gridpro

EvOps for Azure Stack
Deployment Guide

Contents

Introduction

This document contains information on how to install EvOps on Azure Stack. If you are deploying on the ASDK (Azure Stack Development Kit), neither Microsoft nor Gridpro supports production workloads on ASDK installations. ASDK environments is only to be used for dev/test/verification.

Prerequisites

Azure Stack Version

Minimum supported version: 1.2002.0.0.

Verify Appropriate Accounts and Permissions

During the installation you will be prompted for credentials for Cloud Admin and Service Admin accounts. Please see below article for detailed requirements.

EvOps Installation Permission Requirements

Verify Access to Privileged Endpoint Virtual Machine

A core requirement for the EvOps installation is that the host you are running all scripts from has access to the Azure Stack Privileged Endpoint virtual machine. In an Azure Stack Development Kit (ASDK) deployment, sign in to the physical host.

Setup Azure Stack PowerShell Environment

EvOps installation requires that AzureRM and Azure Stack-specific PowerShell modules for the Azure Stack version you are targeting are installed, AzureStack Tools are available, and the PowerShell environment is configured for your Azure Stack deployment type (Azure AD or AD FS). Please see below article for step-by-step instructions.

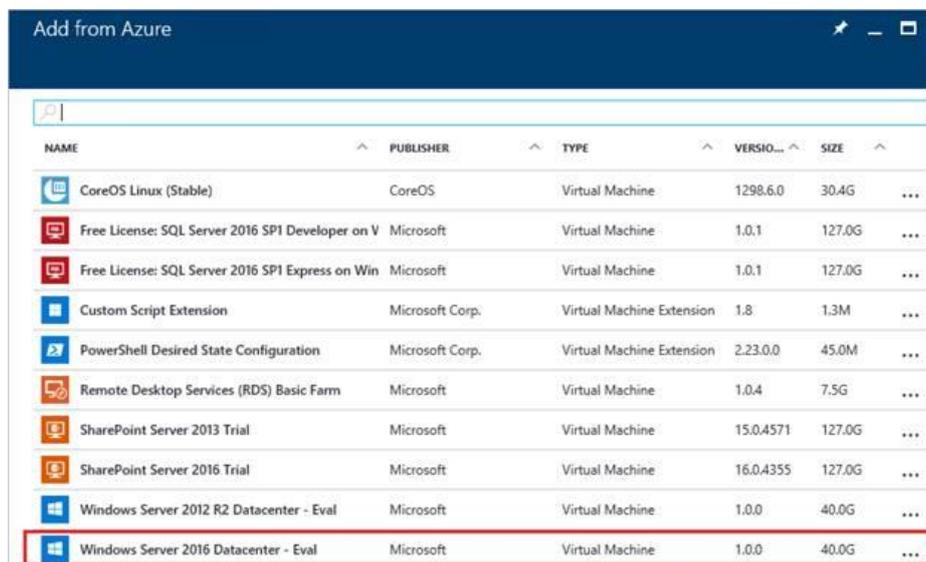**Get up and running with PowerShell in Azure Stack**

https://docs.microsoft.com/azure/azure-stack/azure-stack-powershell-configure-quickstart

Add Windows Server 2016 VM image to Azure Stack

EvOps requires a default Windows Server 2016 image SKU to be available in Marketplace so that it can be used during the installation. Images can be added either through syndication, if there is internet access, or using PowerShell if there is no internet access.

The following steps are applicable for environments with internet access, for other scenarios please refer to the official Microsoft documentation.

