DB as a Service

VMware vCloud Automation Center

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1. Introduction

VMware vCloud Automation Center is an innovative self-service provisioning and lifecycle management solution that simplifies and automate deployments of infrastructure, multi-tier applications, desktop... and now any kind of IT service! It provides a secure portal where authorized administrators, developers or business users can request new IT services as well as manage specific cloud and IT resources based on their roles and privileges.

VMware Application Director 6.0Tech Preview (Beta) introduces new features in Service Catalog Support, Application Updates, External Services, and Policy-Based Provisioning. The new features will reinforce and enhance the product's capabilities in application modeling, deployment, and update lifecycle management, allowing the product to continue to be a comprehensive application provisioning & update lifecycle management solution for cloud-ready applications on hybrid clouds.

2. System Pre-requisites

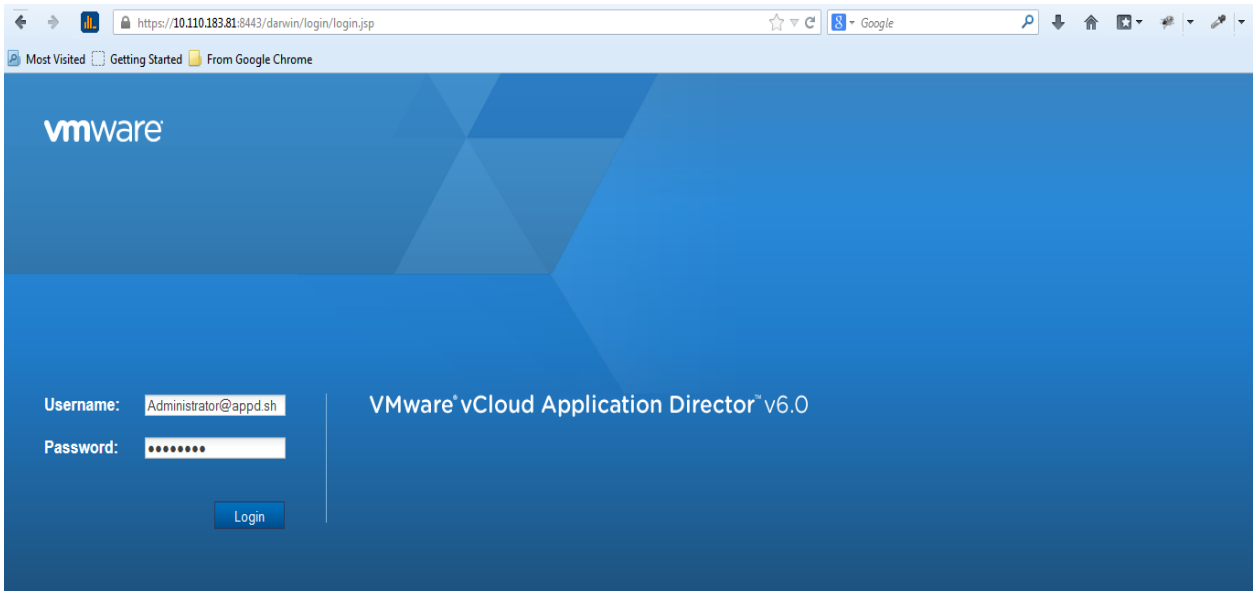
1. Install and configure VMware vFabric Application Director 6.0 with vCloud automation center(vCAC) 6.0. Refer the the product documentation for information about installing and configuring Application Director.
2. Add **SQL Server 2012** as an application in the Application Director Applications.

3. Set up

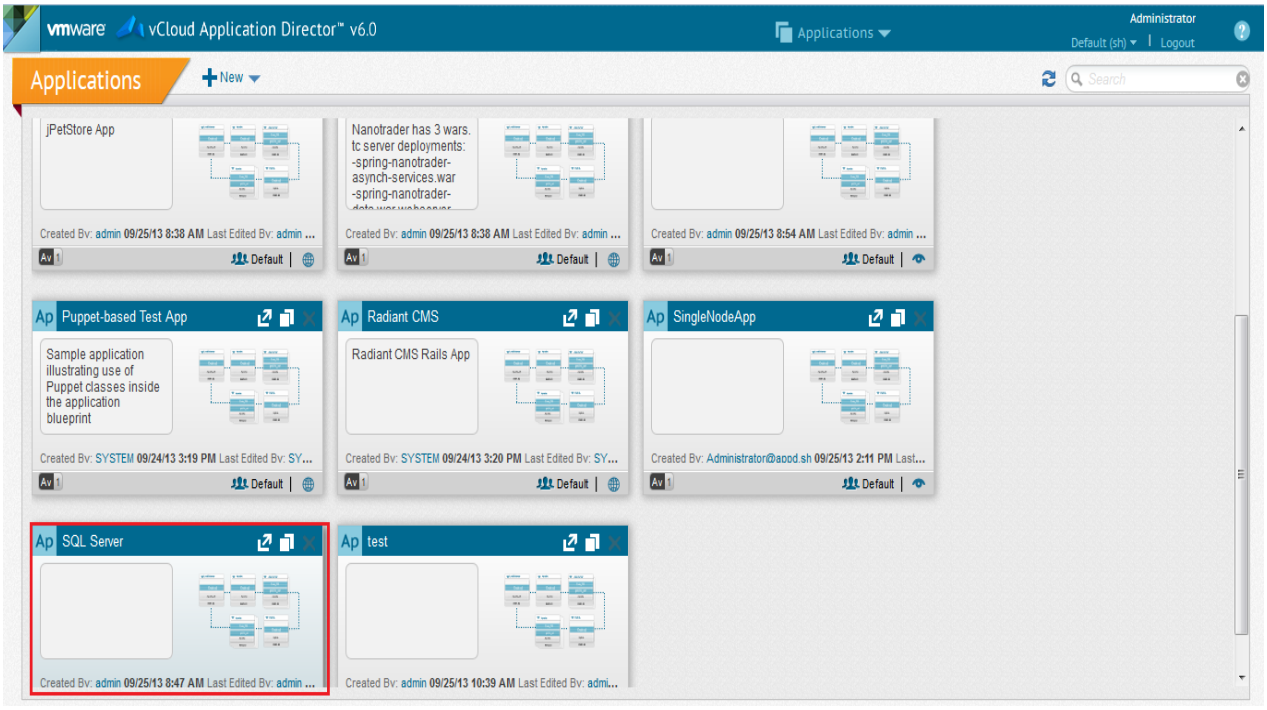
Follow the below steps to publish SQL server as a DBaas In vCAC 6.0:

3.1 Publishing an App from Application director to the Service Catalog of vCAC.

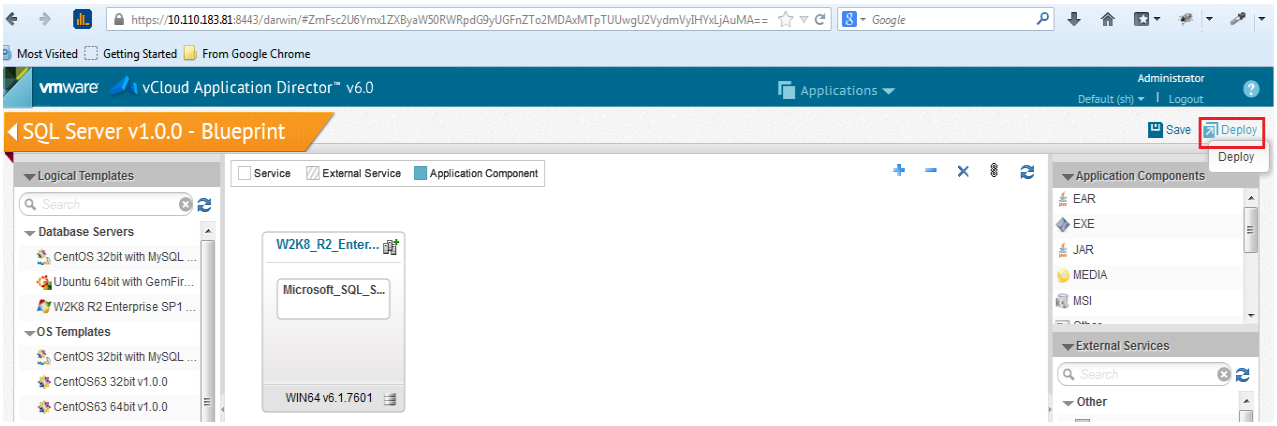
1. Login to the Application Director v6.0 https://10.110.183.81:8443/darwin/ as Administrator@appd.sh/ca$hc0w1.

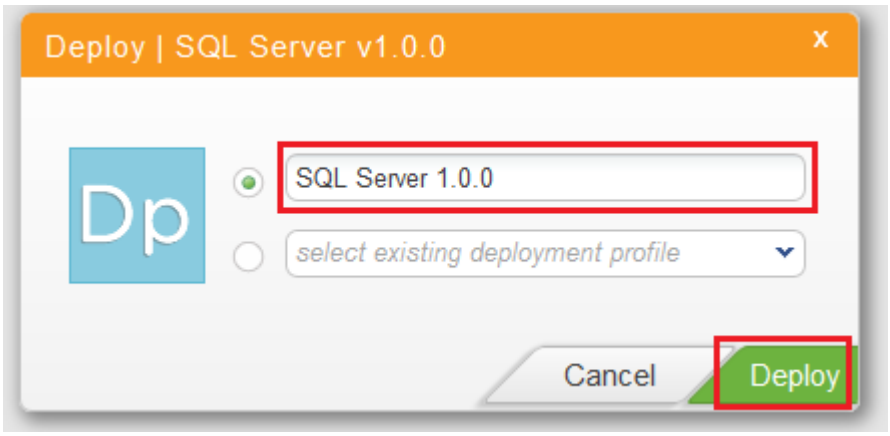


2. Now navigate to **Applications** from the main menu and select **SQL Server** App and then select view blueprint. This will navigate to the blueprint canvas and click **view blueprint** as shown

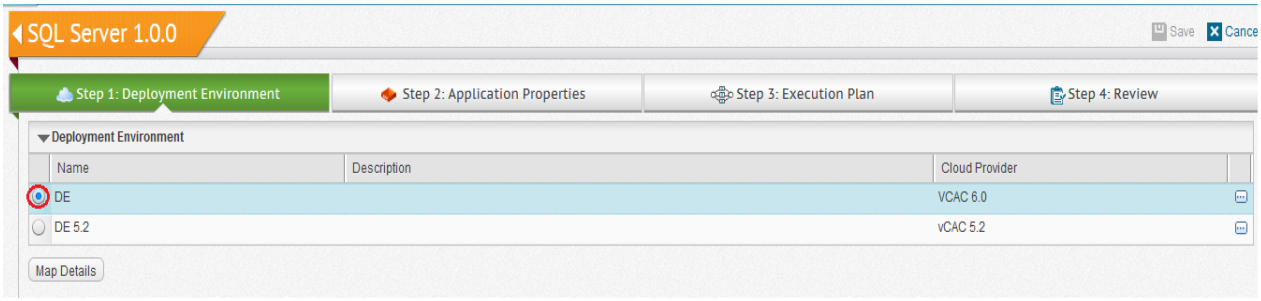


3. Now click on the **Deploy** icon as shown and enter a new name for the Deployment Profile e.g. “SQL Server 1.0.0” and then click **Deploy**

