

# IaaS Integration for BMC BladeLogic

vRealize Automation 6.2



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# IaaS Integration for BMC BladeLogic

*IaaS Integration for BMC BladeLogic* provides information about integrating BMC BladeLogic Configuration Manager with VMware vRealize Automation.

This documentation provides information on how you can enable deployment of BMC BladeLogic software jobs on machines provisioned by vRealize Automation.

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**Note** Not all features and capabilities of vRealize Automation are available in all editions. For a comparison of feature sets in each edition, see <https://www.vmware.com/products/vcloud-automation-center/>.

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## Intended Audience

This information is intended for system administrators, tenant administrators, fabric administrators, and business group managers of vRealize Automation. This content is written for experienced Windows or Linux system administrators who are familiar with virtualization technology and the basic concepts described in *Foundations and Concepts*.

## VMware Technical Publications Glossary

VMware Technical Publications provides a glossary of terms that might be unfamiliar to you. For definitions of terms as they are used in VMware technical documentation, go to <http://www.vmware.com/support/pubs>.

# BMC BladeLogic Configuration Manager Overview

# 1

You can integrate BMC BladeLogic with vRealize Automation to enable deployment of BMC BladeLogic software jobs on machines provisioned by vRealize Automation. Custom properties can be used to specify whether these jobs can be selected by the requesting user on a per-machine basis or applied to all machines provisioned from a particular blueprint.

The following is a high-level overview of the requirements for integrating BMC BladeLogic Configuration Manager with vRealize Automation:

- A system administrator verifies that BMC BladeLogic Operations Manager 7.6.0.115 or BMC Server Automation Console 8.2 is installed on the same host as your external provisioning integration (EPI) agent.
- A system administrator sets the PowerShell execution policy to RemoteSigned. See [Chapter 2 Set the PowerShell Execution Policy to RemoteSigned](#).
- A system administrator installs at least one EPI agent. See [Chapter 3 Install an EPI Agent for BMC BladeLogic](#).
- A system administrator configures how software jobs are deployed. See [Chapter 5 Integrate BMC BladeLogic](#).
- A tenant administrator or a business group manager creates a blueprint that enables the deployment of software jobs. See [Chapter 6 Creating BMC BladeLogic Blueprints](#).

# Set the PowerShell Execution Policy to RemoteSigned

## 2

You must set the PowerShell Execution Policy from Restricted to RemoteSigned or Unrestricted to allow local PowerShell scripts to be run.

### Prerequisites

- Log in as a Windows administrator.
- Verify that Microsoft PowerShell is installed on the installation host before agent installation. The version required depends on the operating system of the installation host. See Microsoft Help and Support.
- For more information about PowerShell Execution Policy, run `help about_signing` or `help Set-ExecutionPolicy` at the PowerShell command prompt.

### Procedure

- 1 Select **Start > All Programs > Windows PowerShell version > Windows PowerShell**.
- 2 For Remote Signed, run `Set-ExecutionPolicy RemoteSigned`.
- 3 For Unrestricted, run `Set-ExecutionPolicy Unrestricted`.
- 4 Verify that the command did not produce any errors.
- 5 Type `Exit` at the PowerShell command prompt.

# Install an EPI Agent for BMC BladeLogic

# 3

A system administrator must install at least one vRealize Automation EPI agent to manage interaction with BMC BladeLogic. The agent can be installed anywhere, but it must be able to communicate with vRealize Automation and BMC BladeLogic Configuration Manager.

## Prerequisites

- Verify that BMC BladeLogic Operations Manager 7.6.0.115 or BMC Server Automation Console 8.2 is installed on the same host as your EPI agent.

If the EPI agent is installed before BMC Operations Manager, the agent service must be restarted after BMC Operations Manager is installed.

