	Azure Active Directory Basic	84a03d81-6b37-4d66-8d4c-	Corporate	1 Month(s)	NON-SPECIFIC	CLOUD RESELLER C	6.29	7.90
			Azure Active Directory Basic (Government)	0a7983cd-961f-4c7c-9cbf-	Government	1 Month(s)	NON-SPECIFIC	CLOUD RESELLER G	5.51	6.90
			Azure Active Directory Basic for Faculty	7da6cd50-24d3-477f-8848-	Academic	1 Month(s)	NON-SPECIFIC	CLOUD RESELLER F	0.00	0.00
			Azure Active Directory Basic for Students	afb11d0e-f236-4915-a38a-	Academic	1 Month(s)	NON-SPECIFIC	CLOUD RESELLER S	0.00	0.00
			Azure Active Directory Premium P1	16c9f982-a827-4003-a88e-	Corporate	1 Month(s)	NON-SPECIFIC	CLOUD RESELLER C	37.78	47.20
			Azure Active Directory Premium P1 (Government)	ceca6875-f3ba-4f9a-916f-	Government	1 Month(s)	NON-SPECIFIC	CLOUD RESELLER G	32.12	40.20
			Azure Active Directory Premium P1 for Faculty	3e3e9ccc-cdd4-4c7d-8644-	Academic	1 Month(s)	NON-SPECIFIC	CLOUD RESELLER F	3.94	4.90
			Azure Active Directory Premium P1 for Students	2084c385-65b3-4fac-867b-	Academic	1 Month(s)	NON-SPECIFIC	CLOUD RESELLER S	1.58	2.00
			Azure Active Directory Premium P2	e59159fc-6f67-4599-b3cb-	Corporate	1 Month(s)	NON-SPECIFIC	CLOUD RESELLER C	56.67	70.80
			Azure Active Directory Premium P2 for Faculty	da22b4b5-e211-4e95-905c-	Academic	1 Month(s)	NON-SPECIFIC	CLOUD RESELLER F	5.91	7.40
			Azure Active Directory Premium P2 for Students	190adaa1-f3fc-40d3-94f3-	Academic	1 Month(s)	NON-SPECIFIC	CLOUD RESELLER S	7.87	9.80
			Azure Information Protection Plan 1	648bf77b-1f0a-4911-8066-	Corporate	1 Month(s)	NON-SPECIFIC	CLOUD RESELLER C	12.59	15.70

7. Save the workbook in the location where CSP LicenseUpdaterTool is extracted and ensure that the excel file (.xlsx) is in the same location as CSPLicenseUpdater.exe.

UPDATING THE PRICES IN THE PRICING PROFILE

1. Ensure that there is only one excel (.xlsx) file in the root folder of the CSP LicenseUpdateTool.
2. Open Command prompt.
3. Navigate to the location where the CSP LicenseUpdateTool is extracted.
4. Type 'CSPLicenseUpdater.exe' and press enter.

- Specify the server name, database name, user name and password of the Usage and Billing database.

```
C:\Users\Palanisamy\Desktop\CloudAssertCSPLicenseUpdater>CSPLicenseUpdater.exe
Enter Server Name:
Palani-vm

Enter Cloud Assert Billing Database Name:
Billing1.9.2

Enter database user name:
sa

Enter database password:
[REDACTED]

Processing...
```

- In a couple of seconds, the different price list based on the currency code will be listed.

```
Available Price Lists:
SEK.xlsx
USD.xlsx
```

- Specify the desired currency list with the file extension (eg. USD.xlsx).

```
Enter a file name with extension:
USD.xlsx

Processing...
```

- Enter 1 to update the pricing profiles with the 'List price' present in the excel sheet or press 2 to update 'ERP Price' present in the excel sheet.

```
Enter 1 to update List Price or 2 to update ERP Price:
1
```

- All the available pricing profiles will be listed with their currency codes. Enter the pricing profile IDs separated by blank space and press enter to update the pricing profiles.

```
Available Pricing Profiles:
ID      Profile Name      Currency Code
1       default           USD
2       Min100           USD

Enter Pricing profile ID(s) to update (Enter multiple pricing profile IDs seperated by blank spaces):
1 2
```

- Press enter key to exit.

```
Pricing profile(s) updated. Press Enter key to exit...
```

