



# **Tsunami Deployer Installation Guide**

Version 4.0

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# PREFACE

This preface provides the following information about this Tsunami Deployer Installation Guide:

- Intended Audience
- Structure
- Conventions
- Technical Support
- Comments and Suggestions

## INTENDED AUDIENCE

This information is intended for:

- System Administrators who are responsible for setting migration environment using Tsunami Deployer.
- Project Managers and IT Managers who create and regulate usage of Tsunami Deployer, Tsunami Deployer Remote Service and Tsunami Link Resolver Service.

## STRUCTURE

This Tsunami Deployer Installation Guide is organized as follows:

- **Preface** contains the overview of this manual.
- **Chapter 1 “Prerequisites for Installing Tsunami Deployer”** details the minimum system requirements, network requirements and permission requirements to install Tsunami Deployer.
- **Chapter 2 “Installing Tsunami Deployer and Service Components”** contains installation and configuration instructions for Tsunami Deployer, Tsunami Deployer Service Components.

## CONVENTIONS

The following text conventions are used in this document:

- Commands and keywords are given in **boldface**.
- Terminal sessions, console screens, or system file names are displayed in `fixed width fonts`



**Caution** indicates that the described action might result in program malfunction or data loss.



**Notes** contain helpful suggestions about or references to materials not contained in this manual.



**Tips** provide information that might help you solve a problem.

## TECHNICAL SUPPORT

Before contacting Tsunami Deployer Support team, ensure that you are referencing the latest copy of this user guide [Tsunami Deployer Installation Guide](#).

If you have searched our reference materials and the issue still persists, contact Tsunami Deployer Support Team at [support@tsunami.com](mailto:support@tsunami.com).

## COMMENTS AND SUGGESTIONS

Your feedback is important to us and will help us to provide the most accurate and high quality information possible in our documentation. Send us comments or suggestions by email to [support@tsunami.com](mailto:support@tsunami.com). Be sure to include as much of the following as possible:

- The document title.
- The location that the document was accessed from (either downloaded from Tsunami web site or the Tsunami Deployer User Guide and Tsunami Deployer Installation Guide available in Tsunami Deployer).
- The section or chapter number and the original text found in the document.



When you send information to Tsunami Support Team, you grant Tsunami a non-exclusive right to use or distribute the information in any way it believes appropriate without incurring any obligation to you.

# 1 PRE-REQUISITES FOR INSTALLING TZUNAMI DEPLOYER

This chapter outlines the necessary software, network and security prerequisites needed to install Tzunami Deployer. It contains the following topics:

- *Tzunami Deployer Components*
- *System Requirements*
- *Network Requirements*
- *Permission Requirements*

## 1.1 INSTALLATION COMPONENTS OF TZUNAMI DEPLOYER

Tsunami Inc. has different Tsunami Deployer components to perform the data migration from source ECM system to target SharePoint system including OneDrive and MS Teams. There are three types of component installer required to perform the data migration from source to target system.

### 1. **Tsunami Deployer** installer.

This component is used to create migration process, connecting to source and target system, modeling and deployment of content for migration and finally start migration. This component can be installed in any computer in the network.



The service required for migrating content to SharePoint Online (Office365) using Migration API is installed by default.

### 2. **Tsunami Deployer ServiceComponents** installer.

This installer includes three components.

- **Remote Service (RS):** Remote Service component required for the communication between SharePoint on premise system and Tsunami Deployer during connection and migration. It is required to be installed in SharePoint Server and is installed as Windows Service. The service should to run using the credential of farm administrator of SharePoint Server.

This component is visible to select during installation **only if SharePoint Server has already installed in the machine.**

This components should be installed in the SharePoint Server.

- **Licensing Service (LS):** Licensing service is used to manage the extended or purchased license from Tsunami Inc. for migration. This component can be installed in any machine in network and is installed as Windows Service. Tsunami Deployer/Remote Service should point to it. This component can be installed in any computer in the network.

- **Link Resolver Service (LRS):** Link Resolver Service is used to manage the links in migrated content to point to target source after migration. It can be installed in any machine in network and is installed as Windows Service. Tsunami Deployer should point to LRS.

This component can be installed in any computer in the network.

### 3. **Tsunami Exporter** separate installer for each Source ECM system.

Tsunami Inc. supports migration content from wide range of ECM Systems as well besides from SharePoint System and file sharing system. A separate installer for each supported ECM system is available. The installer can be installed in separate machine in network independent to Tsunami Deployer. However, the recommended practice is to install along with Tsunami Deployer, so that Tsunami Exporter can be run from the migration project in Tsunami Deployer.



This component can be installed in any computer in the network. We recommend to install in the computer where Tsunami Deployer is installed.



For Tsunami AquaLogic and Tsunami eRoom, installation should be installed in source ECM system. Then, the exporter content should be imported in Tsunami Deployer.

## 1.2 SYSTEM REQUIREMENTS

The following table lists the system requirements for Tsunami Deployer and Deployer Service Components.

**Table 1-1: System Requirements**

Components	Minimum Requirements
<b>Operating System</b>	Windows 10 or later, or Windows Server 2016/2019 or later
<b>CPU</b>	64-bit quad core processor or better (Recommended)
<b>Memory</b>	16GB or higher (Recommended)
<b>Hard disk</b>	Hard drive with 100 GB or more of free space (Recommended). <b>Note:</b> Installation of Tsunami migration product components take less than 500 MB size on disk, additional space will be required based on size of data to migrate and option selected to download files in the local/mapped drive or not.
<b>Supported Architectures</b>	x86 and x64
<b>Network Card</b>	High-speed Intranet/Internet connection, 1 Gbps (Recommended)
<b>Microsoft .NET Framework</b>	<b>Microsoft .NET Framework 4.7.2 or higher</b> You can download Microsoft .NET Framework 4.7.2 from: <a href="https://go.microsoft.com/fwlink/?LinkId=863262">https://go.microsoft.com/fwlink/?LinkId=863262</a> <b>Microsoft .NET Framework 3.5 (including 3.0 and 2.0)</b> You can download Microsoft .NET Framework 3.5 SP1 from: <a href="http://www.microsoft.com/en-us/download/details.aspx?id=22">http://www.microsoft.com/en-us/download/details.aspx?id=22</a> <a href="http://www.microsoft.com/en-us/download/details.aspx?id=3005">http://www.microsoft.com/en-us/download/details.aspx?id=3005</a>
<b>TLS 1.2</b>	<b>Enable TLS 1.2 for Azure AD Connect server.</b> This is required if Tsunami O365 Active Directory Service component also installing. Please, refer following link for more details: <a href="https://learn.microsoft.com/en-us/azure/active-directory/hybrid/reference-connect-tls-enforcement">https://learn.microsoft.com/en-us/azure/active-directory/hybrid/reference-connect-tls-enforcement</a>

## 1.3 NETWORK REQUIREMENTS

Some services on the SharePoint Server must be enabled to run Tzunami Deployer smoothly. You must run following Windows Services on the SharePoint Server:

- Remote Registry
- Computer Browser
- Server

You must enable File and Printer Sharing for Microsoft Networks for all network connections used during communications between Deployer and the SharePoint Server to which Deployer connects.

You must disable Proxy Authentication even if it has exceptions set for local addresses or the SharePoint Server address specifically. If you wish to use Deployer to connect to a SharePoint farm through a Proxy Server, you must make certain specific configuration changes. Please contact Tzunami Support Team at [support@tzunami.com](mailto:support@tzunami.com) for more information.

### 1.3.1 Communication between Deployer and Licensing Service

The following table lists the ports that should be open for communication between Tzunami Deployer (client machine) and Tzunami Deployer Licensing Service.

**Table 1-2 Communication between Tzunami Deployer and Licensing Service**

Service/Application	Function	Ports	Protocols
<b>Tzunami Deployer</b>	Tzunami Deployer/	8008	NET.TCP
<b>Remote Service</b>	Tzunami Deployer Licensing Service		

### 1.3.2 Communication between Deployer and Tzunami RS

The following table lists the ports that should be open for communication between Tzunami Deployer (client machine) and Tzunami Deployer Remote Service, which is installed on SharePoint Web Front-End servers.

**Table 1-3: Communication between Tzunami Deployer and Tzunami Remote Service**

Service/Application	Function	Ports	Protocols
<b>Tzunami Deployer</b>	Tzunami Deployer	10028	NET.TCP
<b>Remote Service</b>		11028	HTTP

### 1.3.3 Communication between LRS and Deployer/ RS

The following table lists the ports that should be open for communication between the Tzunami Link Resolver Service and Tzunami Deployer/Tzunami Deployer Remote Service.

**Table 1-4: Communication between LRS and Tsunami Deployer/RS**

Service/Application	Function	Ports	Protocols
<b>Tsunami Link Resolver Service</b>	Tsunami Deployer/ Tsunami Deployer Remote Service	9028	NET.TCP

### 1.3.4 Communication between client machine and SPS2003/WSS2.0 Server

The following table lists the ports that should be open for communication between the client machine and the SPS2003/WSS2.0 Server.

**Table 1-5: Communication between Client Machine and SPS2003/WSS2.0 Server**

Service/Application	Function	Ports	Protocols
<b>SharePoint</b>	Virtual Server (IIS Web site)	The defined ports of the Virtual Servers (default: 80)	TCP (HTTP)
	Central Administration Site	Varies for different SharePoint installations	TCP (HTTP)
<b>NetBIOS</b>	Name Service	137	TCP + UDP
	Datagram Service	138	UDP
	Session Service	139	TCP
	Microsoft Directory Services	445	TCP + UDP
<b>SQL Server</b>	Microsoft SQL Server (where relevant)	1433	TCP
	Microsoft SQL Server (where relevant)	1434	UDP
	MSDE (where relevant)	Varies for different SharePoint installations	
	JDL-DBKitchen	3086	TCP

## 1.4 PERMISSION REQUIREMENTS

### 1.4.1 Tsunami Deployer

#### 1.4.1.1 Connecting to SharePoint Web Front End Server

The user connecting from Deployer to SharePoint Web Front End Server (where Tsunami Remote Service is installed) should have following permissions.

- The user running Tsunami Deployer needs to be a Local Administrator (to get Registry and File System access).
- The user provided in Tsunami Deployer must have permission to connect to the machine where Tsunami Deployer Remote Service is installed (unless the source Remote Service has problems downloading files from the source which results in the Deployer-provided credentials being used).

#### 1.4.1.2 Connecting to SharePoint Online

When connecting to SharePoint Online, the user connecting to the SharePoint Online must have the following permissions:

**Table 1-6: SharePoint Online Permissions**

SharePoint Implementation	Tsunami Deployer (connect to SharePoint Online credential)
SharePoint Online	User account used for connecting SharePoint online and data migration requires Site Collection Administrator Level Permission.

