

# 2014

## Ops Server Installation Guide



15 October, 2014 (2014 4th Quarter)

10.3.0.1

***This page intentionally left blank.***

## Contents

Introduction .....	4
Ops Server System Requirements .....	5
Prepare for Ops Server Installation .....	6
Installation Prerequisites .....	6
Uninstall existing software.....	7
Change “Command Prompt” Layout Properties .....	7
“Install” and configure the Ops Server installation scripts .....	8
Install Internet Information Services (IIS) and enable SSL.....	11
Install Internet Information Services (IIS) .....	11
Enable SSL on the web server .....	11
Install Ops Server software .....	13
Install software.....	13
Validate software installation .....	17
Post-Ops Server software installation modifications .....	20
Increase Portal file upload limits.....	20
Increase ArcGIS Data Store limits.....	20
Publish Ops Server content.....	21
Copy Ops Server data .....	21
Post-Copy Ops Server data procedures .....	22
Publish portal content .....	23
Publish the ArcGIS Server services .....	26
Re-map portal item ids on ArcGIS Server services .....	28
Start the published ArcGIS Server services .....	30
Configure and deploy web applications .....	31
Configure and deploy .....	31
Post web app deployment processing.....	32
Configure portal settings .....	33
Configure Geoevent for Ops Server .....	37
Configure Geoevent.....	37
Deploy message files and start Message Simulator .....	44

Verify that Geoevent extension is updating feature services.....	45
Chat Server.....	48
Install and configure Openfire.....	48
Create Openfire users.....	57
Appendices.....	59
Appendix A: URLs and Passwords.....	60
Appendix B: Message Simulator.....	61
Appendix C: Operations Dashboard .....	66
Appendix D: Esri Maps for Office .....	67

# Introduction

This installation guide walks you through the installation of the Esri ArcGIS for Military Operations Server (Ops Server). An Ops Server consists of software, data, services, portal content and web applications.

- Software:
  - Internet Information Server (IIS)
  - .NET Framework 3.5.1 & 4.5
  - PostgreSQL 9.2.2
  - ArcGIS Server 10.3
  - Geoevent Extension for ArcGIS Server 10.3
  - Portal for ArcGIS 10.3
  - ArcGIS WebAdaptor for IIS 10.3
  - ArcGIS Data Store 10.3
  - Message Simulator
  - Openfire 3.9.3 (chat server)
- Content:
  - Data to support ArcGIS Server services
  - ArcGIS Server services
  - Portal content

The process of installing/configuring Ops Server and publishing ArcGIS Server services and portal items is automated using batch files and Python scripts; installation of the chat server is a manually process, which is also described in the installation guide.

## Intended Audience

While many of the steps in this guide are automated, some basic level of familiarity with Windows Server and ArcGIS is required. Users of this guide should be familiar with the following:

- ArcGIS Desktop
  - Opening an SDE Geodatabase from a connection string
  - Copying datasets
- ArcGIS Server and Portal
  - Basic Administration
  - Start/Stop Map Services
- IIS
  - Basic configuration
- Windows Server
  - Basic administration

## Start/Stop Windows Services

## Ops Server System Requirements

Ops Server System Requirements			
Operating System (OS)	Microsoft Windows Server 2012 R2 64-bit Microsoft Windows Server 2008 R2 Standard SP1 64-bit		
Memory	16-32 GB		
Disk space	Estimated* Size (GB)	Drive location	
OS	50	C:\	
Ops Server	Software/Databases/Portal content	50	C:\
	Data (OpsServer\Data folder)	200	Can be stored on any drive (see note below)
	Service Caches (arcgisserver\arcgiscache folder)	50	Can be stored on any drive (see note below).
Total disk space:	300		
OS + Ops Server	Total disk space (single drive configuration):	350	

\* The numbers in the table above are estimates and will depend on a number of factors specific to your deployment such as the amount of published content and the total number of map services running/started. They are provided as general guidance for configuring a minimum system.

### NOTEs:

- **(OS) The Ops Server installation scripts have only been tested on Windows Server 2008 R2 and 2012 R2 using a system locale of “English (United States)”**
- **(Memory)** Memory requirements for Server machine is partial based on having a minimum of two instances per service.
- **(Disk space)** You can install Ops Server on a single drive or multiple drives.
  - The Ops Server install scripts are configured to install software and databases only to the system drive (C:\).
  - The Ops Server data (i.e. OpsServer\Data folder) and service cache (i.e. arcgisserver\arcgiscache folder) folders, which are created by the install scripts, can be located on any drive. The drives where these folders are created is specified by the variable “ops\_dataDrive” and “ops\_cacheDrive” located in the InstallSettings.bat file.

# Prepare for Ops Server Installation

## Installation Prerequisites

- The server you are installing Ops Server on should have internet access to complete the installation and configuration process.
- ArcGIS for Desktop 10.3 is installed on a client machine; used to manually republish any services that don't publish using the publishing scripts (see topic [Publish the ArcGIS Server services](#)).
- Uninstall existing ArcGIS software (except for ArcGIS Desktop); see section below for more information.
- A web browser must be installed. Certain elements of the installation require you to configure software through a web browser. We have encountered a few issues with Internet Explorer. Chrome or Firefox is preferred.
- An Advanced Enterprise license for ArcGIS Server 10.3 (must include license for Geoevent Extension for ArcGIS Server).
- A license for Portal for ArcGIS 10.3 to support up to 100 users.
- A SSL certificate for Portal (ether CA-signed certificate or domain certificate).
- (Optional) Code signing certificate for your organization for use in Ops Server Deployment Utility. A certificate has been provided, but you may want to use certificate signed by your organization (see topic [Install software](#)).
- Microsoft .NET Framework 4.5 must be installed. This is required to run the Operations Dashboard Deployment Utility (executed by the InstallOpsServer.bat file). The installer for .NET 4.5 can be found at the [Microsoft Download Center](#).
- [A text editor, such as NotePad++, that can handle non-windows line-break formats. Some files you will need to edit have the Line-Feed \(LF\)-only \(Unix\) format.](#)

**CAUTION:** Make sure that the account that you are logged in with and using for the Ops Server installation is a member of the [local administrator](#) group. You should verify this by going to the Windows Server Manager | Local Users and Groups | Groups | Administrators to check that the installer's account is present in that group.

## Uninstall existing software

The Ops Server installation process assumes that you are installing on a clean server and certain software need to be installed in a particular way or location; therefore, before running the installation scripts you should uninstall the following software if they are already installed:

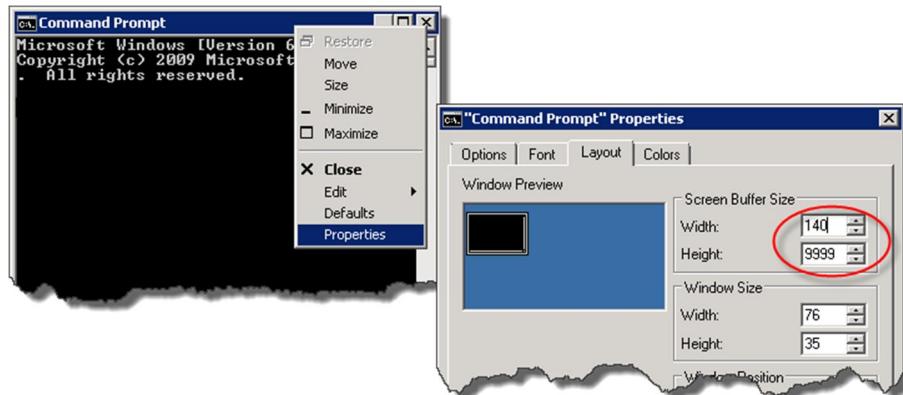
- ArcGIS Server - After uninstalling, delete the C:\arcgisserver and C:\Program Files\ArcGIS\Server folders.
- ArcGIS Data Store (previous Ops Server builds did not have ArcGIS Data Store) – After uninstalling, delete the C:\arcgisdatastore and C:\Program Files\ArcGIS\DataStore folders.
- ArcGIS WebAdaptor for IIS
- Portal for ArcGIS – After uninstalling, delete the C:\arcgisportal and C:\Program Files\ArcGIS\Portal folders.
- GeoEvent Extension for Server – After uninstalling, delete the C:\ProgramData\Esri\GeoEventProcessor and C:\Data folders.
- Chat Server (Open Fire) – After uninstalling, delete the C:\Program Files (x86)\Openfire folder.
- PostgreSQL – After uninstalling, delete the “postgres” OS user account, and the C:\PostgreSQL folder (or C:\Program Files\PostgreSQL).
- IIS – After uninstalling, delete the C:\inetpub folder.
- MessageSimulator – Delete the C:\MessageSimulator folder.

## Change “Command Prompt” Layout Properties

The install scripts do not capture output to log files, so to make it easier to review the output from the installation scripts and to make sure screen output is not lost because of an insufficient screen buffer size, increase the Screen Buffer Size of the command window. Recommended screen buffer width is at least 140; set the screen buffer height to the maximum value of 9999.

Steps:

- 1) Open a Command Prompt window.
- 2) Right-click on the Command Prompt title bar and click “Properties”. Click the “Layout” tab and modify the Width and Height Screen Buffer Size values.



## “Install” and configure the Ops Server installation scripts

- 1) Copy the ops-server-config folder located under the OPSServerInstall\Software folder on your external drive to the C:\ drive of the server where you are installing the Ops Server (i.e. C:\ops-server-config).

**CAUTION:** The ops-server-config folder must be located directly under C:\; certain sections of code expect this folder to be located at this location.

- 2) Edit the variables in the DOS batch file C:\ops-server-config\Install\InstallSettings.bat. These variables are used by various install scripts, such as the InstallIIS.bat and InstallOpsServer.bat and control various aspects of the installation.

**CAUTION:** The InstallSettings.bat file contains important information about what the variables store and any restrictions or limitations about the variable values; please read thoroughly.

The first half of the variables are for setting the name of the server, paths to the license files for the Esri software, the root folder of the installers on your external drive, the installed web browser, etc.

Variable name	Purpose
ops_FQDN	Defines the fully qualified domain name (FQDN) of the server that ArcGIS Server and Portal for ArcGIS are being installed.
ops_softwareRoot	Defines the path of the OPSServerInstall\Software folder on your external drive.
ops_agServiceAccount	Defines the account that will run the ArcGIS Server windows service. Default set to “AFMAGS” (i.e. <u>ArcGIS</u> for the <u>Military ArcGIS Server</u> ).
ops_userName	Defines the user name for the ArcGIS Server site administrator user and the Portal for ArcGIS’s initial administrator account. Default set to “admin”.
ops_passWord	Defines the following passwords: PostgreSQL superuser, PostgreSQL service account, ArcGIS Server service account, ArcGIS Server site administrator, Portal for ArcGIS initial administrator account, and the “sde” user password that owns the ops server geodatabases.
ops_cacheDrive	Defines the drive where the ArcGIS Server site cache directory will be created.
ops_dataDrive	Defines the drive where the Ops Server Data directory will be created.
ops_AGSAAuthFile	Defines the path and name of the ArcGIS Server (AGS) authorization file
ops_PortalAuthFile	Defines the path and name of the Portal for ArcGIS authorization file
ops_webBrowserExePath	Defines which web browser to use for installation steps which require you to work within a web browser. Default set to path of Chrome.exe.

The second half of the variables are for defining which install or configuration processes that the InstallOpsServer.bat will execute, which are listed in the table below.

The variables are listed in the order that the processes are executed in the InstallOpsServer.bat file. All processes should be executed, and executed in the order that they are defined in the InstallOpsServer.bat file.

NOTE: some of the installation/configuration processes that are executed by the InstallOpsServer.bat will require human interaction and are identified in the table below. When interaction is required, the appropriate interface/dialog will be opened for you and instructions provided in the command window.

Variable name	Purpose	Human interaction required during execution	Execution dependencies
ops_install_rdbms	Install the rdbms (PostgreSQL)	No	
ops_install_server	Install and authorize ArcGIS Server	No	ops_install_rdbms
ops_create_agssite	Create the ArcGIS Server site, create the SDE geodatabases, SDE connection files	No	ops_install_server
ops_install_webadaptor	Install the ArcGIS WebAdaptor for IIS	Possible	InstallIIS.bat
ops_change_agssecurity	Change the ArcGIS Server security configuration to "HTTPS Only"	Yes	ops_install_server, ops_create_agssite
ops_register_agsssl	Register ArcGIS Server with the WebAdaptor (using https)	No	ops_install_server, ops_create_agssite, ops_install_webadaptor
ops_install_agssdatastore	Install ArcGIS Data Store	No	
ops_create_agssdatastore	Creates an ArcGIS Data Store and registers' as ArcGIS Server site managed database	Possible	ops_install_server, ops_create_agssite, ops_install_webadaptor, ops_register_agsssl
ops_install_messagesimulator	Copies Message Simulator and related files and creates a Scheduled Task	No	
ops_install_portal	Install Portal for ArcGIS	No	
ops_create_opsdashboardinstaller	Create Operations Dashboard ClickOnce Application and deploy to portal folders	Yes	ops_install_portal
ops_create_portal_admin_account	Create the Portal for ArcGIS initial administrator account	Yes	ops_install_portal
ops_register_portal	Register Portal for ArcGIS Server with the WebAdaptor	No	ops_install_webadaptor, ops_install_portal, ops_create_portal_admin_account
ops_federate_agss	Federate the ArcGIS Server with portal, set SSL properties, set Utility Service URLs	Yes	ops_install_server, ops_create_agssite, ops_install_webadaptor, ops_change_agssecurity, ops_register_agsssl, ops_install_portal, ops_create_portal_admin_account

ops_install_geoevent	Install Geoevent Processor Extension for ArcGIS Server	No	ops_install_server, ops_create_agssite, ops_install_webadaptor, ops_change_agssecurity, ops_register_agsshttps ops_install_portal, ops_create_portal_admin_account ops_register_portal ops_federate_agss
----------------------	--	----	--

# Install Internet Information Services (IIS) and enable SSL

## **Install Internet Information Services (IIS)**

The ArcGIS Web Adaptor for IIS requires that Microsoft Internet Information Services (IIS) is installed with specific IIS components and that the .NET Framework 3.5 and 4.5 is installed. You will use the included InstallIIS.bat batch file to:

- Enable the IIS role and specific IIS components.
- Enable the .NET Framework 3.5 and 4.5 features.
- Configure the IIS default document.
- Add a MIME type for .json files (required by certain Ops Server web applications).

*Prerequisites:*

- All previously installed software has been removed (see topic [Uninstall existing software](#)).

Steps:

- 1) Open a command window (cmd.exe) with administrator privilege (i.e. “Run as administrator” context menu).
- 2) Within the command window, change directory to the C:\ops-server-config\Install folder and run the InstallIIS.bat file by typing the following at the prompt:

InstallIIS.bat

- 3) At the “Enter the number of your choice:” prompt, enter 1 to start script execution (or 0 to quit).

**NOTE:** When the installation is complete, the .bat file will open the Microsoft Server Manager console so that you can enable SSL on the web server (see section [Enable SSL on the web server](#) below).