TROUBLESHOOTING

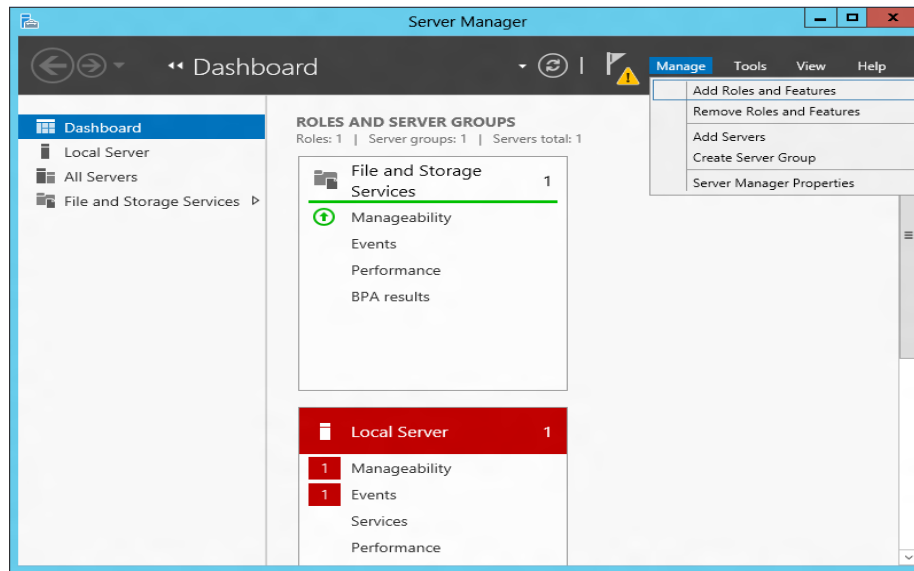
Contact support@cloudassert.com for general support help.

Visit <http://www.cloudassert.com/Solutions/Usage> to get latest updated information about the product and <http://www.cloudassert.com/Blogs> for latest tips and solutions.

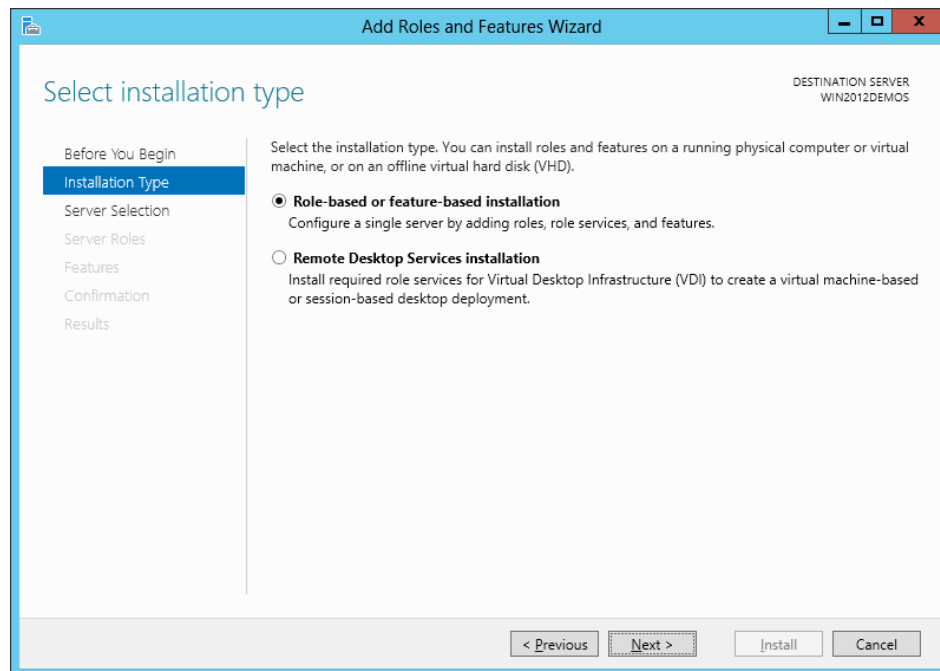
APPENDIX A: SETTING UP IIS AND ASP.NET MVC 4