#### 1.4.1.3 Connecting to SPS2003/WSS2.0

When connecting to the SPS2003/WSS2.0 Server, the user connecting to the server must have the following permissions:

**Table 1-7: SharePoint Portal Server 2003 Permissions**

Permission Type	SPS2003/WSS2.0 as Source
Administrative permissions on the SharePoint front-end machine (member of the local Administrators group)	+
Administrative permissions on the SharePoint sites	+
SQL Server Configuration Database	Read
SQL Server Content Databases	Read
SQL Server stored procedures (SQL 2005 only)	Execute

Permission Type	SPS2003/WSS2.0 as Source
Administrative share “\\<SharePoint machine>\c\$\Program Files\Common Files\Microsoft Shared\web server extensions” and all subfolders (In case not granted to the Administrators group)	Read
Remote registry access to “Local Machine\SOFTWARE\Microsoft\Shared Tools\Web Server Extensions\” and all sub keys (In case not granted to the Administrators group).	Read

## 1.4.2 Tsunami Deployer Remote Service

### 1.4.2.1 Connecting to SharePoint Web Front-End servers

When connecting to the SharePoint Web Front-End Server, you should provide Tsunami Deployer Remote Service with the **SharePoint Server Farm Account credentials** or following permissions.

The user running Tsunami Remote Service must have the following permissions:

- The user account must be a registered as Server Farm Account. This can be set up in SharePoint on the **Central Administration > Security > Configure Service Accounts**.

OR

- “Full Read” and “Full Control” rights *on relevant Web Applications*, including the Central Administration web application. This can be set up in SharePoint on the **Central Administration > Application Management > Manage Web Application** page for SharePoint Server 2010, SharePoint 2013, SharePoint 2016 and SharePoint 2019.
- The user must be a member of the *Farm Administrators group*. This can be set up in SharePoint on the **Central Administration > Security > Manage the Farm Administrative Group** page for SharePoint Server 2010, SharePoint 2013, SharePoint 2016 and SharePoint 2019.
- Read, Write and Execute permissions on the Configuration and relevant Content DB, similar to the Server Farm Account.
- The user must be a member of *Local Administrator group* on the machine where Tsunami Deployer Remote Service is installed.

For information about the different accounts, refer to:

<http://technet.microsoft.com/en-us/library/ee662513.aspx>

<https://technet.microsoft.com/en-us/library/cc678863.aspx>

## 2 INSTALLING TZUNAMI DEPLOYER AND SERVICE COMPONENTS

This chapter contains information about installing Tzunami Deployer, including the following topics:

- [\*Installing Tzunami Deployer\*](#)
- [\*Installing Tzunami Deployer Service Components\*](#)
- [\*Uninstall Tzunami Deployer and Service Components\*](#)

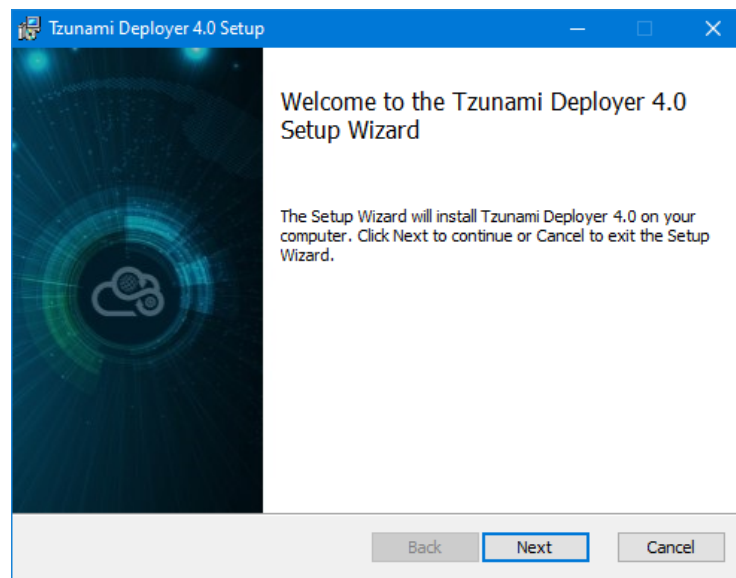
## 2.1 INSTALLING TZUNAMI DEPLOYER

This section of the guide provides you the comprehensive information for installing Tzunami Deployer. This manual also includes information about other related information and technical support.

Installing Tzunami Deployer is simple and easy. You can have it installed and running in no time. This guide will teach you how to install Tzunami Deployer for migrating contents from legacy ECM system to Microsoft SharePoint Products and Technologies.

### To install Tzunami Deployer:

1. Unzip the zip file, and run `TsunamiDeployerSetup.msi`. The Tzunami Deployer setup wizard (Welcome window) will launch. To advance through the installation wizard, click **Next** on the bottom of each screen.



**Figure 2-1: Welcome Window**

2. In the End User Licensing Agreement panel, click “**I accept the terms in the License Agreement**” and click **Next** to continue installation.

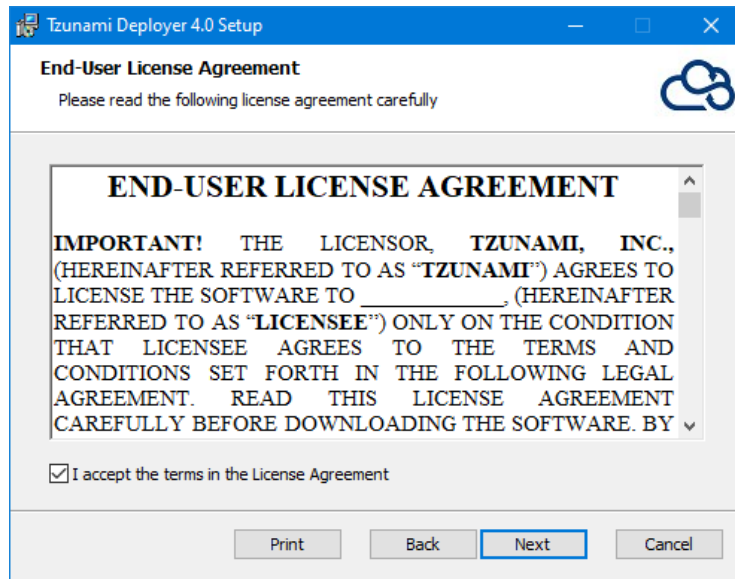


Figure 2-2:End-User Licensing Agreement Window



You are advised to read the terms of the license carefully before proceeding with the installation. If you decline the license terms, the installation cannot proceed.

3. In the Custom Setup panel, do one of the following:
  - To accept the default Destination Folder, click **Next**.
  - To change destination folder, click **Browse** and select a destination folder, click **OK**, and then click **Next**.

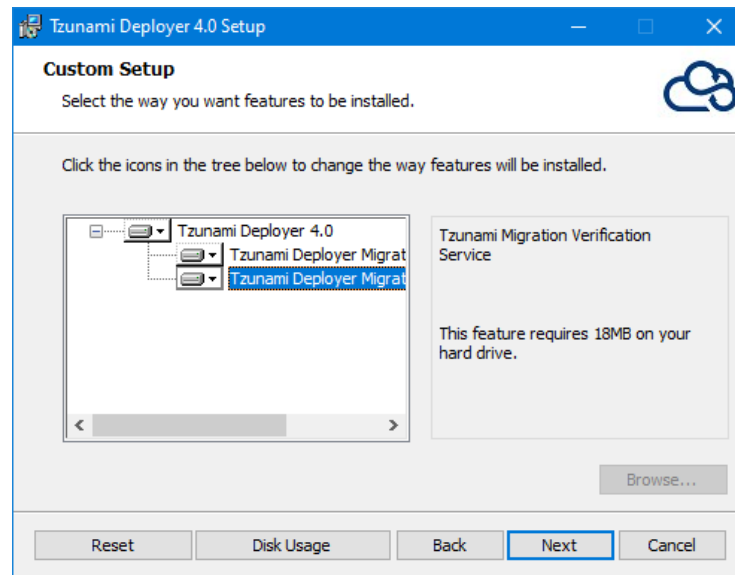


Figure 2-3: Custom Setup Window



By default **Tsunami Deployer 4.0 SPO Migration API Service** is selected. **Tsunami Deployer 4.0 SPO Migration API Service** is required for migrating to SharePoint Online using Migration API.



The migration verification service can be selected and installed, which needs separate license to use.

4. In the Ready to installation Tzunami Deployer 4.0 panel, click **Install**.

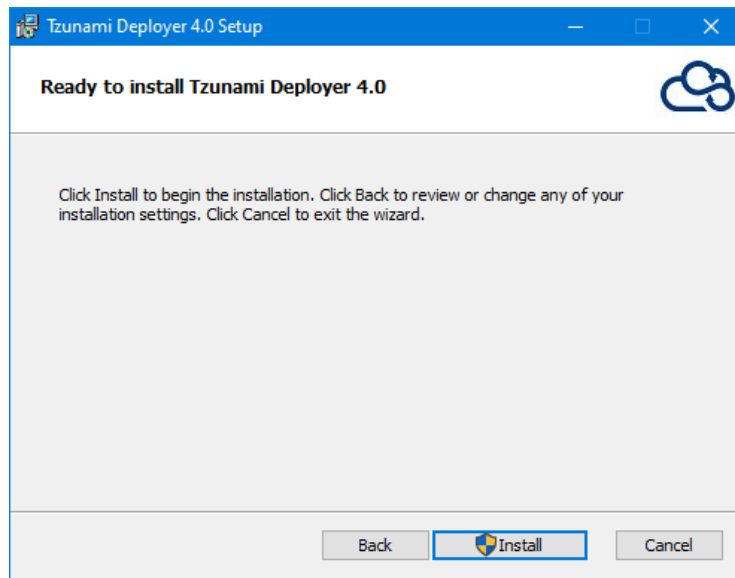


Figure 2-4: Installing Tzunami Deployer

5. Click **Finish** to exit the setup wizard.

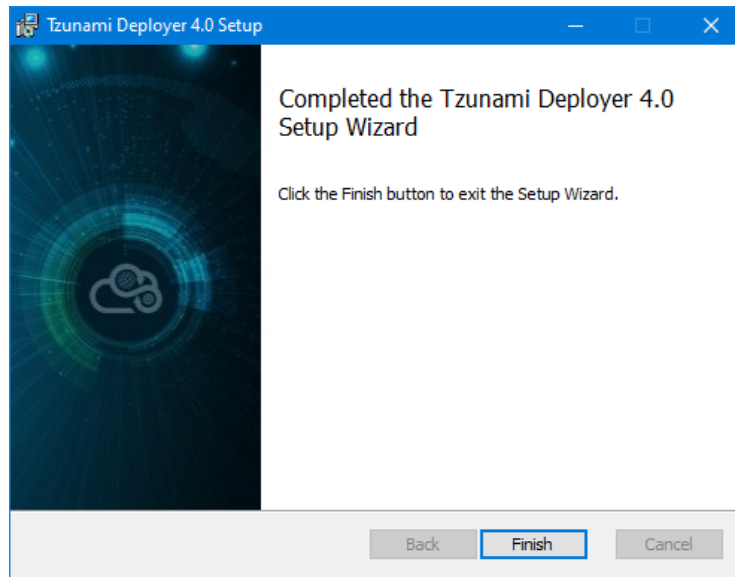


Figure 2-5: Installation Complete Window

## 2.2 INSTALLING TZUNAMI DEPLOYER SERVICE COMPONENTS

Tsunami Deployer Service Components consist of three services:

- Tsunami Deployer Licensing Service
- Tsunami Deployer Remote Service
- Tsunami Link Resolver Service
- Tsunami O365 Active Directory Service

### 2.2.1 Tsunami Deployer Licensing Service

The installation for the Tsunami Deployer Licensing Service is included in the same ZIP file as the Tsunami Deployer Remote Service.



