



Cloud Secure

Microsoft Office 365

Configuration Guide

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Introduction

About This Guide

This guide provides information on the deployment, configuration, and administration of Office 365 for seamless access over mobile and desktop devices for Cloud Secure solution. It does not cover information related to third party MDM configurations.

This document provides configuration of Office 365 on Pulse Connect Secure, configuration of Microsoft Office 365 Service Provider. This document does not cover basic configurations on Pulse Connect Secure (PCS) and Pulse Workspace Mobile Device Management (PWS) Server which are required to be enabled before configuring O365 and cloud service specific configurations outlined in this document. Basic configurations of PCS and PWS are covered as part of Cloud Secure Admin Guide.

MobileIron and AirWatch Third-party MDM servers can also be used in this solution to manage devices and to evaluate compliance posture of the mobile devices.

Overview

Cloud Secure provides seamless access to Office 365 users on their mobile and desktop devices. Office 365 is Microsoft's cloud offering which is a cloud version of Microsoft Office software services such as Office, Lync, Yammer, Exchange, and SharePoint. It uses Azure Active Directory service to manage users. Azure Active Directory extends on-premises Active Directory into the cloud, enabling users to use the primary organizational account to not only sign in to the domain-joined devices and company resources, but also the web and SaaS applications.

Cloud Secure leverages existing PCS authentication and authorization infrastructure to provide seamless access to Office 365. When user tries to access Cloud Application, compliance posture of the device is evaluated before providing access. On mobile devices, compliance posture is done based on the attributes information received from MDM server. On desktops, compliance posture is done using the host checker functionality provided by Pulse client. Once authentication and the compliance check of the device completes, access to the resources are provided.

Applications SSO Support Matrix

The user experience for SSO access is seamless. However, the SSO mechanism used, i.e web browser or ECP, varies based on the platform and the application usage. This section outlines details on the supported mechanism on different client applications.

The SAML web browser SSO is supported on:

- All Browsers (Chrome, Safari, Firefox, Internet Explorer)
- Microsoft applications such as Word, PowerPoint, Excel etc. on desktops and mobiles.
- Microsoft Outlook 2016
- Microsoft Outlook 2013 with a registry update. Refer to Desktop/Laptop section in End-User-Flow for more information on registry update.

The SAML ECP is supported on:

- iOS Native Mail.
- Gmail applications on Android.
- Mail app on Mac desktops
- Microsoft Outlook 2013 on desktops.

Cloud Secure deployment with ECP Active-Sync profile is supported only through Pulse Workspace and not with Third-party MDM Servers.

Prerequisites

Before enabling Cloud Secure Solution for Office 365 deployments, you should have Microsoft subscriptions and few other tools which are outlined below. The following are the minimum requirements needed before deploying Cloud Secure Solution for Office 365.

Few of these components would have been setup already if you have existing Office 365 deployment in your Enterprise. In such case, you just have to enable Single Sign-On settings to get it working.

Requirements	Description
Microsoft Office 365 subscription with Single Sign-on Capabilities	To configure Office 365 as Service Provider for Cloud Secure, you need to have subscription for Office 365 Business plan. To sign up for Office 365, refer to https://support.office.com/en-us/article/How-to-sign-up-for-Office-365-Admin-Help-9b23c065-eef9-4bf7-acf5-127eb46d5e67?ui=en-US&rs=en-US&ad=US
DNS Domain registered with Office 365	Office 365 SSO requires an Internet-resolvable domain name to use as the suffix in each user's username. In Office 365 for business, you can use a custom domain name with your email address. To set up a domain to use with Office 365, you must own a domain and change some of the DNS records for your domain. You can easily buy one from Office 365, or from another domain reseller or registrar. For details on buying a new domain, refer to https://support.office.com/en-us/article/How-to-buy-a-domain-name-1561140a-16a9-4a02-822d-a989250e479d?ui=en-US&rs=en-US&ad=US
Windows Local AD/LDAP Server	Local LDAP Server is required to maintain on-premises Active Directory users which are synchronized with Azure Active Directory.
Windows PowerShell Note: Install the latest version of Microsoft Online Services Sign-In Assistant for IT Professionals for Windows Powershell to work properly.	Remote PowerShell allows you to manage your Exchange Online settings from the command line. You use Windows PowerShell on your local computer to create a remote PowerShell session to Exchange Online. Single sign-on configuration process for hybrid Office 365 requires PowerShell to federate to Exchange. Windows PowerShell 3.0 arrives installed, configured, and ready to use on Windows 8, Windows 10 and Windows Server 2012.
Azure Active Directory Module for Windows PowerShell (64-bit version)	Microsoft Azure Active Directory Module for Windows PowerShell is a download for managing your organization's data in Azure AD. This module installs a set of cmdlets to Windows PowerShell; you run those cmdlets to set up single sign-on access to Azure AD and in turn to all of the cloud services you are subscribed to. You can download the module at http://go.microsoft.com/fwlink/p/?linkid=236297
Azure AD Connect for Directory Synchronizations	Directory Synchronization tool is required to synchronize your on-premises Active Directory users to the Azure Active Directory