- The agent must be installed on Windows Server 2008 SP1, Windows Server 2008 SP2 (32 or 64-bit), Windows Server 2008 R2 system, or Windows 2012 with .NET 4.5.
- The credentials under which the agent runs must have administrative access to all BMC BladeLogic hosts with which the agent interacts.
- Log in to the vRealize Automation console as a **system administrator**.

See *Installation and Configuration* for complete information about installing vRealize Automation agents.

## Procedure

- 1 Select **Proxy Agents** on the Installation Type page.
- 2 Accept the root install location or click **Change** and select an installation path.
- 3 Click **Next**.
- 4 Type the user name and password for the Windows services user with **sysadmin** privileges on the installation machine.
- 5 Click **Next**.
- 6 Select **EPI Power Shell** from the Agent type list.
- 7 Type a unique identifier for this agent in the **Agent name** text box.

If you plan to use the migration tool, this name must exactly match the name you used in your vRealize Automation 5.2.1 or 5.2.2 version. Maintain a record of the name, credentials, and platform instance for each agent. This information is required for adding hosts in the future. Agent names cannot be duplicated unless the agent configurations are identical.

- 8 Type the fully qualified domain name and port number, if you are not using the default 443 port, of the machine where you installed the Manager Service component.

For example, *hostname.domain.name:444*

- 9 Type the fully qualified domain name and the port number, if you are not using the default 443 port, of the machine where you installed the Manager Website component.

For example, *hostname.domain.name:444*

- 10 Click **Test** to verify connectivity to each host.

- 11 Select **BMC** in **EPI Type**.

- 12 Select the EPI type.

- 13 Type the fully qualified domain name of the managed server in the **EPI Server** text box.

- 14 Click **Add**.

- 15 Click **Next**.

- 16 Click **Install** to begin the installation.

After several minutes a success message appears.

- 17 Click **Next**.

- 18 Click **Finish**.

#### What to do next

[Chapter 5 Integrate BMC BladeLogic](#)

# Extend the Default Software Installation Timeout

# 4

When you install the software for the integration product, the software might take longer to install than the default 30-minute timeout. You can increase the default timeout to a value that allows the installation to finish.

## Procedure

- 1 Navigate to the Manager Service installation directory. Typically, this is %System-Drive%\Program Files x86\VMware\vCAC\Server.
- 2 Create a backup of the ManagerService.exe.config file.
- 3 Open the ManagerService.exe.config file and locate the workflowTimeoutConfigurationSection element and increase the value of the DefaultTimeout attribute from 30 minutes to your desired limit.
- 4 Click **Save** and close the file.
- 5 Select **Start > Administrative Tools > Services**, and restart the vRealize Automation service.

# Integrate BMC BladeLogic

If a system from which BMC BladeLogic Configuration Manager deploys software is available on the network and you have installed an EPI agent to interact with it, software can be deployed from it directly to newly provisioned machines. The requesting user can select which software to deploy or the blueprint can contain the specific jobs to be deployed on all machines provisioned from that blueprint.

## Prerequisites

- [Chapter 3 Install an EPI Agent for BMC BladeLogic](#)
- Log in to the vRealize Automation EPI/BMC Agent host as a **system administrator**.
- As the **system administrator** under which the EPI agent is running, log in to the BladeLogic console to configure the authentication profile to be used and to accept any BladeLogic security certificates, and then close the console. This prerequisite is required only once.

## Procedure

- 1 Select **Start > Administrative Tools > Services**, and stop the vRealize Automation EPI/BMC Agent service.
- 2 On the EPI agent installation host, which could be the same as the Manager Service host, change to the EPI agent installation directory, typically %SystemDrive%\Program Files (x86)\VMware\VCAC Agents\agent\_name.
- 3 Edit every file in the Scripts\nsh folder in the EPI agent directory and under the parameter list section of each .nsh file, update the values for the following variables. The description of each variable appears above the variable definitions.

```
USERNAME_USER=BLAdmin
```

```
AUTH_TYPE=SRP
```

```
PASSWORD_USER=password
```

```
APP_SERVER_HOST=bladelogic.dynamicops.local
```

```
ROLE_NAME=BLAdmins
```

- 4 Edit the agent configuration file, `VRMAgent.exe.config`, in the EPI agent installation directory and replace `CitrixProvisioningUnregister.ps1` with `DecomMachine.ps1`.