IIS and Sub-Features Installation

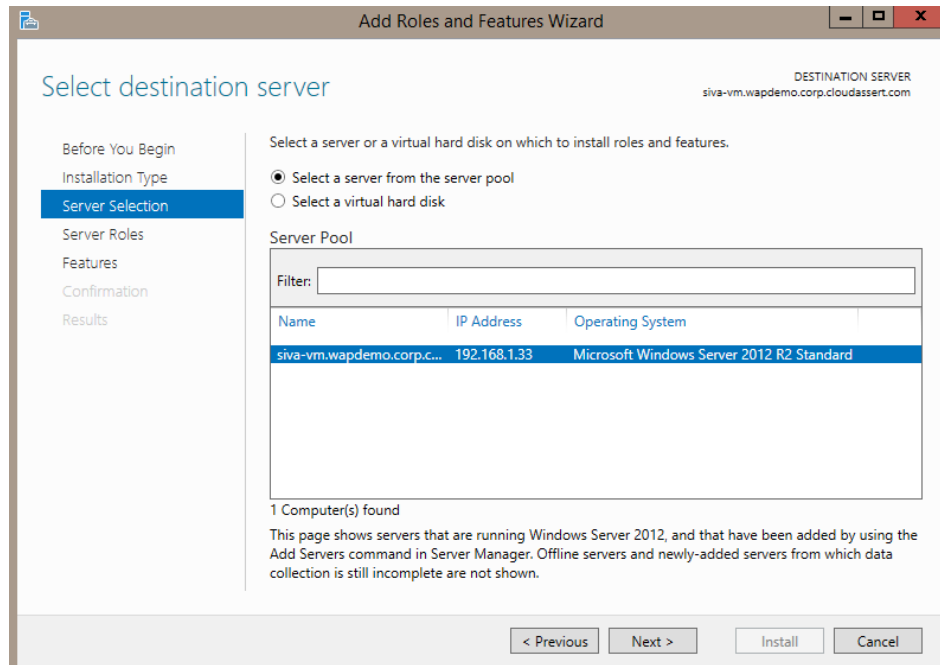
1. Open **Server Manager**.
2. Under **Manage** menu, select **Add Roles and Features**:



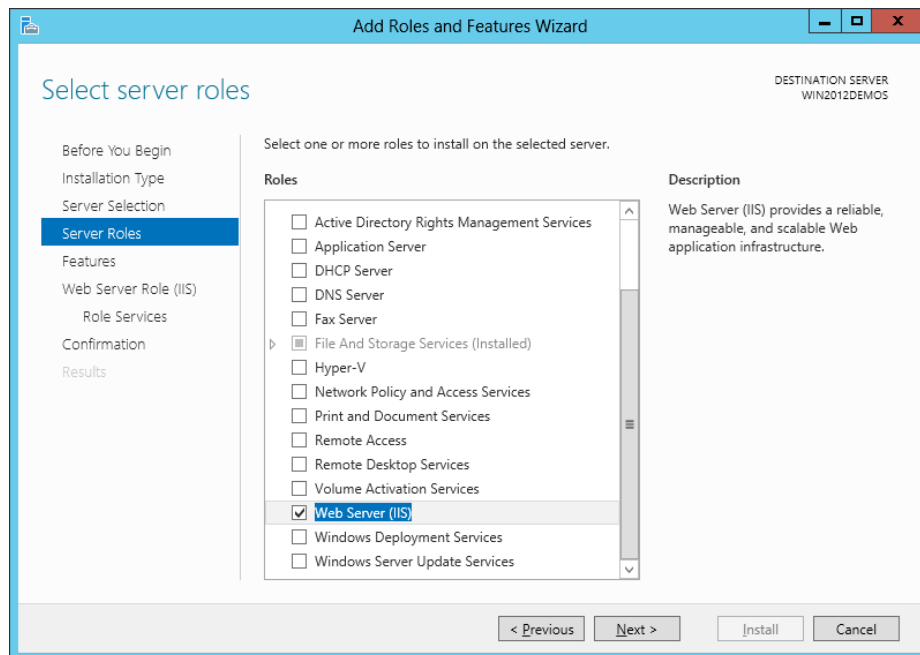
3. Select **Role-based or Feature-based Installation**:



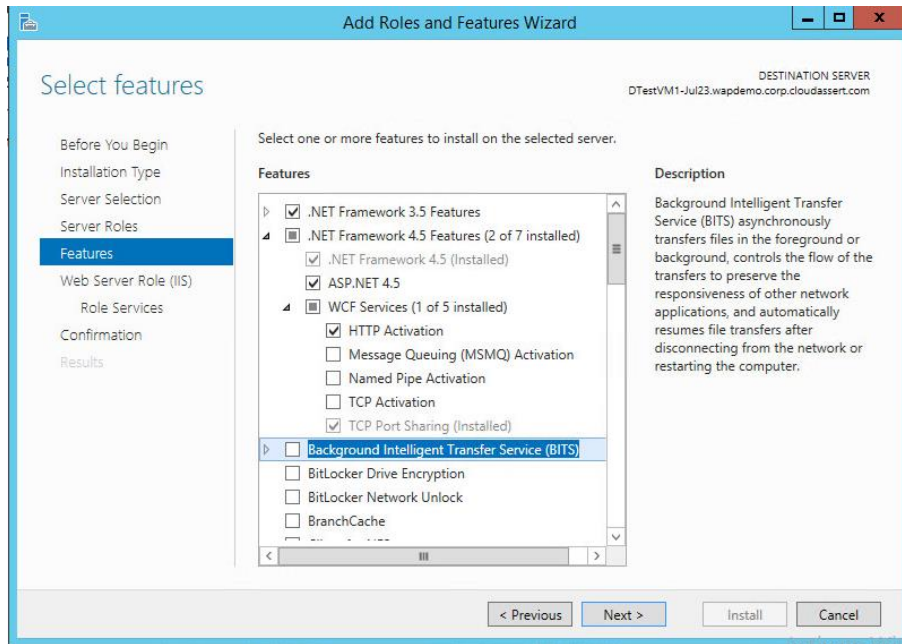
- Select the appropriate server (local is selected by default), as shown below:



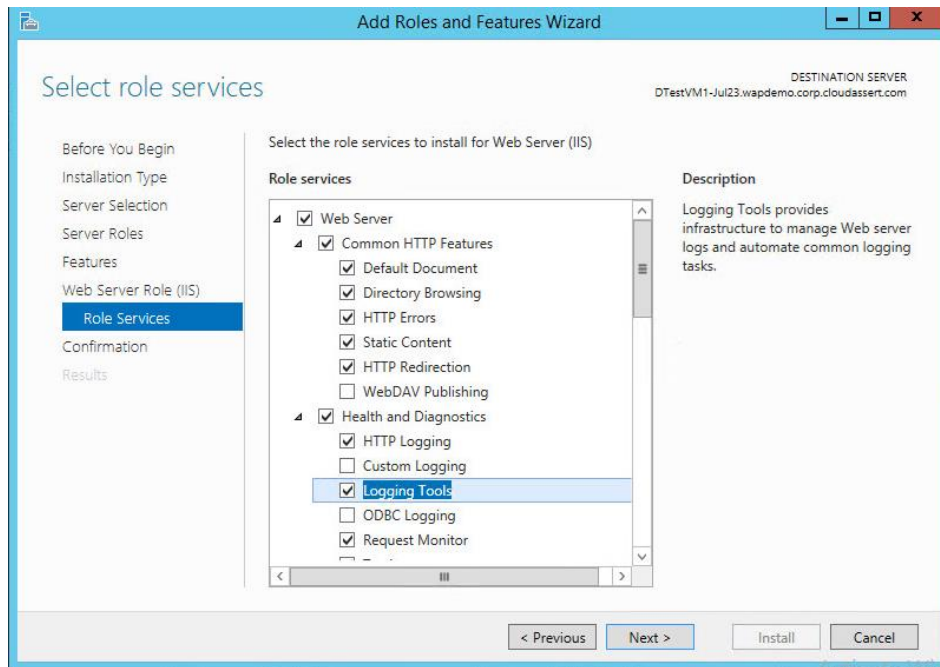
- Select **Web Server (IIS)** and click Next:

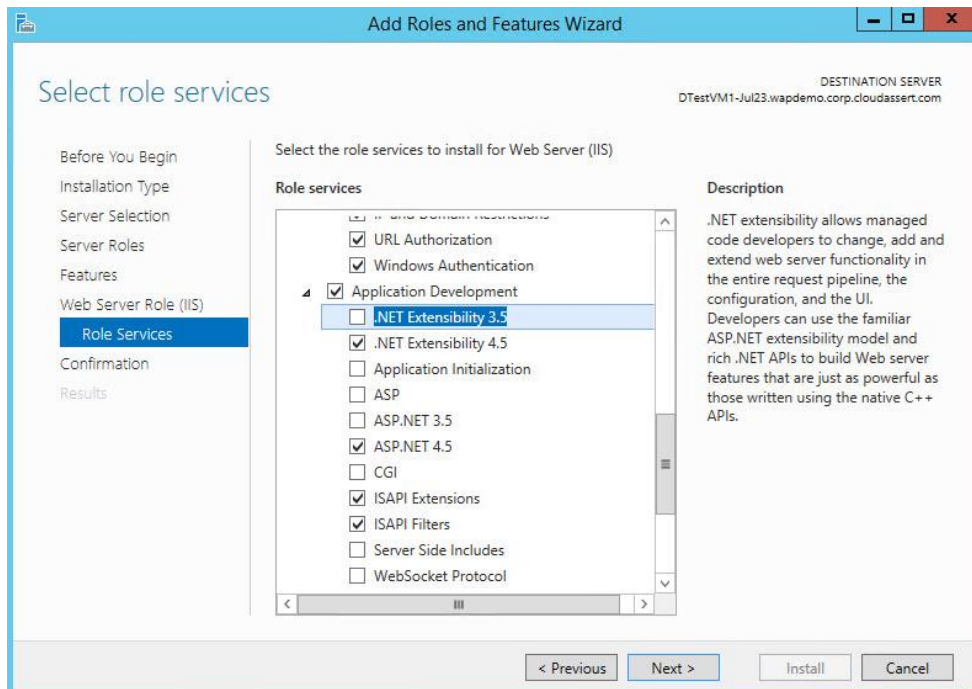
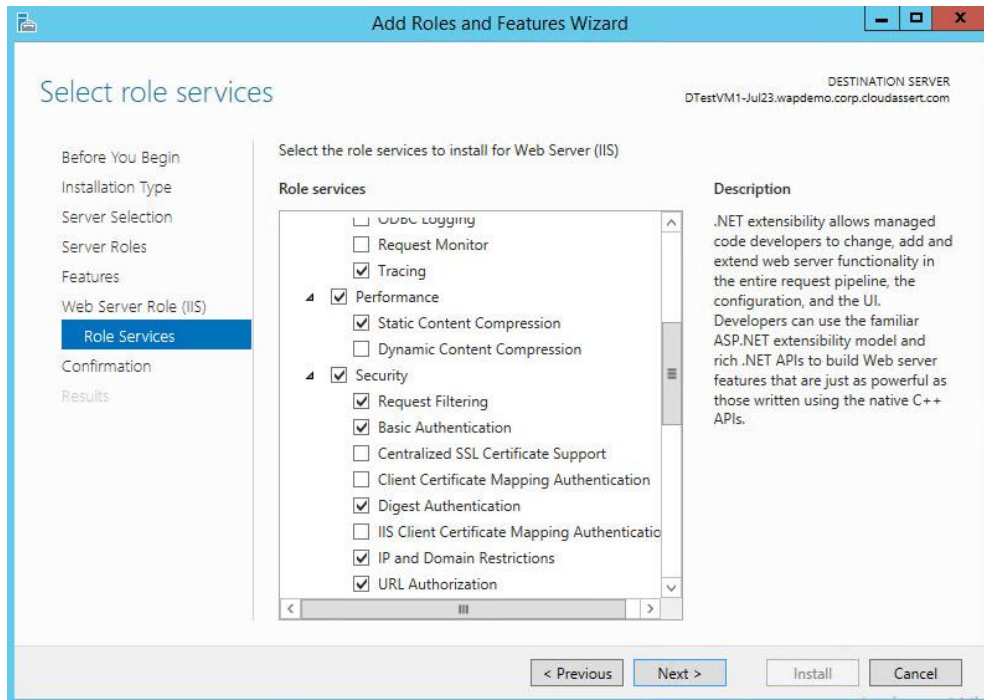


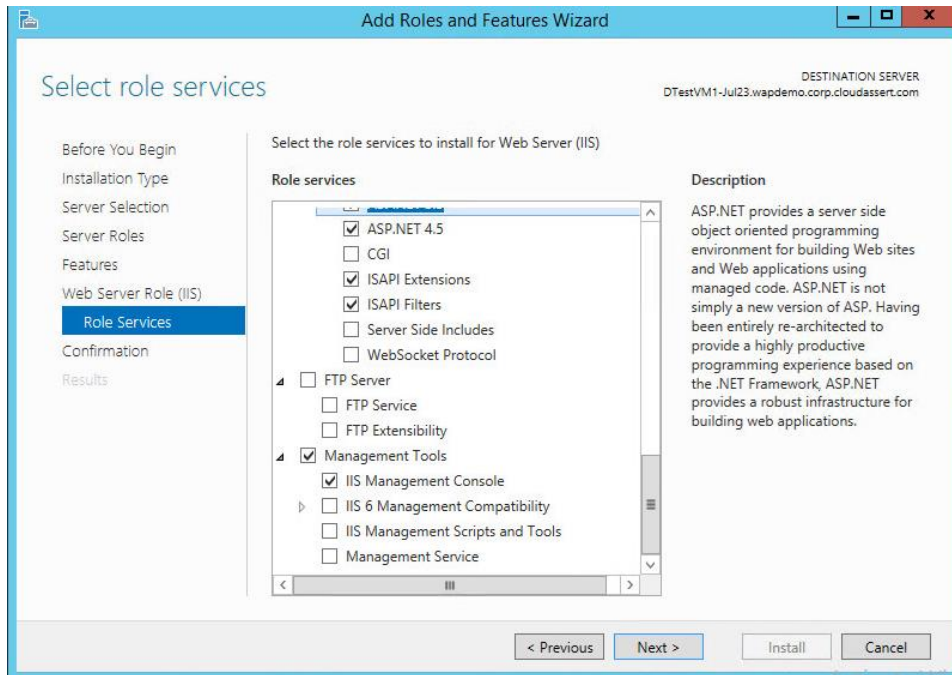
6. Select all the features that are selected in the following images.