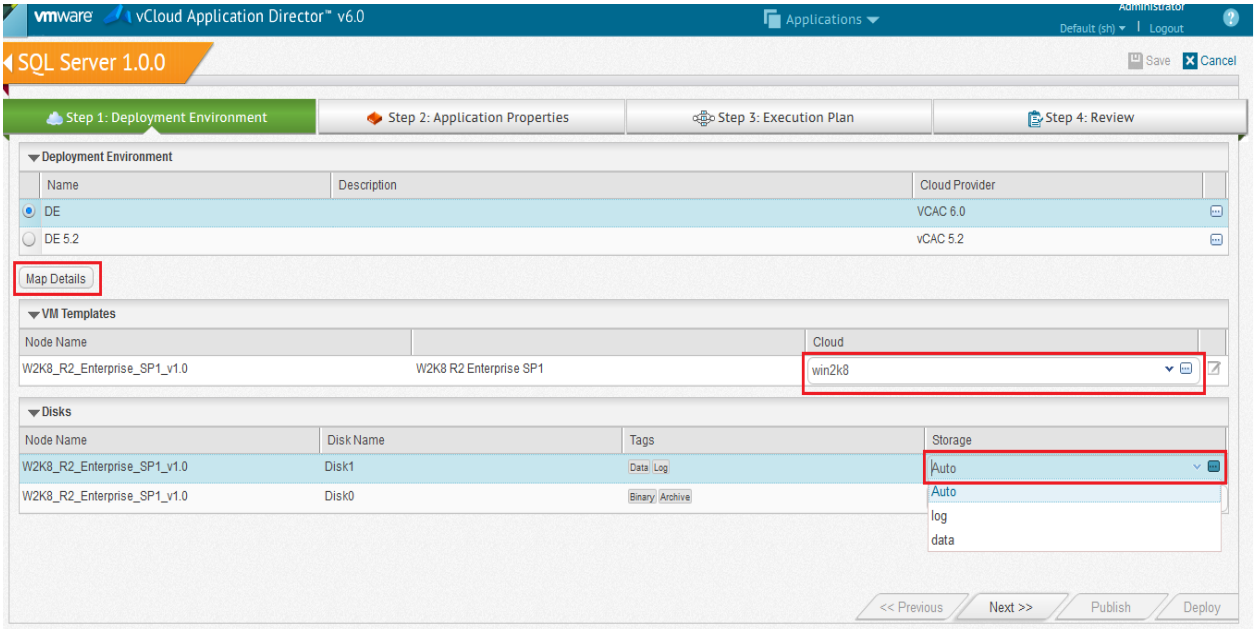




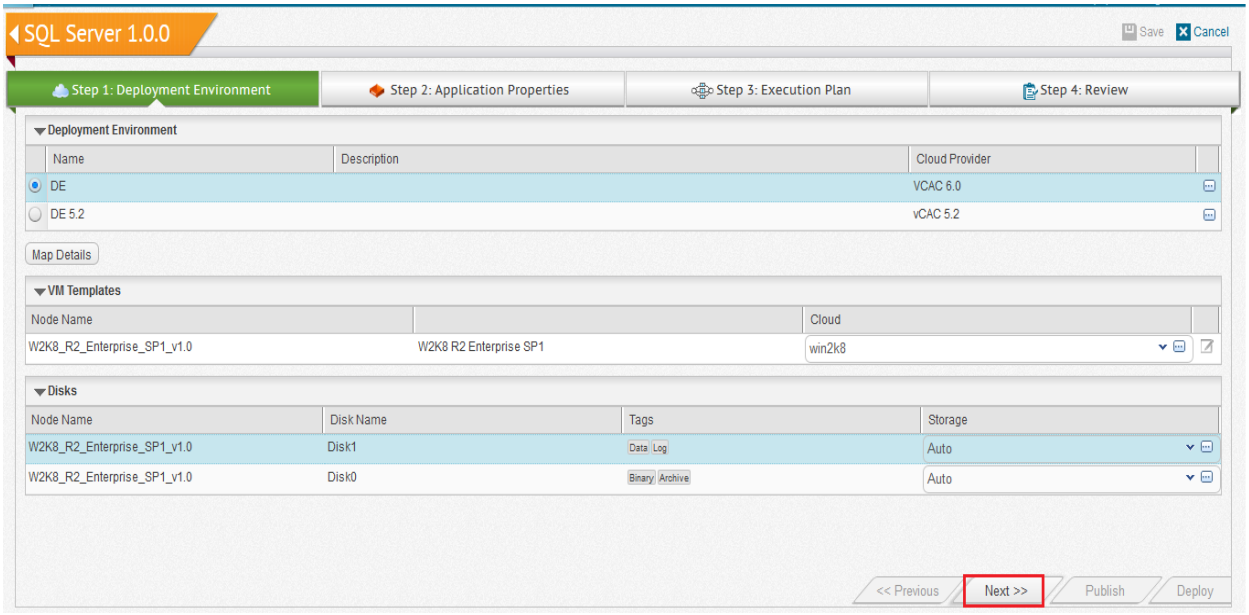
4. This will bring up the deployment wizard. Select the only available Deployment Environment



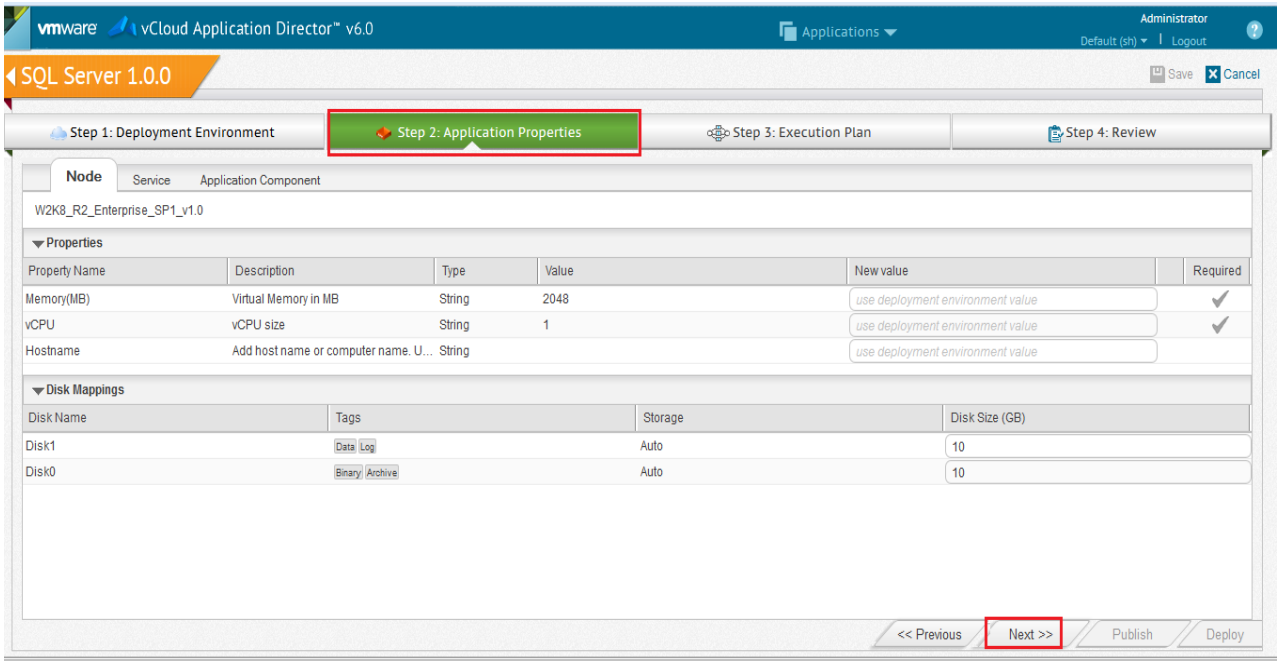
5. Click on the "**Map Details**" button and select the appropriate **Cloud & Storage template** from the drop down list



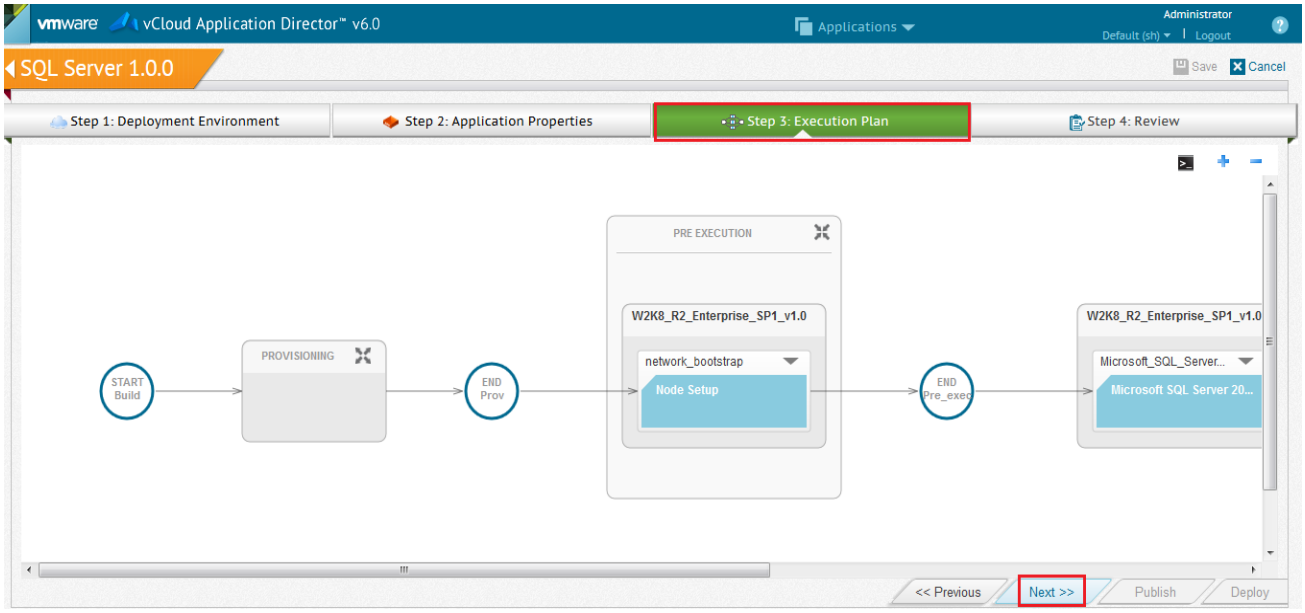
6. Now review the **Cloud Templates** (i.e. the vSphere Machine Blueprints) that will be used for this deployment and then click **Next** to review the Application Properties.



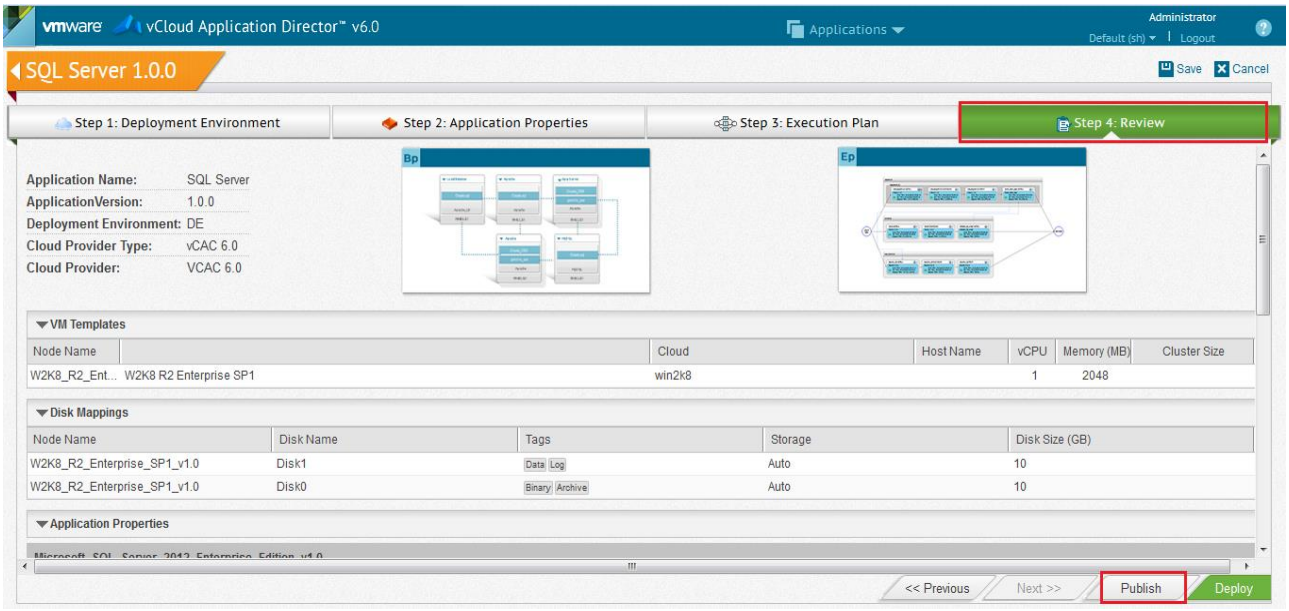
7. Review the Application Properties and then click Next to review the execution Plan



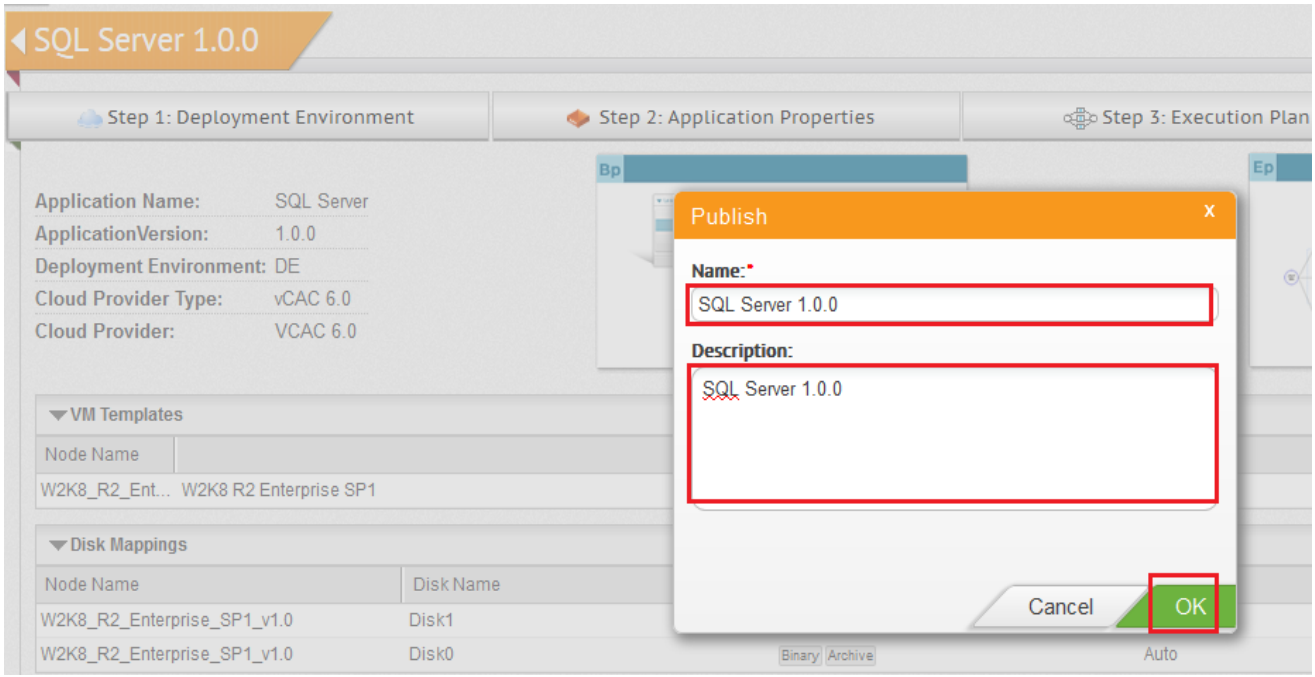
8. Review the **Execution Plan**, which provides you with a visualization of all the steps involved in provisioning the VM's as well as installing, configuring, and starting the software services. You can add custom Tasks on this view as well. Click **Next**.



