How-To Library

Deploy the Informatica®PowerCenter Solution on the Microsoft Azure Marketplace (10.5.1)

Abstract

The automated marketplace solution uses Azure Resource Manager to launch, configure, and run the Azure virtual machine, virtual network, and other services required to deploy a specific workload on Azure. This deployment reference provides step-by-step instructions for deploying Informatica PowerCenter on the Microsoft Azure Marketplace.

Supported Versions

- PowerCenter 10.5.1

Table of Contents

Overview

Customers of Microsoft Azure and Informatica can execute a PowerCenter deployment from the Azure marketplace to create an Informatica domain in the Azure and explore PowerCenter functionality.

This deployment reference provides step-by-step instructions for deploying PowerCenter on Microsoft Azure. Automated reference deployments use Azure Resource Manager to launch, configure, and run the Azure virtual machine, virtual network, and other services required to deploy a specific workload on Microsoft Azure.

Intended Audience

This guide is for users who are responsible for deploying the marketplace solution of PowerCenter 10.5.1 on Microsoft Azure.

As a user with administrator privileges to deploy applications on Microsoft Azure, you must be familiar with Azure platform elements such as Azure Resource Manager, Virtual Machine, Virtual Network, Azure Databricks, Azure Functions, Azure Active Directory, Azure database, and Azure Blob storage. See the Microsoft Azure documentation.

To find PowerCenter documentation, see the Informatica documentation portal.

Costs and Licenses

You are responsible for the cost of the Azure services used while running this deployment. There is no additional cost for using this marketplace deployment.

The Azure resource manager template for this deployment includes configuration parameters that you can customize. Some of these settings, such as instance type, will affect the cost of deployment. See the pricing pages for each Azure service that you plan to use for cost estimates.

This deployment requires a license for Informatica PowerCenter. To sign up for a license, contact your organization's Informatica sales contact or Informatica Global Customer Support.

Note: You supply the license key value in the Informatica PowerCenter License Key parameter when you configure the deployment.

The following table lists the instance types that you can choose based on sizing requirements:

| Virtual Machine	Instance Type
Database	Standard_D3_v2 / Standard_DS4_v2 / Standard_DS11 / Standard_DS11_v2 This includes the Microsoft SQL Server 2019 on Windows Server 2019 Datacenter with pay as you go (PAYG) license model. You will be charged based on the running instances. **Note:** For information about changing the license mode, see the Microsoft documentation.
Informatica domain	Standard_D4_v2 / Standard_DS4_v2 / Standard_DS11 / Standard_DS11_v2. For Windows Server deployment: Standard_D3_v2 / Standard_DS4_v2 / Standard_DS11 / Standard_DS11_v2 / Standard_D4ds_v4 / Standard_D8ds_v4 / Standard_D16s_v4 / Standard_D32s_v4 This includes Red Hat Enterprise Linux 7.9 and Microsoft Windows Server 2019 with pay as you go model. You will be charged based on the running model.
Bastion server	Standard_D2_v2 / Standard_A2_v2 / Standard_DS2_v2 / Standard_B2s / Standard_D4ds_v4 / Standard_D8ds_v4 / Standard_D16s_v4 / Standard_D32s_v4. This includes the Microsoft Windows Server 2019 Datacenter with pay as you go model. You will be charged based on the running instances.

Architecture

The Microsoft Azure marketplace solution, when you deploy on a virtual network, creates and connects the following resources in the network:

- Informatica domain server on a virtual machine, with one additional high availability virtual machine.
- Informatica clients on a bastion server.
- Number of Informatica nodes.

- Microsoft SQL Server for the repositories in the Informatica domain.

The following image shows the architecture of the PowerCenter on Microsoft Azure:
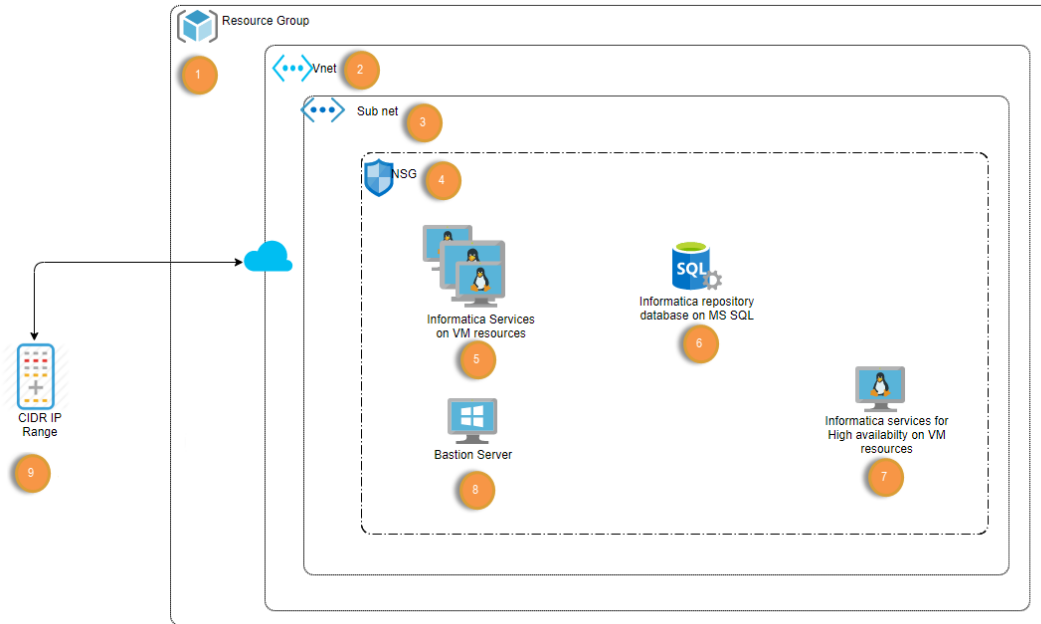
The numbers in the architecture diagram correspond to items in the following list:

1. A resource group on the Azure platform.
2. A virtual network that includes a subnet.
3. A subnet to contain specific elements of the deployment.
4. A network security group that includes the PowerCenter deployment.
5. Informatica services on multiple VM resources.
6. Microsoft SQL Server database instance to act as Informatica domain repositories:
    - Domain configuration repository
    - PowerCenter repository
7. Informatica services for high availability on VM resources.
8. Bastion Server if you choose to deploy one.
9. CIDR IP address range that you use to access the Informatica services URL and virtual machines.

Azure Resources in the Deployment

The deployment process creates or includes the components listed in this section.

Components in a Deployment in a New Virtual Network

The following components are created when you deploy the software:

Component	Number of Components Created
Virtual Network	One virtual network.
Network security group	One network security group.
Subnet	One subnet.
Microsoft SQL Server	One Microsoft SQL Server instance on virtual machine.
Virtual machines	Up to seven virtual machines: - Up to six for Informatica depending on whether high availability is enabled. - One for bastion server.

Components in a Deployment on an Existing Virtual Network

The following components are created when you deploy the software:

Component	Number of Components Created
Network security group	One network security group.
Microsoft SQL Server	One Microsoft SQL Server instance on virtual machine.
Virtual machines	Up to seven virtual machines: - Up to six for Informatica depending on whether high availability is enabled. - One for bastion server.

Bastion Server

You can optionally deploy a bastion server as an element in the solution. The bastion server acts as a firewall between the internet and the cloud platform network where the solution deploys. It can also act as a remote server which you can log in to run Informatica clients.

Informatica Domain

The Informatica domain is a server component that hosts application services, such as the PowerCenter Repository Service and PowerCenter Integration Service. You can choose to create a PowerCenter grid to run multiple PowerCenter Integration Services. These services, together with domain clients, enable you to create and run mappings and other objects to extract, transform, and write data.

Application Services

The Informatica domain includes the following application services:

PowerCenter Repository Service

Manages the PowerCenter repository. The PowerCenter repository stores metadata created by Informatica products in a relational database to enable collaboration among the products.

PowerCenter Integration Service

Performs data integration tasks.

Informatica repositories, hosted on Microsoft SQL Server databases, store metadata about domain objects. The Informatica domain includes the following repositories:

Domain configuration repository

> The domain configuration repository stores configuration metadata about the Informatica domain. It also stores user privileges and permissions.

PowerCenter repository

> Stores metadata for projects and folders and their contents, including all repository objects such as mappings and workflows. For more information, see the PowerCenter Repository Service documentation.

Application Service Databases

The Informatica domain and the application services use a series of databases to store information. You must set up the databases with the database names and user names that the domain and the services expect.

To read a list of the database names and user names that you must apply to the databases, see "Database Account and User Details" on page 11.

Informatica Clients

You can use several different clients with PowerCenter:

Administrator tool

> The Administrator tool enables you to create and administer services, connections, and other domain objects.

PowerCenter Tools

> The PowerCenter Client consists of the following applications that you can use to design mappings, mapplets, create sessions and workflows to load the data, and monitor workflow progress:

- PowerCenter Designer
- PowerCenter Workflow Monitor
- PowerCenter Repository Manager
- PowerCenter Workflow Manager

Bastion server

> You can optionally deploy a bastion server as an element in the solution. The bastion server is a Windows instance installed with the Developer tool and the command line interface clients. The bastion server acts as a firewall for access to the network. It can also act as a remote Windows server that you can log in to run Informatica clients.

Before You Begin

Before you launch the automated deployment on Microsoft Azure, verify the prerequisites and make the choices described in this section.

License Key Prerequisite

Verify that you have a license to deploy PowerCenter.