## **Enable SSL on the web server**

To enable SSL on the web server you will need to obtain a SSL certificate and bind the certificate to the website that will host the ArcGIS Web Adaptor for IIS.

There are three types of SSL certificates: Certificate authority (CA) signed certificates, domain certificates, and self-signed certificates. For Ops Server you should only use CA signed or domain certificates.

The Internet Information Services (IIS) Manager provides dialogs/wizards for you to manage the certificates and bind the certificate to a web site. The general process is outlined below, based on the type of certificate you are going to use.

- **CA signed certificate:**

For more detailed information see <http://www.sslshopper.com/article-installing-an-ssl-certificate-in-windows-server-2008-iis-7.0.html>.

- Use the “Create Certificate Request” to generate a certificate request file (CSR).
- Use the information in the CSR file to order a SSL certificate from a Certificate Authority (CA).
- Use the “Complete Certificate Request” to install the SSL certificate you have received from the Certificate Authority.
- Bind the certificate to the website that is going to host the web adaptor (bind to port 443).

- **Domain certificate**

For more detailed information see the "Administering Portal for ArcGIS" | "Enabling SSL on your web server" topic in the Portal for ArcGIS Installation Guide, located on your external drive (i.e.

[OPSServerInstall/Software/PortalForArcGIS/SetupFiles/Documentation/install\\_guides/portal/index.html](#)

- Use the “Create Domain Certificate” to create a domain certificate.
- Bind the certificate to the website that is going to host the web adaptor (bind to port 443).

## Install Ops Server software

In this section you will be installing and configuring the majority of the software required by Ops Server using the InstallOpsServer.bat file. As mentioned in the topic [“Install” and configure the Ops Server installation scripts](#), the variables in the InstallSettings.bat file control which install/configuration processes are executed by the InstallOpsServer.bat file.

### Install software

Listed below are all the installation and configuration processes executed by the InstallOpsServer.bat:

- Install the rdbms (PostgreSQL).
- Install the ArcGIS WebAdaptor for IIS.
- ArcGIS Server:
  - Install and authorize ArcGIS Server.
  - Create the ArcGIS Server site, create the SDE geodatabases, and create the SDE connection files.
  - Change the ArcGIS Server security configuration to "HTTPS Only".
  - Register ArcGIS Server with the WebAdaptor (using https).
  - Install Geoevent Extension for ArcGIS Server
- ArcGIS Data Store:
  - Install ArcGIS Data Store
  - Create an ArcGIS Data Store
  - Register the ArcGIS Data Store as the ArcGIS Server site managed database.
- Install the Message Simulator and create a Scheduled Task.
- Portal for ArcGIS:
  - Install Portal for ArcGIS.
  - Create Operations Dashboard ClickOnce Application and deploy to portal folders
  - Create the Portal for ArcGIS initial administrator account.
  - Register Portal for ArcGIS Server with the WebAdaptor.
  - Federate the ArcGIS Server with portal, set SSL properties, set Utility Service URLs.

#### *Prerequisites:*

- You have edited the InstallSettings.bat file (see topic [“Install” and configure the Ops Server installation scripts](#)).
- Internet Information Services (IIS) is installed and any other ArcGIS Web Adaptor for IIS prerequisites have been met; and SSL has been enabled on your server (see topic [Install Internet Information Services \(IIS\) and enable SSL](#)).
- (Optional) A code signing certificate has been provided for use in the Operations Dashboard Deployment Utility, but if you want/need to use a certificate created for your organization then you will need to make the following modifications before you run the InstallOpsServer.bat script.
  - Copy your code signing certificate to the OPSServerInstall\Software\OpsDashboardUtility\Certificate folder on your external drive.

- Edit the parameters of the OperationsDashboardUtility.exe under the “Run the Operations Dashboard Deployment Utility” section in the C:\ops-server-config\Install\OpsDashboardUtility\CreateOneClickInstaller.bat file:
  - Edit the name of the .pfx file specified in the “/certpath %ops\_softwareRoot%\OpsDashboardUtility\Certificate\DefenseSolutions.pfx” to match your code signing certificate.
  - Edit the “/password” parameter to match the password of your code signing certificate.

Steps:

- 1) Close any web browsers that you may have open. Some of the steps below will need to open a new browser instance in order to “pause” for user interaction/input.
- 2) Open a command window (cmd.exe) with administrator privilege (i.e. “Run as administrator” context menu).
- 3) Within the command window, change directory to the C:\ops-server-config\Install folder and run the InstallOpsServer.bat file by typing the following at the prompt:

InstallOpsServer.bat

- 4) At the “Enter the number of your choice:” prompt, enter 1 to start the installation process (or 0 to quit).

#### NOTEs:

- Some of the installation/configuration processes that are executed by the InstallOpsServer.bat will require human interaction (see variable table in topic [“Install” and configure the Ops Server installation scripts](#)). When interaction is required, the appropriate interface/dialog will be opened for you and instructions provided in the command window.
- With this version of the Ops Server installation we have included functionality to “trap” for errors and pause script execution when errors are encountered. When script execution has been paused, you will see the following dialog:

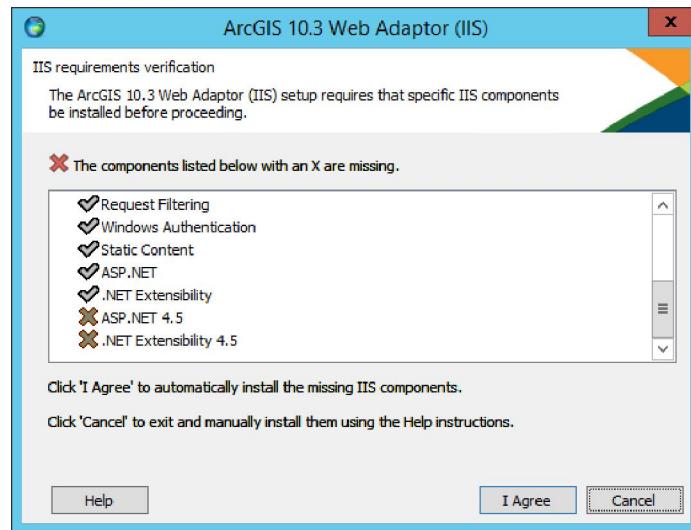
```
*****
** ERROR: error encountered. ErrorLevel code: 1
** Pausing script execution.
**
** Close command prompt to stop script execution.
** Press any key to continue with script execution.
*****
Press any key to continue . . .
```

At this time you can assess the error and take corrective action. After you have fixed the issue you can then press any key and the execution of the InstallOpsServer.bat file will

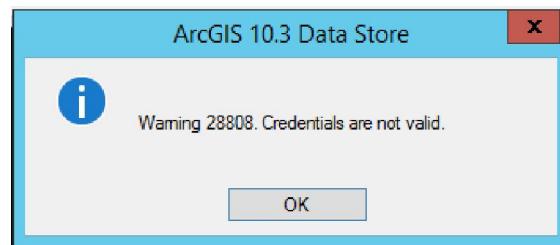
continue. If you can't fix the issue and want to halt execution, enter Ctrl-C within the command prompt or just close the command prompt window.

**CAUTION:** although error trapping has been provided, we can't guarantee that all errors will be identified and trapped. It is recommended that you review the script output for errors.

- During installation of the ArcGIS Web Adaptor for IIS if the following "IIS requirements verification" dialog is displayed, click "I Agree".



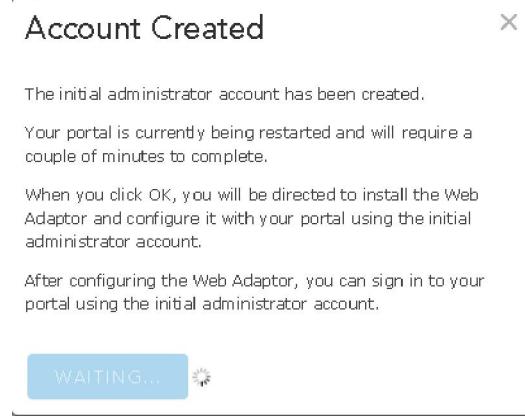
- During installation of the ArcGIS Data Store if the following warning message dialog is displayed, click "OK" and the installation will continue.



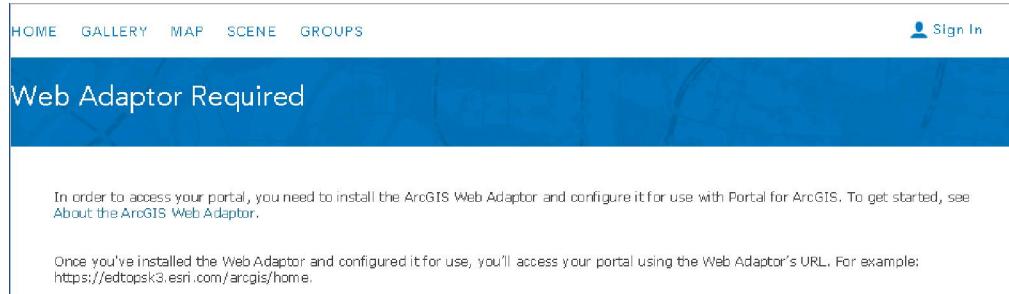
- During the execution of the Operations Dashboard Deployment Utility, when the following “Importing a new private signature key” dialog is displayed, click “OK” and execution will continue.



- During the “Create the Portal for ArcGIS primary administrator account” step...
  - If the account was created successfully the “Account Created” dialog will display as shown below.



- After clicking “OK” on the “Account Created” dialog, the “Web Adaptor Required” web page will be displayed. You can ignore this message, as the portal will be registered with the web adaptor in subsequent steps; continue the sign in process by clicking “Sign In”.



- **WARNING: if the password you specified in the InstallSettings.bat file is an invalid password for the portal administrator account and you use a different value, you will need to reset the ArcGIS Server primary site administrator password to match. For Ops Server, the ArcGIS Server and Portal administrator usernames and passwords must match for publishing content and services to succeed. You can reset the password in ArcGIS Server Manager on the Security > Settings tab under “Primary Site Administrator Account”.**

## Validate software installation

After the execution of the InstallOpsServer.bat file has completed, you should validate the installation using the following check list (note that many of these checks have already been completed during the software install, but have been included in this list for completeness).

### *Prerequisites:*

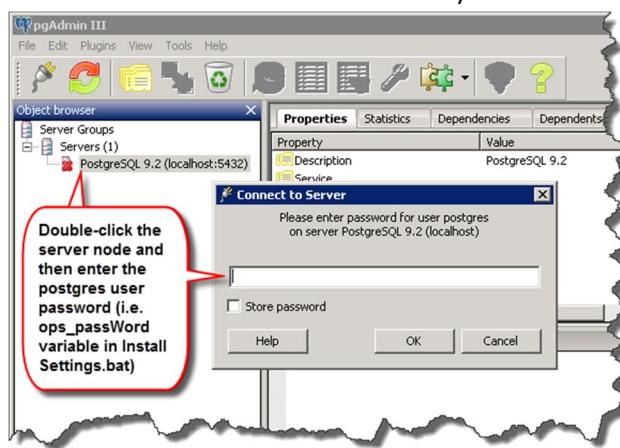
- Software has been installed and configured using the InstallOpsServer.bat file (see topic [Install software](#)).

### Steps:

**NOTE:** unless otherwise specified the user and password values to use in the validation steps are the ops\_userName and ops\_passWord variable values set in the InstallSettings.bat file

- 1) Open Control Panel > Programs > Programs and Features and verify that the following software programs are listed:
  - a. ArcGIS 10.3 Data Store

- b. ArcGIS 10.3 for Server
  - c. ArcGIS 10.3 Geoevent Extension for ArcGIS Server
  - d. ArcGIS 10.3 Web Adaptor (IIS) – ags
  - e. ArcGIS 10.3 Web Adaptor (IIS) – arcgis
  - f. Portal for ArcGIS 10.3
  - g. PostgreSQL 9.2
- 2) PostgreSQL
- a. Verify that you can log in to the PostgreSQL administrator management console (Start > All Programs > PostgreSQL 9.2 > pgAdmin III -or- Search for “pgAdmin” if your version of Windows does not have a Start Menu).



Also expand the “Databases” node and verify that databases other than “postgres” exist. **NOTE:** your list of databases may differ from the screenshot shown below.



- 3) ArcGIS Server
- a. Verify that you can sign in to the ArcGIS Server manager (i.e. <https://server.domain/ags/manager>).
  - b. Verify that you can sign in to the ArcGIS Server REST API (<https://server.domain/ags/rest>). Click the “Login” link and follow the instructions.

- c. Verify that you can sign in to the ArcGIS Server Administrator Directory (i.e. <https://server.domain/ags/admin>).
  - d. Verify that you can sign in to the ArcGIS GeoEvent Processor Manager (i.e. <https://server.domain:6143/geoevent/manager>)
- 4) Portal for ArcGIS
- a. Verify that you can sign in to the Portal for ArcGIS home page (<https://server.domain/arcgis/home>).
  - b. Verify that you can sign in to the Portal for ArcGIS REST API (<https://server.domain/arcgis/sharing>).

5) ArcGIS Data Store

Sign in to the ArcGIS Server manager (i.e. <https://server.domain/ags/manager>) and verify that the following data store entry exist (Site > GIS Server > Data Store):

- a. Register Databases
  - i. AGSDataStore\_ds\_nnnnnnnn (ending name of Managed ArcGIS Data store database varies)
  - ii. CurrentOperations
  - iii. Economic
  - iv. EmergencyManagement
  - v. Information
  - vi. Infrastructure
  - vii. Military
  - viii. Political
  - ix. RTDS
  - x. Social
  - xi. UTDS
- b. Registered Folders
  - i. OpsServerData
- c. After verifying these data stores exists, you may also select “Validate All” from this page.

## Post-Ops Server software installation modifications

### **Increase Portal file upload limits**

The instructions below describe how to increase the maximum portal file upload limit. The default is 250 MB; in order to successfully publish the Ops Server portal content these limits need to be increased.

*Prerequisites:*

- Portal for ArcGIS has been installed using the InstallOpsServer.bat file and installation has been validated (see topic [Install Ops Server software](#)).

Steps:

- 1) Open Notepad++ or other text editor (other than Windows Notepad) with “Run as administrator” permission.
- 2) Within the text editor browse to and open the file C:\Program Files\ArcGIS\Portal\webapps\arcgis#sharing\WEB-INF\classes\resources\gw-config.properties
- 3) Change the values for the following properties to 1000:
  - a. content.max-file-upload-size
  - b. config.default-max-file-upload-size
- 4) Save the file and exit the text editor.

NOTE: the Portal for ArcGIS windows service does not have to be restarted for these changes to take effect.

### **Increase ArcGIS Data Store limits**

The instructions below describe how to increase the maximum number of connections that the ArcGIS Data Store will allow.

*Prerequisites:*

- ArcGIS Data Store has been installed using the InstallOpsServer.bat file and installation has been validated (see topic [Install Ops Server software](#)).