9. Review the last page that summarizes all the information for this application deployment. Click on **Publish** to go ahead and publish this Deployment Profile to the Service Catalog into vCAC

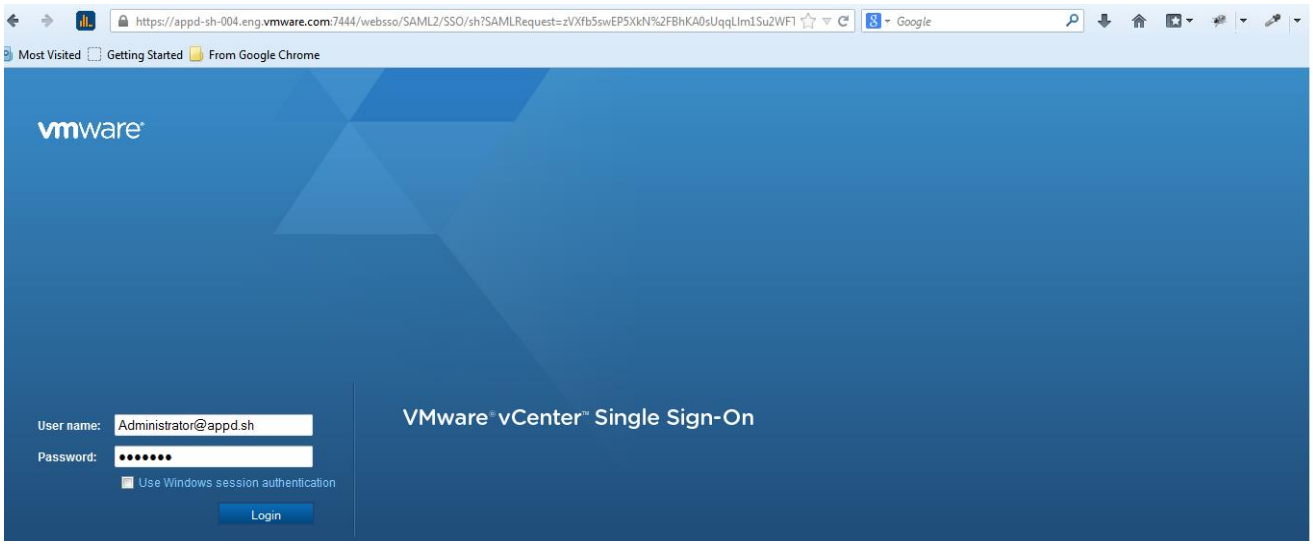


10. Provide a name and description and then click **OK** to publish

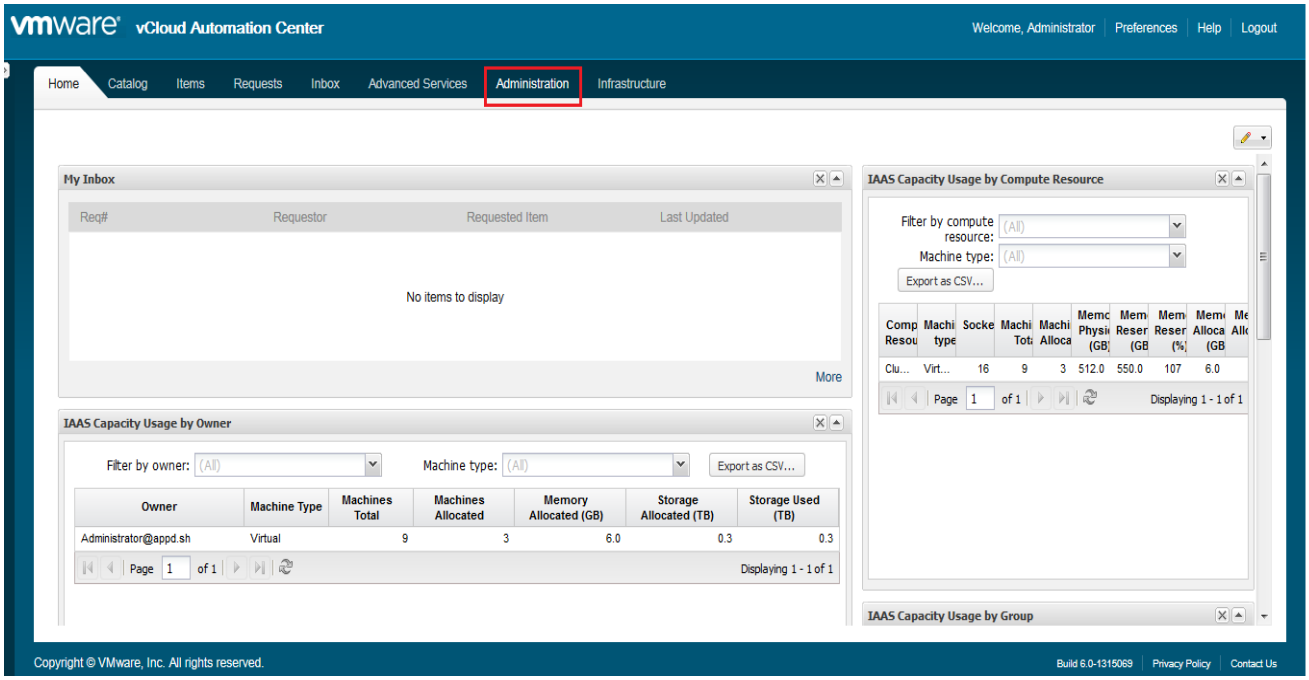


3.2 Managing Entitlements of the Newly Published Application

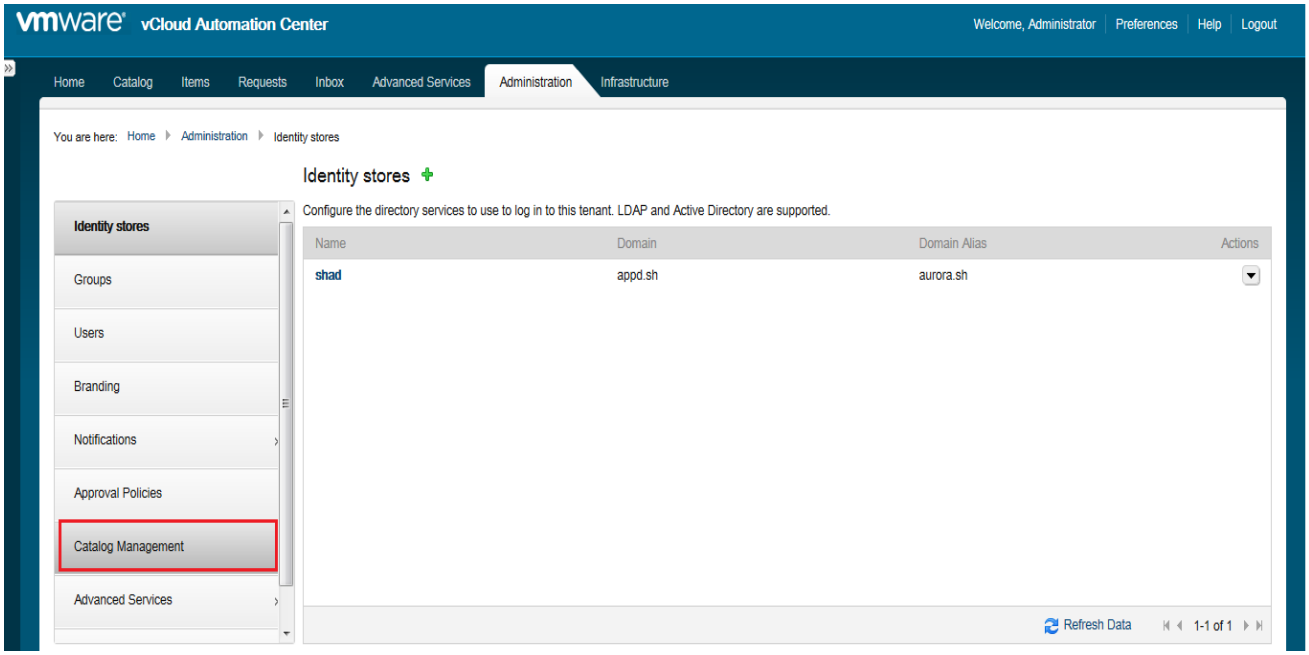
1. Login to the vCAC v6.0 https://appd-sh-006.eng.vmware.com/shell-ui-app/org/sh as Administrator@appd.sh/ca$hc0w1 using SSO