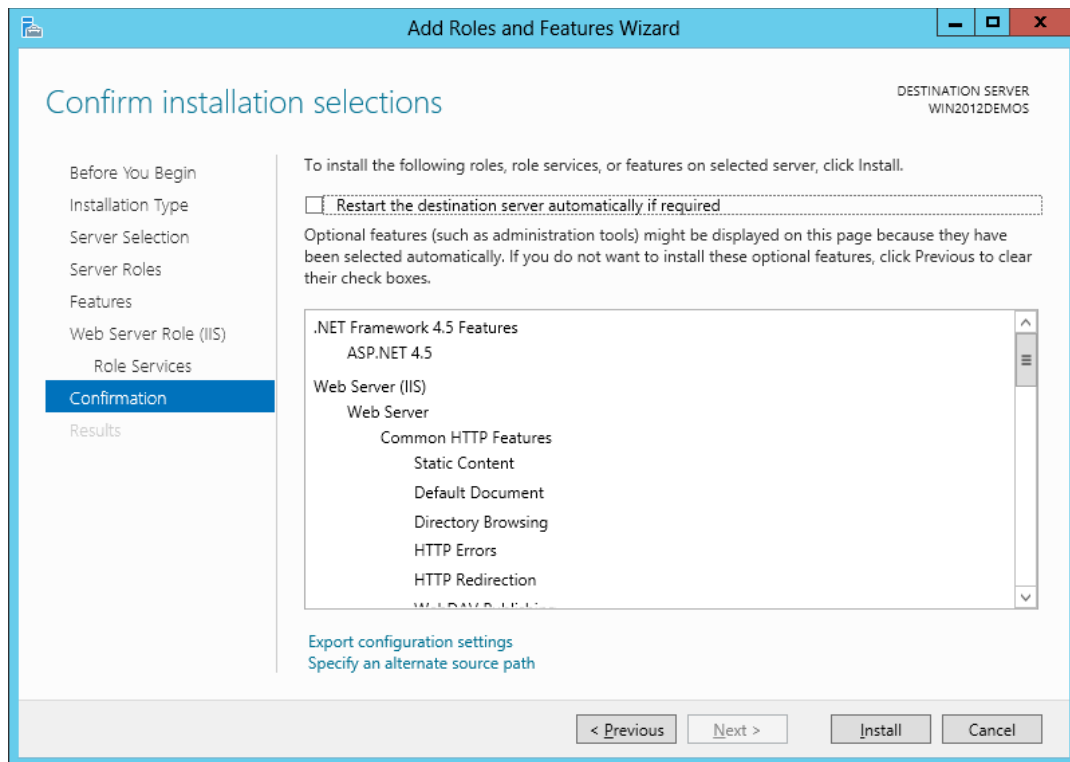
7. Click Next and enable the following roles.



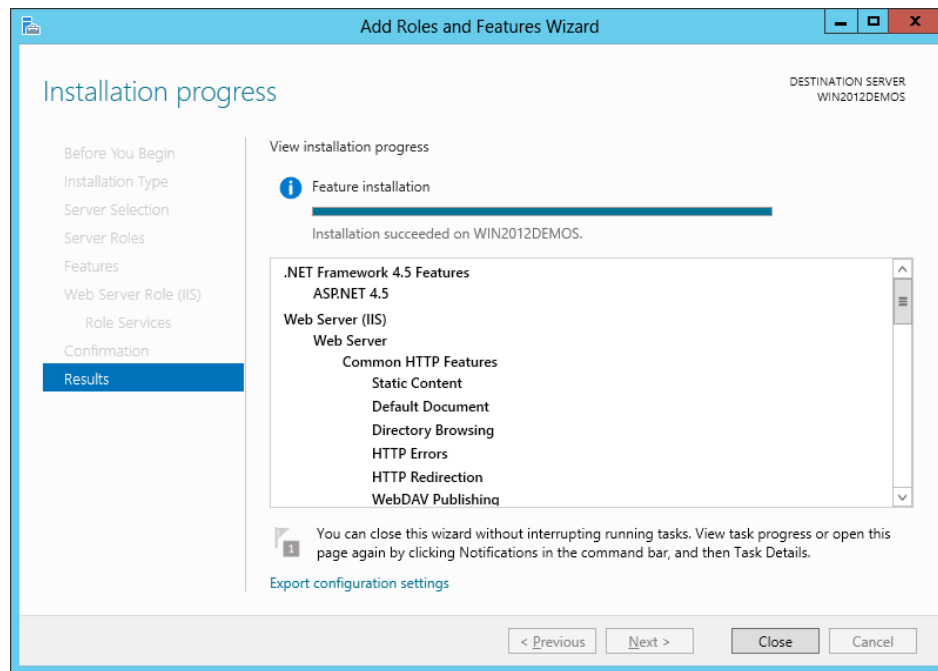




8. Click **Next** and click **Install**:



- When the IIS installation completes, the wizard reflects the installation status:



- Click **Close** to exit the wizard.