Steps:

- 1) Shutdown the “ArcGIS Data Store” windows service.
- 2) Open Notepad or other text editor with “Run as administrator” permission.
- 3) Within the text editor browse to and open the file C:\arcgisdatastore\pgdata\postgresql.conf
- 4) Change the value of the “max\_connections” property to 250.
- 5) Save the file and exit the text editor.
- 6) Restart the “ArcGIS Data Store” windows service.

## Publish Ops Server content

In the context of this installation guide, Ops Server content refers to the portal items, ArcGIS Server services and data to support these services.

There are three major steps in publishing content to the Ops Server:

- Copy the Ops Server data to your server.
- Publish the ArcGIS Server services to your server using the provided service definition files.
- Publish the provided portal items to your portal.

Instructions for completing these steps are described in the sections below.

### **Copy Ops Server data**

The instructions below describe how to copy the Ops Server data from the external drive to your server using the Python script CopyData.py. This script will copy distribution file geodatabase data to C:\OpsServer\Data and to the OpsServer PostgreSQL enterprise geodatabase.

*Prerequisites:*

- Software has been installed/configured using the InstallOpsServer.bat file and installation has been validated (see topic [Install Ops Server software](#)).

*Steps:*

- 1) Open a command window (cmd.exe) with administrator privilege (i.e. “Run as administrator” context menu).
- 2) Within the command window, change directory to the C:\ops-server-config\Publish\Server folder and run the CopyData.py Python script using the parameters described below.

```
CopyData.py <SourceDataFolder> <SourceCacheFolder>
<SourceDatabaseFolder> <AGSServiceAccount> <DataDriveLetter>
<CacheDriveLetter>
```

*Where:*

<SourceDataFolder> (required parameter): path to the source data folder  
**(i.e. the OPSServerInstall\Server\Staging\Data folder on the external drive).**

<SourceCacheFolder> (required parameter): path to the source caches folder  
**(i.e. OPSServerInstall\Server\Staging\Caches folder on the external drive).**

<SourceDatabaseFolder> (required parameter): path to the source 'DistributionEntGDBs' folder  
**(i.e. OPSServerInstall\Server\DistributionEntGDBs folder on the external drive).**

<AGSServiceAccount> (required parameter): ArcGIS Server service account  
**(i.e. what the variable “ops\_agsServiceAccount” is set to in the InstallSettings.bat file)**

<DataDriveLetter> (required parameter): the drive letter where the destination OpsServer\Environment\Data folder is located **(i.e. what the variable “ops\_dataDrive” is set to in the InstallSettings.bat file).**

<CacheDriveLetter> (required parameter): the drive letter where the destination arcgisserver\arcgiscache folder is located **(i.e. what the variable “ops\_cacheDrive” is set to in the InstallSettings.bat file)**

Example (G is the drive letter of the external drive in this example):

```
CopyData.py G:\OPSServerInstall\Server\Staging\Data
G:\OPSServerInstall\Server\Staging\Caches
G:\OPSServerInstall\Server\DistributionEntGDBs AFMAGS c c
```

- 3) After Python script has finished, review script output for errors.

## Post-Copy Ops Server data procedures

The instructions below describe procedures to execute after you have run the CopyData.py script.

*Prerequisites:*

- The Ops Server data has been copied to your server (see topic [Copy Ops Server data](#)).

The CopyData.py script is currently not able to copy some datasets fully or incompletely copies these datasets from the distribution file geodatabases to the PostgreSQL enterprise geodatabases created on your server. Therefore, the workaround described in the table below is currently required.

For the datasets listed in the table below, copy the specified dataset from the applicable file geodatabase located in the OPSServerInstall\Server\DistributionEntGDBs folder on your external drive to the corresponding PostgreSQL enterprise geodatabase. The connection files for these enterprise geodatabases can be found in the <DataDriveLetter>:\OpsServer\DBCConnections folder (where <DataDriveLetter> is the variable “ops\_dataDrive” value in the InstallSettings.bat file). Please see the Comments field in the table below for additional information.

Database	Dataset Name	Dataset Type	Comments
CurrentOperations	InternallyDisplayedPersons	Feature Dataset	This feature dataset will already exist in your CurrentOperations enterprise geodatabase, so make sure to delete the existing feature dataset before copy.
CurrentOperations	CurrentMETAR	Feature Class	Make sure to copy the METAR standalone feature class and not the METAR feature dataset, which also exists in the distribution file geodatabase.

## Publish portal content

The instructions below describe how to publish the Ops Server portal content contained on your external drive to your portal using the Python script `PortalContentPost.py`. This script will create Portal Items and any needed AGS Services.

*Prerequisites:*

- Software has been installed/configured using the `InstallOpsServer.bat` file and installation has been validated (see topic [Install Ops Server software](#)).
- The Portal for ArcGIS file upload limits have been increased (see topic [Increase Portal file upload limits](#)).
- Write access to the `OPSServerInstall\Portal\PortalContent` folder on your external drive (the `PortalContentPost.py` script requires write access to this folder).

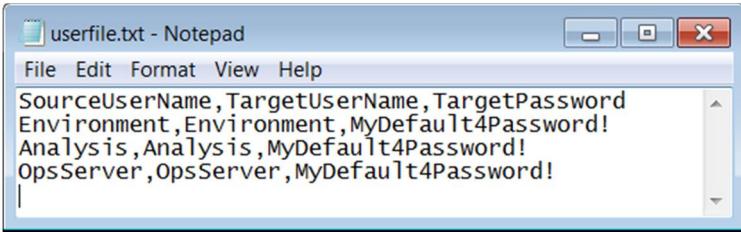
*NOTEs:*

- Portal content can be published independently of the ArcGIS Server services (i.e. before or after publishing services).
- Deleting portal content:
  - If you need to republish the portal content you can use the Python script `PortalContentDestroyer.py` to delete the existing portal content.
  - If you have published the ArcGIS Server services, but haven't run the `RemapIDsOnServices.py` script (see topic [Re-map portal item ids on ArcGIS Server services](#)) you will need to manually delete the portal items owned by the user that published the services.
- If you need to re-run the `PortalContentPost.py` script, make sure to delete the `OPSServerInstall\Portal\PortalContent\PortalPostLogs\"ServerName"` folder on the external drive (the `PortalContentPost.py` script creates files in this folder that store the mapping between the original portal item ids and the new ids).

*Steps:*

- 1) **Reboot your machine before continuing with the steps below** (we have encountered a memory resource issue with Java, when publishing the portal content; rebooting the machine before publishing appears to solved this issue).
- 2) Change passwords for portal users.

The portal user names and their associated passwords are stored within the `userinfo.txt` file located in the `OPSServerInstall\Portal\PortalContent` folder on your external drive. The `PortalContentPost.py` script used to publish the OpsServer portal items to your Portal uses the information in this file to create the users in your portal.

- a. Open Windows Explorer and navigate to the OPSServerInstall\Portal\PortalContent folder on your external drive.
  - b. Open the userinfo.txt file in a text editor.
- 
- c. Change the TargetPassword values for the users by searching for and replacing the default value "MyDefault4Password!".
- d. Save the file and exit the text editor.
- 3) Open a command window (cmd.exe) (do not need to "Run as administrator").
- 4) Within the command window, change directory to the C:\ops-server-config\Publish\Portal folder and run PortalContentPost.py Python script using the parameters described below.

```
PortalContentPost.py <PortalURL> <AdminUser> <AdminPassword>
<ContentFolderPath> {UsersToPost} {GroupsToPost} {IdMappingFile}
```

Where:

<PortalURL> (required): URL of Portal to post content (i.e.  
[https://fully\\_qualified\\_domain\\_name/arcgis](https://fully_qualified_domain_name/arcgis)) **(where**

**"fully\_qualified\_domain\_name" is the variable "ops\_FQDN" value set in the InstallSettings.bat  
 file; also include the port number 7443, i.e.**

[https://fully\\_qualified\\_domain\\_name:7443/arcgis](https://fully_qualified_domain_name:7443/arcgis)

<AdminUser> (required): Portal user that has administrator role. **(i.e.  
 what the variable "ops\_userName" is set to in the InstallSettings.bat file)**

<AdminPassword> (required): Password for AdminUser. **(i.e. what the variable  
 "ops\_passWord" is set to in the InstallSettings.bat file)**

<ContentFolderPath> (required): Folder path containing portal content  
 to post. **(i.e. this is the OPSServerInstall\Portal\PortalContent folder on the external drive)**

{UsersToPost} (optional): allows you to publish only portal items owned by specific  
 users by specifying a list of users. **(NOTE: do NOT use this parameter until a future release of  
 the Ops Server portal content and ArcGIS Services)**

{GroupsToPost} (optional) : allows you to publish portal items that have been shared with a specific portal group or groups. **(NOTE: do NOT use this parameter until a future release of the Ops Server portal content and ArcGIS Services)**

{IdMappingFile} (optional) : **(Do NOT use this parameter)**

Example:

```
PortalContentPost.py https://MyServer.domain.com:7443/arcgis admin PASSWORD  
G:\OPSServerInstall\Portal\PortalContent
```

- 5) When script has completed, review script output for errors.

**NOTE: Please ignore the error “ERROR:portalpy:Item ‘nnnnnnnnnnnn’ does not exist in this folder.”**

## Publish the ArcGIS Server services

The instructions below describe how to publish the Ops Server ArcGIS Server services using the Python script PublishToOpsServer.py.

*Prerequisites:*

- Software has been installed/configured using the InstallOpsServer.bat file and installation has been validated (see topic [Install Ops Server software](#)).
- The Ops Server data has been copied to your server (see topic [Copy Ops Server data](#)).
- The ArcGIS Data Store limits have been increased (see [topic Increase ArcGIS Data Store limits](#)).

*Steps:*

- 1) Open a command window (cmd.exe) with administrator privilege (i.e. “Run as administrator” context menu).
- 2) Within the command window, change directory to the C:\ops-server-config\Publish\Server folder and run the PublishToOpsServer.py Python script using the parameters described below.

```
PublishToOpsServer.py <Server_FullyQualifiedDomainName> <Server_Port>
<User_Name> <Password> <Use_SSL: Yes|No> <Start_Service: Yes|No>
<Service_Definition_Root_Folder_Path> {OwnersToPublish}
{GroupsToPublish}
```

*Where:*

<Server\_FullyQualifiedDomainName> (required parameter) Fully qualified domain name of ArcGIS Server.

<Server\_Port> (required parameter) ArcGIS Server port number; if not using server port enter '#' (**specify the port number 6443**)

<User\_Name> (required parameter) ArcGIS Server site administrator user name (**i.e. what the variable “ops\_userName” is set to in the InstallSettings.bat file**)

<Password> (required parameter) ArcGIS Server site administrator password (**i.e. what the variable “ops\_passWord” is set to in the InstallSettings.bat file**)

<Use\_SSL: Yes|No> (required) Flag indicating if ArcGIS Server requires HTTPS. (**the install scripts have you configure the ArcGIS Server security configuration as “HTTPS Only” so enter Yes for this parameter**)

<Start\_Service: Yes|No> (required) Flag indicating if the service should be started after publishing. (**specify NO. Not starting the services will significantly decrease the time to run the RemapIDsOnServices.py. You will be starting the services later using a Python script**)

<Service\_Definition\_Root\_Folder\_Path> (required parameter) is the path of the root folder containing the service definition (.sd) files to upload (publish) (**i.e. this is the OPSServerInstall\Server\ServiceDefinitions folder on the external drive**)

{Owners\_To\_Publish} (optional parameter) allows you to publish only ArcGIS Server services that are owned by a specific user or users.

{Groups\_To\_Publish} (optional parameter) allows you to publish only ArcGIS Server services that belong to a specific portal group or groups.

Example (G is the drive letter of the external drive in this example):

```
PublishToOpsServer.py MyAGSServer.esri.com 6443 admin  
MyPassword Yes No  
G:\OPSServerInstall\Server\ServiceDefinitions
```

**NOTE:** if you are prompted with the following “Security Alert”, click “Yes”.



- 3) After Python script has finished, review script output for errors.

Known/Possible Publishing Issues	
Service	Comments
Environment/RoadNetwork	This service will not publish from the .sd file. See the PDF OPSServerInstall\Server\SupportFiles\Republishing\Environment\RoadNetwork\Republish.pdf located on the provided external drive for more information on republishing.

## Re-map portal item ids on ArcGIS Server services

In a federated server, the ownership and access permissions of ArcGIS Server services are based on the user that owns the associated portal service items and the sharing settings on those items. The association between the service and it's service item(s) is stored within the service json information, an example is shown below. Note that the owner value is not stored within the json, just the portal item types and the itemID's of the portal items.



```
https://afmcomstaging.esri.com/arcgis/admin/services/Operations/FriendlySituation.MapServer?f=json
{
  "antialiasingMode": "Fastest",
  "clientCachingAllowed": "true",
  "cacheDir": "C:\\arcgisserver\\arcgiscache"
  ,
  "portalProperties": {
    "isHosted": false,
    "portalItems": [
      {
        "itemID": "935839d2147d4d3da0701370280604ad",
        "type": "MapServer"
      },
      {
        "itemID": "8ee18d0beee94b999bf02ceb6ed8ea76",
        "type": "FeatureServer"
      }
    ],
    "extensions": [
      {
        "name": "esri.friendlysituation"
      }
    ]
  }
}
```

When you published the services using the `PublishToOpsServer.py` script you used the portal administrator user, so this user currently “owns” the services and the associated portal items (default items were created during the publishing of the services). We now want to assign the ownership back to the original portal users that owns the portal items that you posted to your portal using the `PublishContentPost.py` script earlier. We will re-assign the services using the `RemapIDsOnServices.py` script. This script will reset the portal item ids in the service json to match the corresponding portal service item for all of the ArcGIS Server services.

### Prerequisites:

- The ArcGIS Server services have been published (see topic [Publish the ArcGIS Server services](#)).
- The portal content has been published (see topic [Publish portal content](#)).

### Steps:

- 1) Open a command window (cmd.exe) with administrator privilege (i.e. “Run as administrator” context menu).
- 2) Within the command window, change directory to the `C:\ops-server-config\Published\Portal` folder and run the `RemapIDsOnServices.py` Python script using the parameters described below.

```
RemapIDsOnServices.py <Server_FullyQualifiedDomainName> <Server_Port>
<User_Name> <Password> <Use_SSL: Yes|No>
```

Where:

`<Server_FullyQualifiedDomainName>` (required) : the fully qualified domain name of the ArcGIS Server/Portal for ArcGIS machine. **(i.e. what the variable “ops\_FQDN” is set to in the InstallSettings.bat file)**

`<Server_Port>` (required) : the port number of the ArcGIS Server (specify # if no port). **(Specify the port number 6443)**

`<User_Name>` (required) : ArcGIS Server/Portal for ArcGIS site administrator. **(i.e. what the variable “ops\_userName” is set to in the InstallSettings.bat file)**

`<Password>` (required) : Password for ArcGIS Server/Portal for ArcGIS site administrator user. **(i.e. what the variable “ops\_passWord” is set to in the InstallSettings.bat file)**

`<Use_SSL: Yes|No>` (required) Flag indicating if ArcGIS Server requires HTTPS. **(the install scripts have you configure the ArcGIS Server security configuration as “HTTPS Only” so enter Yes for this parameter)**

Example:

```
RemapIDsOnServices.py MyAGSServer.esri.com 6443 admin  
MyPassword Yes
```

- 3) **IMPORTANT:** After executing this script, log into the portal as the admin user and share all portal items owned by the admin (i.e. the items that could not be remapped to original owner) with “Everyone.” To do this, navigate to <https://MyServer.doamin.com/arcgis/home> , sign in and click on the “My Content” tab. Select the items and click “Share.”