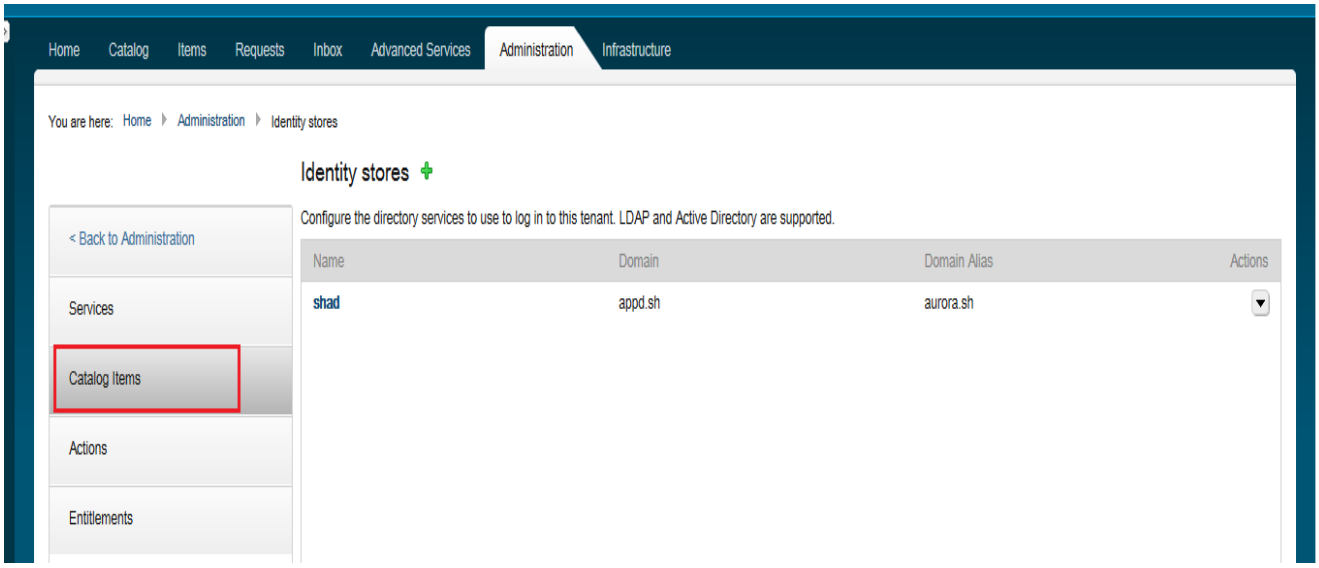
2. Click on the **Administration** tab



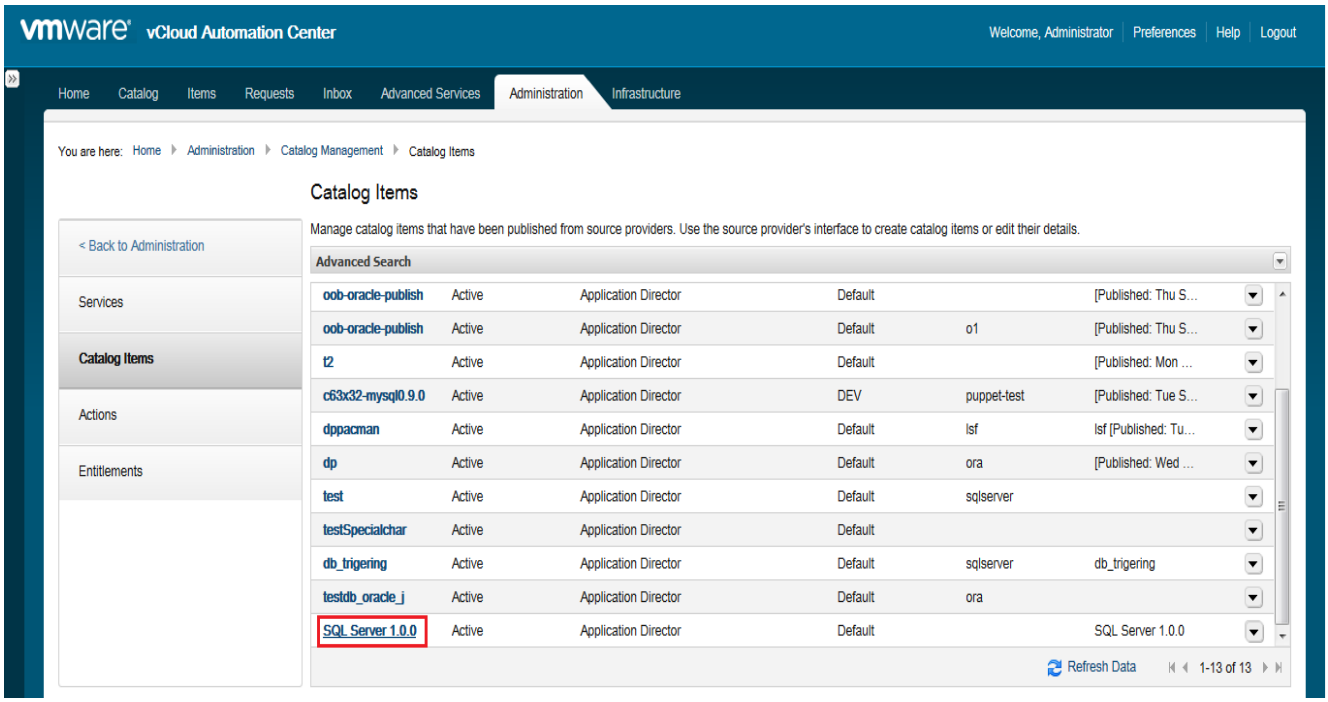
3. Select **Catalog Management**



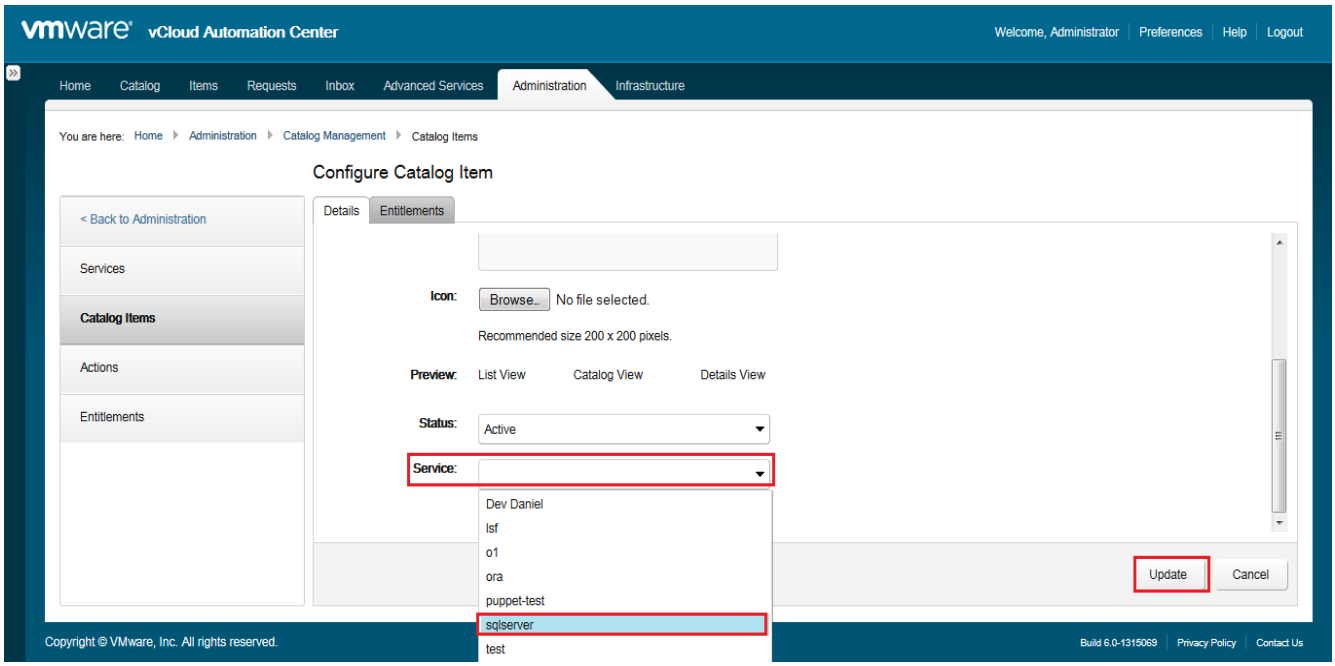
4. Click on to **Catalog Items**



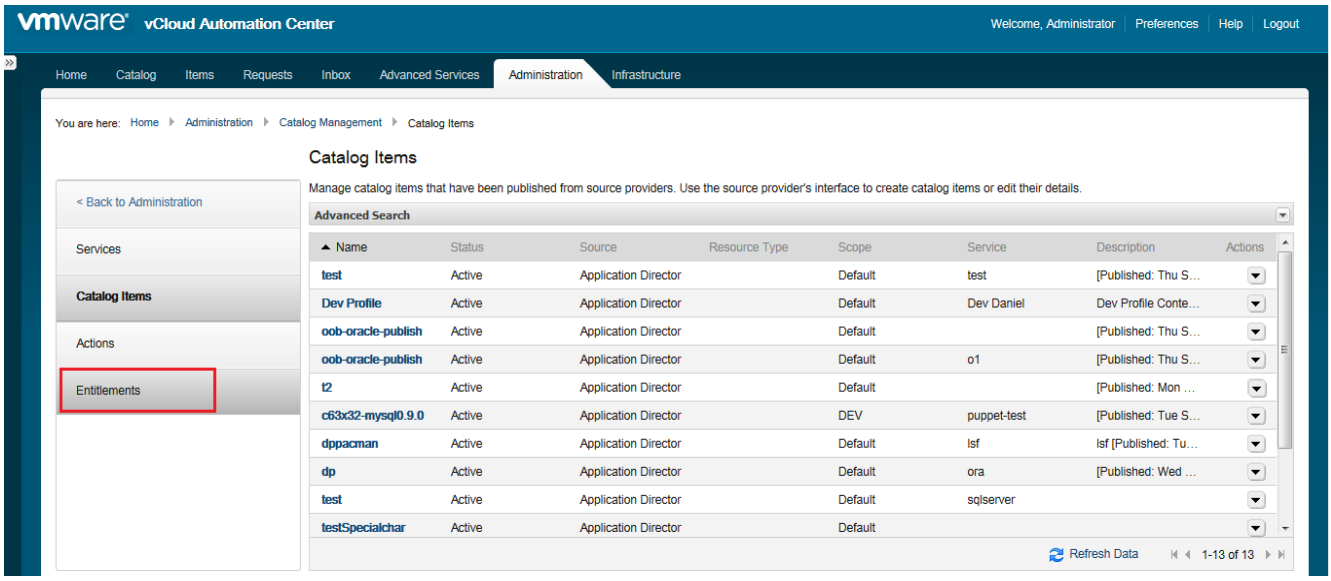
5. Select the published **SQL Server 1.0.0** application

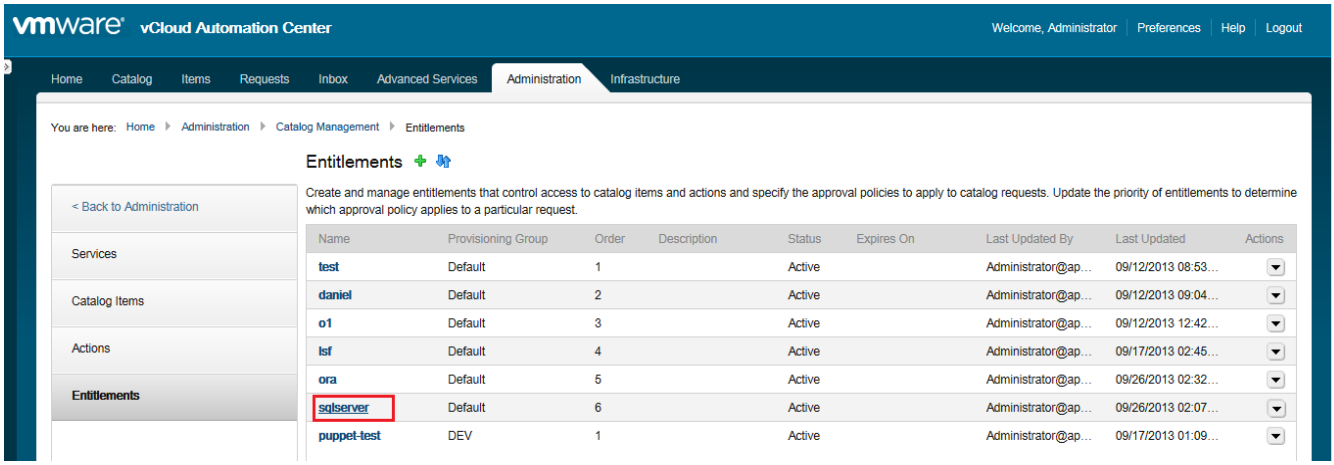


6. From the **Service** drop-down, select **sqlserver** to assign this Catalog Item to the sqlserver Service Category. Finally click **Update**