Users can also download [IISConfigTemplate.xml](#) file from and run the below Power shell command to configure the IIS.

Install-WindowsFeature -ConfigurationFilePath <Replace with xml path>

Ex: Install-WindowsFeature -ConfigurationFilePath D:\ConfigurationFiles\IISConfigTemplate.xml

Installing ASP .Net MVC 4

- Download the installer from the following link.
<http://www.microsoft.com/en-in/download/details.aspx?id=30683>
- Install the downloaded installer.

APPENDIX B: FREQUENTLY ASKED QUESTIONS

Q: How to troubleshoot Windows Azure Pack (WAP) and System Center Usage Pipeline?

A: Visit the following link <http://www.cloudassert.com/Blogs/how-to-troubleshoot-windows-azure-pack-wap-and-system-center-usage-pipeline-52932>

Q: Is it easy to integrate the payment gateway with any existing or new payment systems?

A: Yes. Since every customer tends to have a different type of payment systems that they use, we defer the customer to have choice of their payment system and we just provide integration with it.

Q: Will you do this integration or we need to do it?

A: We will work with you to understand the best way to integrate with your choice of payment system and we will create mechanisms to accomplish the integration. If the integration requires lot of custom work, then we will add it to the deployment cost and you will know firsthand how much the total solution will cost.

Q: We do lot of offline payments; how do you take care of it? And how do you disable user for non-payments?

A: Precisely because every customer has different way to collect payments, this solution doesn't involve the real payment collection instead it builds on top of Azure Pack constructs and integrates with existing payment systems. For example, if you disable a user in your billing system, say WHMCS for any reason such as payment not received, this solution can automatically disable the subscription in Azure Pack, however this solution itself doesn't track payments etc.

Q: Can we offer trial periods and discount periods?

A: Yes. You can run plan-level promotions that are recurring or valid for a specific number of days. You can also offer hourly credits for metered resources, or offer credits per user.

Q: How do I Update my Bank Account information with CyberSource?

A: Visit the following link:

https://support.CyberSource.com/cybskb/index?page=content&id=C285&actp=search&viewlocale=en_US&searchid=1471408348091

Q: When can I see, the updated cost take effective once I change the unit price of a meter resource in a pricing profile?

A: Once the unit price is changed in the pricing profile, the usage cost for the records will take effective only for records that are newly generated. It would take a minimum time of 2 hours (in case of VMs) to a maximum time of 48 hours (in-case of Databases). *Note:* For existing records the newly set unit price will not take effective.

Q: Can I update the usage cost of records that are already generated once I change the unit price of meter resource in a pricing profile?

A: Yes, you can. After changing the unit price of a meter resource in a pricing profile do the following

- Stop the 'Billing Agent Service' from the Services.msc.
- Replace the database name in the following query and run it in the database.

```
USE [REPLACE CLOUD ASSERT BILLING DB NAME HERE]
```

```
GO
```

```
UPDATE [dbo].[UsageProcessingStates]
  SET [LastUsageld] = 0
WHERE StateName = 'UsageRecordProcessor'
```

```
GO
```

```
UPDATE [dbo].[UsageProcessingStates]
  SET [LastProcessedTime] = '2010-12-31 00:00:00.000'
WHERE StateName = 'UsageRecordProcessor'
```

```
GO
```

```
UPDATE [dbo].[UsageProcessingStates]
  SET [LastProcessedTime] = '2010-12-31 00:00:00.000'
WHERE StateName = 'BillingDailyAggregator'
```

```
GO
```

```
UPDATE [dbo].[UsageProcessingStates]
  SET [LastProcessedTime] = '2010-12-31 00:00:00.000'
WHERE StateName = 'BillingMonthlyAggregator'
```

```
GO
```

```
UPDATE [dbo].[UsageProcessingStates]
  SET [LastProcessedTime] = '2010-12-31 00:00:00.000'
WHERE StateName = 'BillingMonthlySummaryAggregator'
```

```
GO
```

```
delete from BillingHourlyRecords where StartTime >= '2010-12-31 00:00:00.000'
delete from BillingDailyRecords where StartTime >= '2010-12-31 00:00:00.000'
delete from BillingInvoiceSendInfos
delete from BillingInvoices where InvoiceStartTime >= '2010-12-31 00:00:00.000'
delete from BillingMonthlyRecords where StartTime >= '2010-12-31 00:00:00.000'
delete from BillingMonthlyResourceSummaries where StartTime >= '2010-12-31 00:00:00.000'
delete from BillingMonthlyRunningSummary where StartTime >= '2010-12-31 00:00:00.000'
```

- Start the 'Billing Agent Service' from Services.msc

It will take about three to ten minutes to generate the records with the newly set unit price.