## Start the published ArcGIS Server services

Start the services using the provided StartStopServices.py Python script.

**WARNING: Depending on your system memory, you may not be able to start all services. The file ServiceList.txt, containing a list of all Ops Server services is provided in the OPSServerInstall\Server\ServiceDefinitions folder on your external drive, which you can copy and edit to create service list subsets for use in the {Service\_List\_File} parameter of the StartStopServices.py script.**

- 1) Open a command window (cmd.exe) with administrator privilege (i.e. “Run as administrator” context menu).
- 2) Within the command window, change directory to the C:\ops-server-config\Publish\Server folder and run StartStopServices.py Python script using the parameters described below.

```
StartStopServices.py <Server_Name> <Server_Port> <User_Name> <Password>
<Use_SSL: Yes|No> <Start|Stop> {{folder/}service.type,...|
Service_List_File}
```

Where:

<Server\_Name> (required) ArcGIS Server server name.

<Server\_Port> (required) server port; if not using server port enter #  
**(specify the port number 6443)**

<User\_Name> (required) user with admin or publisher permission. **(i.e. what the variable “ops\_userName” is set to in the InstallSettings.bat file)**

<Password> (required) user password **(i.e. what the variable “ops\_passWord” is set to in the InstallSettings.bat file)**

<Use\_SSL: Yes|No> (required) Flag indicating if ArcGIS Server requires HTTPS. **(specify ‘Yes’ because security on the ArcGIS Server is configured as ‘HTTPS only’)**

<Start|Stop> (required) action to perform **(use “Start” in this particular case).**

{}{{folder/}service.type,...| Service\_List\_File} (optional) to Start|Stop specific services, specify comma delimited list of services or specify a path to a file containing {{folder/}service.type entries.

Example:

```
StartStopServices.py MyAGSServer.esri.com # admin MyPassword
Yes Start
```

- 3) After Python script has finished, review script output for errors.

## Configure and deploy web applications

The following section describes the steps required to deploy the Ops Server web applications to the Internet Information Services (IIS) installation on your Ops Server and perform post deployment processing.

### Configure and deploy

The following section describes the steps required to configure and deploy the Ops Server web application files.

*Prerequisites:*

- The portal content has been published (see topic [Publish portal content](#)).

Steps:

- 1) Copy the folder OPSServerInstall\WebApps\wwwroot from your external drive to a temp location on your OpsServer, for example C:\temp\_wwwroot.
- 2) Update the server names and portal application IDs in the URLs of the web application with the server name and portal applications IDs on your Ops Server using the `UpdateWebApps.py` script.
  - a. Open a command window (cmd.exe).
  - b. Within the command window, change directory to the C:\ops-server-config\SupportFiles folder and run the `UpdateWebApps.py` Python script using the parameters described below.

```
UpdateWebApps.py <RootFolderToSearch> <OldServerName>
<NewServerName> <IDJsonFile>
```

Where:

`<RootFolderToSearch>` (required): the path of the root folder to search for web files to edit. (**i.e. the temporary location where you copied the “wwwroot” folder from the external drive, for example C:\temp\_wwwroot**)

`<OldServerName>` (required): the old server name (**use “afmiedev.esri.com” for this parameter**)

`<NewServerName>` (required): the new server name where web apps will running on (**i.e. what the variable “ops\_FQDN” is set to in the InstallSettings.bat file**)

<IDJsonFile> (required): the **fully qualified** file path to the .json file containing the old and new portal item ids. (i.e. the file named "oldID\_newID.json" that is created by the PublishContentPost.py script within the source portal content folder) **(the "oldID\_newID.json" file is created when you run the PublishContentPost.py script to publish the portal items to your OpsServer; the file can be found in the OPSServerInstall\Portal\PortalContent\PortalPostLogs\"ServerName\" folder on the external drive)**

**Example:**

```
UpdateWebApps.py C:\MyFiles\wwwroot_temp afmiedev.esri.com  
MyServer.domain.com  
G:\OPSServerInstall\Portal\PortalContent\PortalPostLogs\  
MyServer.domain.com\oldID_newID.json
```

- 3) Copy the contents of the temporary wwwroot folder (i.e. C:\temp\_wwwroot) to the wwwroot folder of your OpsServer's Internet Information Services (ISS) wwwroot folder (i.e. C:\inetpub\wwwroot)

## Post web app deployment processing

The following section describes the steps required to perform the post web application deployment processing.

*Prerequisites:*

- The Ops Server web application files have been configured and deployed to the IIS wwwroot folder (see topic [Configure and deploy](#)).

The post web application deployment processing consists of converting the IIS Sites\Default Web Site\SolutionsWeb\Apps\Templates\ImageDiscovery folder to an IIS application using the batch file describe below.

*Steps:*

- 1) Open a command window (cmd.exe) with administrator privilege (i.e. "Run as administrator" context menu).
- 2) Change directory to C:\ops-server-config\SupportFiles.
- 3) Run the PostWebAppDeployment.bat batch file, by typing the following at the command prompt:

```
PostWebAppDeployment.bat
```

## Configure portal settings

After you have published the portal items configure your portal settings using the following steps.

*Prerequisites:*

- The portal content must have already been published (see topic [Publish portal content](#)).
- The web applications must have already been deployed (see topic [Deploy and configure web applications](#)).
- The MGRS geocode service must be started. This service is located in the ArcGIS Server “Locators” folder.

Steps:

- 1) Open a web browser and enter the URL to your portal machine (i.e. <https://portal.domain/arcgis/home>).
- 2) Sign in to the portal using the administrator user (**i.e. the “ops\_userName” and “ops\_passWord” variable values set in the InstallSettings.bat file**)
- 3) Click on “My Organization” then Click on “Edit Settings”

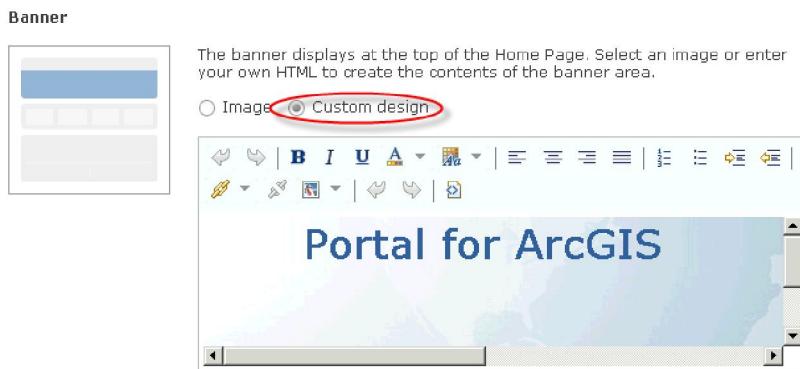


- 4) Click on the “General” tab on the left side of the page.
  - a. Edit the “Logo and Name”.
    - i. The Thumbnail image (thumbnail.png) can be found in OPSServerInstall\Portal\PortalResources folder on your external drive.
  - b. Edit the “Description”.
    - i. The description text can be found in the description.txt file in the in OPSServerInstall \Portal\PortalResources folder on your external drive. Or use your own description.
    - ii. Check the “Show description toward bottom of Home Page” checkbox.
  - c. Edit the default language and set to “English - English”.

5) Click on the “Home Page” tab on the left side of page.

a. Edit the “Banner”.

i. Click “Custom design” radio button



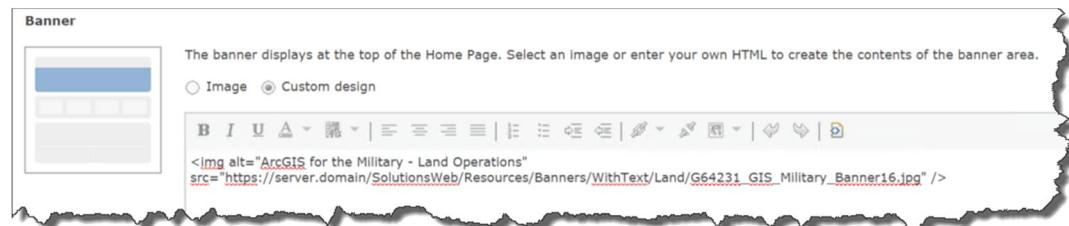
ii. Click the “View HTML Source” button



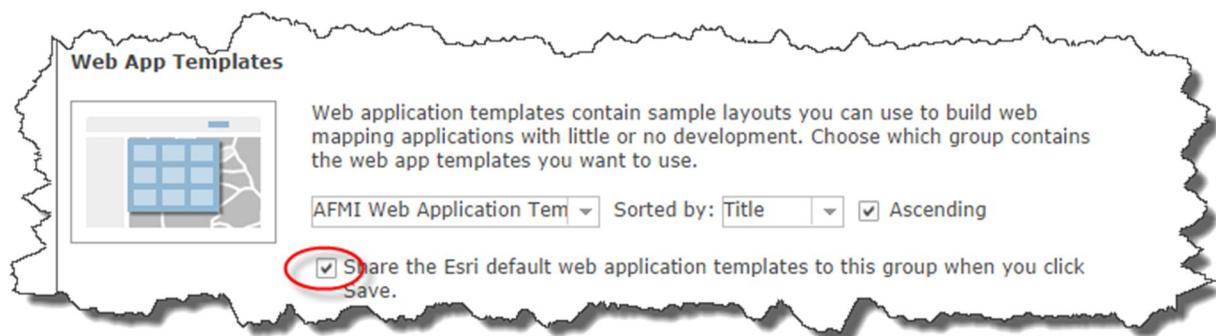
iii. Edit the HTML to display the banner of your choosing. An example of the HTML is shown below:

```

```



- Change the “alt” property to an appropriate value.
  - Change the “server.domain” to your server (i.e. the variable “ops\_FQDN” value set in the InstallSettings.bat file).
  - Change the .jpg file name URL to the banner of your choosing. Included with the Ops Server are banners (with and without text) for the following domains (the banners are stored in the local C:\inetpub\wwwroot\SolutionsWeb\Resources\Banners folder):
    - Air
    - Domestic
    - Emergency
    - Intel
    - Land
    - Maritime
- b. Set “Featured Content” group to the “AFMI Featured Maps and Apps” group.
- 6) Click on the “Map” tab on the left side of page.
- a. Set the “Basemap Gallery” group to “AFMI Basemaps”.
  - b. Make sure the “Default Basemap” is set to “Topographic”.
  - c. Set the “Web App Templates” group to “AFMI Web Application Templates” and check the “Share the Esri default web application templates to this group when you click Save” option.



- 7) Click on the “Groups” tab on the left side of the page.
- a. For “Featured Groups” make sure the “AFMI Featured Maps and Apps” group is listed under the “Feature Groups” list (you can set this to whatever groups you need to support your demos).

- b. Set the “Gallery Applications” group to “AFMI Gallery Templates” and check the “Share the Esri default gallery applications to this group when you click Save” option.



- 8) Click on the “Utility Services” tab on the left side of the page.

**NOTE:** the MGRS geocode service must be started to complete the following steps. This service is located in the “Locator” ArcGIS Server folder.

- a. Click on “ADD GEOCODER”. The “Add Geocoder” dialog is displayed.



- b. For the “Geocoder URL” enter:

`https://server.domain/ags/rest/services/Locators/MGRS/GeocodeServer`

Where “server.domain” is the fully qualified domain to your server (i.e. the variable “ops\_FQDN” value set in the InstallSettings.bat file)

- c. For “Geocoder Name” enter: MGRS
- d. For “Placeholder Text” enter: MGRS coordinate
- e. Check both the “Allow place finding” and “Allow batch geocoding” checkboxes.
- f. Click “OK”

- 9) Click on the “Save” button on the top left of the page to save your changes.

## Configure Geoevent for Ops Server

### Configure Geoevent

Configure Geoevent with the Operations Server geoevent services.

*Prerequisites:*

- ArcGIS Server, Portal for ArcGIS, Message Simulator, and Geoevent should be installed; ArcGIS Server should be federated with Portal for ArcGIS (see topic [Install Ops Server software](#)).
- ArcGIS Server services should be published (see topic [Publish the ArcGIS Server services](#)).

Steps:

- 1) Start the ArcGIS Server services that are referenced by the Geoevent services/definitions if they are not already started.

You can execute the C:\ops-server-config\Publish\Server\StartStopServices.py script using the GeoEventServiceList.txt file located in the OPSServerInstall\Geoevent folder on your external drive for the {Service\_List\_File} parameter.

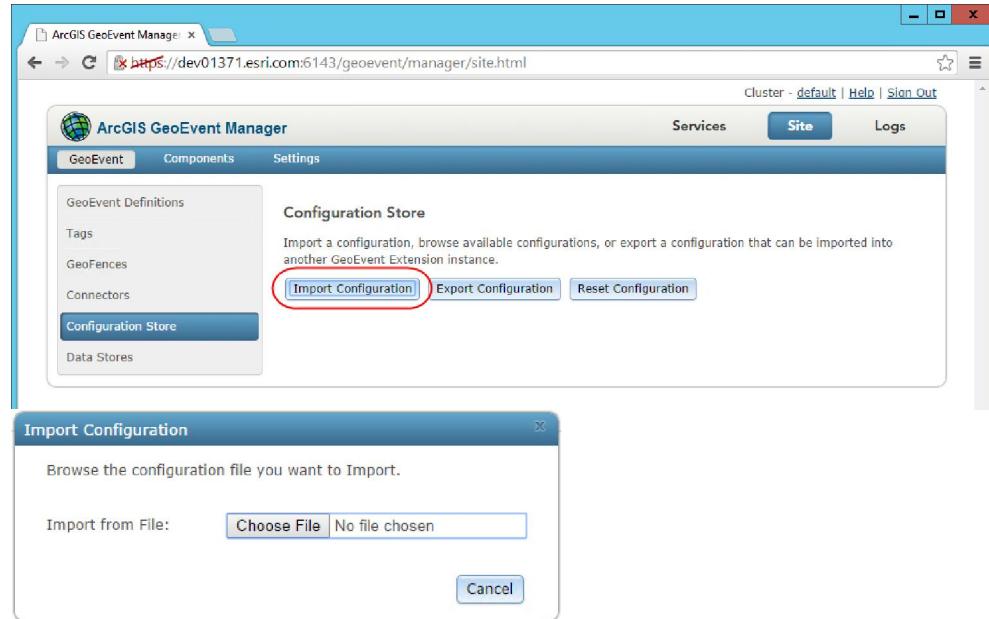
- 2) Copy the Ops Server enrichment files and jar files to your server:
  - a. Copy the OPSServerInstall\Geoevent\Data folder on your external drive to C:\Data.
  - b. Copy all the .jar files from the OPSServerInstall\Geoevent\jar\_files folder on your external drive to the C:\Program Files\ArcGIS\Server\GeoEvent\deploy folder.