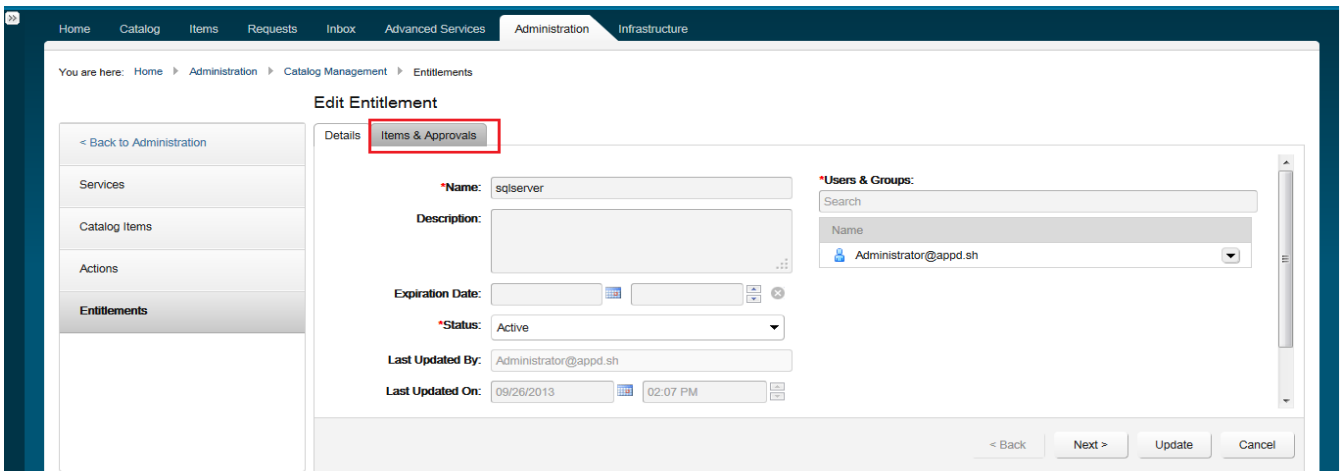


7. Click on **Entitlements** and select the “sqlserver” Provisioning Group

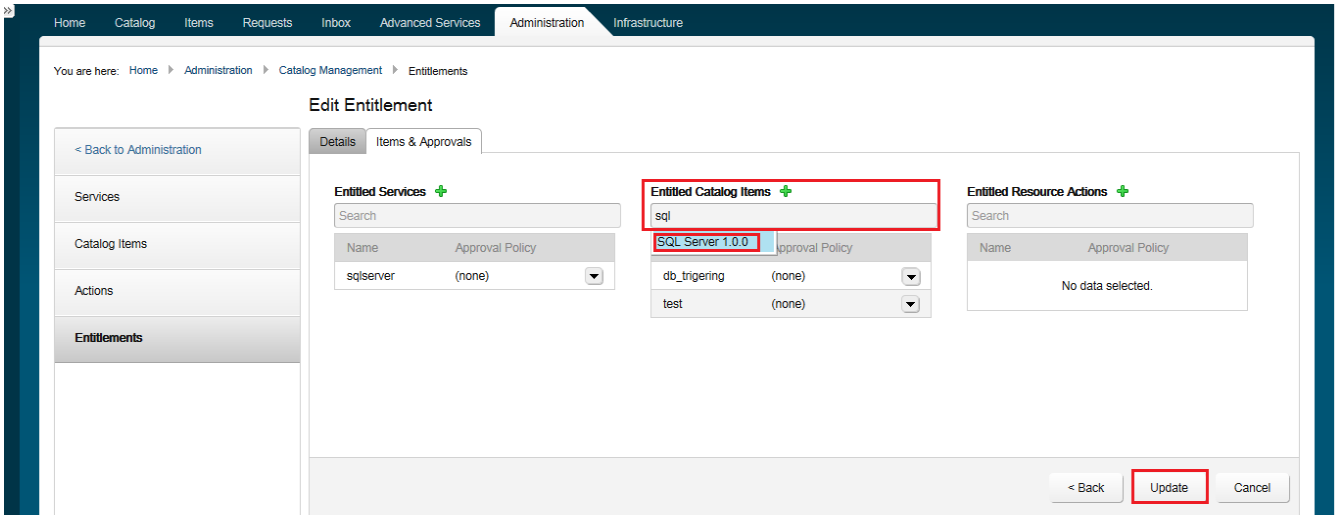




8. Click on the **Items & Approvals** tab. Ensure that Applications are listed under Entitled Services

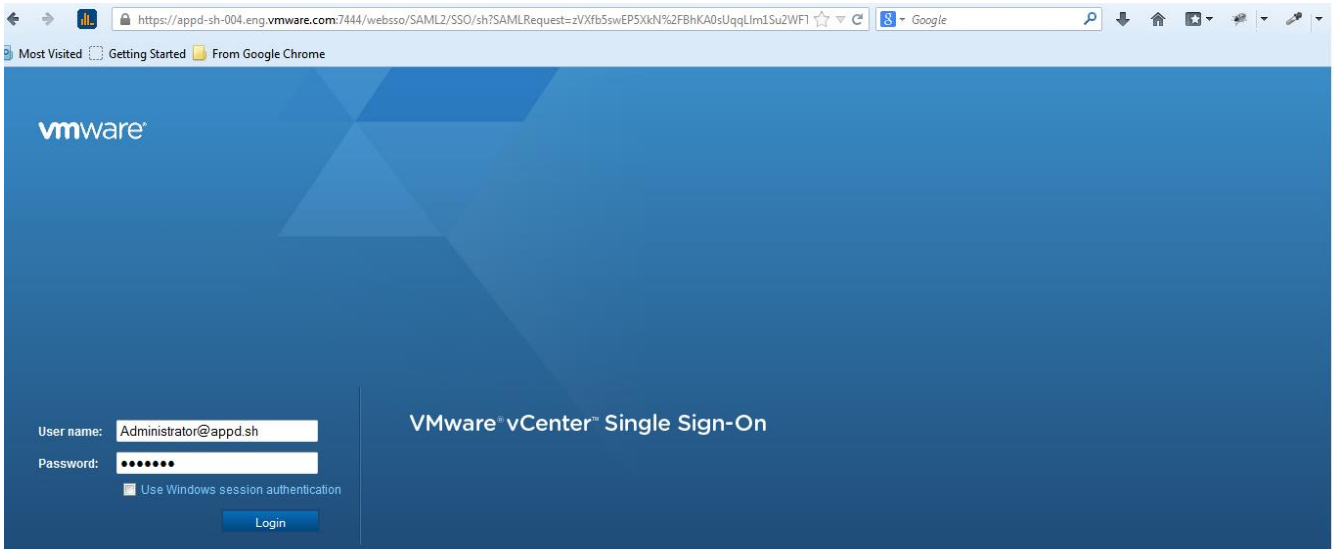


9. Search for the published SQL Server 1.0.0 application under **Entitled Catalog Items** and click **Update** to save these changes

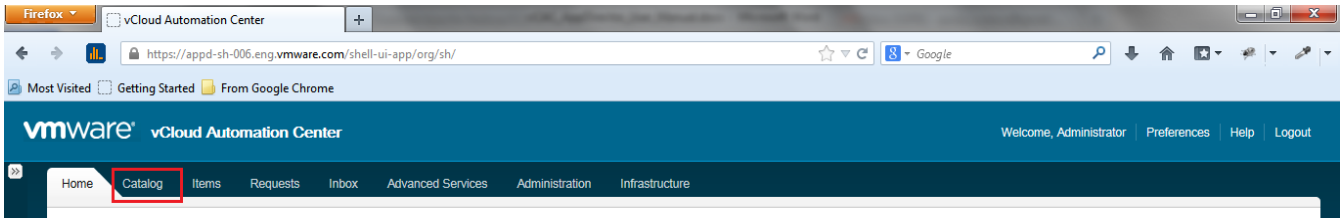


3.4 Request the Application as a Catalog Consumer

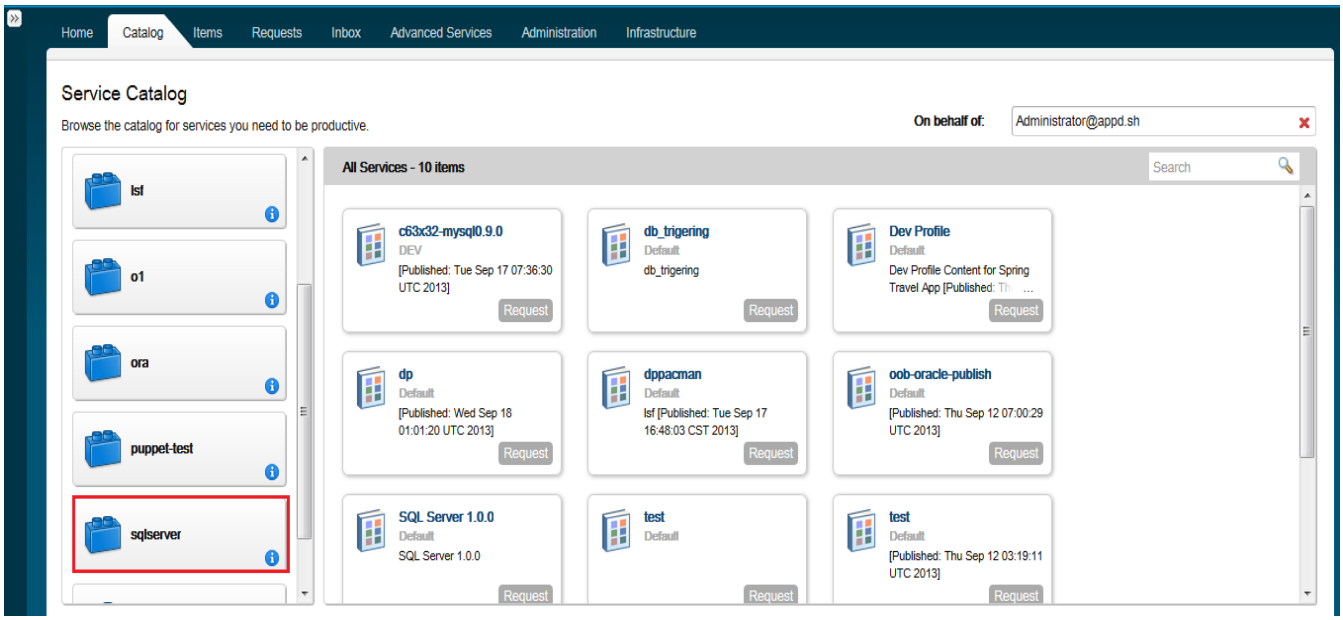
1. Log into vCAC Service Catalog (https://appd-sh-006.eng.vmware.com/shell-ui-app/org/sh) using SSO as a Catalog Consumer(Administrator@appd.sh/ca$hc0w1



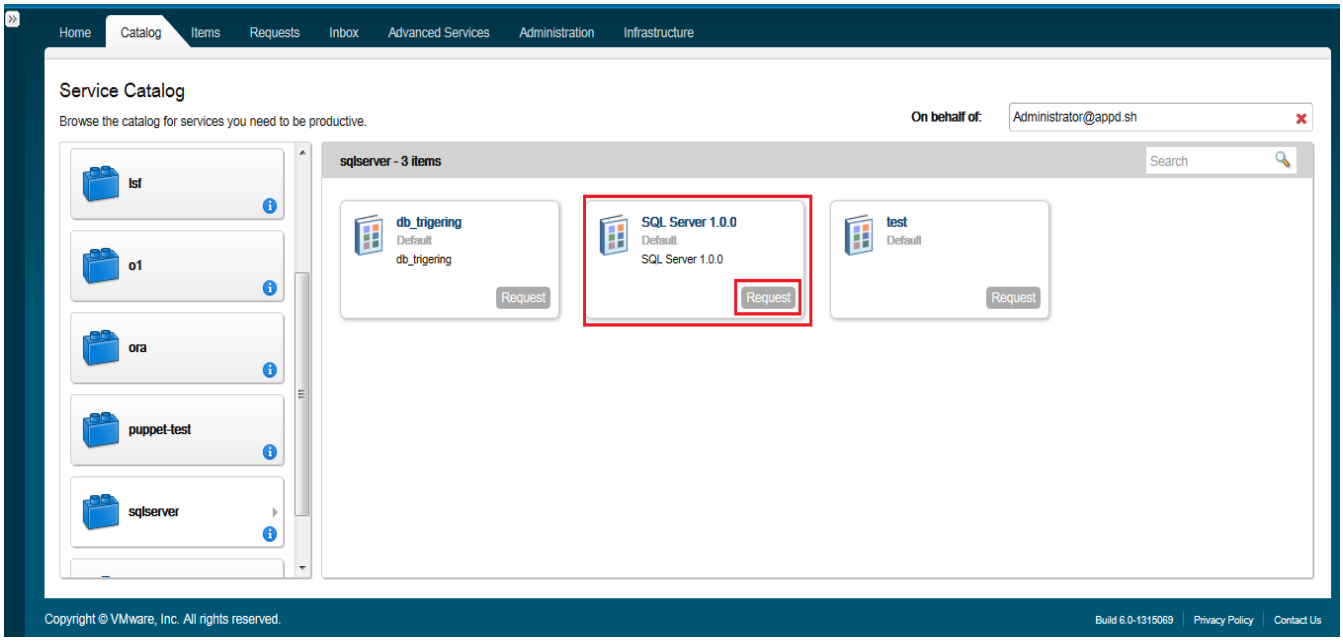
2. Click on the **Catalog** tab



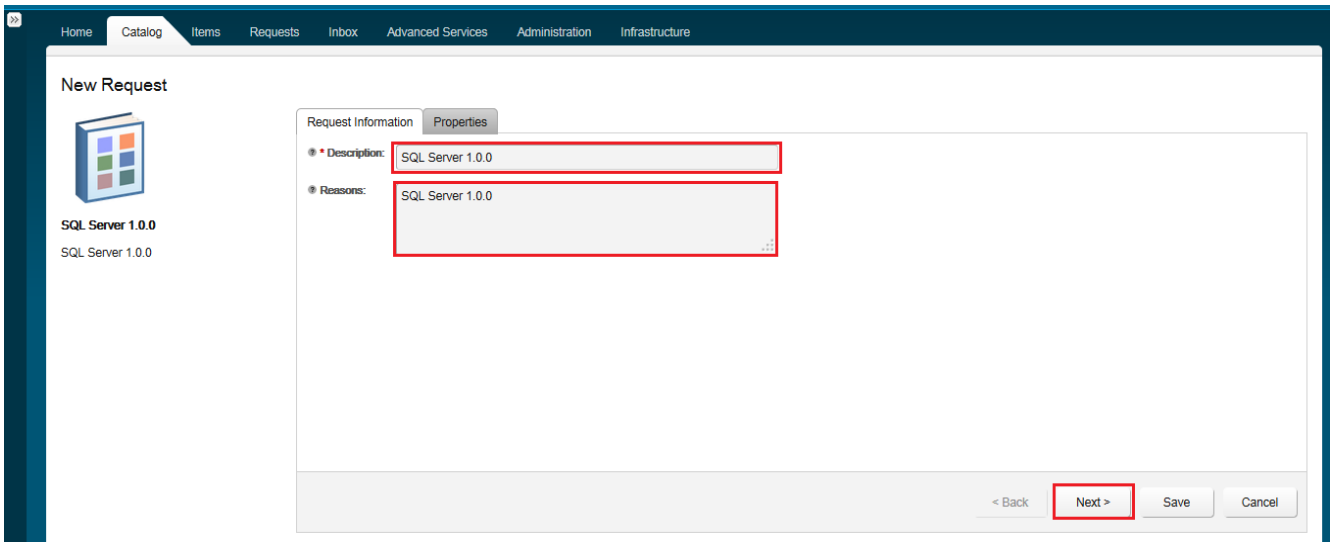
3. Select SQL Server



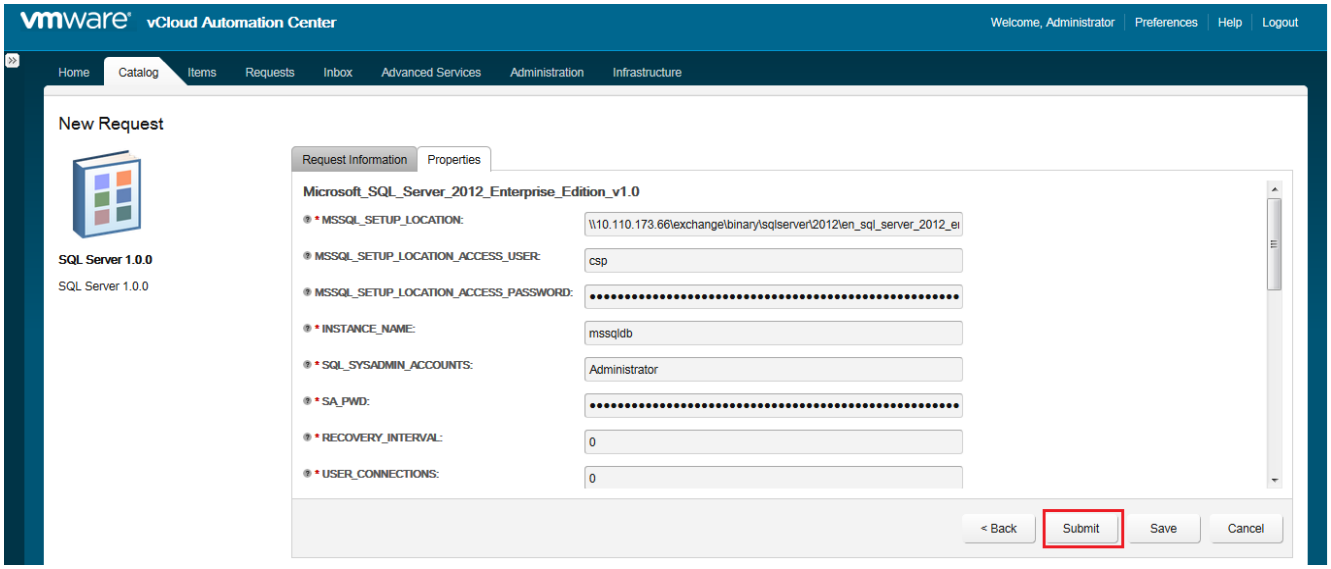
4. Click on the **Request** Button for published SQL Server 1.0.0 application