**Tsunami Deployer Licensing Service **MUST BE** installed in order for Tsunami Deployer to be able to work.**

For more information about installation and configuration, see [Tsunami Deployer Licensing Guide](#).

### 2.2.2 Tsunami Deployer Remote Service

Tsunami Deployer Remote Service is a component that runs on the SharePoint Server and interacts with Tsunami Deployer in order to enable remote access to SharePoint servers.

When using Tsunami Deployer to migrate contents from SharePoint Server, you must install the Tsunami Deployer Remote Service on one of the SharePoint Web Front-End servers.



**Tsunami Deployer Remote Service** is required only when connecting to the SharePoint Web Front-End servers. It **IS NOT** required when connecting to SPS2003/WSS2.0 and SharePoint Online.

**Tsunami Deployer Remote Service version 4.0** or higher is not compatible with SharePoint server 2007 and 2010 versions. Please, contact Tsunami Support Team at [support@tzunami.com](mailto:support@tzunami.com) for compatible version of the product to install **Tsunami Deployer Remote Service** for SharePoint server 2007 and 2010.

### 2.2.2.1 Installing Tsunami Deployer Remote Service

#### To install Tsunami Deployer Remote Service Component:

1. On one of the SharePoint Web Front-End servers unzip the zip file, and run `DeployerServiceComponentsSetup.msi`. The Tsunami Deployer 4.0 Service Components Setup Wizard (Welcome window) will be launch. To advance through the install wizard, click **Next** on the bottom of screen.

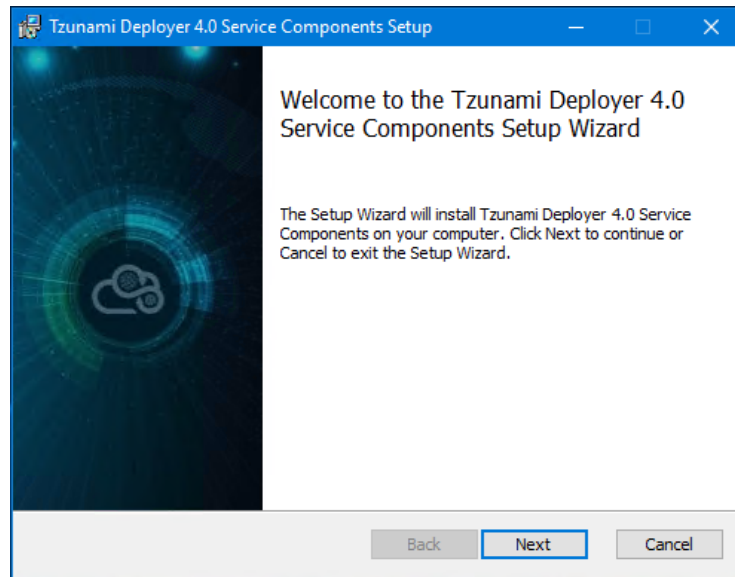


Figure 2-6: Welcome Window

2. In the **End User Licensing Agreement** panel, click **"I accept the terms in the License Agreement"** and click **Next** to continue installation.

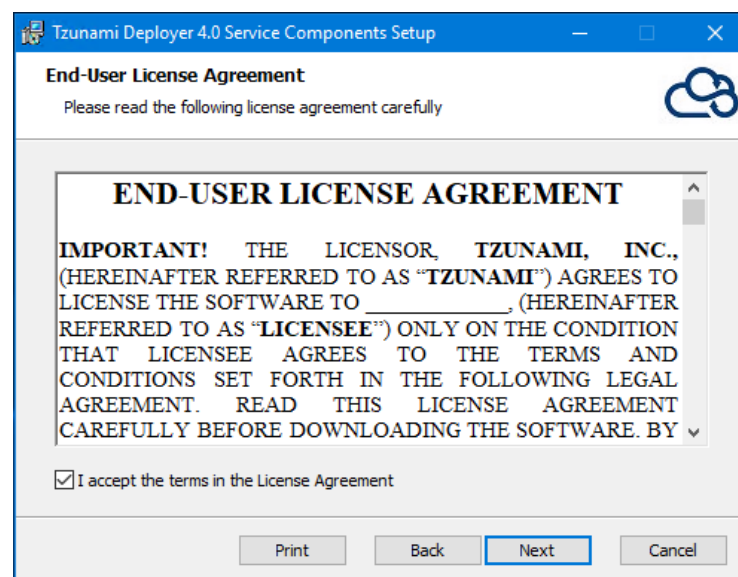


Figure 2-7: End-User Licensing Agreement Window



You are advised to read the terms of the license carefully before proceeding with the installation. If you decline the license terms, the installation cannot proceed.

3. In the **Custom Setup** panel, click **Deployer Remote Service** and do one of the following:
  - To accept the default Destination Folder, click **Next**.
  - To install in other location, click **Browse** and select a destination folder, click **OK** and then click **Next**.

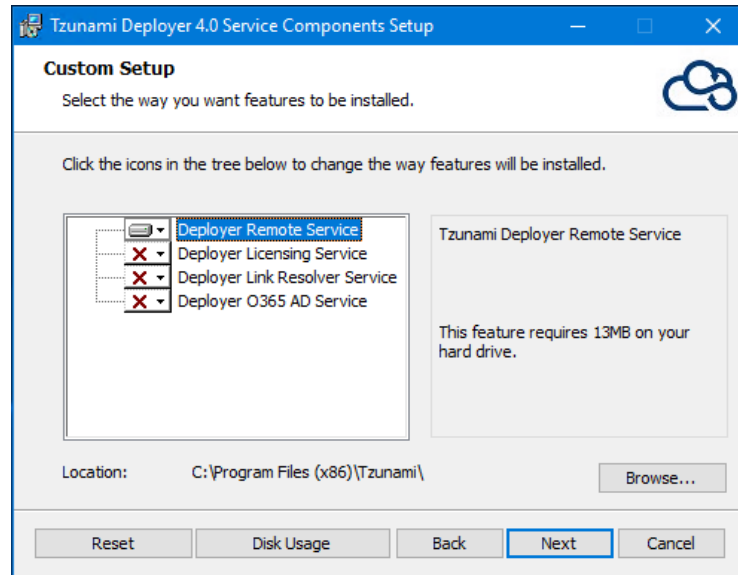


Figure 2-8: Custom Setup Window



To install **Tsunami Deployer Remote Service** only, click **Deployer Licensing Service** and choose **Entire Feature will be unavailable** and again click **Deployer Link Resolver Service** and choose **Entire Feature will be unavailable**.

4. In the **Service** account panel, provide the credential for the Tsunami Deployer Remote Service log on account, and click **Next**.

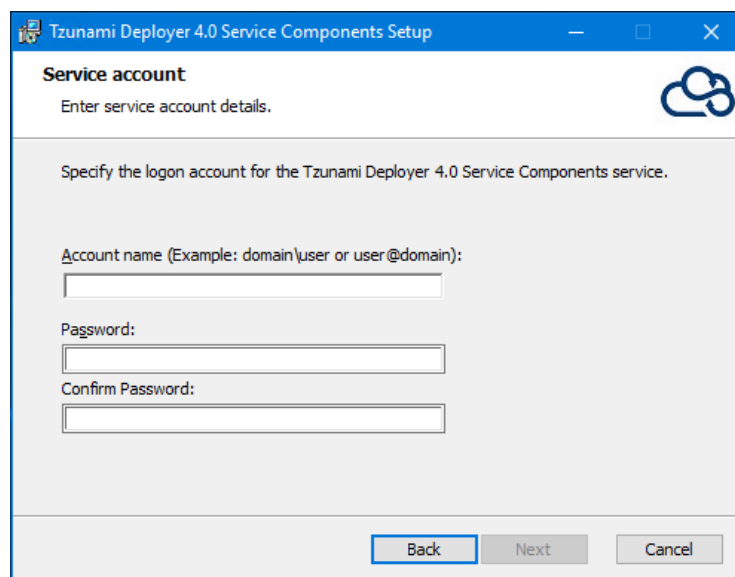
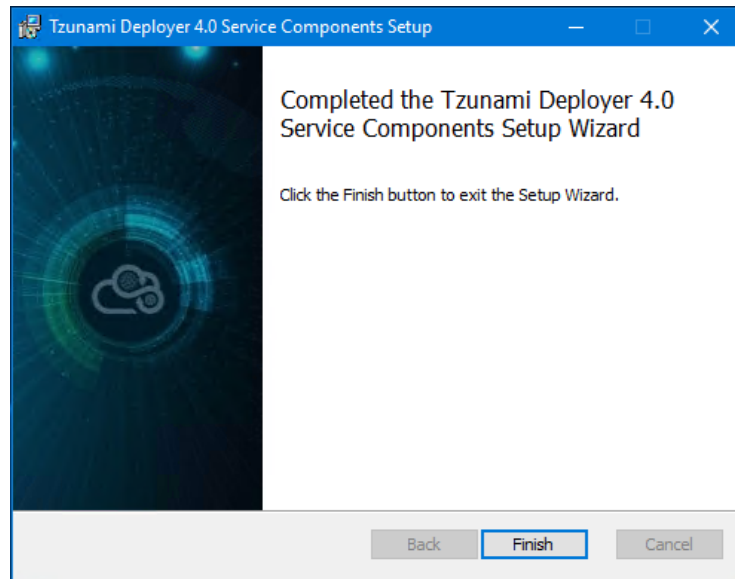


Figure 2-9: Service Account Window

5. In the Ready to install Tzunami Deployer ServiceComponents panel, click **Install**.



**Figure 2-10: Installing Tzunami Deployer ServiceComponents**

6. Click **Finish** to exit from the setup wizard.



When installing the Deployer Remote Service (RS), Licensing service and Link Resolver Service should be configured. At the end of the installation, Remote Service Settings dialog opens. In Remote Service Settings, the Licensing Service and Link Resolver Service are pointed to localhost (same machine) along with the Service Timeouts, Delays and Logging Level for the remote service.