- 3) Setup Geoevent data stores

- a. Sign into the GeoEvent Manager  
(<https://server.domain:6143/geoevent/manager>) using your portal administrator account.

Where “server.domain” is the fully qualified domain to your server (i.e. the variable “ops\_FQDN” value set in the InstallSettings.bat file). The portal administrator account username and password are the “ops\_userName” and “ops\_passWord” variable values set in the InstallSettings.bat file.

- b. In GeoEvent Manager, click on Site > GeoEvent > Configuration Store and then “Import Configuration”. The “Import Configuration” dialog is displayed.



- c. Click “Choose File” and in the “Open” dialog, browse to and select the GeoEventConfigDataStore.xml file located in the OPSServerInstall\Geoevent folder on your external drive. Click “Open” and click “Next” in the “Import Configuration” dialog.
- d. The “Selective Import” option is selected by default; click “Import Configuration” and click “Import”.



- e. Click on Site > Data Stores and delete the “default” registered ArcGIS Server entry by clicking on the “X” icon next to the entry.

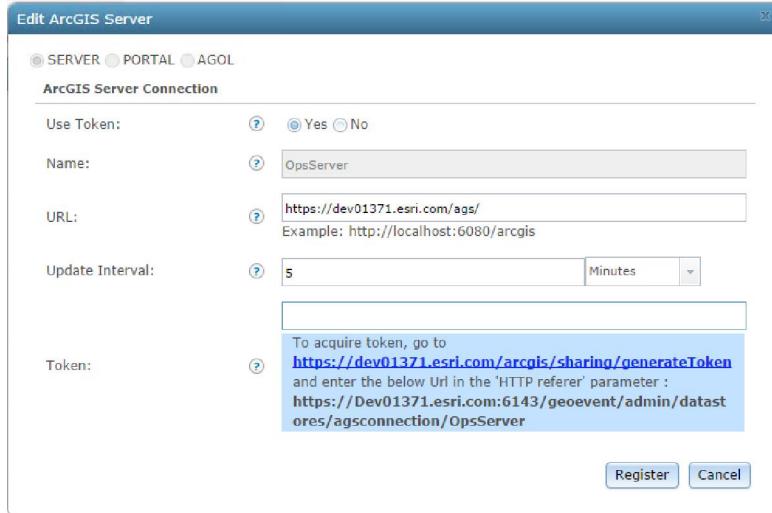
The screenshot shows the ArcGIS GeoEvent Manager interface. On the left, a sidebar lists 'GeoEvent Definitions' (Tags, GeoFences, Connectors, Configuration Store, Data Stores). The 'Data Stores' tab is selected. The main area has a 'Data Stores' section with a note about data registration and a 'Validate All' button. Below it is a 'Registered Folders' table with one entry: 'AFMData' (Status: green checkmark, Permission: Read, Write). Underneath is a 'Registered ArcGIS Server' table with two entries: 'default' (Status: green checkmark, Type: SERVER) and 'OpsServer' (Status: red exclamation mark, Type: SERVER). The 'OpsServer' row is circled in red.

- f. Repair the “OpsServer” registered ArcGIS Server data store.
- Click on the “edit” icon next to the “OpsServer” entry.
  - URL value:** Replace `https://afmiedev.esri.com:6443/arcgis/` with the URL value to your ArcGIS Server web adaptor “ags” [i.e. the fully qualified domain to your server (i.e. the variable “ops\_FQDN” value set in the InstallSettings.bat file); the web adaptor name for your ArcGIS Server is “ags”.]

The dialog box is titled 'Edit ArcGIS Server'. It has three radio button options: SERVER (selected), PORTAL, and AGOL. Under 'ArcGIS Server Connection', there are fields for 'Name' (OpsServer), 'URL' (highlighted with a red circle), 'Update Interval' (5 Minutes), and 'Token' (\*\*\*\*\*). The 'URL' field contains the value `https://afmiedev.esri.com:6443/arcgis/`. At the bottom are 'Register' and 'Cancel' buttons.

iii. Generate and set the token for your ArcGIS Server.

1. After you update the URL value and click in the “Token” text box, a blue message “box” similar to the one shown below should be shown in your “Edit ArcGIS Server” dialog.



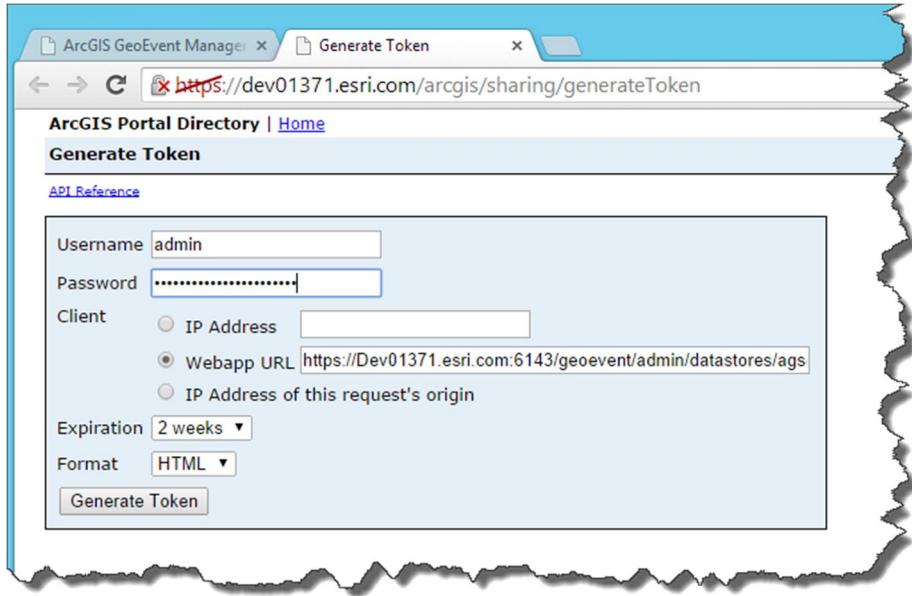
2. Copy the ‘HTTP referer’ parameter value shown in the blue message box:



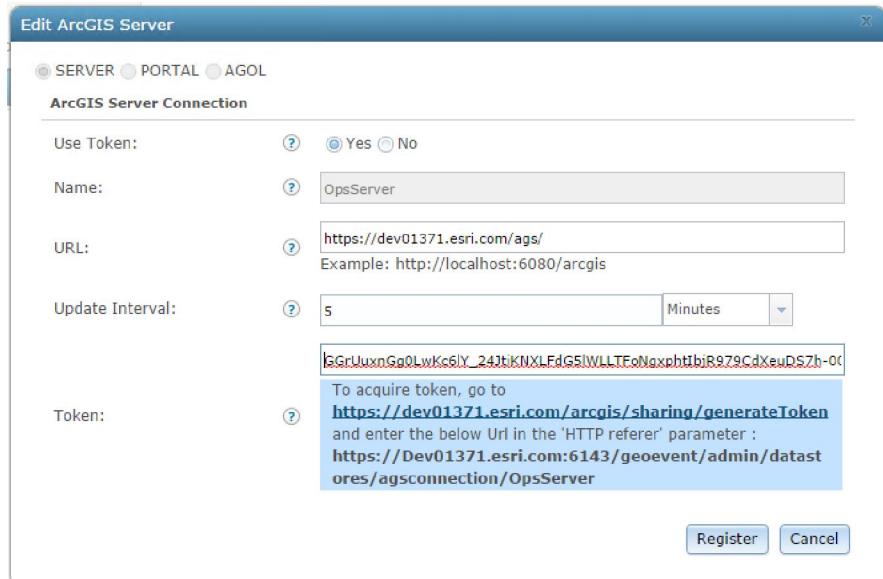
3. Click on the “generateToken” hyperlink shown in the blue message box:



- In the web page that opens, paste the copied HTTP referrer value in the “Webapp URL” textbox; enter your user name and password for the ArcGIS Server administrator (i.e. the variable “ops\_FQDN” value set in the InstallSettings.bat file); select the longest expiration choice from the “Expiration” drop-down box and click “Generate Token”.



- Copy the “Generated Token” value, click back to the “Edit ArcGIS Server” dialog and paste the token value into the “Token” text box and click “Register”.



6. The ArcGIS Server should now be registered and validation green checkmark should be displayed.

Status	Name	Permission
✓	AFMData	Read, Write

Status	Name	Type
✓	OpsServer	SERVER

4) Import the Ops Server Geoevent configuration.

- In GeoEvent Manager, click on Site > GeoEvent > Configuration Store and then “Import Configuration”. The “Import Configuration” dialog is displayed.

Browse the configuration file you want to Import.

Import from File:  No file chosen

- Click “Choose File” and in the “Open” dialog, browse to and select the GeoEventConfig.xml file located in the OPSServerInstall\Geoevent folder on your external drive. Click “Open” and click “Next” in the “Import Configuration” dialog.

- c. The “Selective Import” option is selected by default; click “Import Configuration” and click “Import” (NOTE: this may take a minute or two).



You can ignore the following errors:

**⚠** Import configuration completed with errors. Did not import the connector 'cot-in', it already exist. ✖  
 Imported the connector 'twitter-in', however the the adapter  
 'com.esri.geoevent.adapter.inbound/Twitter/10.2.0' is invalid (it probably doesnt exist). Imported the  
 connector 'twitter-in', however the the transport  
 'com.esri.geoevent.transport.inbound/Twitter/10.2.0' is invalid (it probably doesnt exist). Imported the  
 connector 'esri-in-http-text-regex', however the the adapter  
 'com.esri.geoevent.solutions.adapter/regexText-adapter/10.2.2' is invalid (it probably doesnt exist).  
 Imported the connector 'twitter-out', however the the transport  
 'com.esri.geoevent.transport.outbound/Twitter/10.2.0' is invalid (it probably doesnt exist). Did not  
 import the connector 'cot-out', it already exist. Did not import the connector 'cot-tcp-in', it already  
 exist. Imported the connector 'esri-in-tcp-nmea', however the the adapter  
 'com.esri.geoevent.adapter.inbound/NMEA/10.2.0' is invalid (it probably doesnt exist).

- d. The Geoevent inputs, services, and output should now be imported.
- 5) Review inputs, services, and outputs and verify that they have started. It may take 5-10 minutes for the services to automatically start. Start any that are still not started.

## Deploy message files and start Message Simulator

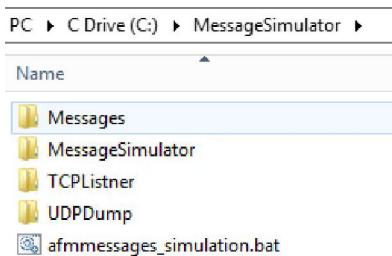
When the Message Simulator schedule task was created during the install of the Ops Server software, it was immediately disabled. Now that the Geoevent extension has been configured with the Ops Server geoevent services, the scheduled task can be run.

*Prerequisites:*

- The Message Simulator is installed and the schedule task is created (see topic [Install Ops Server software](#)).

*Steps:*

- 1) To deploy the message files, copy both the Messages folder and the afmmessages\_simulation.bat file from the OPSServerInstall\Geoevent\MessageSimulator folder on your external drive directly under the C:\MessageSimulator folder. Your C:\MessageSimulator folder should now look like the following:



- 2) To start the Message Simulator:

- a. Open a command window (cmd.exe) with administrator privilege (i.e. "Run as administrator" context menu).
- b. Within the command window, run the following commands:

```
SCHTASKS /Change /TN MessageSimulator /ENABLE  
SCHTASKS /Run /TN MessageSimulator
```

## Verify that Geoevent extension is updating feature services

You can verify by visually checking that features are moving in the map display using either Operations Dashboard or the portal map viewer.

*Prerequisites:*

- The Ops Server software and Message Simulator is installed (see topic [Install Ops Server software](#)).
- The Ops Server content (ArcGIS Server services and portal content) has been published (see topic [Publish Ops Server content](#)).
- The Message Simulator is running (see topic [Start Message Simulator](#)).

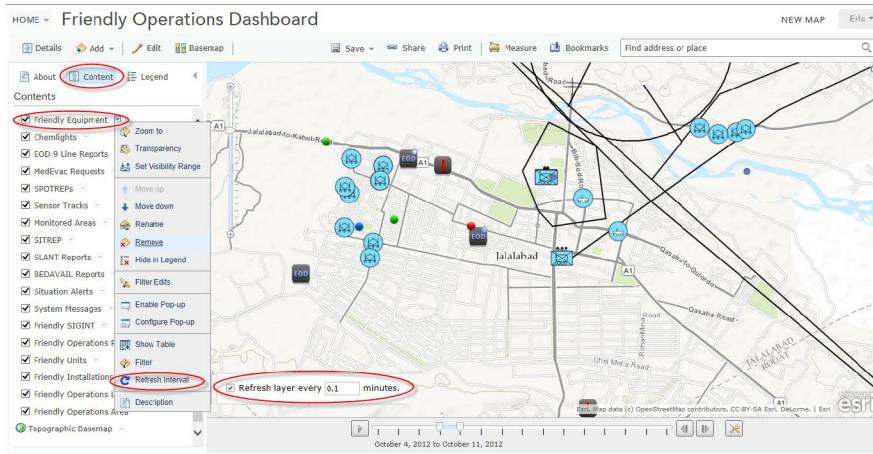
*To verify by visually checking if features are moving in the map display using a web map:*

Steps:

- 1) Open a web browser to your portal home page and search for the “Friendly Operations Dashboard” web map.
- 2) Click “OPEN” and click “Open in Portal for ArcGIS map viewer”.



- 3) When the map viewer open, change the “Refresh Interval”.
  - a. Click “Content”.
  - b. Click drop-down arrow control on the “Friendly Equipment” layer, and click “Refresh Interval”.
  - c. Check the “Refresh...” checkbox and specify a refresh interval value.



- 4) Verify that Friendly Equipment features are moving on the map display.

*To verify by visually checking if features are moving in the map display using Operations Dashboard:*

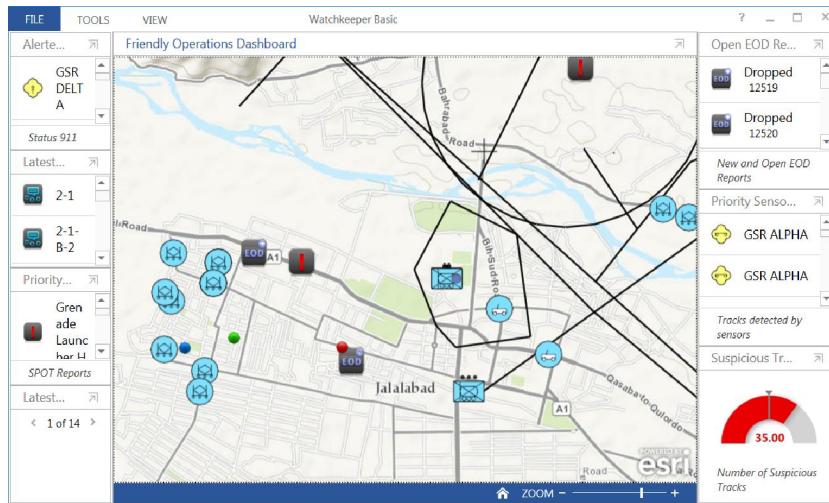
Steps:

- 1) Uninstall any existing installations of Operations Dashboard on your machine.
- 2) Open a web browser to your portal home page and search for the “Watchkeeper Basic” operation view.
- 3) Click “OPEN” and click “Open in Operations Dashboard”.