You can upload the license key file from your local system to the container in the Microsoft Azure storage account. When you configure the PowerCenter deployment, you then need to add the license key from your Microsoft Azure storage account.

Microsoft Azure Storage Account

You can use your existing Microsoft Azure storage account or create a new account.

To create a new Microsoft Azure storage account, complete the following the steps:

1. Log in to the Microsoft Azure portal.
2. Click **Create a resource**.
3. Search for the storage account.
4. Click **Create** and enter the required parameters.
5. Click **Review + create**.
6. Navigate to **Storage resource** > **Containers** > **+ Container**.
7. Enter a container name.
8. Select `Private (no anonymous access level)` for the public access level.
9. Click to open the created container.

Prerequisites

Before you deploy PowerCenter on Microsoft Azure, verify the prerequisites.

- You must have a Microsoft Azure subscription with owner role.
- You must have access and permissions to create the following resources on the Azure platform:
  - Virtual network
  - Network security group
  - Virtual machines
- You have sufficient number of CPU cores based on the instance types in the region where you plan to deploy the PowerCenter solution.

Note: Not all Azure resources are supported in all regions. See the Azure documentation to verify that the resources for your solution are supported in your desired region.

In addition to geographical regions, the solution supports government cloud regions. Contact Informatica Global Customer Support to check support for your desired region.

Deploying PowerCenter on the Azure Marketplace

The automated deployment of PowerCenter on the Azure marketplace uses the Azure Resource Manager template to guide your choices and launch the solution deployment.

When you provision the PowerCenter solution on the Azure marketplace, launch the wizard and configure the basic properties. Later, configure the solution.

Step 1. Begin Provisioning

Use the Azure Marketplace website to provision Azure cluster resources including a PowerCenter deployment.

When you implement the PowerCenter solution on Azure marketplace, you launch the wizard, configure basic properties.

1. Search for and select the PowerCenter solution.

    a. Log in to the Azure marketplace website. Use the search bar to search for Informatica PowerCenter.

    b. Select **Informatica PowerCenter 10.5.1.**

        Click **Get it now** to launch the solution wizard.

    c. Read the details of the terms of use and click **Continue**.

        The wizard redirects the browser window to the PowerCenter 10.5.1 solution on the Azure portal.

    d. Click **Create**.

        A series of panels opens to enable you to configure the solution on the Azure platform.

2. Enter the information in the Basics panel, and click **OK**.

Step 2. Deploy a Domain and Configure Azure Resources

Create an Informatica domain and configure new or existing Azure resources to use with it.

Basics

Enter values for the following parameters:

Parameter	Description
Subscription	Required. Azure subscription you use to manage the deployment.
Resource Group	Required. The Azure resource group containing the Virtual Network where you deploy PowerCenter.
Region	Required. Azure location where you deploy PowerCenter.

Informatica PowerCenter

Enter values for the following parameters:

Parameter	Description
Informatica License Key	Required. Redirects you to the list of storage account under your subscription. Select the container that has the license file for upload.
Operating System	Operating system on which to deploy the Informatica application. You can choose Microsoft Windows or Linux. Default is Linux.
Informatica High Availability	Indicates whether you want to enable high availability for the PowerCenter deployment. Default is Disabled. For information about high availability for the Informatica domain, see the High Availability for the PowerCenter Integration Service documentation.
Number of PowerCenter Nodes	Indicates the number of nodes to run PowerCenter. Default is One.
Informatica Server	Required. Indicates the virtual machine size of the Informatica server.
Database Server	Required. Indicates the virtual machine size of the database server.
Password	Indicates the password for SSH, RDP, database, and database users.
Confirm Password	Confirms the password that you entered.

Bastion Server

Enter values for the following parameters:

Parameter	Description
Deploy Bastion Server	Deploys a bastion server to access other resources in the virtual network. Default is No.
Bastion server size	Virtual machine size. Applicable only when you choose to deploy the bastion server. Default is Standard_D2_v2.

Network Configuration

Enter values for the following parameters:

Parameter	Description
CIDR IP Address Range	Required. The CIDR public IP range of clients that are permitted to access the Informatica PowerCenter. Format is x.x.x.x/x.
Assign Public IP	Assigns a public IP address to the network interface that is attached to the virtual machine. Default is Yes.

Parameter	Description
Virtual Network	Required. The identifier for the Azure virtual network where you want to deploy PowerCenter. **Note:** The deployment supports new and existing virtual networks. The Azure location must be same for the virtual network resource group and the deployment resource group.
Subnet	Required. The identifier for the subnet within the virtual network where PowerCenter is deployed.

After you configure the parameters, verify the choices in **Review + create**, read the terms of use, and click **Create**.

When you click **Create,** Azure deploys the PowerCenter and creates resources in the environment that you configured.