If these services are installed on another machine, point to that machine with the machine name or IP Address. Also, the following ports should be enabled in firewall or equivalent programs to make connections with the respective services.

Licensing Service: TCP port 8008

Link Resolver Service: TCP port 9028.

User can run the **Settings Manager.exe** application from the installation directory of the Deployer or Exporter to display this service settings dialog at any time and updated the settings to point the Tzunami services as required.

### 2.2.2.2 Changing Tsunami Deployer Remote Service Credentials

To change Tsunami Deployer Remote Service credentials:

1. Click **Start > Run** and enter `Services.msc`. The Services window appears.
2. Right-click **Tsunami Deployer 4.0 Remote Service** and select **Properties**. The Tsunami Deployer Remote Service Properties window appears.

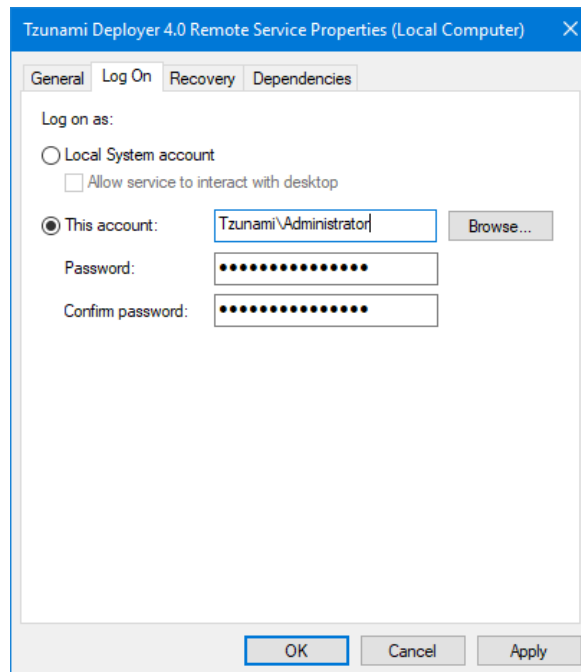


Figure 2-11: Tsunami Deployer Remote Service Properties Window

3. In the Log On tab, enter the user name and password. Use the same user name you enter in Tsunami Deployer when connecting to the SharePoint WFE Server. Make sure the user name has all the required permissions, as detailed in **Connecting to SharePoint Web Front End Server** on page 1-6.
4. Click **OK**.
5. In the Services window, right-click **Tsunami Deployer 4.0 Remote Service** and select **Restart**.

### 2.2.3 Tsunami Link Resolver Service

Tsunami Link Resolver Service is a component introduced for fixing links during migration. An item (say A) may contain a link to another item (say B) in the source. When A and B have been migrated to target SharePoint (let's say as A' and B'), the link in item A' should point to item B' in the target and not to item B in the source. This requires fixing of the link inside A to point to B' during migration. This is achieved using the Tsunami Link Resolver Service.

The Tsunami Link Resolver Service runs as a windows service. Tsunami Deployer and Tsunami Remote Services communicate with the Tsunami Link Resolver Service to get necessary information for fixing the links in the content during commit. A single instance of the Link Resolver Service should be installed. All Tsunami Deployer and Tsunami Deployer Remote Service should be configured to point to the Link Resolver Service.

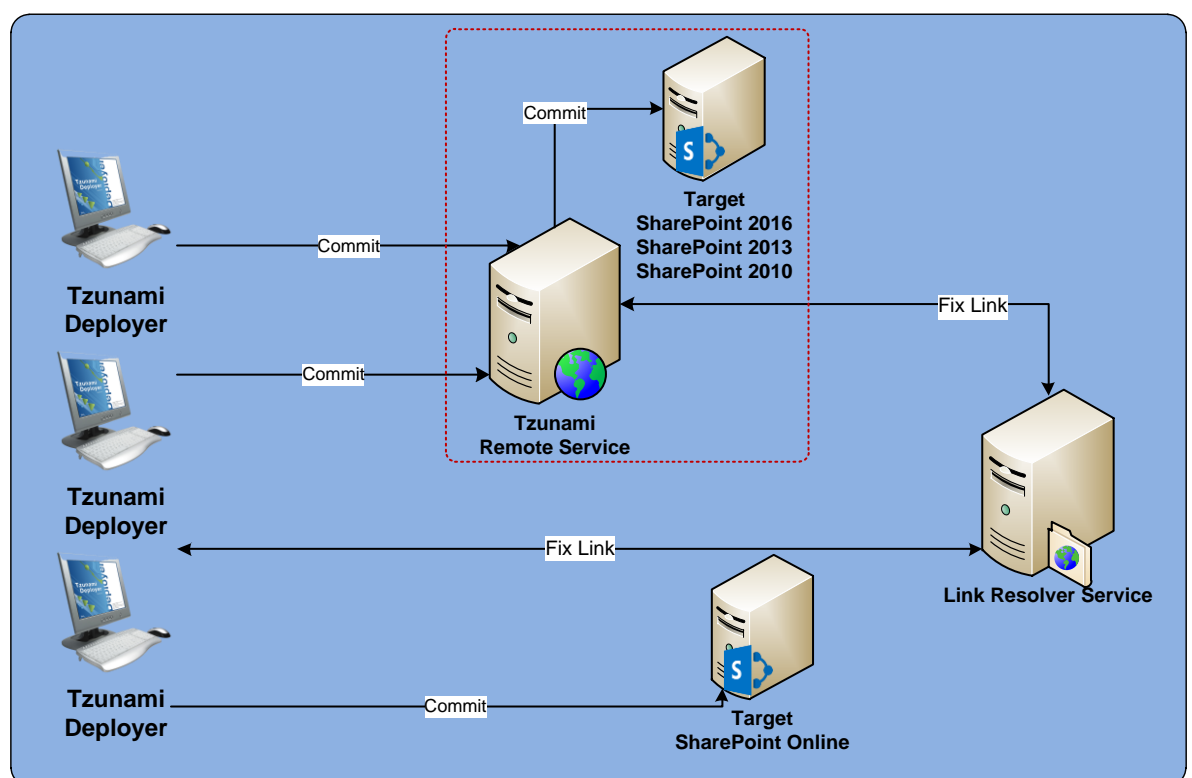


Figure 2-12: Tsunami Link Resolver Service Architecture

### 2.2.3.1 Installing Tsunami Link Resolver Service

#### To install Tsunami Link Resolver Service:

1. On one of the SharePoint front-end Web Servers or other server which can be accessible via system running Tsunami Deployer and Tsunami Remote Service, unzip the zip file, and run `DeployerServiceComponentsSetup.msi`. The Tsunami Deployer 4.0 Service Components Setup Wizard (Welcome window) will be launched. To advance through the install wizard, click **Next** on the bottom of each screen.

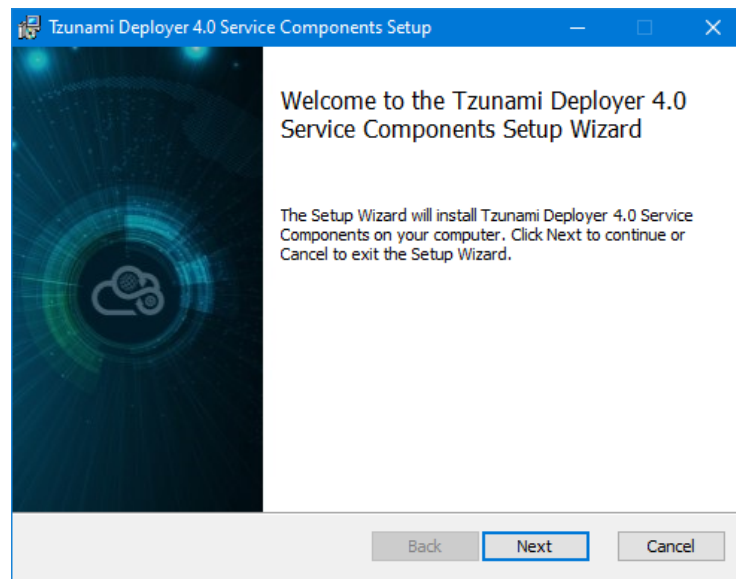


Figure 2-13: Welcome Window

2. In the End User Licensing Agreement panel, click "**I accept the terms in the License Agreement**" and click **Next** to continue installation.

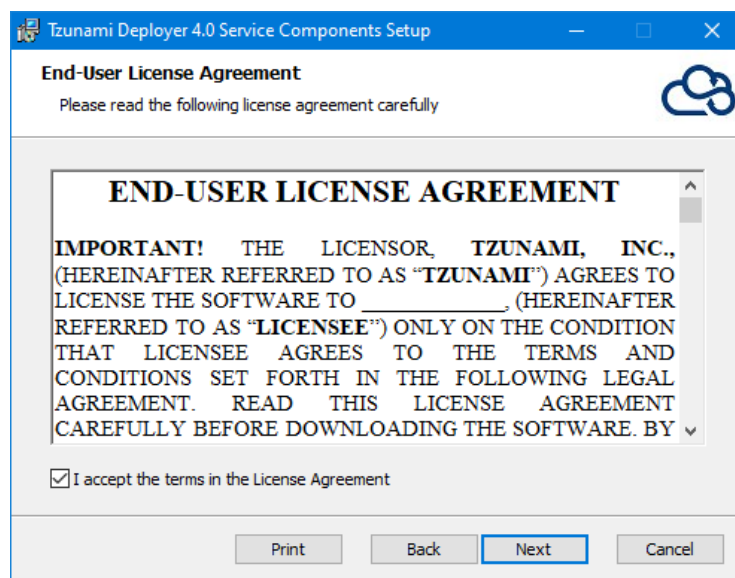


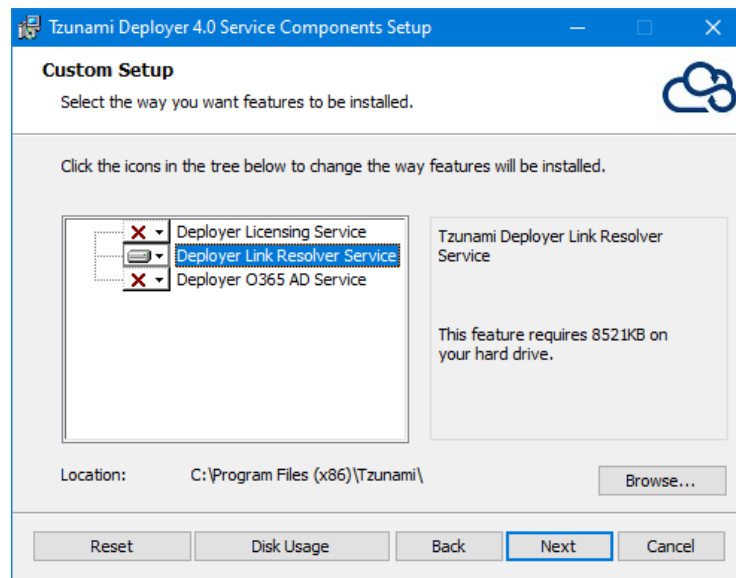
Figure 2-14: End-User Licensing Agreement Window



You are advised to read the terms of the license carefully before proceeding with the installation. If you decline the license terms, the installation cannot proceed.