- a Locate the following line.

```
<DynamicOps.Vrm.Agent.EpiPowerShell
  registerScript="CitrixProvisioningRegister.ps1"
  unregisterScript="CitrixProvisioningUnregister.ps1"/>
```

- b Change the line to match the following line.

```
<DynamicOps.Vrm.Agent.EpiPowerShell
  registerScript="CitrixProvisioningRegister.ps1"
  unregisterScript="DecomMachine.ps1"/>
```

- 5 If you intend to provision by cloning with a static IP address assignment, you can enable BMC BladeLogic registration of provisioned machines by IP address rather than by machine name.
  - a Edit the files `InstallSoftware.ps1` and `DecomMachine.ps1` in the `Scripts` folder in the EPI agent directory and change the line `$byip=$false` to `$byip=$true`. edit the files `InstallSoftware.ps1` and `DecomMachine.ps1` in the `Scripts` folder in the EPI agent directory and change the line `$byip=$false` to `$byip=$true`.
  - b If you enable registration by IP address by making the above change, you must provision by using static IP address assignment, otherwise, BMC BladeLogic integration fails.
- 6 Select **Start > Administrative Tools > Services** to start the EPI/BMC agent service (vRealize Automation Agent – agentname service).
- 7 Place all the BMC BladeLogic jobs you want available to be selected by machine requestors or specified by blueprint creators under a single location within BMC BladeLogic Configuration Manager, for example, `/Utility`.
- 8 If you want to make software jobs available to the requesting user for selection on a per machine basis, create a file named `Software.txt` in the Web site directory under the vRealize Automation server install directory, typically `%SystemDrive%\Program Files(x86)\VMware\vCAC\Server\Website`. Each line of the `Software.txt` file must be in the following format: `job_name=job_type=job_path Job`, where the following substitutions must be made.

Variable	Description
<code>job_name</code>	Name of the software job to be presented to the machine requestor.
<code>job_type</code>	Numerical that represents the BMC BladeLogic job type.
<code>job_path</code>	Location of the job within BMC BladeLogic.

The following job types are available for BMC BladeLogic Operations Manager 7.6.0.115.

Job Type Number	Job Type
1	AuditJob
2	BatchJob

Job Type Number	Job Type
3	ComplianceJob
4	DeployJob
5	FileDeployJob
6	NSHScriptJob
7	PatchAnalysisJob
8	SnapshotJob

In addition to the jobs available for BMC BladeLogic Operations Manager 7.6.0.115, BMC Server Automation Console 8.2 includes the following job types.

Job Type Number	Job Type
9	ACLPushJob
10	PatchingJob
11	UpdateServerPropertyJob

For example, to give the requestor a choice of two software deployment jobs and two file deploy jobs, you might create a `Software.txt` file that contains the following specifications:

```
Notepad++=4=/Utility/Notepad++ Job
```

```
Putty=4=/Utility/Putty Job
```

```
Red Hat Shell Scripts=5=/Utility/RHELScripts Job
```

```
Knowledge Base Library=5=/Utility/KBLibDec11 Job
```

- 9 Prepare a reference machine and convert it to a template for cloning.
  - a Install a BMC BladeLogic agent that points to the server on which BMC BladeLogic Configuration Manager is running.
  - b Verify that you are able to connect to the agent on the guest and successfully execute jobs as expected after provisioning.

Tenant administrators and business group managers can now integrate BMC BladeLogic into clone blueprints. See [Add BMC BladeLogic Integration to a Blueprint](#).