1. Login as an Azure Stack **Service Admin** on **Azure Stack Administration** Site

2. Select **All services > Marketplace management**

3. Click **Add from Azure**

4. Select **Windows Server 2016 Datacenter**

NAME	PUBLISHER	TYPE	VERSIO...	SIZE	
CoreOS Linux (Stable)	CoreOS	Virtual Machine	1298.6.0	30.4G	...
Free License: SQL Server 2016 SP1 Developer on V	Microsoft	Virtual Machine	1.0.1	127.0G	...
Free License: SQL Server 2016 SP1 Express on Win	Microsoft	Virtual Machine	1.0.1	127.0G	...
Custom Script Extension	Microsoft Corp.	Virtual Machine Extension	1.8	1.3M	...
PowerShell Desired State Configuration	Microsoft Corp.	Virtual Machine Extension	2.23.0.0	45.0M	...
Remote Desktop Services (RDS) Basic Farm	Microsoft	Virtual Machine	1.0.4	7.5G	...
SharePoint Server 2013 Trial	Microsoft	Virtual Machine	15.0.4571	127.0G	...
SharePoint Server 2016 Trial	Microsoft	Virtual Machine	16.0.4355	127.0G	...
Windows Server 2012 R2 Datacenter - Eval	Microsoft	Virtual Machine	1.0.0	40.0G	...
Windows Server 2016 Datacenter - Eval	Microsoft	Virtual Machine	1.0.0	40.0G	...

5. Click **Download**

6. Verify that status is **Succeeded** in the **Marketplace management** blade before starting EvOps installation script

Prepare EvOps Installation Directory

1. Right-click the downloaded zip archive **Gridpro.EvOps.x.xxxx.xxxx.x.zip**, select properties and make sure it's not blocked

2. Extract the downloaded EvOps zip archive, in this example we choose to extract to: **C:\Install\Gridpro.EvOps.x.xxxx.xxxx.x**

Create Subscription hosting EvOps infrastructure

All EvOps infrastructure resources should be hosted in a dedicated subscription. EvOps requires the following services as a minimum in the subscription where you choose to deploy the EvOps infrastructure:

- **Microsoft.Compute**

- **Microsoft.Network**

- **Microsoft.Storage**

- **Microsoft.KeyVault**

Please see this section for how to prepare a suitable subscription.

Create Plan containing services required by EvOps

1. Login as a **Service Admin** on the **Azure Stack Administration** site

2. Select **All services > Plans**

3. Click **Add**

4. Provide a **Display name** e.g. **EvOpsCore**

5. Create a new **Resource Group**, or select an existing one, as a container for the Plan

6. Click **Services**

7. Select **Microsoft.Compute, Microsoft.KeyVault, Microsoft.Network** and **Microsoft.Storage**, then click **Select**

8. Click **Quotas**

9. Select **Microsoft.Storage (local)**, select **Default Quota**

10. Select **Microsoft.Network (local)**, select **Default Quota**

11. Select **Microsoft.KeyVault (local)**, select **Unlimited**

12. Select **Microsoft.Compute (local)**, select **Default Quota**

13. Click **OK**

14. Click **Create**

Create Offer for EvOps Core Plan

1. Login as a **Service Admin** on **Azure Stack Administration** site

2. Select **All services > Offers**

3. Provide a **Display name** e.g. **EvOpsCore**

4. Create a new **Resource Group**, or select an existing one, as a container for the Offer

5. Click **Base plans**

6. Select **EvOpsCore** and click **Select**

7. Click **Create**

8. In **Offer** blade, click **Refresh**

9. Select offer **EvOpsCore**, click **Change State** and select **Public**

NOTE: If you don't want to make the offer Public you will need to create the tenant subscription from the admin site instead of following the steps in the next section.

Create Subscription

1. Login as a **Service Admin** on **Tenant** site

2. Select **All services > Subscriptions**

3. Click **Add**

4. Provide a **Display name** e.g. **EvOpsInfra**

5. Select **Offer**, then click **EvOpsCore**

6. Click **Create**

7. Select subscription **EvOpsInfra**, copy **Subscription ID** for use in deployment script

Prepare Certificates

NOTE: If you're installing on the ASDK you can skip this step since the installer will generate the required certificate for you.

EvOps requires an SSL certificate to be prepared when installing on a multi-node environment (integrated system) of Azure Stack. The SSL certificate for EvOps has the same requirements as the other PaaS services for Azure Stack. Use the following subject and subject alternative name when requesting the certificate.

Certificate	Required certificate subject and Subject Alternative Names (SANs)
SSL	evops.<region>.cloudapp.<fqdn>

Once generated and exported as evops.<region>.<fqdn>.pfx, place the file in .\certificates\ssl.

Installation

Once the preparations are completed you are ready to start the installation. The installation should take 45-90 minutes based on what type of environment you are deploying in.