3. In the Custom Setup panel, click **Deployer Remote Service** and do one of the following:
  - To accept the default Destination Folder, click **Next**.
  - To change the installation path, click **Browse** and select a destination folder, click **OK**, and then click **Next**.

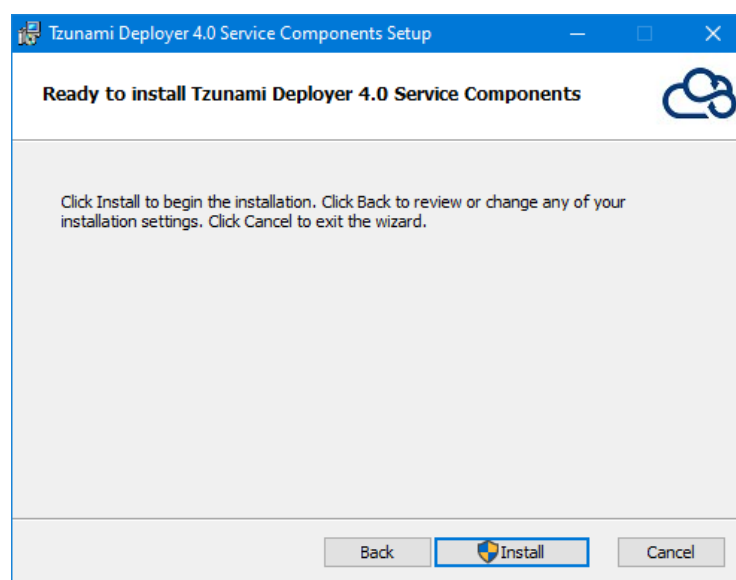


**Figure 2-15: Custom Setup Window**



To install **Tsunami Link Resolver Service** only, click **Deployer Link Resolver Service** and choose **Entire Feature will be installed in local hard drive** and make sure other components are not selected.

4. In the Ready to install Tsunami Deployer 4.0 Service Components panel, click **Install**.



**Figure 2-16: Installing Tsunami Deployer Link Resolver Service**

5. Click **Finish** to exit from the setup wizard.

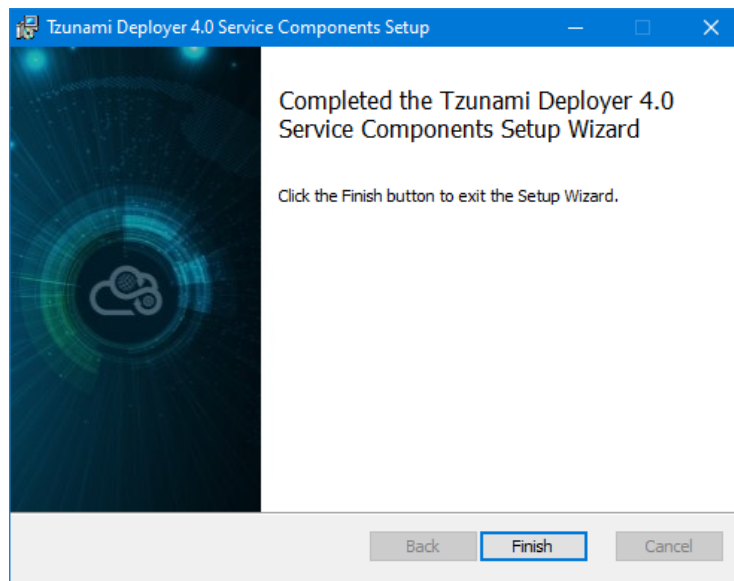


Figure 2-17: Installation Complete Window

#### 2.2.4 Tsunami O365 Active Directory Service

Tsunami O365 Active Directory Service is a component that communicates with Microsoft O365 and gets the information of Users and Groups from Active Directory. The service checks for the delta in Active Directory based on the time interval specified in the configuration file of the service.

The retrieved information about the Users and Groups is stored in local database. When Tsunami Deployer requests for the information about these users and groups during migration process, this service provides the required information stored in that local database to Tsunami Deployer. So, the service communicates with Microsoft O365 periodically and keeps the up-to-date information whereas it communicates with Tsunami Deployer instances during migration process in SharePoint Online target.



**The user who is performing installation must be in Administrators group of the computer.**

**Tsunami O365 Active Directory Service** is required only when connecting to SharePoint online as target. It **IS NOT** required when connecting SharePoint on-premises server as target or source.

**Enable TLS 1.2 to support Azure Active Directory Connect** version 1.2.65.0 and later for communications with Azure. Please, refer the article about how to force your Azure AD Connect server to use only TLS 1.2 from following link:

<https://learn.microsoft.com/en-us/azure/active-directory/hybrid/reference-connect-tls-enforcement>

### 2.2.4.1 Installing Tsunami O365 Active Directory Service

To install Tsunami O365 Active Directory Service Component:

1. Unzip the zip file, and run `DeployerServiceComponentsSetup.msi`. The Tsunami Deployer 4.0 Service Components Setup Wizard (Welcome window) will be launch. To advance through the install wizard, click **Next** on the bottom of screen.

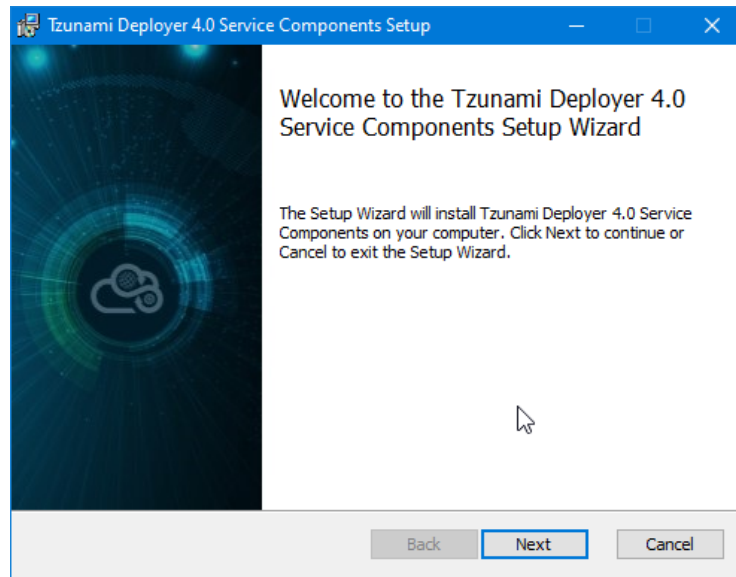


Figure 2-18: Welcome Window

2. In the **End User Licensing Agreement** panel, click **"I accept the terms in the License Agreement"** and click **Next** to continue installation.

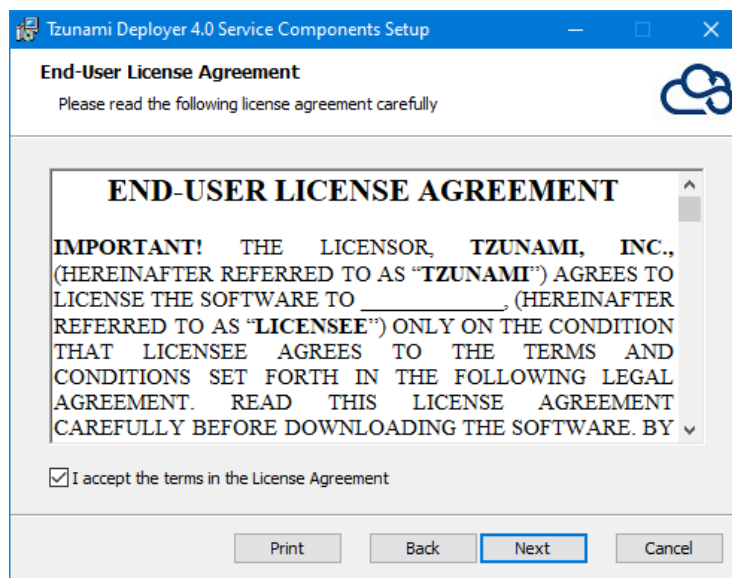
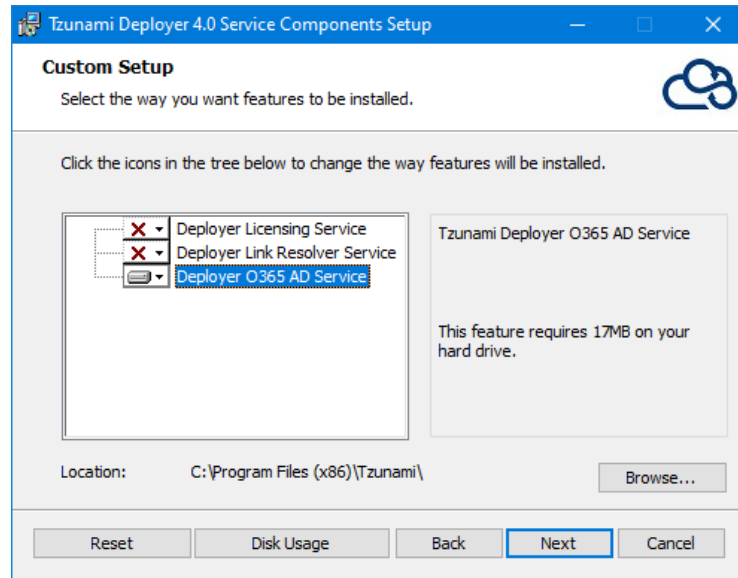


Figure 2-19: End-User Licensing Agreement Window



You are advised to read the terms of the license carefully before proceeding with the installation. If you decline the license terms, the installation cannot proceed.