# Creating BMC BladeLogic Blueprints

# 6

BMC BladeLogic integration is invoked by adding custom properties for any BMC BladeLogic software jobs to be deployed on machines provisioned from a blueprint.

Obtain the following information so that tenant administrators and business group managers can include it in their blueprints:

- The name of the template.
- The name of the customization specification.
- The amount of total storage specified for the template.
- For vCenter Server integrations, the vCenter Server guest operating system version with which vCenter Server is to create the machine.

This chapter includes the following topics:

- [Add BMC BladeLogic Integration to a Blueprint](#)
- [Custom Properties for BMC BladeLogic Configuration Manager Integration](#)

## Add BMC BladeLogic Integration to a Blueprint

To create a blueprint that enables the deployment of BMC BladeLogic Configuration Manager software jobs on machines provisioned from it, a tenant administrator or a business group manager must create a blueprint for provisioning by cloning that includes BMC BladeLogic custom properties.

- Obtain the following information from your fabric administrator:
  - The name of the server that hosts BMC BladeLogic.
  - The name of the default authentication profile on the BMC BladeLogic server.
  - The BMC BladeLogic location of software jobs to be deployed. This must match either the appropriate field in `Website\Software.txt` or the appropriate value of `VRM.Software.IdNNNN`, depending on the method used to prepare software jobs for integration.

### Prerequisites

- Log in to the vRealize Automation console as a **tenant administrator** or **business group manager**.

- Create a blueprint for cloning by using the template and customization specification provided to you by your fabric administrator. See *IaaS Configuration for Virtual Platforms*.

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**Note** A fabric administrator can create a build profile by using the property set BMCSoftWareProperties. This makes it easier for tenant administrators and business group managers to correctly include this information in their blueprints.

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- For a list of all required and common BMC BladeLogic custom properties, see [Custom Properties for BMC BladeLogic Configuration Manager Integration](#).

### Procedure

- 1 Select **Infrastructure > Blueprints > Blueprints**.
- 2 Locate the clone blueprint that you want to integrate with BMC BladeLogic.
- 3 In the Actions column, click the down arrow and click **Edit**.
- 4 Click the **Properties** tab.
- 5 (Optional) Select one or more build profiles from the **Build profiles** menu.  
Build profiles contain groups of custom properties. Fabric administrators can create build profiles.
- 6 (Optional) Add any custom properties to your blueprint.
  - a Click **New Property**.
  - b Type the custom property in the **Name** text box.
  - c (Optional) Select the **Encrypted** check box to encrypt the custom property in the database.
  - d Type the value of the custom property in the **Value** text box.
  - e (Optional) Select the **Prompt user** check box to require the user to provide a value when they request a machine.  
  
If you choose to prompt the user for a value, any value you provide for the custom property is presented to the user as the default. If you do not provide a default, the user cannot continue with the machine request until they provide a value for the custom property.
  - f Click the **Save** icon ()

- 7 Click **OK**.

Your blueprint is saved.

### What to do next

Publish your blueprint to make it available as a catalog item. See [Chapter 7 Publish a Blueprint](#).

## Custom Properties for BMC BladeLogic Configuration Manager Integration

vRealize Automation includes custom properties that you can use to provide additional controls for BMC BladeLogic Configuration Manager integration.