- 4) The Operations Dashboard ClickOnce application will open and install Operations Dashboard.

- 5) After signing in, the “Watchkeeper Basic” operation view will automatically open if you are using Internet Explorer; if you are using Chrome or Firefox you will have to manually search for and open the view.
- 6) When the view opens, verify that features are moving on the map display (features in the Friendly Equipment layer in the Friendly Situation feature service should be moving).



## Chat Server

The chat server is used to demonstrate the chat capability within Operations Dashboard for ArcGIS. The chat server included with the Ops Server installation package is Openfire, an open source chat server from Igniterealtime (<http://www.igniterealtime.org/projects/openfire/index.jsp>).

### Install and configure Openfire

You can install Openfire on the Ops Server or on a client machine.

*Prerequisites:*

- None.

**NOTEs:**

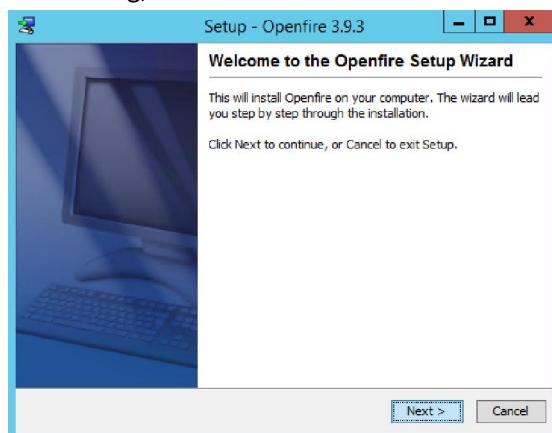
- There is a port conflict between Portal for ArcGIS and Openfire; both use port 7443 for SSL communication. If you install Openfire on your Ops Server, make sure to modify the SSL port number (see instructions below).

**Steps:**

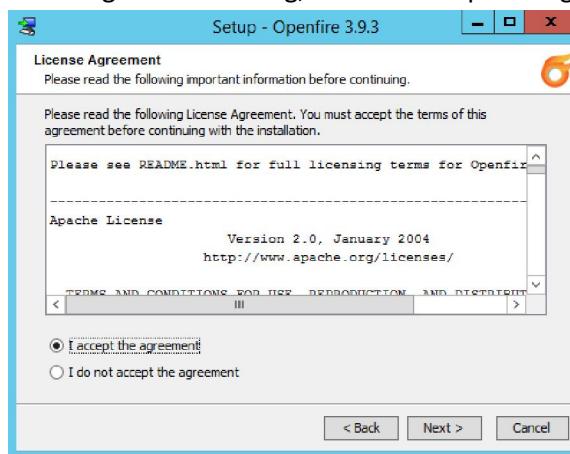
- 3) Open Windows Explorer and navigate to the folder OPSServerInstall\Software\ChatServer\OpenFire on your external drive.
- 4) Right-click the openfire\_3\_9\_3.exe file and select “**run as administrator**” to start the install process.
- 5) On Installer language dialog, please select “English” and click “OK” button.



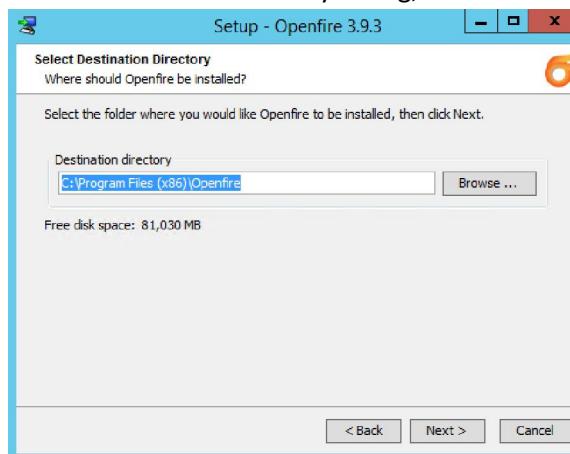
- 6) On welcome dialog, click “Next” button.



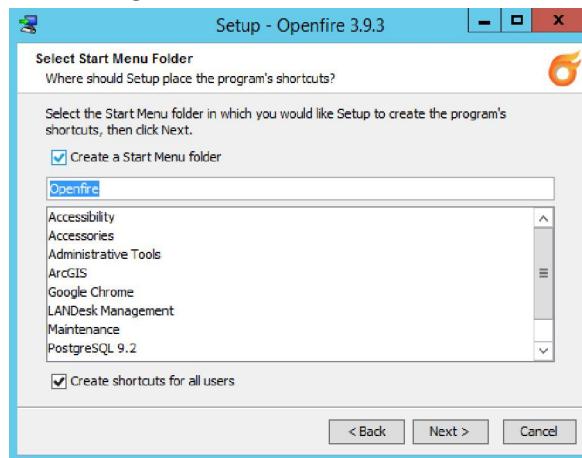
- 7) On the license agreement dialog, select “I accept the agreement” and click “Next” button.



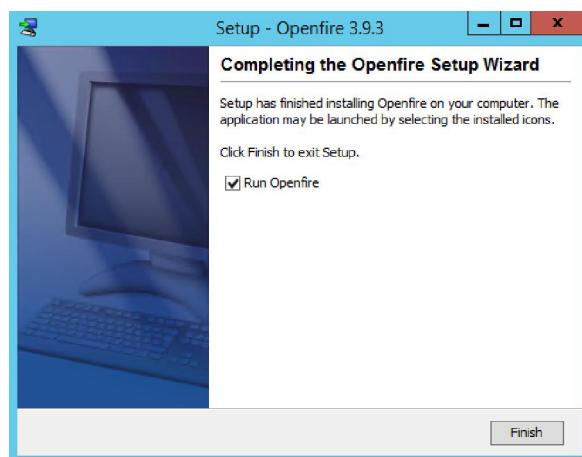
- 8) On the Select Destination Directory dialog, leave as the default and click “Next” button.



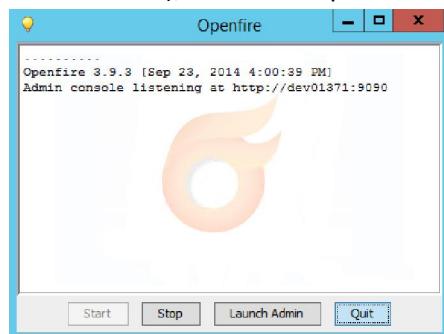
- 9) On the Select Start Menu Folder dialog, leave all the default values and click “Next” button. The installation will begin.



- 10) On the Completing the Openfire Setup Wizard dialog, make sure “Run Openfire” checkbox is checked and click the “Finish” button.

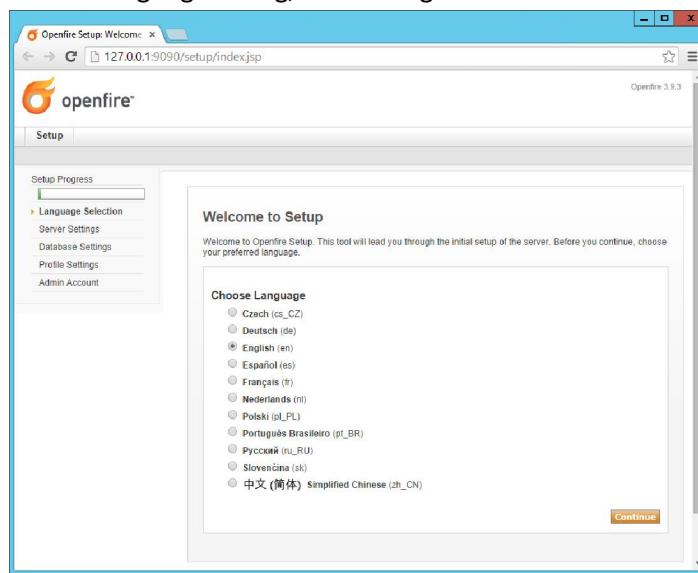


- 11) On the Openfire dialog, click the “Launch Admin” button (it will take a few seconds for the button to be enabled), which will open the default web browser.

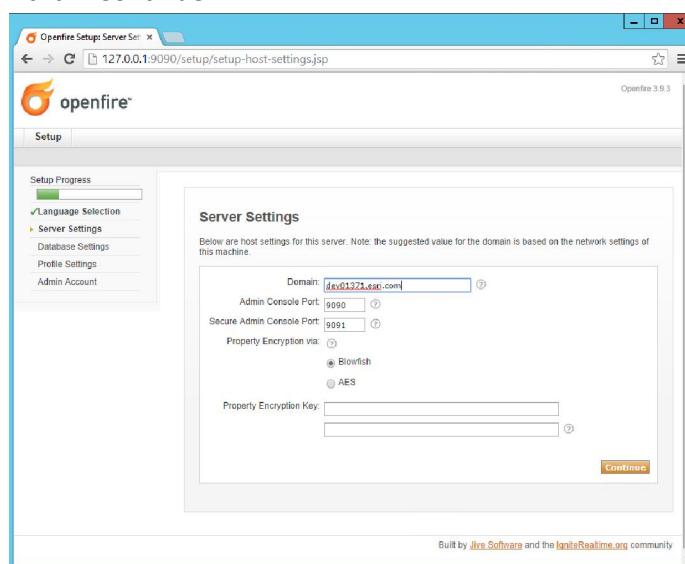


- 12) In the web browser, you may have to add <http://127.0.0.1> to the Trusted sites.

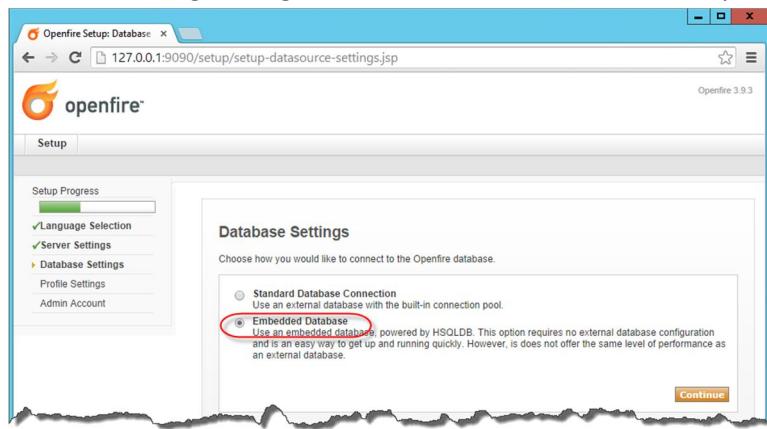
13) On the Choose Language dialog, select “English” and click “Continue”.



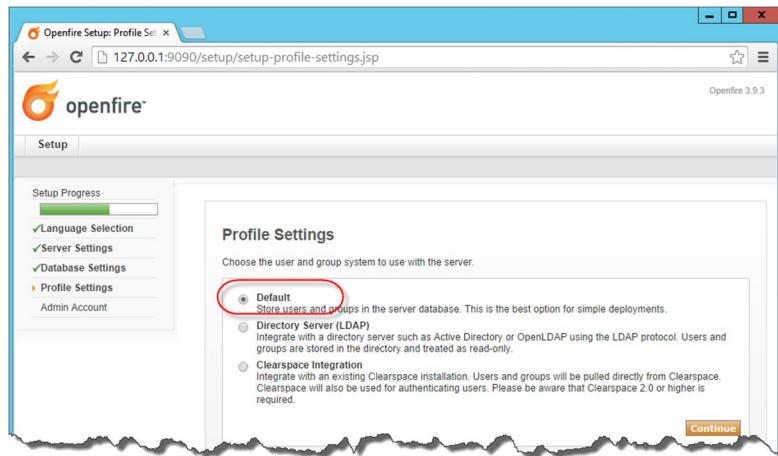
14) On the Server Settings dialog, edit the “Domain” parameter so that it contains the fully qualified domain name of your server (i.e. the ops\_FQDN variable value set in the InstallSettings.bat file) and then click “Continue”.



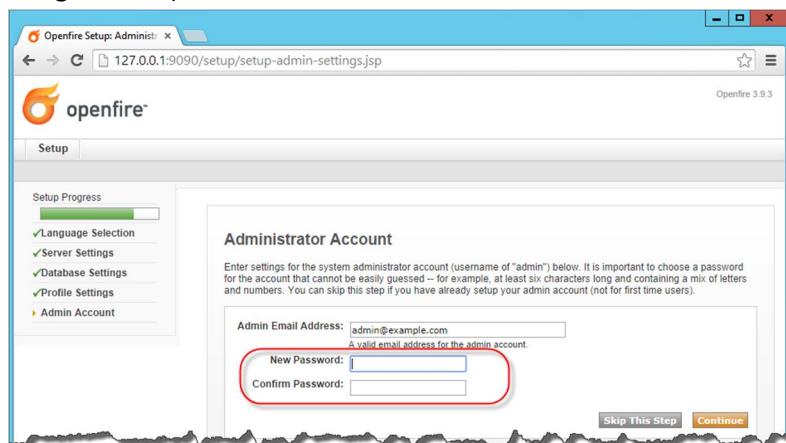
15) On the Database Settings dialog, select the “Embedded Database” option and click “Continue”.



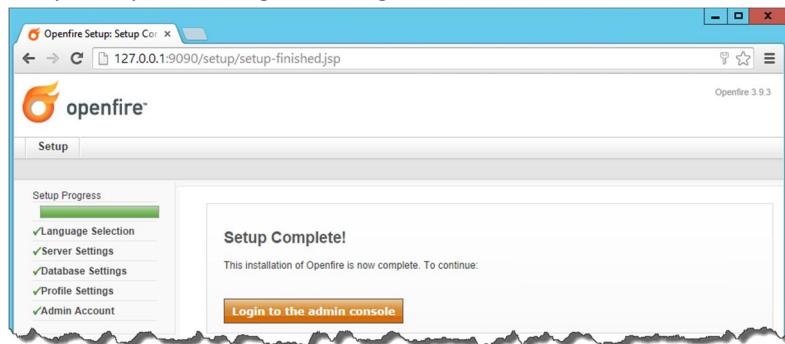
16) On the Profile Settings dialog, select the “Default” option and click “Continue”.