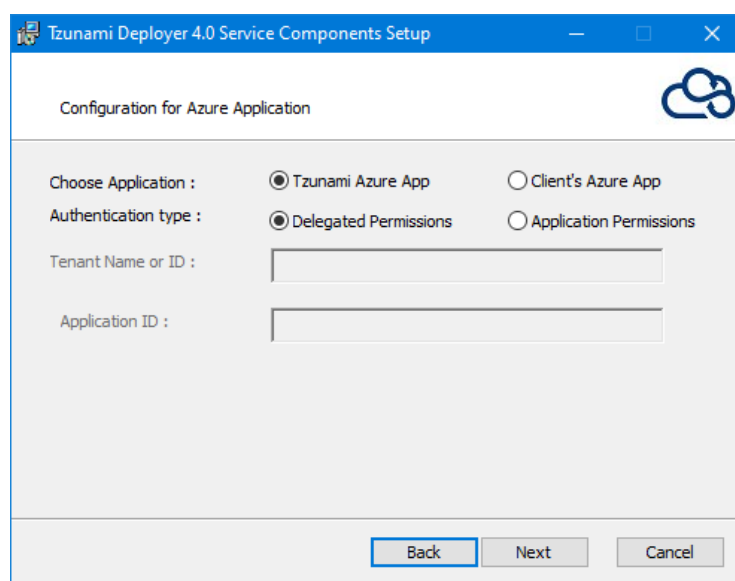
3. In the **Custom** Setup panel, click **Deployer O365 AD Service** and do one of the following:
  - To accept the default Destination Folder, click **Next**.
  - To install in other location, click **Browse** and select a destination folder, click **OK** and then click **Next**.



**Figure 2-20: Custom Setup Window**

4. Enter the parameters for Azure App based on the case that you want to use. The following parameters may need to enter as per the cases:
  - **Tenant name or ID:** The tenant's name or ID.
  - **Application ID:** Identification number of the Azure App ( in case of Tsunami App it is included within the application).
  - **Certificate File Path:** The absolute path for the certificate file (.pfx file).
  - **Certificate Password:** The password of the certificate file.
  - **Certificate Thumbprint.** The thumbprint of the certificate. The certificate should be installed in the local computer's personal folder.

#### A. Case I: Tsunami Azure App with Delegated Permissions



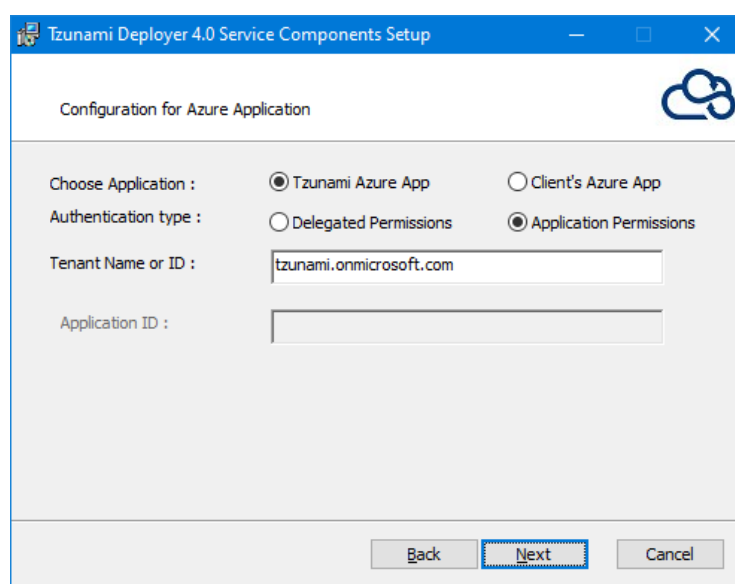
The screenshot shows the 'Tsunami Deployer 4.0 Service Components Setup' window. The title bar is blue with the application icon and standard window controls. The main area is titled 'Configuration for Azure Application' and features a cloud icon in the top right. Below the title, there are two rows of radio buttons. The first row is 'Choose Application :', with 'Tsunami Azure App' selected (indicated by a filled circle) and 'Client's Azure App' unselected. The second row is 'Authentication type :', with 'Delegated Permissions' selected and 'Application Permissions' unselected. Below these are two text input fields: 'Tenant Name or ID :' and 'Application ID :', both of which are empty. At the bottom right, there are three buttons: 'Back', 'Next', and 'Cancel'.

**Figure 21 Azure App Parameters: Tsunami App Delegated Permissions**



To use the Tsunami Azure app, preregister the Tsunami Azure App with a user's credential having **Global Admin** role in Azure Active Directory. Please, contact **Tsunami Support** team ([support@tsunami.com](mailto:support@tsunami.com)) to download the tool.

#### B. Case II: Tsunami App with Application Permissions



The screenshot shows the 'Tsunami Deployer 4.0 Service Components Setup' window. The title bar is blue with the application icon and standard window controls. The main area is titled 'Configuration for Azure Application' and features a cloud icon in the top right. Below the title, there are two rows of radio buttons. The first row is 'Choose Application :', with 'Tsunami Azure App' selected (indicated by a filled circle) and 'Client's Azure App' unselected. The second row is 'Authentication type :', with 'Application Permissions' selected and 'Delegated Permissions' unselected. Below these are two text input fields: 'Tenant Name or ID :' and 'Application ID :'. The 'Tenant Name or ID :' field contains the text 'tsunami.onmicrosoft.com'. At the bottom right, there are three buttons: 'Back', 'Next', and 'Cancel'.

**Figure 22 Azure App Parameters: Tsunami App Application Permissions**



To use the Tsunami Azure app, preregister the Tsunami Azure App with a user's credential having **Global Admin** role in Azure Active Directory. Please, contact **Tsunami Support** team ([support@tsunami.com](mailto:support@tsunami.com)) to download the tool.

#### C. Case III: Client's App with Delegated Permissions

**Tsunami Deployer 4.0 Service Components Setup**

Configuration for Azure Application

Choose Application : ☐ Tsunami Azure App ☒ Client's Azure App

Authentication type : ☒ Delegated Permissions ☐ Application Permissions

Tenant Name or ID :

Application ID :

Back Next Cancel

**Figure 23 Azure App Parameters: Client's App Delegated Permissions**



Before installing the **Tsunami O365 AD Service**, you must provide the consent for the application in Azure Active Directory with a user's credential having **Global Admin** role.

D. Case IV: Client's App with Application Permissions using Certificate File and Password

**Tsunami Deployer 4.0 Service Components Setup**

Configuration for Azure Application

Choose Application : ☐ Tsunami Azure App ☒ Client's Azure App

Authentication type : ☐ Delegated Permissions ☒ Application Permissions

Tenant Name or ID :

Application ID :

Option for Certificate : ☒ Certificate File ☐ Certificate Thumbprint

Certificate file path :

Certificate Password :

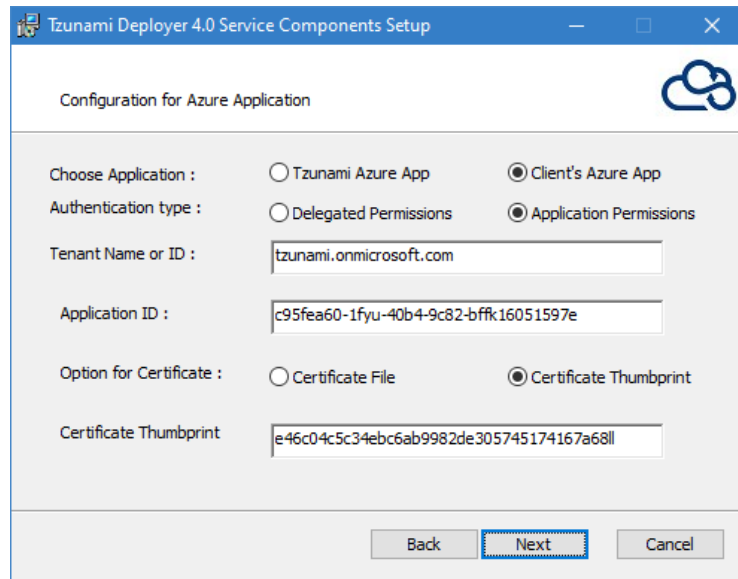
Back Next Cancel

**Figure 24 Azure App Parameters: Tsunami App Application Permissions with Certificate File**



Before installing the **Tsunami O365 AD Service**, you must provide the consent for the application in Azure Active Directory with a user's credential having **Global Admin** role.

E. Case V: Client's App with Application Permissions using Certificate Thumbprint



Tsunami Deployer 4.0 Service Components Setup

Configuration for Azure Application

Choose Application : ☐ Tsunami Azure App ☒ Client's Azure App

Authentication type : ☐ Delegated Permissions ☒ Application Permissions

Tenant Name or ID :

Application ID :

Option for Certificate : ☐ Certificate File ☒ Certificate Thumbprint

Certificate Thumbprint :

Back Next Cancel

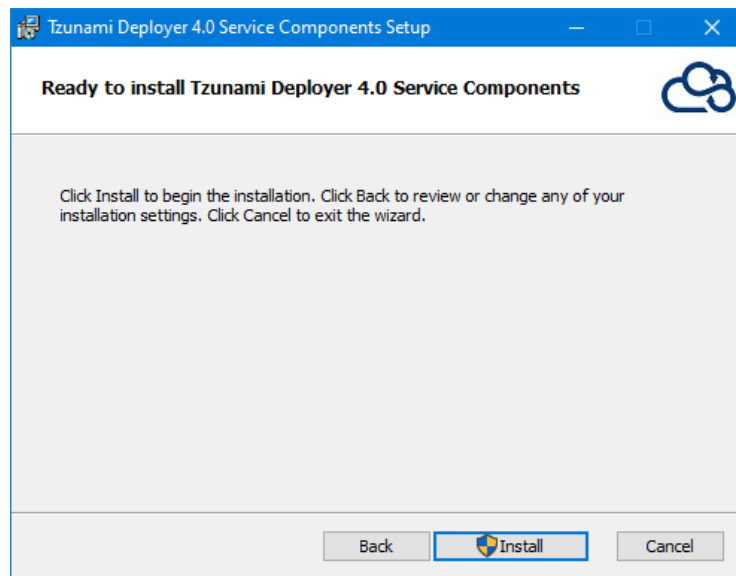
**Figure 25 Azure App Parameters: Tsunami App Application Permissions with Thumbprint**



Before installing the **Tsunami O365 AD Service**, you must provide the consent for the application in Azure Active Directory with a user's credential having **Global Admin** role.