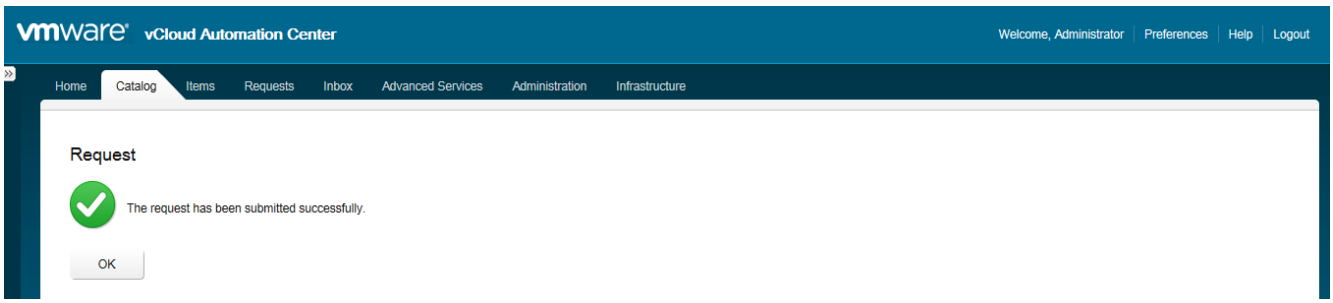


5. Provide Description & Details and click **Next**.



6. Review all the application **properties**. Click **Submit** to provision this application.





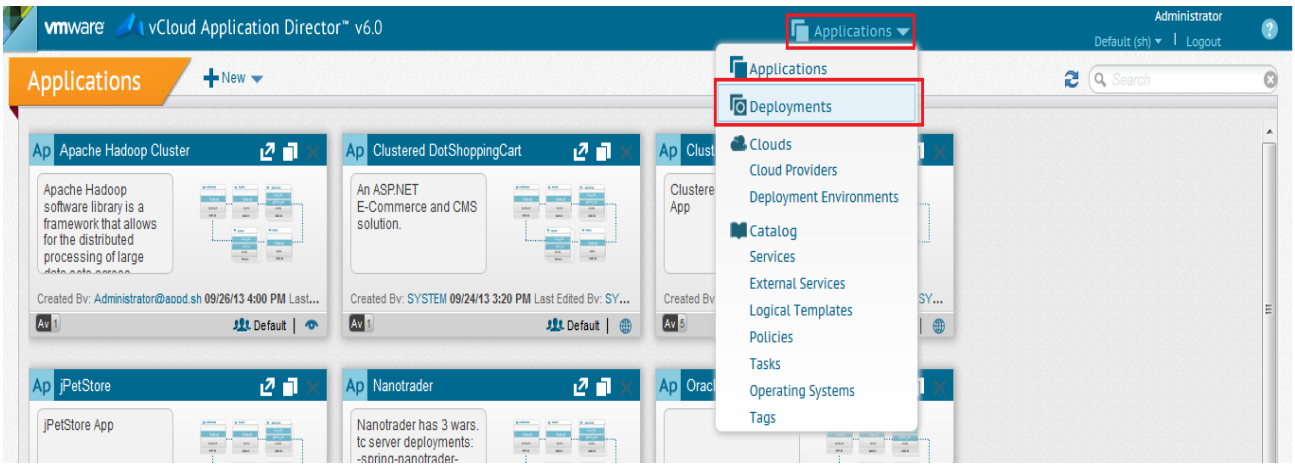
3.5 View the status of the application deployment

After completion of the deployment, we can check the status by following two methods

Method -1: From Application Director

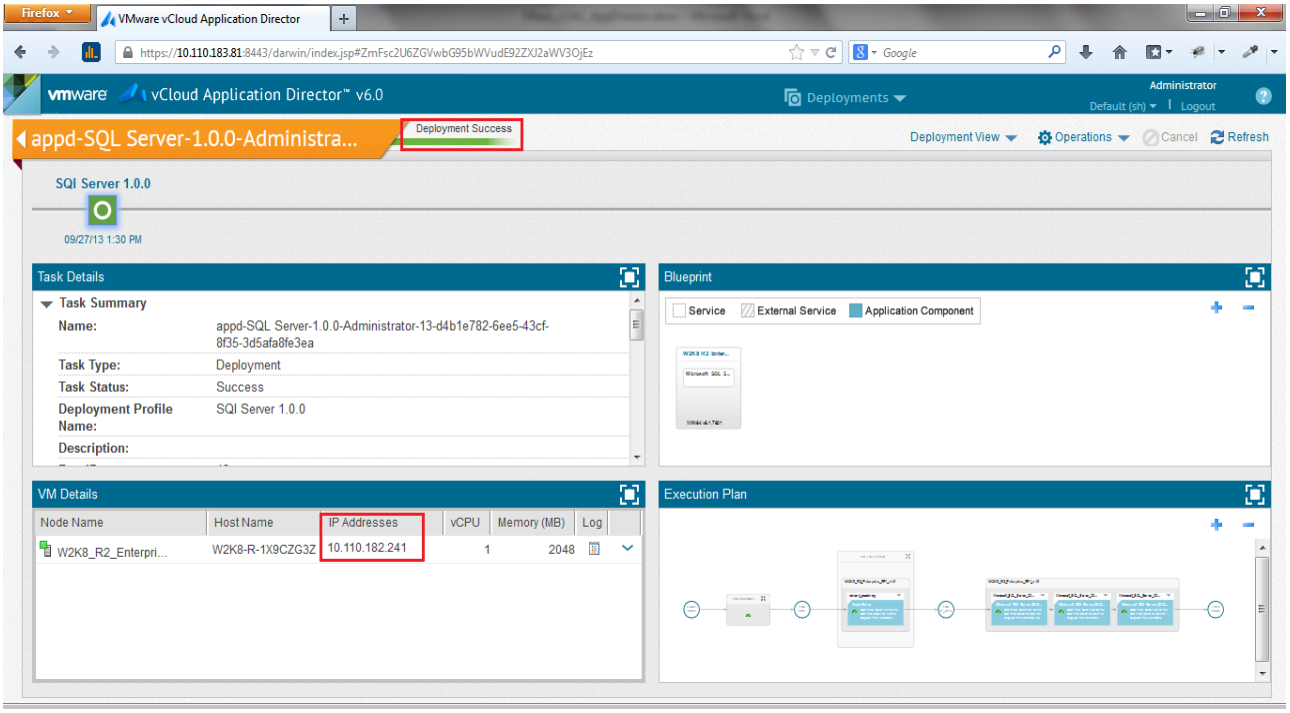
1. Login to the Application Director v6.0 https://10.110.183.81:8443/darwin/ as Administrator@appd.sh/ca$hc0w1.

2. Review the deployment status from the Deployments page by selecting **Deployments** from the main menu.



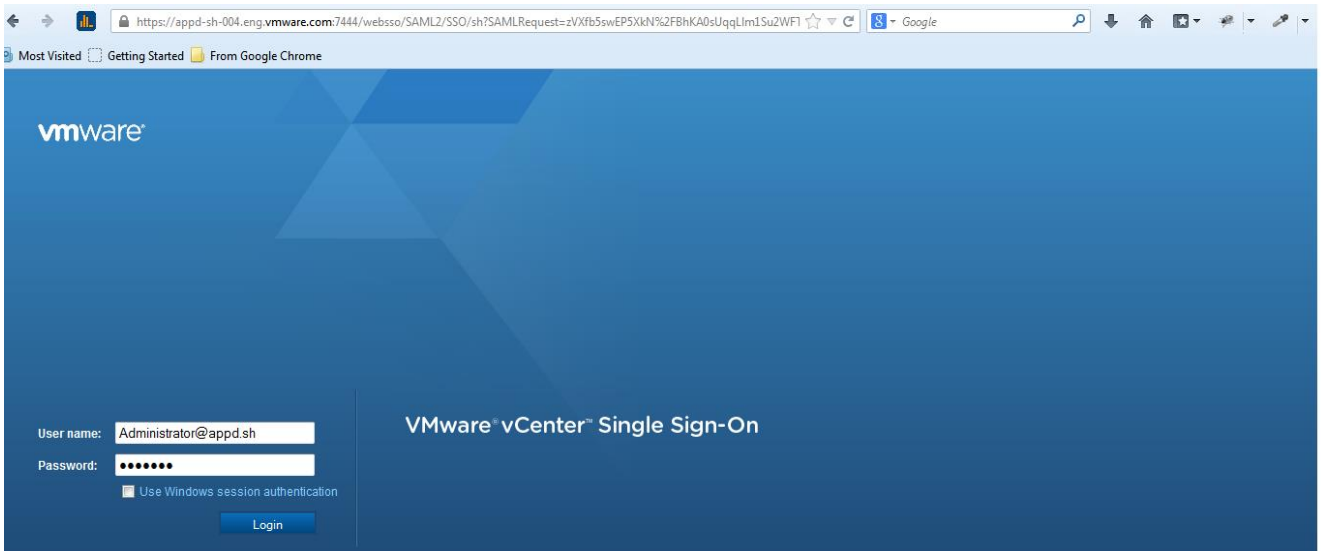
3. Hover mouse on the below box to see where this deployment is initiated from. Click on this deployment