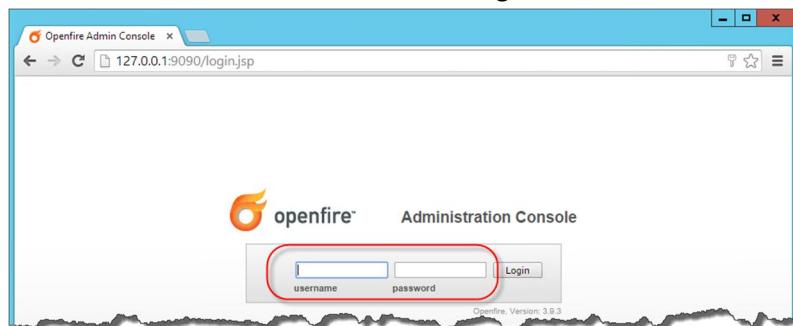
17) On the Administrator Account dialog, specify an email account, and a password (for consistency with other passwords on the server use the ops\_passWord variable value set in the InstallSettings.bat file) and then click “Continue”.



18) On the Setup Complete dialog click “Login to the admin console”.



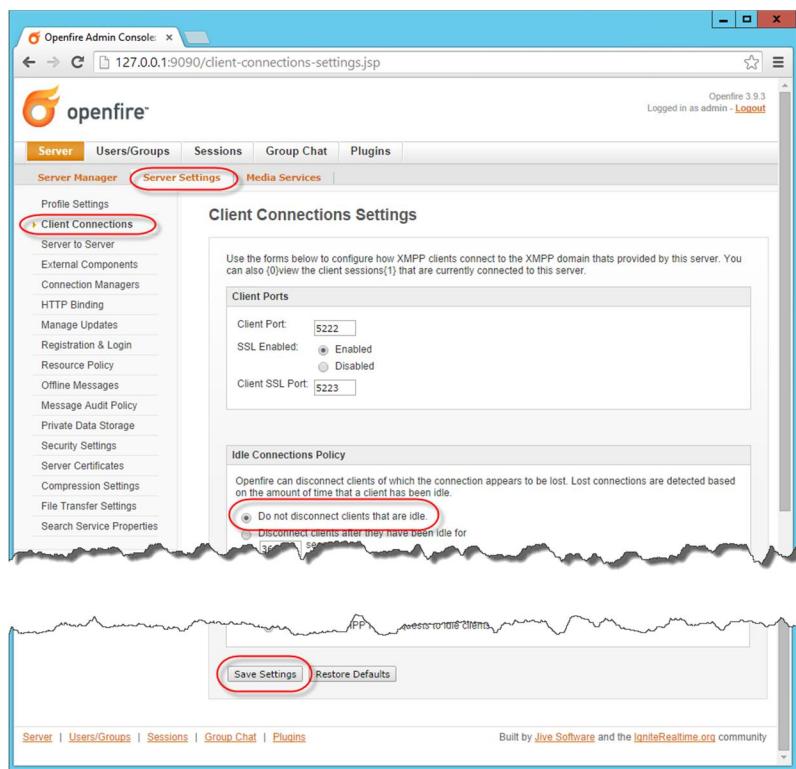
19) Log into the administration console. The username is “admin”, the password is the password you specified on the Administrator Account dialog above.



20) Change the “Idle Connections Policy”.

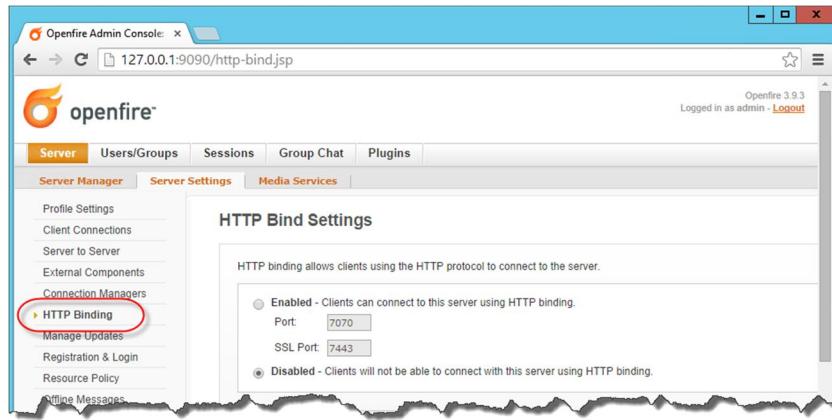
a. Click “Server Settings” tab and click “Client Connections”.

- b. Click on “Do not disconnect clients that are idle.” and then click “Save Settings”.



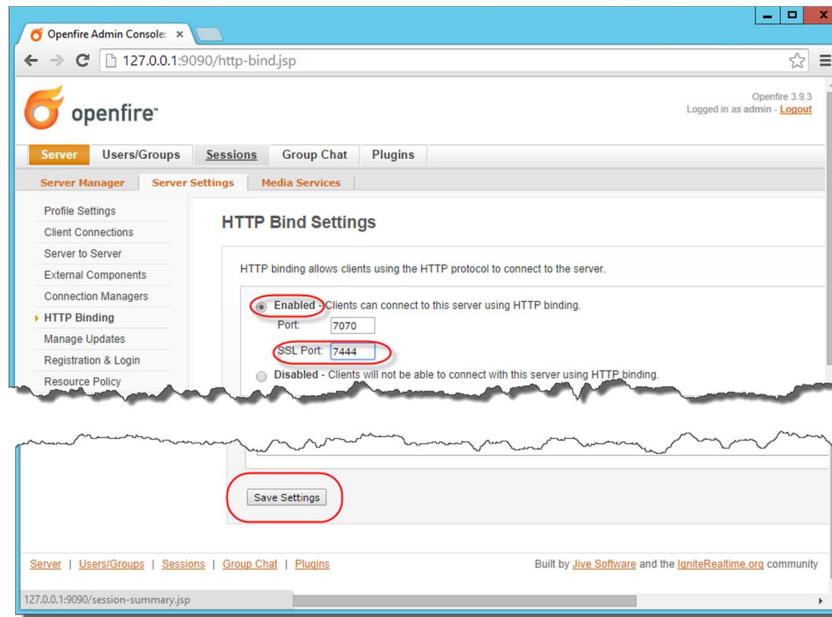
21) Change the “HTTP Bind Settings”.

- Click “HTTP Binding”.



- Click the “Enabled – Clients can connect to this server using HTTP binding.” option and modify the “SSL Port” to a port that isn’t used by other applications, for example 7444 (the default port used by Openfire for SSL connections is 7443, which is the same port that Portal for ArcGIS uses for SSL communications). For more information on ports used by ArcGIS Server and Portal for ArcGIS, see the topics “Ports used by ArcGIS Server” and “Ports used by Portal for ArcGIS in the respectively administration guides.

Then click “Save Settings”.

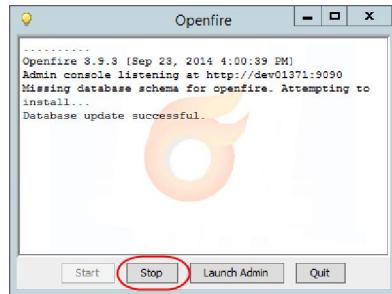


22) Logout of the Admin console.



23) Restart Openfire.

a. Click "Stop".



b. Click "Start".

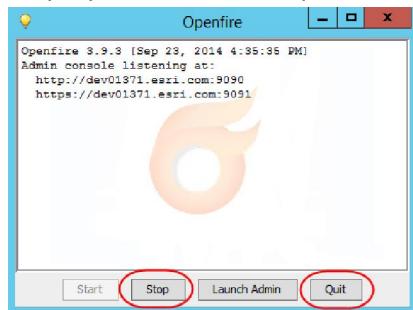


24) Test the https connection by typing in the following URL in a web browser and make sure you can login to the admin console (NOTE: Openfire installs a self-signed certificate so you will receive security exception warnings in your browser):

`https://<fully_qualified_server_name>:9091`

25) Create Openfire windows service.

- a. Stop Openfire. Click “Stop” then “Quit”.



- b. Open a command window (cmd.exe) with administrator privilege (i.e. “Run as administrator” context menu).
- c. Within the command window, change directory to C:\Program Files (x86)\Openfire\bin
- d. From the command prompt run the following commands (the /install switch will create the windows service; the /start switch will start the windows service):

```
openfire-service /install  
openfire-service /start
```

Other Openfire window service commands	
Uninstall the windows service	openfire-service /uninstall
Stop the windows service	openfire-service /stop

- e. Verify that the Openfire windows service is working by logging into the admin console through a web browser with the following URL:

[https://<fully\\_qualified\\_server\\_name>:9091](https://<fully_qualified_server_name>:9091)

## Create Openfire users

Create Openfire users as necessary for your demonstrations. For example, the “Operations Center” has the capability to consume chat server feeds; in order to support this capability you will need to create Openfire users.

To create Openfire users:

- 1) Log into the Openfire Admin Console by typing in the following URL in a browser. The username is “admin”; the password is the password you specified on the Administrator Account dialog when you installed Openfire.

[https://<fully\\_qualified\\_server\\_name>:9091/login.jsp](https://<fully_qualified_server_name>:9091/login.jsp)

- 2) Click on the “Users/Groups” tab at the top of the page.

The screenshot shows the Openfire Admin Console interface. The title bar says "Openfire Admin Console" and the address bar shows "https://dev01371.esri.com:9091/user-summary.jsp". The top navigation bar has tabs: Server, **Users/Groups**, Sessions, Group Chat, Plugins. Below the tabs, there are sub-tabs: Users (selected), Groups. On the left, a sidebar menu includes: User Summary, Create New User, User Search, Advanced User Search. The main content area is titled "User Summary" and displays a table with one row:

Online	Username	Name	Created	Last Logout	Edit	Delete
1	admin ★	Administrator	Sep 23, 2014			

- 3) Click on the “Create new User” link on the left side of the page.
- 4) Enter values for the new user and click “Create User”.

The screenshot shows the Openfire Admin Console interface. The title bar says "Openfire Admin Console" and the address bar shows "https://dev01371.esri.com:9091/user-create.jsp". The top navigation bar has tabs: Server, **Users/Groups**, Sessions, Group Chat, Plugins. Below the tabs, there are sub-tabs: Users (selected), Groups. On the left, a sidebar menu includes: User Summary, **Create New User**, User Search, Advanced User Search. The main content area is titled "Create User" and contains a form:

Use the form below to create a new user.

**Create New User**

Username: *	<input type="text"/>
Name:	<input type="text"/>
Email:	<input type="text"/>
Password: *	<input type="password"/>
Confirm Password: *	<input type="password"/>
Is Administrator?	<input type="checkbox"/> (Grants admin access to Openfire)

**Create User**   **Create & Create Another**   **Cancel**

# Appendices

## Appendix A: URLs and Passwords

Software	Interface	URL	User/password
Portal	To sign in as the initial administrator	<a href="https://&lt;server.domain&gt;/arcgis/home">https://&lt;server.domain&gt;/arcgis/home</a>	User=ops_userName variable value. Password=ops_passWord variable value.
ArcGIS Server	Manager	<a href="https://&lt;server.domain&gt;/ags/manager">https://&lt;server.domain&gt;/ags/manager</a> <a href="https://&lt;server.domain&gt;:6443/arcgis/manager">https://&lt;server.domain&gt;:6443/arcgis/manager</a>	User=ops_userName variable value. Password=ops_passWord variable value.
ArcGIS Server	REST	<a href="https://&lt;server.domain&gt;/ags/rest">https://&lt;server.domain&gt;/ags/rest</a> <a href="https://&lt;server.domain&gt;:6443/arcgis/rest">https://&lt;server.domain&gt;:6443/arcgis/rest</a>	User=ops_userName variable value. Password=ops_passWord variable value.
Geoevent Manager	Manager	<a href="https://&lt;server.domain&gt;:6143/geoevent/manager">https://&lt;server.domain&gt;:6143/geoevent/manager</a>	User=ops_userName variable value. Password=ops_passWord variable value.
PostgreSQL	pgAdmin	N/A	Password=ops_passWord variable value.
Openfire	Administration Console	<a href="http://&lt;server.domain&gt;:9090">http://&lt;server.domain&gt;:9090</a> <a href="https://&lt;server.domain&gt;:9091">https://&lt;server.domain&gt;:9091</a>	User=admin. Password=ops_passWord variable value.

NOTEs:

- Varaibles noted in table are set in the C:\ops-server-config\Install\InstallSettings.bat file.
- <server.domain>=ops\_FQDN variable value

## Appendix B: Message Simulator (Server side)

The process for installing and creating the message simulator OS Scheduled Task is automated and run during the installation of Ops Server software (see [Install Ops Server software](#)). However, if you need to run the Message Simulator manually or need to manually create the OS Scheduled Task the instructions are provided below.

The Message Simulator is an application used to simulate message broadcasts. It reads in a XML file containing messages structured in the GeoMessage format and broadcasts these messages using the UDP protocol. The GeoEvent Processor services process these messages and updates/inserts features in various feature services.

*To run the Message Simulator manually (i.e. DOS console):*

*Prerequisites:*

- The Message Simulator has been installed.

*Steps:*

- 4) Open a command window (cmd.exe) with administrator privilege (i.e. “Run as administrator” context menu).
- 5) Change directory to C :\MessageSimulator.
- 6) At the command prompt, type the following:  
afmmessages\_simulation.bat
- 7) To stop the .bat file execution, enter Ctrl+C within the command window.

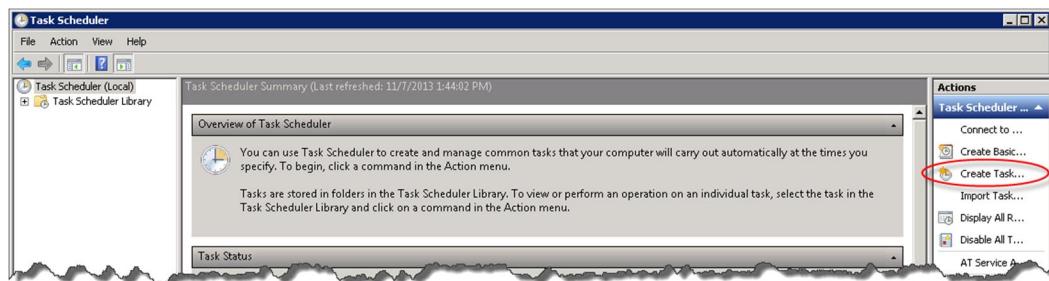
*To run the Message Simulator as a Windows scheduled task:*

*Prerequisites:*

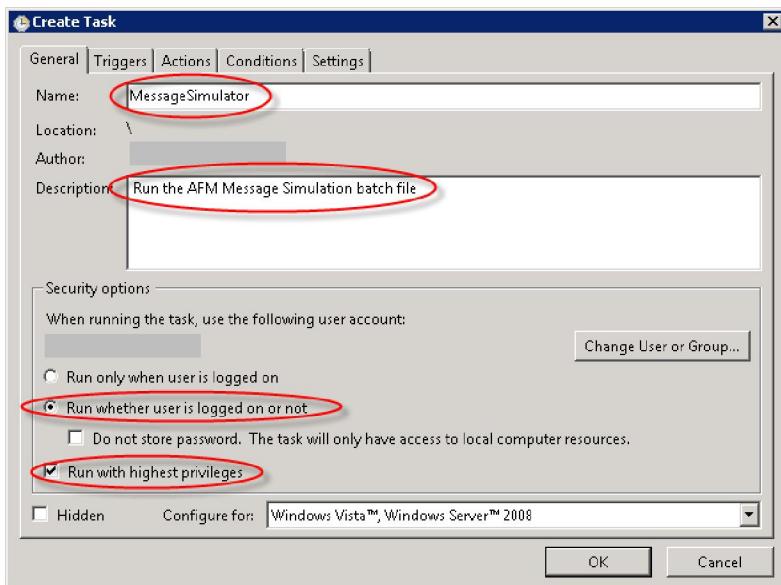
- The Message Simulator has been installed (see topic [Install Message Simulator](#)).