The certificate should be installed in the local computer's personal folder

5. In the Ready to install **Tsunami Deployer ServiceComponents** panel, click **Install**.



Tsunami Deployer 4.0 Service Components Setup

Ready to install Tsunami Deployer 4.0 Service Components

Click Install to begin the installation. Click Back to review or change any of your installation settings. Click Cancel to exit the wizard.

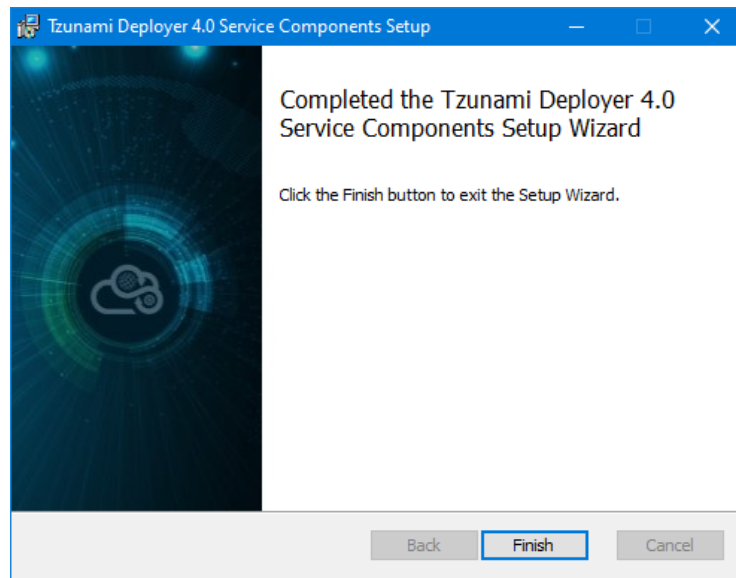
Back Install Cancel

**Figure 2-26: Installing Tsunami Deployer ServiceComponents**



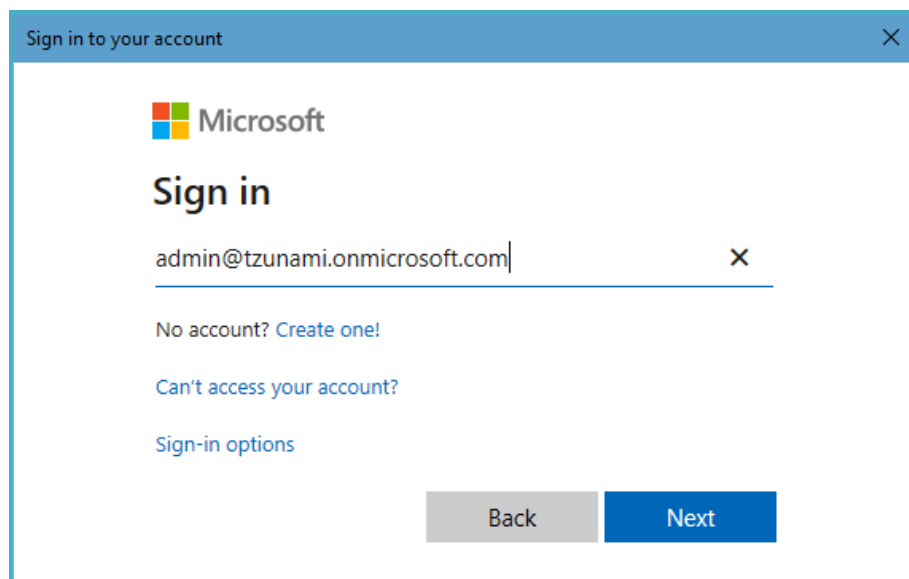
Before installing the **Tsunami O365 AD Service**, you must provide the consent for the application in Azure Active Directory with a user's credential having **Global Admin** role.

6. Click **Finish** to exit from the setup wizard.



**Figure 2-27: Installation Complete Window**

When using **Delegated Permissions**, an application named **Tsunami O365 AD Service Manager** opens in system tray which opens a browser instance. Login to Office 365.



**Figure 2-28 Login screen to Microsoft O365**

After successful log in, service will be running. When using **Application Permissions**, service will be running. You can verify it opening services and check the status is running.



Name	Description	Status	Startup Type	Log On As
Task Scheduler	Enables a user to ...	Running	Automatic	Local System
TCP/IP NetBIOS Helper	Provides support...	Running	Manual (Trigger Start)	Local System
TeamViewer	TeamViewer Rem...	Running	Automatic	Local System
Telephony	Provides telepho...	Running	Manual	Network Service
Themes	Provides user ex...	Running	Automatic	Local System
Time Broker	Coordinates exec...	Running	Manual (Trigger Start)	Local System
Touch Keyboard and Handwriting Panel Service	Enables Touch Ke...	Running	Manual (Trigger Start)	Local System
Tsunami Deployer 3.4 Licensing Service	Tsunami Deploye...	Running	Automatic	Local System
Tsunami Deployer 3.4 Link Resolver Service	Tsunami Deploye...	Running	Automatic	Local System
Tsunami Deployer 3.4 Migration Service	Tsunami Deploye...	Running	Automatic	Local System
Tsunami Deployer 3.4 O365 AD Service	Tsunami Deploye...	Running	Automatic	Local System
Udk User Service_ac3cc	Shell component...		Manual	Local System

**Figure 2-29 Tsunami O365 AD Service in Windows Service Screen**



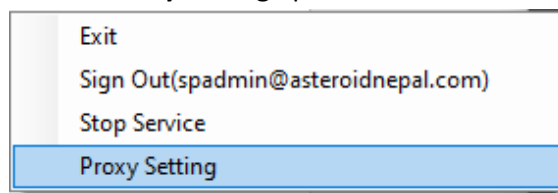
Before installing the **Tsunami O365 AD Service**, you have to provide the consent for the application in Azure Active Directory with a user's credential having **Global Admin** role.

To use the Tsunami Azure app, preregister the Tsunami Azure App with a user's credential having **Global Admin** role in Azure Active Directory. Please, contact **Tsunami Support** team ([support@tsunami.com](mailto:support@tsunami.com)) to download the tool.

## 2.2.5 Proxy Settings

The **Tsunami O365 AD service** supports the web proxy. To configure the web proxy settings, follow the steps as below:

1. Go to windows system tray, and right click on **Tsunami O365 AD Service Manager** Application.
2. Click on **Proxy Setting** option



**Figure 30 Proxy Setting option**

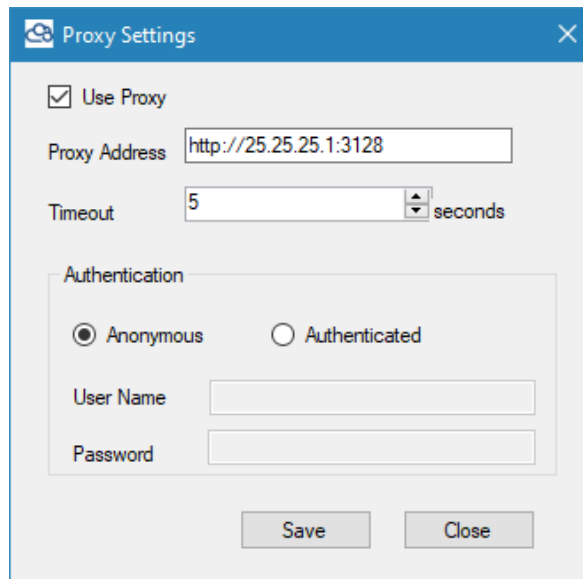
3. In Proxy Settings popup, Check the **Use Web** Proxy check box. Update the proxy settings

For Anonymous web proxy, set following values:

- Proxy Address value with proxy server along with port.
- Timeout value in seconds.

For Authenticated web proxy, set following values:

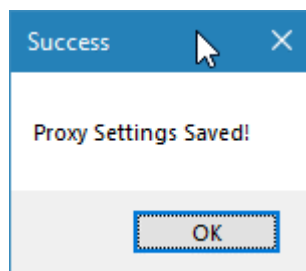
- Proxy Address value with proxy server along with port.
- Username for proxy logging.
- Password for proxy logging.
- Timeout value in seconds.



**Figure 31 Proxy Settings parameters**

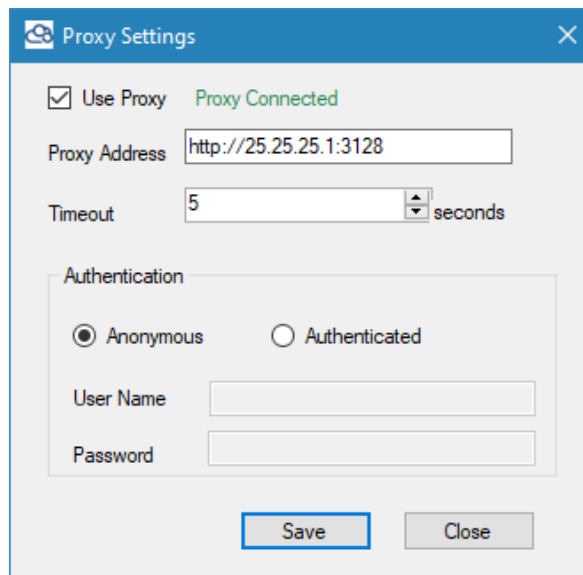
Then, click on **Save** button.

4. Click on **OK** button on message box.



**Figure 32 Saved Message Box**

5. Then, click on Close button



**Figure 33 Saved Proxy Parameters**

6. Now, the proxy environment is updated. You can sign in to O365 tenant using **Tsunami O365 AD Service Manager**.

## 2.2.6 Manage Active Directory Service

Once Tsunami O365 AD service is installed and consent is accepted for Tsunami application by a user having **Global Admin role**, the Groups and Users from Azure Active Directory are fetched and stored in local machine.

In C:\ProgramData\Tsunami\O365, you will see **Logs** folder, **.msalcache.bin3** and local database to store the information of users and groups. You can see the execution and error logs in the file in log folder.

When consent is already accepted for Tsunami Application by a user having Global Admin role, Tsunami O365 Active Directory Service can be logged in by a user having SharePoint Admin role to fetch the Groups and Users from Azure Active Directory Service. The logged in user can be signed out and sign in again using Tsunami O365 AD Service Manager Application.