IMPORTANT: Make sure that you have the required Azure Stack PowerShell modules installed for your Azure Stack environment before continuing. For more information: https://docs.microsoft.com/en-us/azure/azure-stack/azure-stack-powershell-install#install-azure-stack-powershell

Deploy EvOps for Azure Stack

1. Open a new elevated PowerShell ISE editor and open script file:
    C:\Install\Gridpro.EvOps.x.xxxx.xxxx.x\Install-EvOps.ps1

2. **Important:** If you have prepared your own SSL certificate according to instruction section "Prepare Certificates" you need to pass the "-SSLCertPassword" parameter to the script. Add the yellow-marked string below to the script, this way you get prompted for the SSL certificate PFX password during installation. If not, skip this and go to next step.

    ```
    .\scripts\Deploy-EvOps.ps1 -TenantSubscriptionId $tenantSubscriptionId `
    -PrivilegedEndpoint $privilegedEndpoint `
    -SSLCertPassword (Read-Host -Prompt PfxPassword -AsSecureString)
    ```

3. Replace all variables in parameters section with environment specific data according to table below:

<PrivilegedEndpoint>	DNS name or IP address of the privileged endpoint virtual machine **ASDK:** azs-ercs01.azurestack.local
<TenantSubscriptionID>	Specify Subscription ID of the subscription that will host EvOps infrastructure that was created in section "Create Subscription hosting EvOps infrastructure" Example format: *06f64eb6-150a-4b70-a596-ad170b446ac5*
OPTIONAL: <Azure Stack tools directory>	Optionally pass the -AzureStackToolsDir parameter which otherwise defaults to C:\AzureStack-Tools-master

4. Change working directory before running the script by executing the following command: **cd C:\Install\Gridpro.EvOps.x.xxxx.xxxx.x**

5. Click **Run Script** to execute script

6. Read the **EULA** carefully and type Y, if you accept the terms

7. Enter **Cloud Admin** credentials and click OK

8. Enter **Service Admin** credentials if Azure AD deployment, or **Cloud Admin** credentials again if AD FS deployment, then click OK

9. Verify that script executed successfully based on output

10. If you are in an Azure AD environment and the account that you specified during the installation was not an Azure AD Global Administrator, a Consent URL is generated as a part of the script output. <u>This link needs to be sent to an Azure AD Global Administrator for approval before proceeding.</u> The consent that is given is Azure AD read access for the EvOps RP service principal created during the installation.

    If no Consent URL was shown in the script output, installation script was executed with Azure AD Global Administrator and you can proceed to the next step.

11. Installation completed

Getting Started

The following steps will help you to get started with EvOps for Azure Stack.

