



Ed-Fi Cloud ODS Deploy Tools (Azure)

The Cloud ODS distribution includes scripts and Azure Resource Manager (ARM) templates to aid in deploying a new copy of the ODS to Microsoft's Azure platform. The goal of this effort is to reduce the amount of time and effort needed to get a new instance of the ODS up and running.

Target Audience

This document is targeted at IT professionals with some experience in software deployments. A minimal amount of experience with command prompts is necessary. Some familiarity with Microsoft PowerShell is ideal. The user should also be familiar with the Microsoft Azure portal and tools.

Prerequisites

The following are prerequisites to run a successful ODS deployment using the ODS ARM templates:

- An Azure account for your organization.
- The [Global Administrator](#) login for your Azure account OR an account that is in the Co-Owner role. Co-Admin accounts do not have sufficient privileges to run the installation script by default.
- Windows 7 or greater. (The installation script has not been tested on non-Windows versions of PowerShell.)
- PowerShell 3.0 or greater. Version 5 is recommended. Download at <https://www.microsoft.com/en-us/download/details.aspx?id=50395>.
- Azure PowerShell cmdlets. You can do that using this command:

```
Install-Module -Name AzureRM -RequiredVersion 4.3.1
```

- You can get more information on PowerShell Azure cmdlets here: <https://docs.microsoft.com/en-us/powershell/azure/install-azurerm-ps>



- The scripts have been tested to work with Azure cmdlets version 4.3.1; the scripts *do not* with Azure cmdlets version 5.x as breaking changes have been introduced by Microsoft.
- Note that you **may** need to launch PowerShell as an administrator (right-click and select "Run as Administrator") or change the execution policies (see instructions from Microsoft [here](#)) to install these tools.

What is Deployed

With all the prerequisites satisfied you're almost ready to begin deploying the ODS. Before you do, we recommend examining the resources that will be created for you. There are quite a few pieces that compose the ODS and your organization will be billed by Microsoft for these resources.

Component	Type	Default Service Level	Approximate cost per month*
Admin App	Azure Web App	S1	\$74
Production API	Azure Web App	S3**	\$298**
Staging API	Azure Web App	S1	\$74
Swagger Documentation	Azure Web App	(hosted together with Staging API)	N/A
Administrative Database	Azure SQL Database	S2	\$75
Security Database	Azure SQL Database	S2	\$75



Component	Type	Default Service Level	Approximate cost per month*
Production ODS Database	Azure SQL Database	P1**	\$465**
Staging ODS Database	Azure SQL Database	S3	\$150
Minimal Template Database	Azure SQL Database	S1	\$30
Populated Template Database	Azure SQL Database	S1	\$30

**Microsoft bills for Azure resources per hour and therefore costs vary month to month. Pricing is also subject to change. See <https://azure.microsoft.com/en-us/pricing/> for the most up-to-date pricing.*

***The deployment script will deploy production assets at a lower performance tier than listed above; once the production environment is fully configured, the above performance tiers will be used.*

Deploying to Azure

With your Azure account established, Azure PowerShell module installed and templates downloaded, you're ready to run a deployment of the ODS.

1. Determine the Azure region where you want to provision your Cloud ODS resources.

The full list can be found [here](#). It is recommended you choose a region close to your organization for best performance. Or, if you already have assets in Azure, choose the region where your pre-existing assets are located. For example, organizations in North Carolina would choose the



"East US" region. Organizations in Oregon would select the "West US" region.

2. (Optional) Determine what version of the Cloud ODS you want to install.

If you want to install a specific version of the Cloud ODS, provide that version number to the setup script via the *-Setup* parameter; otherwise, the script will install the latest version available by default.

3. (Optional) Choose a "friendly name" to identify this ODS.

By default this will be "EdFi ODS" and will help you identify resources associated with this particular installation of the Cloud ODS when viewing your Azure account. You'll also need to know this name when applying updates to your Cloud ODS. (The friendly name will be used as the resource group name in Azure and for the Azure Active Directory app registration).