Monitoring Instance Provision and Informatica Domain Creation

You can use cloud platform dashboards, logs, or other artifacts to see whether cluster creation succeeded and how to locate and identify the Informatica domain on the cloud platform.

During Deployment

After you finish configuring the solution and start the deployment process, the Azure dashboard indicates deployment status in the top right corner.

To view the detailed status of the deployment job, including resources, click **Deployment in progress...**

When Deployment is Complete

The automated deployment includes the following resources:

- Virtual network
- Network security group
- Microsoft SQL Server database
- Informatica domain

Perform the following steps to use your Azure dashboard to verify the status of resource deployment:

1. Use the dashboard search bar to search for the resource group that contains the PowerCenter deployment. The dashboard displays the **Overview** view of the resource group, with resource deployment status as a clickable link in the upper right corner.

2. Click the resource deployment status link.
    When you click the deployment status link, a detail window opens listing the failed and successful deployments.

3. Click **Error details** for information about failed resource deployments.

4. Click **Overview** to see a list of the resources in a resource group.

5. You can click column headings in the display to sort by name, type, or location of the resource.

When the deployment is complete, you can open the Informatica Administrator tool in a browser. The Administrator tool URL has the following format:

https://<Public IP address_or_DNS name_or_Private IP address>:8443

User name: infauser

You can read the values from the properties of the Informatica services virtual machine in your resource group.

Logs

After the completion of the PowerCenter deployment, consult logs to see the success or failure of solution element creation.

You can access the following logs on the virtual machine that hosts the Informatica domain:

Azure extension operation logs

Records the installation of Azure resources and services.

On Linux, you can find the file in the following location:

```
/var/log/azure/custom-script/handler.log
```

On Windows, you can find the file in the following location:

```
C:\Packages\Plugins\Microsoft.Compute.CustomScriptExtension\1.10.10\Status\0\0.status
```

Note:

On Linux, the directory path `/var/lib/waagent/custom-script/download/0` contains `stdout` and `stderr` logs. The directory also contains the file `lininfainstaller.sh`, which contains the script that was executed to install Azure resources and services.

On Windows, the directory path `C:\Packages\Plugins\Microsoft.Compute.CustomScriptExtension\1.10.10\Downloads\0` contains the file `wininfainstaller.ps1`, which contains the script that was executed to install Azure resources and services.

Command execution log

This log records the following events:

- Creation of Informatica services.
- Population of the domain and its repositories.

On Linux, you can find the file in the following location:

```
/opt/Oneclicksolution.log
```

On Windows, you can find the file in the following location:

```
C:\Oneclicksolution.log
```

Informatica domain and services configuration log

At the top of the log file is a summary section that lists automated tasks and their status. You can view the details about each task under the summary section. If any of the tasks failed complete successfully, you can look at the detailed section for the task to troubleshoot the task.

Database Account and User Details

The Informatica domain and the application services use a series of databases to store information. Verify that database names and user account details on each database match the names and details that the databases expect.

The following table describes the database and user account information:

Database Name	User	Informatica Domain Operating System	Applicable For
domaindb	domainuser	Linux	Informatica Domain
pcrsdb	pcrsuser	Linux	PowerCenter Repository Service

Database Name	User	Informatica Domain Operating System	Applicable For
win-domaindb	win-domainuser	Windows	Informatica Domain
win-pcrsdb	win-pcrsuser	Windows	PowerCenter Repository Service

PowerCenter FAQ

Q. The `Extension Script time out` error message appears and the deployment status of PowerCenter is shown as unsuccessful. The Informatica Administrator displays the status of the PowerCenter application services as up and running. Is my deployment successful?

A. You can ignore the error message and unsuccessful deployment status. PowerCenter is successfully deployed and you can start to use PowerCenter. Microsoft Azure Marketplace displays the deployment status as unsuccessful if the deployment time exceeds a specific time limit.

Q. The virtual machine displays the following error message while running the extension script:

```
Enable failed: processing file downloads failed: failed to download file[0]: failed to download
the file: http request failed: Get [REDACTED] dial tcp 13.107.246.10:443: i/o timeout
```

The deployment status of PowerCenter is shown as unsuccessful. How do I solve this issue?

A. To solve this issue, whitelist the following outbound firewall security rules:

Ports	IP Address/Sites	Description
80 and 443	`catalogartifact.azureedge.net`	Required to download the extension script from an artefact location.
All	`VirtualNetwork`	Required to communicate with database and domain.
443	Storage	Required to download the product license.
443	`13.91.47.76/32`	Required for the Azure RHUI content delivery servers.
443	`40.85.190.91/32`	For more information, see: https://docs.microsoft.com/en-us/azure/virtual-machines/workloads/redhat/redhat-rhui
443	`52.187.75.218/32`	
443	`52.174.163.213/32`	
443	`52.237.203.198/32`	

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