Activate License

1. Login as a **Service Admin** on **Azure Stack Administration** site

2. Select **All services > EvOps**

3. Click **License management**
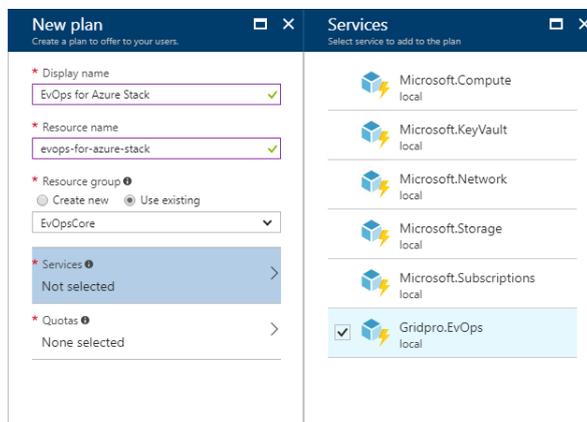
   <u>Internet Connected Environment</u>

1. Click **Activate license**

2. Type in your activation key

3. Click **OK**

   <u>Non-Internet Connected Environment</u>

1. Click **Activate license**

2. Paste license request string and send to support@gridprosoftware.com

3. When you receive license file, click **Offline activation request**

4. Browse and select license file received and click **OK**

Prepare Plan and Offer for EvOps

1. Login as a **Service Admin** on **Azure Stack Administration** site

2. Select **All services > Plans**

3. Click **Add**

4. Provide a **Display name** e.g. **EvOps for Azure Stack**

5. Create a new **Resource Group**, or select an existing one, as a container for the Plan

6. Click **Services**

7. Select **Gridpro.EvOps** and click **Select**

8. Click **Quotas**

9. Select **Microsoft.Storage (local)**, select **Default Quota**

10. Select **Microsoft.Network (local)**, select **Default Quota**

11. Select **Microsoft.KeyVault (local)**, select **Unlimited**

12. Select **Microsoft.Compute (local)**, select **Default Quota**

13. Select **Gridpro.EvOps (local)** and click **Create new quota**

14. Type **Unlimited** as Name and check Unlimited Accounts and Requests

15. Click **OK** to save quota

16. Select **Unlimited** and click **OK**

17. Click **Create**

18. Select **All services > Offers**

19. Provide a **Display name** e.g. **EvOps for Azure Stack**

20. Create a new **Resource Group**, or select an existing one, as a container for the Offer

21. Click **Base plans**

22. Select **EvOps for Azure Stack** and click **Select**

23. Click **Create**

24. In **Offer** blade, click **Refresh**

25. Select offer **evops-for-azure-stack**, click **Change State** and select **Public**

Create your first EvOps Account

Now you are ready to create your first EvOps account.

IMPORTANT: It is not recommended that you create EvOps account in the Subscription that hosts the EvOps infrastructure for security reasons.

Create subscription hosting your EvOps account

1. Login as a **Service Admin** (or other account that should be the account owner) on **Azure Stack Tenant** site

2. Select **All services > Subscriptions**

3. Type in a name, in this example: **EvOpsAdmin**

4. Click **Offers**

5. Select **EvOps for Azure Stack** offer

6. Click **Create**

7. Click subscription you just created

8. Click **Resource providers**

9. Find **Gridpro.EvOps** resource provider in list and click **Register**

10. Done
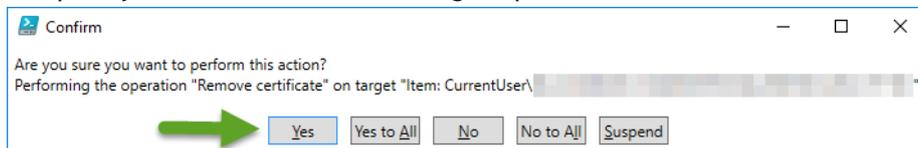
Create EvOps account principal

1. Open an elevated PowerShell ISE editor and open script file:
   C:\Install\Gridpro.EvOps.x.xxxx.xxxx.x\Create-EvOpsAccountPrincipal.ps1

2. Replace all variables in parameters section with environment specific data according to table below:

<PrivilegedEndpoint>	DNS name or IP address of the privileged endpoint virtual machine **ASDK:** azs-ercs01.azurestack.local
<ServiceAdmin>	Specify service admin login (AAD or AD FS) e.g. *admin@contoso.onmicrosoft.com*
<Domain>	NetBIOS name for the Azure Stack domain **ASDK:** AzureStack
<EvOpsAccountName>	Type in name of EvOps account you are creating the principal for.
<Azure Stack tools directory>	Azure Stack tools directory, typically C:\AzureStack-Tools-master

   NOTE: In this example EvOpsAccountName is set to Cloud1.

3. Change working directory before running the script by executing the following command: **cd C:\Install\Gridpro.EvOps.x.xxxx.xxxx.x**

4. Click **Run Script** to execute script (script can take up to 60 minutes to complete)

5. Enter **Cloud Admin** password and click **OK**

6. Enter **Service Admin** password and click **OK**

7. Confirmation box about removing certificate may pop up, click **Yes** to remove any temporary created certificates during script execution

8. If script executes successfully, a file with .evad file extension will be generated in the installation directory that will contain all necessary information to create an EvOps account

   IMPORTANT: The Evad file contains highly sensitive information about the service principal, so be sure to delete or move this file to a safe location after you have created your EvOps account.