*Steps:*

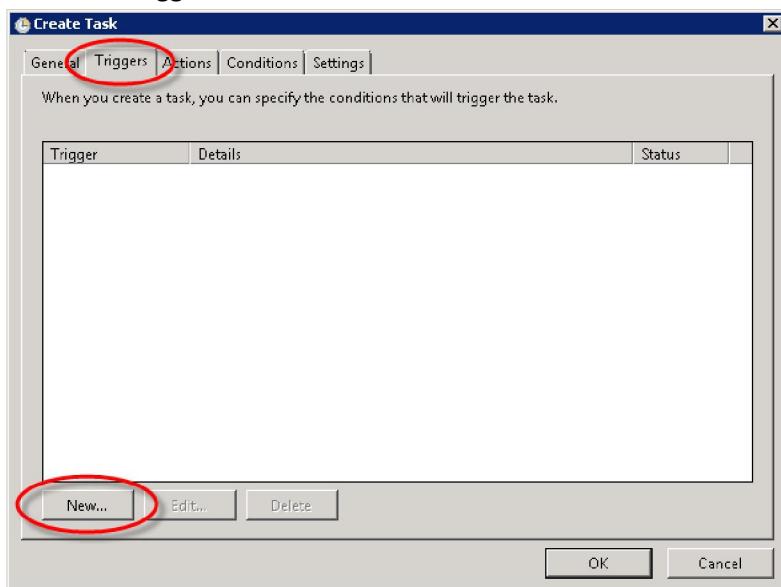
- 1) Go to Start > Administrator Tools > Task Scheduler and click “Create Task”.



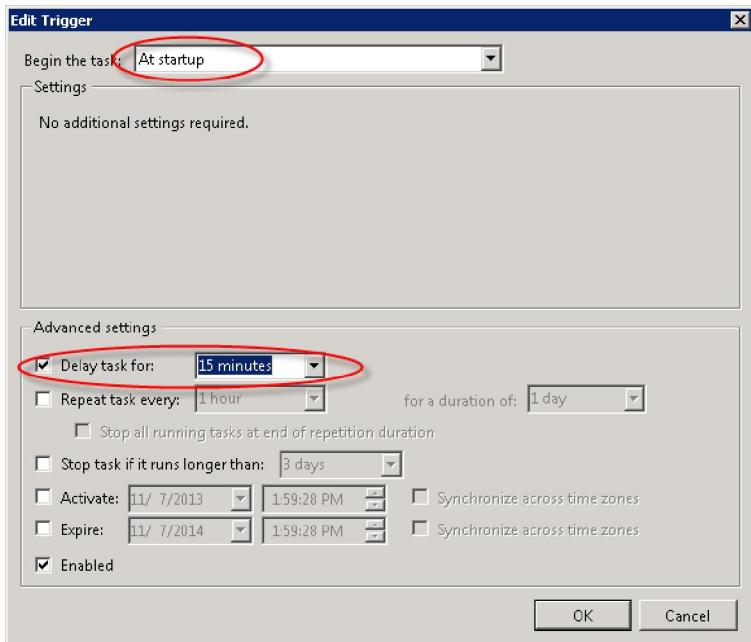
- 2) On the “Create Task” dialog:
- Set the Name to “MessageSimulator”.
  - Set the Description to “Run the AFM Message Simulation batch file”.
  - Select the option to “Run whether user is logged on or not”.
  - Check the “Run with highest privileges” checkbox.



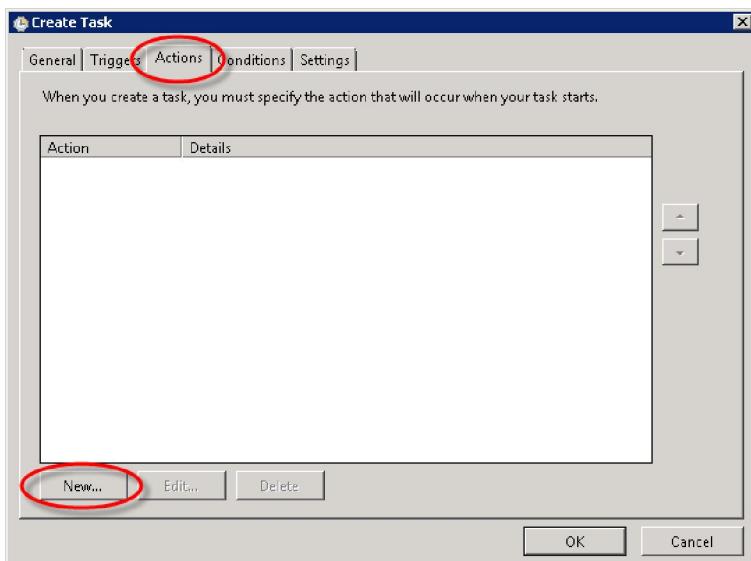
- 3) Click the “Triggers” tab and click “New”.



- 4) On the “New Trigger” dialog:
- Set the “Begin the task” property to “At startup”.
  - Check the “Delay task for” checkbox and select “15 Minutes”.
  - Click OK.

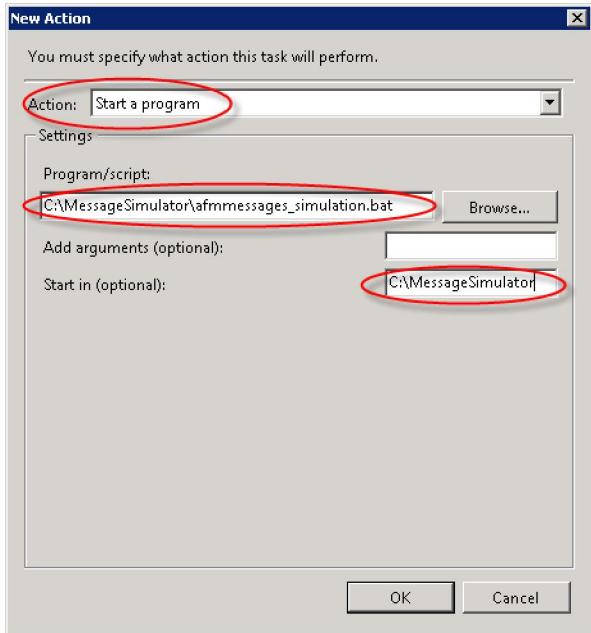


- 5) Click the “Actions” tab and click New.

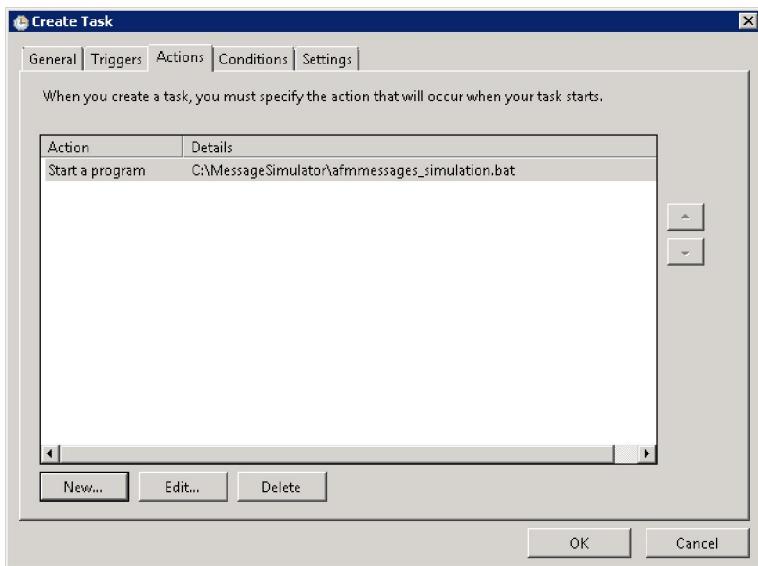


- 6) On the “New Action” dialog:
- Set “Action” property to “Start a program”
  - Set “Program/script” property to:  
C:\MessageSimulator\afmmessages\_simulation.bat

- c. Set “Start in” property to :  
C:\MessageSimulator
- d. Click “OK”.

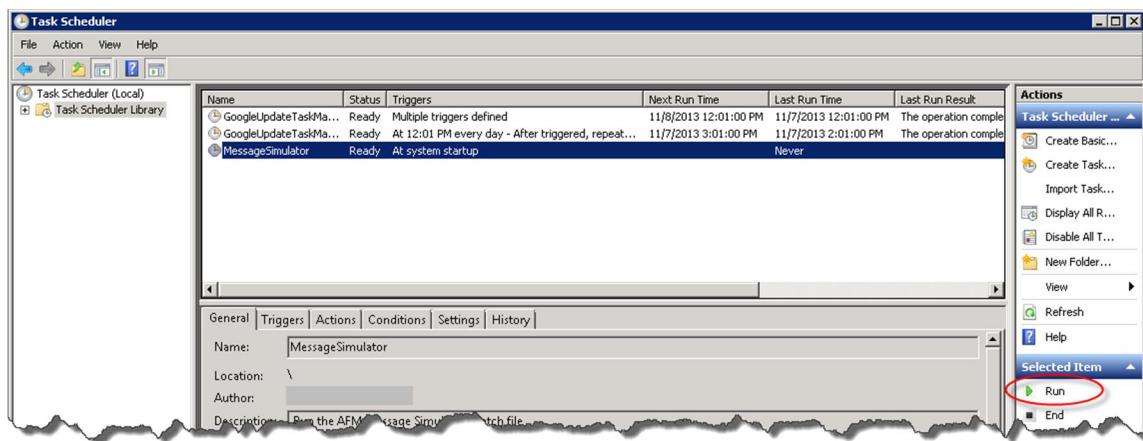


- 7) The new action should now be listed in the “Actions” list. Click OK to exit the “Create Task” dialog.



- 8) When prompted, enter the credentials for the account that will run this task.

- 9) “The MessageSimulator” task should now be listed in your Task Scheduler Library. Click “Run” if you would like to start task right now; otherwise, you will need to reboot the system to start the task.



## Appendix C: Operations Dashboard (Client side)

Install “Operations Dashboard” on your client machines as necessary.

*Prerequisites:*

- Portal for ArcGIS is installed on your OpsServer (see section “Install ArcGIS Software”).
- The portal items are published to your OpsServer; more specifically the “Operations Dashboard for ArcGIS” item owned by the user ‘OpsServer’ (see section “Publish portal items”).
- The Operations Dashboard “ClickOnce” application has been created and deployed to the portal on your OpsServer (see section “Install ArcGIS Software”).
- Microsoft .NET Framework 4.5 is installed on your client machine. You can download the installer from the [Microsoft Download Center](#).

**NOTE:** running Operations Dashboard on a virtual machine is not supported.

The Operations Dashboard is installed by running the “Click Once” application which can be found on your portal by searching for “Operations Dashboard for ArcGIS” (i.e. the portal item owned by “OpsServer” account). The Operations Dashboard that is installed by the “Click Once” application is already configured to point to your portal. An additional feature of the Operations Dashboard is that if a user accesses a dashboard view without the Operations Dashboard being installed, it will detect this and automatically install Operations Dashboard. If you are running Internet Explorer, the dashboard view will be opened after Operations Dashboard has finished installing.

**Operations Dashboard for ArcGIS**



Monitor activities and events, track your field workforce, and assess the status and performance of your daily operations.

Mobile Application by OpsServer  
Last Modified: November 21, 2013  
★☆☆☆☆ (0 ratings, 0 views)  
Sign in to rate this item.

**OPEN ▾**

**Description**

Provide a common operational picture for monitoring, tracking, and reporting an event or series of events to a group of people within your organization. Focus on aspects of an event or activity that matter most to you. Monitor services, deliveries, people, vehicles, and more, anywhere in the world.

**Key Features:**

- Create and share operational views that include interactive maps, charts, gauges, and other performance indicators.
- Build operational views for use on multiple monitors or single-display devices.
- Extend and customize Operations Dashboard with new widgets, map tools, and feature actions.

To learn more about Operations Dashboard, see its[help](#).

[Install Operations Dashboard for ArcGIS](#)

## **Appendix D: Esri Maps for Office**

### **(Client side)**

Esri Maps for Office allows you to quickly create dynamic, interactive maps of your Excel data and start exploring it in a whole new way. Esri Maps for Office enables you to uncover patterns and trends not evident in tabular data and charts. Maps can be shared immediately through PowerPoint presentations or by one-click publishing to Esri's mapping platform, ArcGIS Online.

- [Getting Started](#)
- [Download Esri Maps for Office](#) (Download the version that matches the bit version of Microsoft Office you have installed on your client machine, not the version of your operating system (OS).)
- [Install Esri Maps for Office](#)
- Configure Esri Maps for Office to work with Portal for ArcGIS in an offline configuration.

Esri Maps for Office can connect to Portal for ArcGIS and work in an environment completely disconnected from the internet. Normally, Maps for Office requires a connection to the internet to access files used to load menus and perform other routine tasks. Configuration changes can be made to provide these capabilities locally. Follow the steps below to enable Esri Maps for Office to work with your Ops Server Portal for ArcGIS in an offline configuration.

*Prerequisites:*

- The web applications have been deployed (see topic [Configure and deploy web applications](#)).

Steps:

- 1) Open a file explorer and navigate to C:\Program Files(x86)\EsriMaps\Office. Edit ESRI.ArcGIS.Mapping.OfficeIntegration.Excel.dll.config using a text editor such as Notepad. Change the EsriMapsWebRoot value in this file to point to your EsriMapsForOfficeWebContents folder on your Ops Server:

```
<add key="EsriMapsWebRoot" value="https://fully_qualified_domain_name/EsriMapsForOfficeWebContents/" />
```

**(where “fully\_qualified\_domain\_name” is the variable “ops\_FQDN” value set in the InstallSettings.bat file)**

Save the file and exit Notepad.

- 2) Repeat the previous step for ESRI.ArcGIS.Mapping.OfficeIntegration.PowerPoint.dll.config (located in the same folder).
- 3) If a user opened Excel or PowerPoint before performing this configuration, the changes made to the Program Files(x86) folder won't work. In this case, delete the config files from the roaming directory for the user (i.e. C:\Users\<username>\AppData\Roaming\Esri Maps). The next time Excel and PowerPoint are started, Maps for Office will detect the files are missing and copy the correct files into the roaming directory.
- 4) Open Excel (or PowerPoint). Navigate to the Esri Maps backstage area and enter the URL to your Portal in the ArcGIS Connection text box. Close Excel.
- 5) Re-open Excel (or PowerPoint), go to the Esri Maps tab, sign in to your Portal, and Esri Maps for Office should work normally.