**Table 6-1. Custom Properties Required for BMC BladeLogic Configuration Manager Integrations**

Custom Property	Description
<code>VirtualMachine.EPI.Type</code>	Specifies the type of external provisioning infrastructure.
<code>BMC.Software.Install</code>	Set to <b>True</b> to enable BMC BladeLogic integration.
<code>EPI.Server.Name</code>	Specifies the name of the external provisioning infrastructure server, for example, the name of the server hosting BMC BladeLogic. If at least one general BMC EPI agent was installed without specifying a BMC BladeLogic Configuration Manager host, this value directs the request to the desired server. If only dedicated BMC EPI agents for specific BMC BladeLogic Configuration Manager hosts were installed, this value must exactly match the server name configured for one of these agents.
<code>BMC.Service.Profile</code>	Specifies the name of the default authentication profile on the BMC BladeLogic server.
<code>BMC.Software.BatchLocation</code>	Specifies the location in BMC BladeLogic of software jobs to be deployed. This value must match either the appropriate field in <code>Website\Software.txt</code> or the appropriate value of <code>VRM.Software.IdNNNN</code> , depending on the method used to prepare software jobs for integration.
<code>VMware.VirtualCenter.OperatingSystem</code>	Specifies the vCenter Server guest operating system version ( <code>VirtualMachineGuestOsIdentifier</code> ) with which vCenter Server creates the machine. This operating system version must match the operating system version to be installed on the provisioned machine. Administrators can create build profiles using one of several property sets, for example, <code>VMware[OS_Version]Properties</code> , that are predefined to include the correct <code>VMware.VirtualCenter.OperatingSystem</code> values. This property is for virtual provisioning. For a list of currently accepted values, see the VMware vCenter Server documentation.

## Custom Properties To Make BMC BladeLogic Configuration Manager Software Jobs Available

Configure BMC BladeLogic Configuration Manager jobs for vRealize Automation integrations. Make all software jobs available to machine requesters to select from, or specify a software job to apply to all machines provisioned from the blueprint.

**Table 6-2. Custom Properties to Make Software Jobs Available**

Custom Property	Description
LoadSoftware	Set to <b>True</b> to make the software jobs listed in <code>Website\Software.txt</code> available to the user requesting the machine.
VRM.Software.IdNNNN	Specifies a software job or policy to be applied to all machines provisioned from the blueprint. Set the value to <code>job_type=job_path</code> , where <code>job_type</code> is the numeral that represents the BMC BladeLogic job type and <code>job_path</code> is the location of the job in BMC BladeLogic, for example <code>4=/Utility/putty</code> . <code>NNNN</code> is a number from 1000 to 1999. <div style="border: 1px solid #ccc; padding: 5px; margin-top: 10px;"> <ul style="list-style-type: none"> <li>1 – AuditJob</li> <li>2 – BatchJob</li> <li>3 – ComplianceJob</li> <li>4 – DeployJob</li> <li>5 – FileDeployJob</li> <li>6 – NSHScriptJob</li> <li>7 – PatchAnalysisJob</li> <li>8 – SnapshotJob</li> </ul> </div>

## Optional Custom Properties for BMC BladeLogic Configuration Manager Integrations

You can also use optional custom properties that are commonly used with BMC BladeLogic Configuration Manager blueprints.

**Table 6-3. Optional Custom Properties for BMC BladeLogic Configuration Manager Integrations**

Property	Definition
BMC.AddServer.Delay	Specifies the number of seconds to wait before adding the machine to BMC BladeLogic Configuration Manager. The default is 30.
BMC.AddServer.Retry	Specifies the number of seconds to wait before retrying if the first attempt to add the machine to BMC BladeLogic Configuration Manager is unsuccessful. The default is 100.

# Publish a Blueprint

Blueprints are saved in the draft state and must be manually published before they appear as catalog items.

You need to publish a blueprint only once. Any changes you make to a published blueprint are automatically reflected in the catalog.

## Prerequisites

- Log in to the vRealize Automation console as a **tenant administrator** or **business group manager**.
- Create a blueprint.

## Procedure

- 1 Select **Infrastructure > Blueprints > Blueprints**.
- 2 Point to the blueprint to publish and click **Publish** from the drop-down menu.
- 3 Click **OK**.

Your blueprint is now a catalog item.

## What to do next

Tenant administrators, business group managers, and service architects configure your catalog item and associate it with a service so that entitled users can request it from the catalog. For information about how to configure and manage the catalog, see *Tenant Administration*.