4. Check the success/failure of the deployment

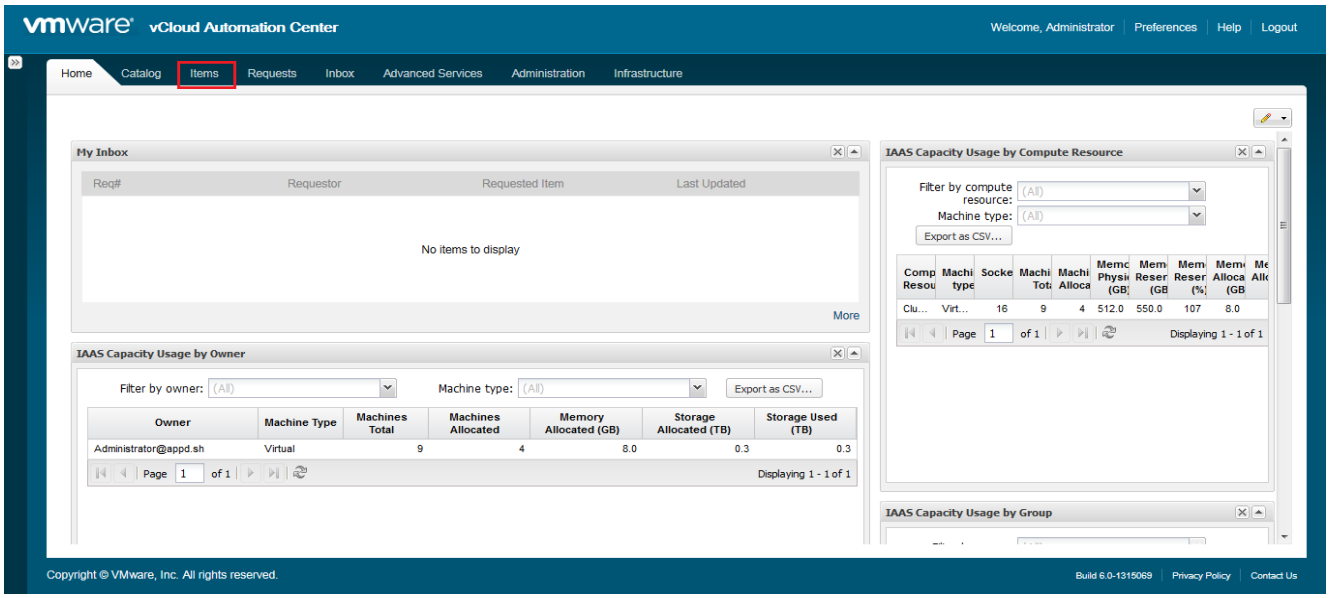


Method -2: From vCAC

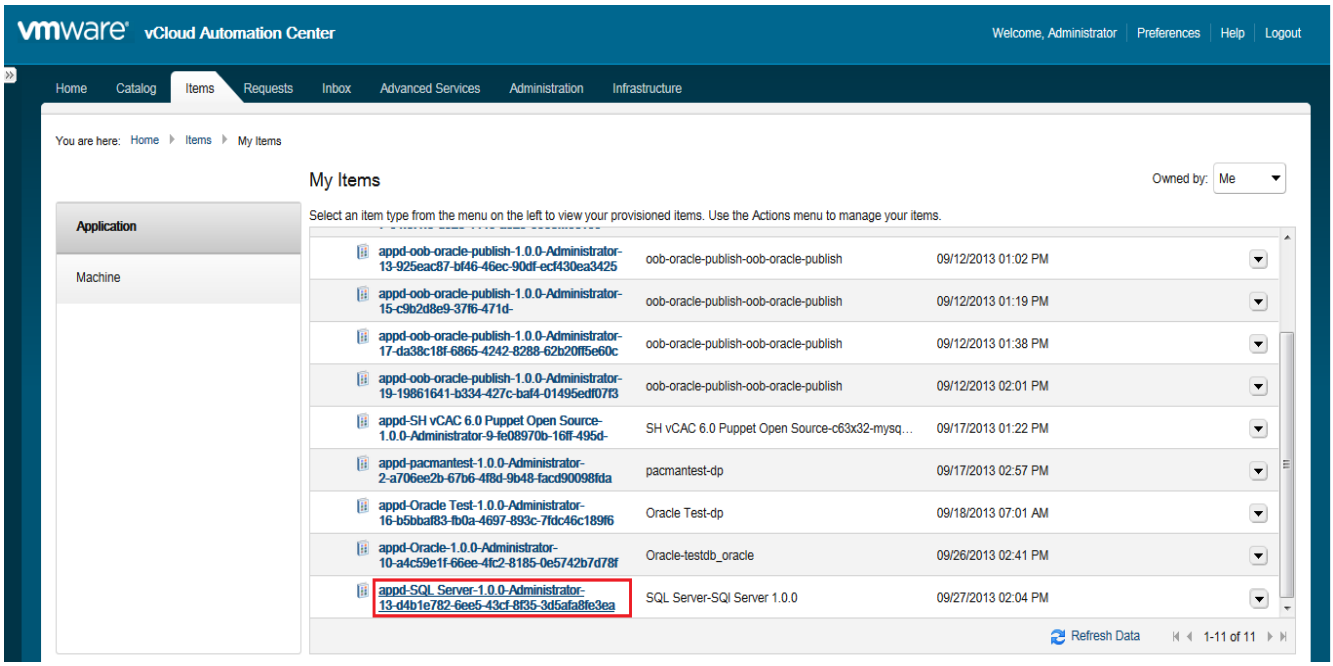
1. Log into vCAC Service Catalog (https://appd-sh-006.eng.vmware.com/shell-ui-app/org/sh) using SSO as a Catalog Consumer(Administrator@appd.sh/ca$hc0w1



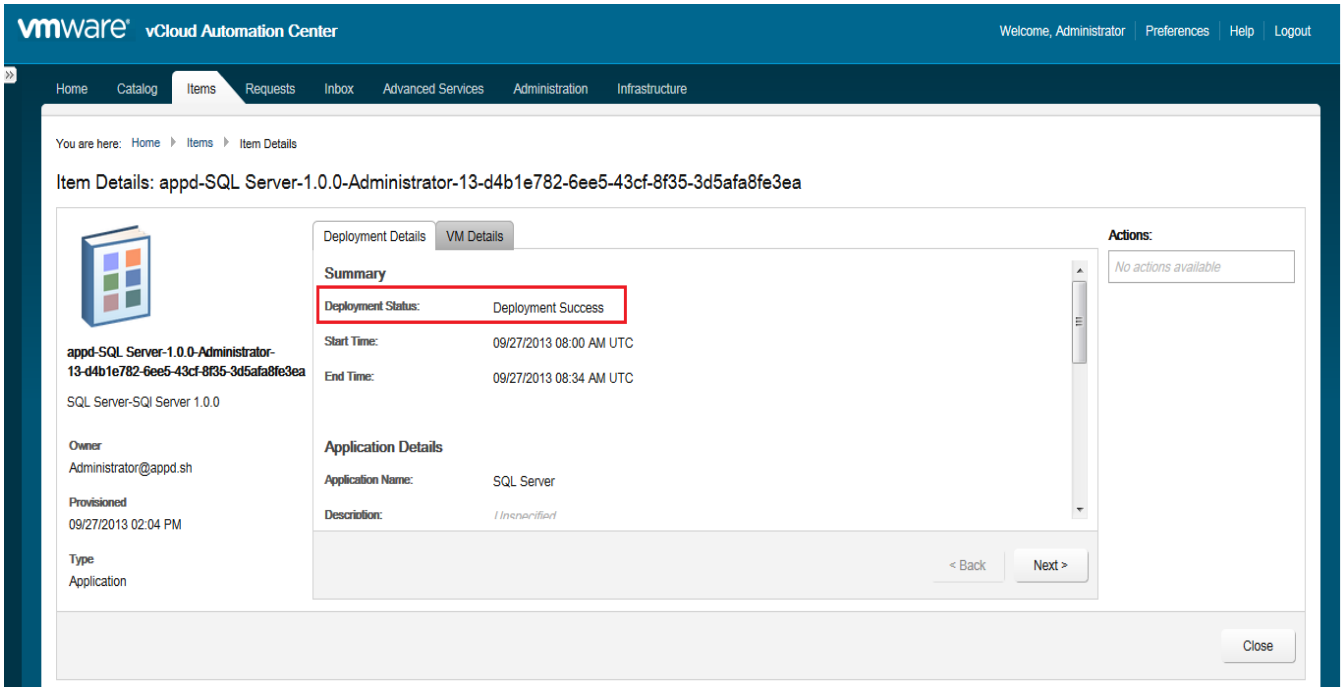
2. Click on the **Items** tab



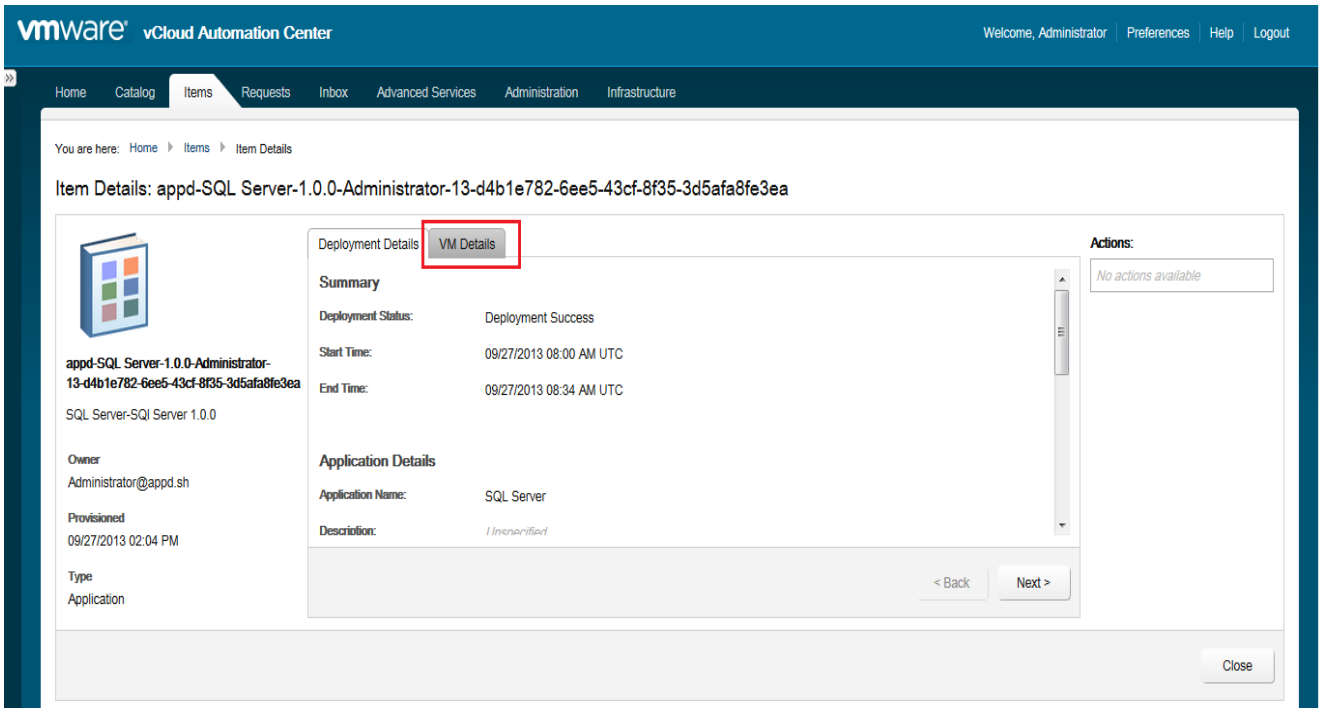
3. Select **the appd-SQL_Server** item

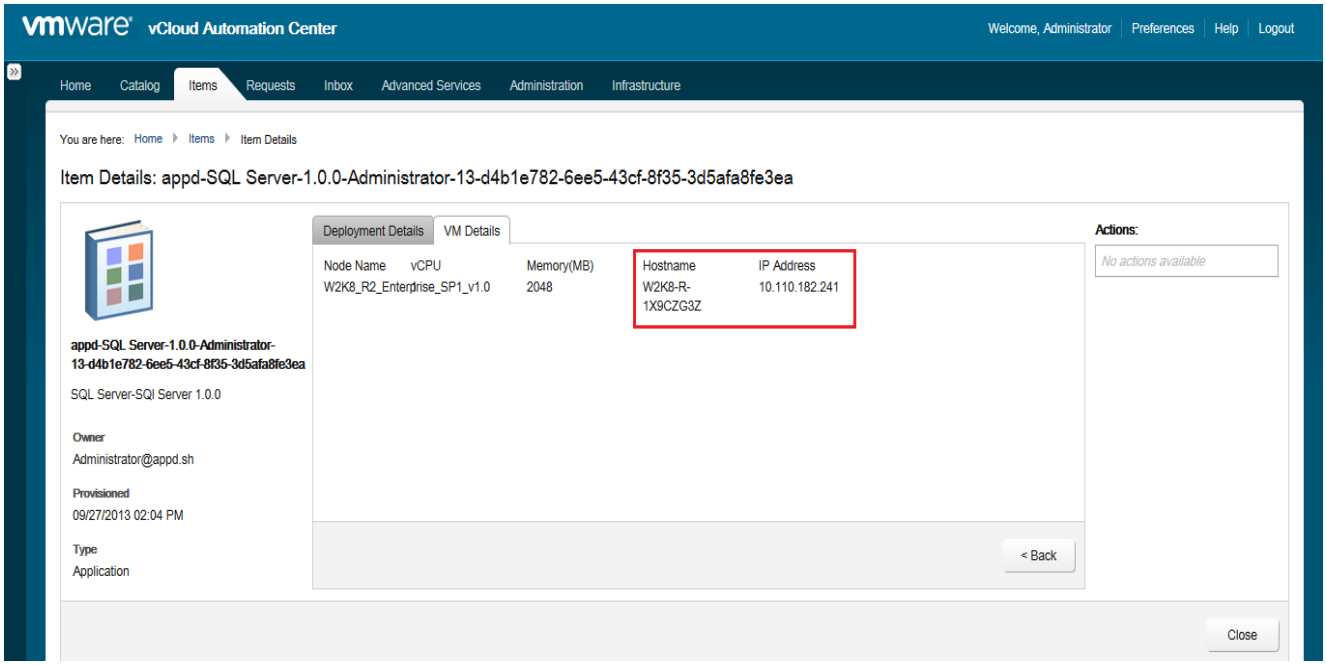


4. Check the success/failure of the deployment.



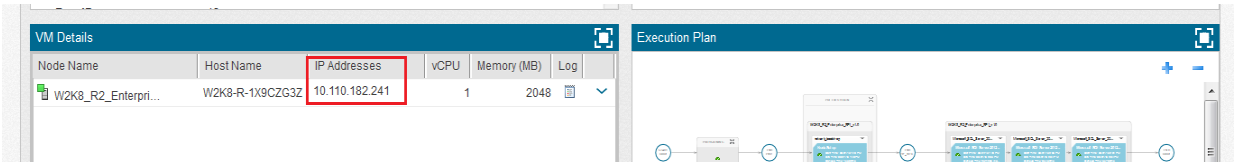
5. Check the machine IP by clicking on the **VM Details** tab.