Create EvOps account

1. Select **All services > EvOps accounts**

2. Click **New**

3. Select **EvOpsAdmin** subscription

4. In **Resource group**, click **Create new** and type in **EvOps**

5. Type in a name, in this example **Cloud1**

6. Click **Browse** and select the Evad file that was generated in chapter **Create EvOps account principal**, will be in: **C:\Install\Gridpro.EvOps.x.xxxx.xxxx.x**

7. Click **Create**

8. Delete or move the Evad file to a safe location since it contains highly sensitive information about the service principal

9. Done

Import Sample Request Templates

The installation kit contains two samples as described below. For updated and more samples, please visit EvOps product support site.

- **VM with approval (vm-with-approval.evpkg):** Request template with an advanced wizard that contains SKU pickers, conditional visibility etc. and a workflow that contains an approval and ARM deployment for virtual machine creation.

- **Support Request (support-request.evpkg):** Request template creating a support request with resource picker that allows to add affected item.

Please follow the steps below to import samples:

1. Select **All services > EvOps accounts**

2. Click **your EvOps account**

3. Click **Request templates**

4. Click **Import**

5. Browse to the folder where you extracted the EvOps installation files and documentation

6. Select **vm-with-approval.evpkg** file in the list and click **Open**

7. Change Display name and Name if required, then click **OK** to import

8. Repeat step 4-7 for **support-request.evpkg** file as well

9. Open each Request template and click **Publish** to publish to Marketplace

Upgrade

The following steps will help you upgrade EvOps for Azure Stack.

1. Open an elevated PowerShell ISE editor and open script file:
   C:\Install\Gridpro.EvOps.x.xxxx.xxxx.x\Install-EvOps.ps1

2. Replace all variables in parameters section with environment specific data according to table below:

<PrivilegedEndpoint>	DNS name or IP address of the privileged endpoint virtual machine **ASDK:** azs-ercs01.azurestack.local
<TenantSubscriptionID>	Specify Subscription ID of the subscription that will host EvOps infrastructure that was created in section "Create Subscription hosting EvOps infrastructure" Example format: *06f64eb6-150a-4b70-a596-ad170b446ac5*
OPTIONAL: <Azure Stack tools directory>	Optionally pass the -AzureStackToolsDir parameter which otherwise defaults to C:\AzureStack-Tools-master

3. Change working directory before running the script by executing the following command: **cd C:\Install\Gridpro.EvOps.x.xxxx.xxxx.x**

4. Click **Run Script** to execute script (script can take up to 60 minutes to complete)

5. Read the **EULA** carefully and type Y, if you accept the terms

6. Enter **Cloud Admin** passwords and click **OK**

7. Enter **Service Admin** password and click **OK**

8. Verify that script executed successfully based on output

9. Upgrade completed

Uninstallation

The following steps will help you uninstall EvOps for Azure Stack.

1. Start by removing all Plans and Offers connected to EvOps

2. Open an elevated PowerShell ISE editor and open script file:
   C:\Install\Gridpro.EvOps.x.xxxx.xxxx.x\Uninstall-EvOps.ps1

3. Replace all variables in parameters section with environment specific data according to table below:

<PrivilegedEndpoint>	DNS name or IP address of the privileged endpoint virtual machine **ASDK:** azs-ercs01.azurestack.local
<TenantSubscriptionID>	Specify Subscription ID of the subscription that will host EvOps infrastructure that was created in section "Create Subscription hosting EvOps infrastructure" Example format: *06f64eb6-150a-4b70-a596-ad170b446ac5*
OPTIONAL: <Azure Stack tools directory>	Optionally pass the -AzureStackToolsDir parameter which otherwise defaults to C:\AzureStack-Tools-master

4. Change working directory before running the script by executing the following command: **cd C:\Install\Gridpro.EvOps.x.xxxx.xxxx.x**

5. Click **Run Script** to execute script (script can take up to 60 minutes to complete)

6. Type **Y**, on the question that you are sure you want to unregister EvOps resource provider

7. Verify that script executed successfully based on output

8. Uninstallation completed

Known Limitations

This section describes known issues with this version of the product.

- It is currently not possible to edit list values like "Classification, Source, Support group". This will be possible in a future release.

- Resource group- and location picker are added by default to the wizard of a new request template. For any request that does not include a Deployment Activity, the resource group and location picker can be removed.