4. Start a new PowerShell session.
5. Navigate to the directory where you've saved your templates and scripts (ex. C:\CloudOdsInstall)

```
cd C:\CloudOdsInstall\
```

6. Run the Deploy-EdFiOds.ps1 script.

If this is the first time you're running PowerShell, you'll need to adjust the script execution policy on your machine to 'Unrestricted'. See [here](#) for more info.

A common installation command might look like this:

```
.\Deploy-EdFiOds.ps1 -ResourceGroupLocation "South Central US" -  
InstallFriendlyName "My ODS"
```

As the deployment begins, you will be prompted for a few more pieces of information.

First, your Azure account credentials.



- **Note that the user credentials provided here MUST for be an Azure account administrator.** This is necessary because the installation creates billable resources.
- Note also that the credentials are being provided to Microsoft via a Microsoft login form, and are not saved or help anywhere.

Next, if your login has access to multiple subscriptions you'll be prompted to choose the subscription in which the Cloud ODS should be installed.

Finally, you'll be asked for a username and password for SQL Server. The deployment process will create a new SQL Server resource in Azure, and the administrative user will be created with these credentials.

- Be sure to choose a strong password and store these credentials in a secure location for later access.
- Note also that the chosen password will be required to meet complexity requirements described at <https://msdn.microsoft.com/en-us/library/ms161959.aspx?f=255&MSPPError=-2147217396>

This part of the setup and deployment can take a while to run sometimes 20 minutes or longer. During this time you'll see logging info from Azure scroll by. This is expected behavior.

Once the deploy completes, you should see a success message that includes the URL for the Admin App. You will need this URL to complete the set process (see below).

Next Steps



With the deployment complete, you're ready to login to the Cloud ODS Admin App for the first time. You should find the URL to the app at the end of the output in the PowerShell window where you ran the install script.

Login Note:

Remember - the Cloud ODS Admin App is tied to your Azure Active Directory login. If any users in your organization (other than yourself) need access to the Admin App, you'll need to grant them access in Azure Active Directory (see [here](#) for details).

Point your Web browser to the URL and you'll be greeted with the login screen for your Cloud ODS Admin App. After logging in for the first time, you'll see a screen prompting to **Sign In** (if you are not already signed in in your browser)

Following sign in, you will be asked to complete the setup process. Click on **Continue** to complete the setup.

Please note that this last steps performs tasks such as configuring the Application access to the new SQL Server, and so requires all Azure platform resources to be configured and available. As a result, this last step may take a few minutes, and sometimes up to a half hour to allow Azure to complete its platform setup operations.

Following the setup, you will see the Cloud ODS home screen and your Cloud ODS is ready for usage.

We recommend you consult the [Cloud ODS and API User Guide](#) for more information on the Admin App and Cloud ODS features.

Note for Systems Administrators



Now that the ODS has been provisioned into your Azure account, all non-ODS-specific administration tasks (e.g. backups, system scaling, etc.) are managed via the Azure portal. The provisioned resources are all Platform as a Service, meaning Azure manages most maintenance tasks for you.

Other Installation Options

There are other, advanced options available in the install script. You can view more information about these options by running the following PowerShell command

```
Get-Help .\Deploy-EdFiOds.ps1 -Detailed
```

One advanced option allows you to run the Cloud ODS against a SQL Server of your own choosing. The `-UseMyOwnSqlServer` install script parameter will prevent the script from deploying an Azure SQL instance on your behalf and instead prompt for connection information. This is a good option if your organization prefers more direct control of your SQL Server or if you have a pre-existing server you want to reuse.

See [Using an Existing On-Premise SQL Server](#) for detailed information on the SQL Server configurations that must be manually applied if you choose to use your own SQL Server.

Support

These scripts are provided as-is, but the Alliance welcomes feedback on additions or changes that would make these resources more user friendly. Feedback is best shared by raising a ticket on the Ed-Fi Tracker [Exchange Contributions Project](#) using component azure. We invite [pull requests](#) with corrections and proposed additions.

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