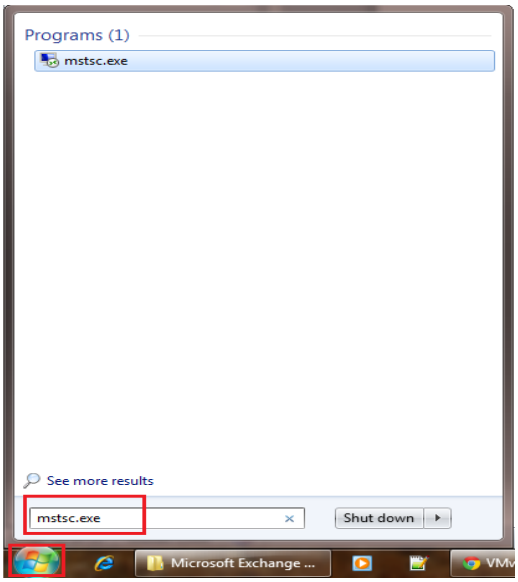


3.6 Launching the Application

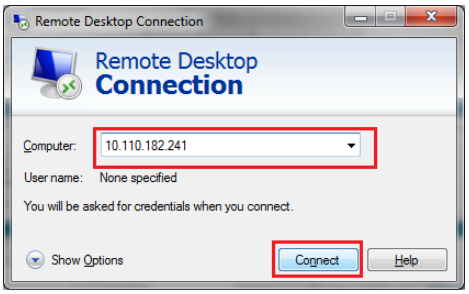
1. Click on the **VM Details** Page to get the IPs of the machines. We will need these IPs to launch the application



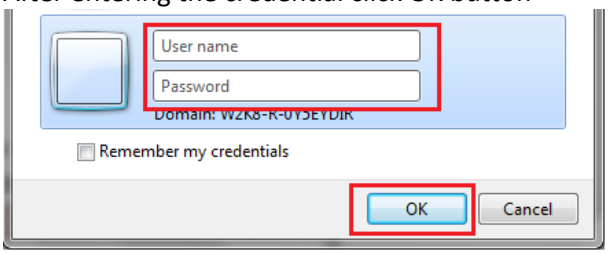
2. RDP into the created machine "10.110.182.241" as Start Menu -> Type mstsc.exe in the "*Search programs and files"* text box. Press ENTER key



3. Now type machine's IP in the **Computer** Filed and click **Connect**

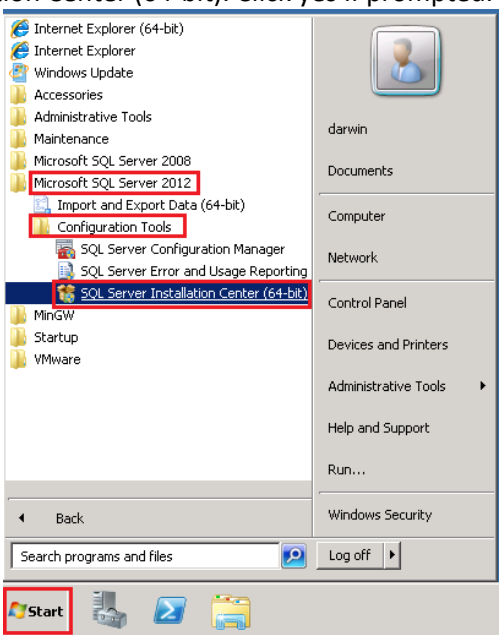


4. Now enter the system account credential
   After entering the credential click OK button

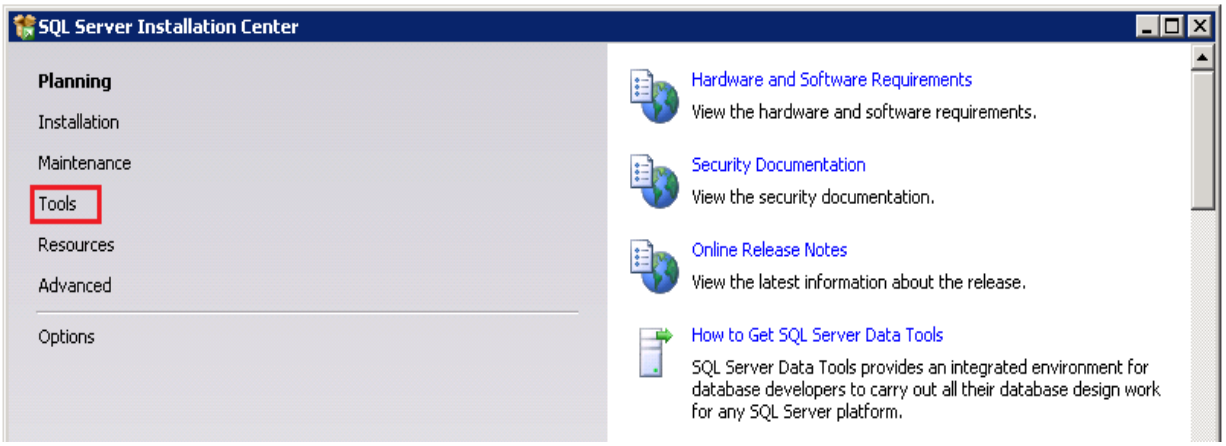


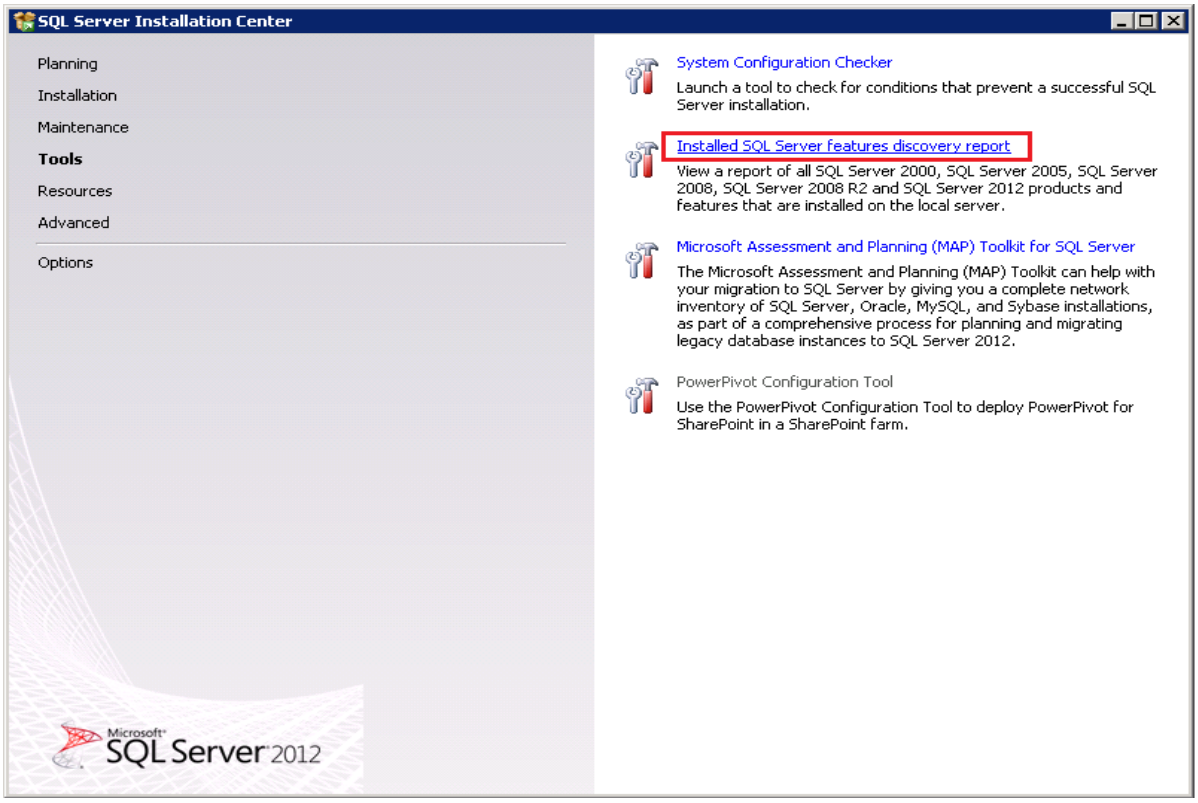
5. Now we are successfully logged into the machine

6. Click on Start Menu → All Programs → Microsoft SQL Server 2012 → Configuration Tools → SQL Server Installation Center (64-bit). Click yes if prompted.

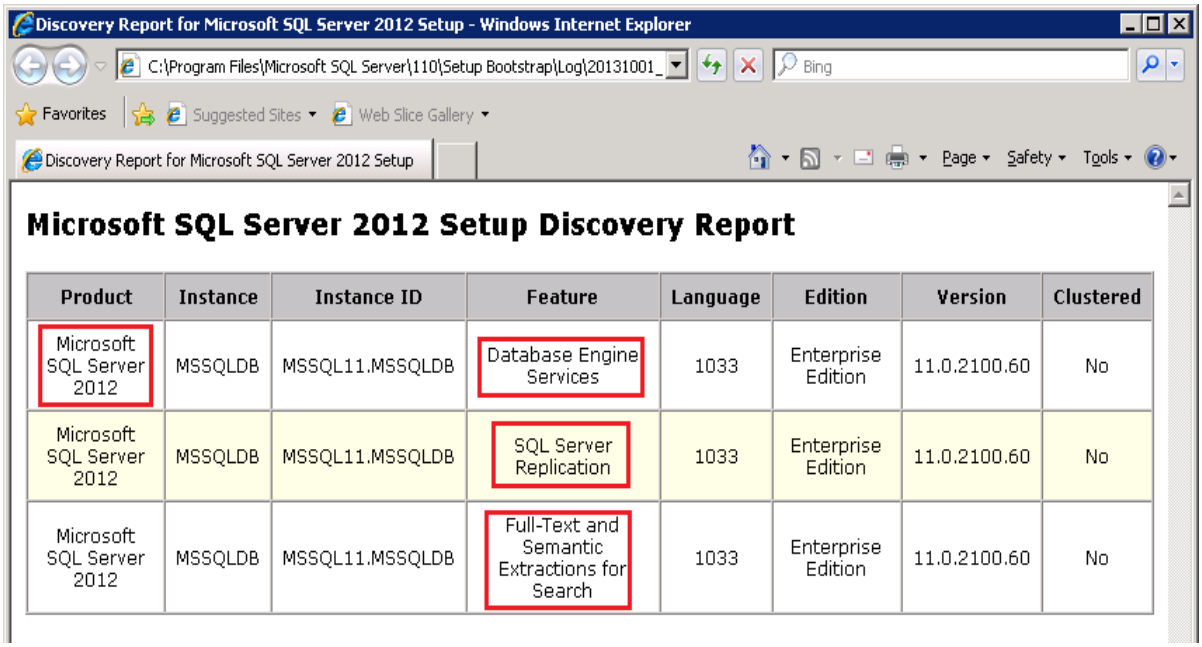


7. To run the SQL Server features discovery report, click **Tools** in the left-hand navigation area of **SQL Server Installation Center**, and then click **Installed SQL Server features discovery report**





8. The SQL Server discovery report can be used to verify the version of SQL Server and the SQL Server features installed on the computer. The **Installed SQL Server features discovery report** displays a report of all SQL Server 2000, SQL Server 2005, SQL Server 2008, SQL Server 2008 R2 and SQL Server 2012 products and features that are installed on the local server



4. Summary

SQL Server service as a DB service utilizes industry's leading Cloud-enabled application provisioning solution, VMware vFabric Application Director 6.0 and Cloud-enabled self-service provisioning solution with integration of the VMware vCloud Automation Center 6.0.

5. Benefits

5.1 Single User Experience for Infrastructure, Desktop and Application Services

In addition to support for heterogeneous infrastructure, vCAC have now offered a single catalog for publishing and consuming application services. Users can now browse the same catalog to request and provision single or multi-node applications, just like they have for infrastructure and desktop services.

5.2 Application Deployment & Updates (formerly "Application Director")

1. **Request applications** from the Service Catalog and then the view overall deployment status
2. **Application Updates**: Ability to **rollback** failed updates to restore the business and to reduce the time to update an application, re-use of **update profiles** that store frequently used update scripts & properties, **promotion** of changes across Deployment Environments to facilitate Release Automation, and **scale-in** of clustered applications to save unused resources
3. **External Services**: Reduce time to deliver workload by connecting to an external or existing service such as a load balancer, an existing database with pre-configured schema, SaaS applications such as Salesforce, an LDAP server, an SSO server, etc.
4. **Policy-based Provisioning**: Enforce policies across the different deployment environments by blacklisting application services or enforcing mandatory services, facilitate policy-based provisioning by setting # of Total Instances (VM's) limits across all nodes in a deployment, Compliance View is showing policy violations against currently active and effective policies on deployments & application updates.

5.3 Extensible to any IT Service

In addition to out-of-the-box services, customers can now more easily extend vCAC to publish any kind of IT service to the common service catalog. Whether its **Storage-as-a-Service**, **Backup-as-a-Service**, or something as simple as letting users add capacity to their e-mail account, the new Advanced Service Designer lets service architects design rich user forms and provisioning workflows in a matter of minutes. And like pre-built services, custom services leverage the same entitlement and approval policy engines, enabling organizations to use a consistent governance layer.

5.4 Business Management for the Cloud

1. Provides visibility into the cost and usage of on-premise virtual infrastructure and public cloud infrastructure, including benchmarking capabilities
2. Supports "what-if" cost analysis to determine the best infrastructure type and placement options
3. Includes capacity, cost, and budget analysis capabilities for proactive planning

5.5 Improvements in Infrastructure as a Service

1. Support for OpenStack: in addition to vSphere, vCloud Director, Amazon, Hyper-V and various physical machines, vCAC now provides support for provisioning and post-provisioning operations on machines managed by OpenStack.
2. Log into vSphere machines from the service catalog: once a vSphere virtual machine is provisioned, a user can now access it via the VMware Remote Console.
3. Integration with vCloud Networking & Security (vCNS)

5.6 Improved Administration Capabilities

1. Support for LDAP services: in addition to Microsoft Active Directory, vCAC now provides support for LDAP based directory services.
2. Improvements in multi-tenancy: vCAC administrators can easily create multiple tenants with dedicated directory service(s), service catalog, portal branding, and approval policies
3. Improved compatibility with VMware Site Recovery Manager