Q: Is it possible to inject non-WAP Usage details into Usage and Billing pipeline?

A: Yes, it is possible to set price for meters that are not listed by WAP. Visit the following link to know more.

<http://www.cloudassert.com/Blogs/cloud-assert-usage-billing-usage-collector-extensibility-with-c-and-powershell-53007>

Q: How often does the usage cost reflect in the tenant portal?

A: The usage in the tenant portal updates every 60 seconds. It is also depending on the Resource providers that you have. For example, Systemcenter VMs update the usage record every two hours and SQLServers update usage records every two days in the WAP database. Usage and Billing solution checks for the usage records every 60 seconds and updates in the tenant portal after computing the usage cost.

Q: What is the best practice for the “AppPool identity credentials” required during the setup? Appool identity or a separate account?

A: By default, AppPool identity will suffice

Q: What is the username and password of the “API credentials”? What is the criteria for this?

A: The API credentials are used for registering the U&B API service in WAP. It doesn't have to be a valid user account it can be any username and password.

Q: Would there be any problem with the Usage and Billing setup, if the WAP admin and tenant URLs are changed to a custom URL “AFTER” Usage and Billing is installed?

A: If the WAP URLs change, then they need to be updated appropriately under the WAP Admin Portal → Usage & Billing → Settings section (across WAP Usage, WAP Admin API tabs). If Usage & Billing is setup in same machines where WAP admin components exist, then Usage & Billing API Service URL will also change, so you need to update the U&B resource provider configurations using PowerShell API. Refer to [this article](#). Usage and billing - resource provider settings needs to be updated accordingly in tenant config file. Refer to [Step 4 – Configuring Tenant Site](#) .

Q: Under section “STEP 2.1 CONFIGURING USAGE PROCESSOR SETTINGS” the steps to create usage endpoint username and password → Can it be any account name and password? OR does it need to follow certain naming convention? Is this a local computer user account?

A: It can be any user name and password. There are no conventions and it is not a local computer user account. It is a user account which will be used to access the WAP Usage component which is running in WAP.

Q: Is it possible to disable a subscription of a specific tenant after they cross a quota? (a) Without shutting down VMs and (b) By shutting down VMs / Is it possible to disable a VMs network access if it exceeds the quota?

A: It can be done by using runbook scripts which will suspend the subscription (with and without shutting down the VM) and prevent Network access when it meets the criteria(quota).

Q: Is it possible to track the usage of a network in terms of GBs instead of bandwidth?

A: It is already reported in GB. You could change the custom formula to report it in MB/KB/GB. The below is the formula for reporting the same in GB. (The meters for network usage are '*NICKBSentPerSecond-Average' and '*NICKBReceivedPerSecond-Average').

FORMULA	<input checked="" type="radio"/> Unit Multiplier <input type="radio"/> Custom
	<input type="text" value="3600 / 1024 / 1024"/>
UNIT DISPLAY NAME	<input type="text" value="GB Hours"/>

APPENDIX C: KNOWN ISSUES

1. When trying to start, or stop the Billing Agent Service from service.msc it may show an error/warning message sometimes.
2. Billing Agent Service setup may not install properly if 'services.msc' is kept open in the desktop.
3. When all the subscriptions of a tenant are deleted, the overview tab will not load.
4. Email notification for subscription creation and deletion cannot be turned off from the admin portal settings.
5. The license may get invalidated when MAC address of Usage and Billing API machine changes.
6. If the Billing Agent Service doesn't run for a day, in the Admin portal Dashboard tab, the cost in the monthly trend for the day will be zero. Once the agent service starts running from the next day the cost will be updated for the current day and for the day where the agent service did not run it will be still zero.
7. The usage cost for CSP license will be calculated only if the license is purchased from Usage and Billing.
8. After assigning a license for a user, it will not get updated immediately a manual refresh may be needed.
9. When trying to delete a CSP customer profile, the profile will not be deleted, all its subscriptions and users alone will be deleted. The customer profile will still be visible in the tenant portal.
10. In the tenant portal, the CSP profile tab might sometimes not load and throw an error, this is because of poor or no internet connection in the machine where the Cloud Assert usage and Billing API service is installed.
11. In admin portal, the Virtual Machines(VM) count in the dashboard tab, includes deleted VMs too.