You can right click on Tsunami O365 AD Service Manager Application in System Tray and sign-in by a user having at least SharePoint Admin Role in O365 tenant (if consent is already accepted). The application provides following actions:

1. **Exit:** To close the **Tsunami O365 AD Service Manager** application.
2. **Sign In (or Sign Out):** To Log in/ log out the user from Tsunami O365 AD Service connecting to Microsoft O365.
3. **Start (or Stop) Service:** To Run/Stop the s Tsunami O365 AD Service in Windows Service.

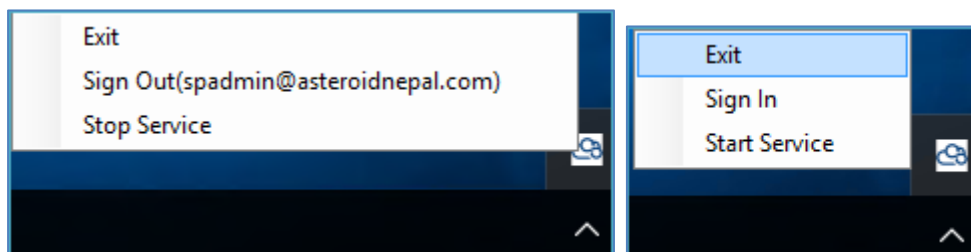


Figure 2-34 Tsunami O365 AD Service Manager in System Tray

## 2.3 CONFIGURATION OF TZUNAMI SERVICE SETTINGS

Tsunami Deployer, Exporters, and Deployer Remote services communicate with various migration services during the migration process. Tsunami Inc. provides programs packaged with appropriate installation files.

This program allows users to configure services, timeouts, and other related settings during installation. When the user saves the configuration parameters, the **ServiceComponentConfiguration.xml** file located in **C:\ProgramData\Tsunami\Deployer** is updated. **Tsunami Deployer**, **Exporters**, and **Deployer Remote service** use this file to point to the services required during migration processes.

Following sections contain configuration details.

### 2.3.1 Service Settings for Deployer and Exporters

When installing **Tsunami Deployer and/or Exporter** for the first time, a **Tsunami Service Settings** dialog is displayed. In **Tsunami Service Settings**, the Licensing Service, Link Resolver Service and O365 AD Service are pointed to localhost (same machine) along with the **Time Outs** for the respective services.

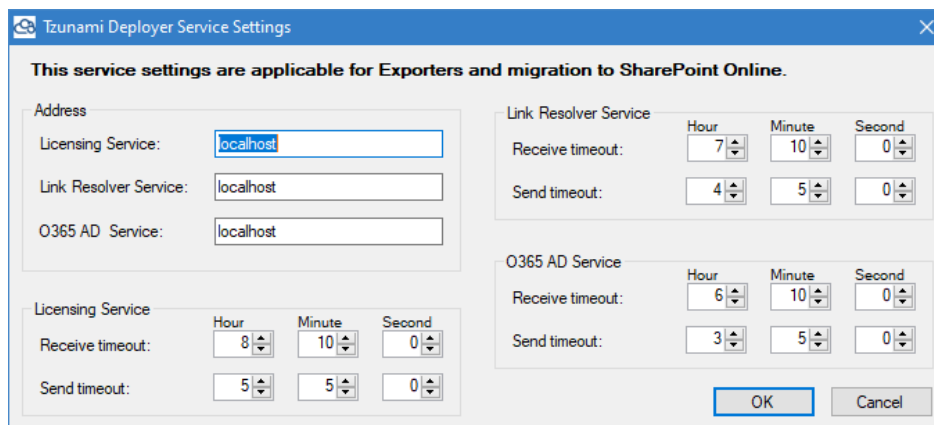


Figure 2-35 Tsunami Deployer Service Settings Manager

Table 2-1: Tsunami Service Settings

Field/Item	Description
<b>Address</b>	
Licensing Service	Enter the Server Name or IP address of the machine where the Tsunami Licensing Service is installed. For more information, see <b><i>Tsunami Licensing Service Guide</i></b> .
Link Resolver Service	Enter the Server Name or IP address of the machine where <b>Tsunami Link Resolver Service</b> is installed.
O365 AD Service	Enter the Server Name or IP address of the machine where <b>Tsunami O365 Active Directory Service</b> is installed.
<b>Licensing Service</b>	
Receive Timeout	Specify the duration that Tsunami Deployer waits to receive response for its request from Tsunami Licensing Service.
Send Timeout	Specify the duration that Tsunami Deployer waits for an operation to complete sent to Tsunami Licensing Service.
<b>Link Resolver Service</b>	
Receive Timeout	Specify the duration that Tsunami Deployer waits to receive response for its request from Link Resolver Service.
Send Timeout	Specify the duration that Tsunami Deployer waits for an operation to complete sent to Link Resolver Service.
<b>O365 AD Service</b>	
Receive Timeout	Specify the duration that Tsunami Deployer waits to receive response for its request from O365 AD Service.
Send Timeout	Specify the duration that Tsunami Deployer waits for an operation to complete sent to O365 AD Service.



User can run the **Settings Manager.exe** application from the installation directory of the Deployer or Exporter to display this service settings dialog at any time and updated the parameters to point the Tsunami services as required.

If these services are installed on another machine, point to that machine with the machine name or IP Address. Also, the following ports should be enabled in firewall or equivalent programs to make connections with the respective services.

**Licensing Service:** TCP port 8008

**Link Resolver Service:** TCP port 9028 and

**O365 AD Service:** TCP port 9000.

### 2.3.2 Service Settings for Deployer Remote Service

Similarly, when installing the **Deployer Remote Service (RS)** in the SharePoint on-premises server, Licensing service and Link Resolver Service should be configured. At the end of the installation, **Remote Service Settings** dialog opens. In **Remote Service Settings**, the Licensing Service and Link Resolver Service are pointed to localhost (same machine) along with the **Service Timeouts**, **Delays** and **Logging Level** for the remote service.

Remote Service Settings

Address

Licensing Service: localhost

Link Resolver Service: localhost

Service Timeouts

Receive timeout: 1 Hour 15 Minute 3 Second

Send timeout: 2 Hour 20 Minute 4 Second

Delays

Post upload wait time: 0 Minute 0 Second 0 Milli Sec.

Post update wait time: 0 Minute 0 Second 0 Milli Sec.

List read back time: 0 Minute 0 Second 0 Milli Sec.

Logging Level

☐ Low

☒ Normal

☐ High

☐ Debug

OK Cancel

**Figure 2-36 Remote Service Settings Manager**

If these services are installed on another machine, point to that machine with the machine name or IP Address. Also, the following ports should be enabled in firewall or equivalent programs to make connections with the respective services.

**Licensing Service:** TCP port 8008

**Link Resolver Service:** TCP port 9028.



Users can run the **Settings Manager.exe** application from the installation directory of the Remote Service to display this service settings dialog at any time and updated the settings to point the Tzunami services as required.

Users must restart the Remote Service in windows services after changing and saving the configuration parameters.

## 2.4 UNINSTALL TZUNAMI DEPLOYER AND SERVICE COMPONENTS

This section of the guide illustrates different ways to remove or uninstall Tzunami Deployer and Service Components. Here are the three different ways to uninstall Tzunami Deployer:

- Uninstallation using Installer.
- Uninstallation using Control Panel
- Uninstallation using Uninstall shortcut.

To uninstall Tzunami Deployer and Service Components, the user needs to be a Local Administrator. Uninstalling Tzunami Deployer and Service Components is simple and easy. You can remove or uninstall it in no time. You don't need to reboot your computer once the uninstalling process is complete.



Tzunami log files, licensing information files etc. will remain after uninstalling Tzunami Deployer and Service Components. You can manually delete those files from your computer if needed. By default logs and licensing information's etc. are located at the "C:\Program Files (x86)\Tzunami\Deployer 4.0", or where Tzunami Deployer or Tzunami Deployer Service Components is installed. Tzunami Deployer Options information will be available in "C:\Users\<user>\AppData\Local\Tzunami\_Inc" location. Tzunami Link Resolver data's and licensing service information are available in "C:\ProgramData\Tzunami" folder.

The Logs and local database of Tzunami O365 Active Directory service is located at C:\ProgramData\Tzunami\O365.

If Tzunami O365 Active Directory service is installed, it is requested to **exit** the **Tzunami O365 AD Service Manager** from Tray Icon before uninstallation.

### 2.4.1 Uninstallation using Installer.

**To uninstall Tzunami Deployer and Tzunami Deployer Service Components using Installer**

1. Close **Tzunami Deployer**.
2. Unzip the zip file and run TzunamiDeployerSetup.msi or DeployerServiceComponentsSetup.msi. The Tzunami Deployer setup wizard (Welcome window) or Tzunami Deployer Service Components Setup wizard (Welcome window) will launch. To advance through the remove installation wizard, click "**Next**" at the bottom of the screen.

3. In the Change, repair or remove installation panel, click “**Remove**” button to proceed to remove the application from your system.
4. In the Ready to remove panel, click “**Remove**” to remove the application from your computer.
5. Click **Finish** to exit the setup wizard.



You can right-click Tsunami Deployer setup (TsunamiDeployerSetup.msi or DeployerServiceComponentsSetup.msi) file and select **Uninstall** to remove or uninstall the application from your computer.

## 2.4.2 Uninstallation using Control Panel

To uninstall Tsunami Deployer and Tsunami Deployer Service Components using Control Panel

1. Go to **Control Panel**.
2. Click **Programs > Programs and Features**.
3. Right-click the Tsunami Deployer 4.0 application you want to remove, and then click **Uninstall**.

## 2.4.3 Uninstallation using shortcuts.

To uninstall Tsunami Deployer and Tsunami Deployer Service Components using Uninstall Shortcuts.

1. Go to **Start** menu.
2. Search for **Uninstall Tsunami Deployer 4.0** or **Uninstall Tsunami Deployer 4.0 Service Components**, then click.
3. Windows Installer window will prompt a message “**Are you sure you want to uninstall this product?**”
4. Click “**Yes**” to uninstall the application from your computer.

### 3 LICENSING INFORMATION

Tsunami Deployer Licensing Service provides project managers with the centralized point of management for the Tsunami Deployer licenses. To ensure successful migration, you must install and configure the Tsunami Deployer Licensing Service.

When committing a Tsunami Deployer project, Tsunami Deployer Licensing Service verifies current licenses to migrate source ECM contents to Target SharePoint list and libraries. For more information about installation and configuration, see [Tsunami Deployer Licensing Guide](#).

For any question regarding usage of Tsunami Licensing Service, or for updated licenses, please contact the Tsunami Support Team at [support@tsunami.com](mailto:support@tsunami.com).



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