Requirements	Description
	tenant associated with an Office 365 subscription. To download Microsoft Azure AD connect: https://www.microsoft.com/en-us/download/details.aspx?id=47594 For procedure to synchronize on premise directory with Azure AD, refer to: https://blogs.technet.microsoft.com/canitpro/2014/05/13/step-by-step-syncing-an-on-premise-ad-with-azure-active-directory/
Pulse Connect Secure	Pulse Connect Secure (PCS) enables security and controlled access to corporate data and applications for external users. In the Cloud Secure deployments, Pulse Connect Secure acts as SAML Identity Provider for supporting Single Sign-On.
Wild Card/SAN certificate for Office 365 domain	Wild card certificate or Subject Alternative Name certificate is required for the Office 365 domain.



Note: It is recommended to install all the above mentioned Microsoft related components in the same AD/LDAP server used for directory synchronization.

Configurations for Office 365 Deployment

This section covers the configurations that are involved in the deployment. The admin needs to configure PCS as an Identity Provider, O365 as a Service Provider and PWS to provision and push the profile information on mobile clients.

For basic configurations details, refer the following sections:

- [Configuring Pulse Connect Secure - Basic Configurations \(Mandatory\)](#)
- [Configuring Pulse Workspace](#)

Configuring Office 365

To enable Single Sign-On on Office 365 Service Provider, login to Local Windows AD/LDAP Server with supported powershell and internet connection to connect to Azure AD. Ensure that the machine used to connect has all the components mentioned in Prerequisites section installed.

1. Open Windows Powershell and execute the command **"connect-msolservice"** and Provide Microsoft Admin credentials to connect to Microsoft Azure Active Directory.
2. Run the following command to enable SSO for the domain:

```
Set-MsolDomainAuthentication -Authentication managed -DomainName <Domain Name(Ex: sample.net)>
```

3. Execute the following commands in PowerShell Prompt for SSO configuration:

```
$dom="<Domain Name>"
```

```
$FedBrandName="<Name>"
```

```
$url="https://< Alternate Host FQDN for SAML>/dana-na/auth/saml-sso.cgi"
```

```
$logouturl="https://< Host FQDN for SAML>/dana-na/auth/logout.cgi"
```

```
$issuer = "https://<Host FQDN for SAML>/dana-na/auth/saml-endpoint.cgi"
```

```
$ecpUrl="https://< Host FQDN for SAML>/dana-ws/samlecp.ws"
```

```
$certData="<Domain Certificate Data>"
```



Note:

- Domain Certificate Data can be obtained from PCS by navigating to **Authentication->Signing In->Sign-in SAML->Metadata Provider** and clicking on **'Download Metadata'**. The Certificate content from the downloaded file should be assigned to \$certData parameter.
- \$FedBrandName must be unique.
- Federation cannot be configured on the default O365 domain.
- Ensure that the federation is not enabled with the same URL's on any other domain.

```
Set-MsolDomainAuthentication -DomainName $dom -FederationBrandName $FedBrandName -
Authentication Federated -PassiveLogOnUri $url -SigningCertificate $certData -IssuerUri $issuer -
ActiveLogOnUri $ecpUrl -LogOffUri $logouturl -PreferredAuthenticationProtocol SAML
```


- f. Be sure to disconnect the remote powershell when you are finished.

Remove-PSSession \$Session

6. To enable modern authentication for Skype for Business Online, complete the following steps:
 - a. Install Skype for Business Online Windows PowerShell Module on On-Premise Active Directory Server <https://www.microsoft.com/en-us/download/details.aspx?id=39366>
 - b. Open Windows PowerShell on AD Server and execute following commands:

1. Run the following command to connect to Skype for Business using PowerShell.

\$sfboSession = New-CsOnlineSession -UserName user@domain.com (Office 365 Admin username). Provide admin password when prompted and Sign In.

2. Run the following command to import the Skype for Business Online cmdlets into your local Windows PowerShell session.

Import-PSSession \$sfboSession

3. (Optional) Run the following command to verify the current settings.

Get-CsOauthConfiguration

4. Run the following command to enable modern authentication for Skype for Business Online.

Set-CsOauthConfiguration -ClientAdalAuthOverride Allowed

5. Run the following command to verify that the change was successful.

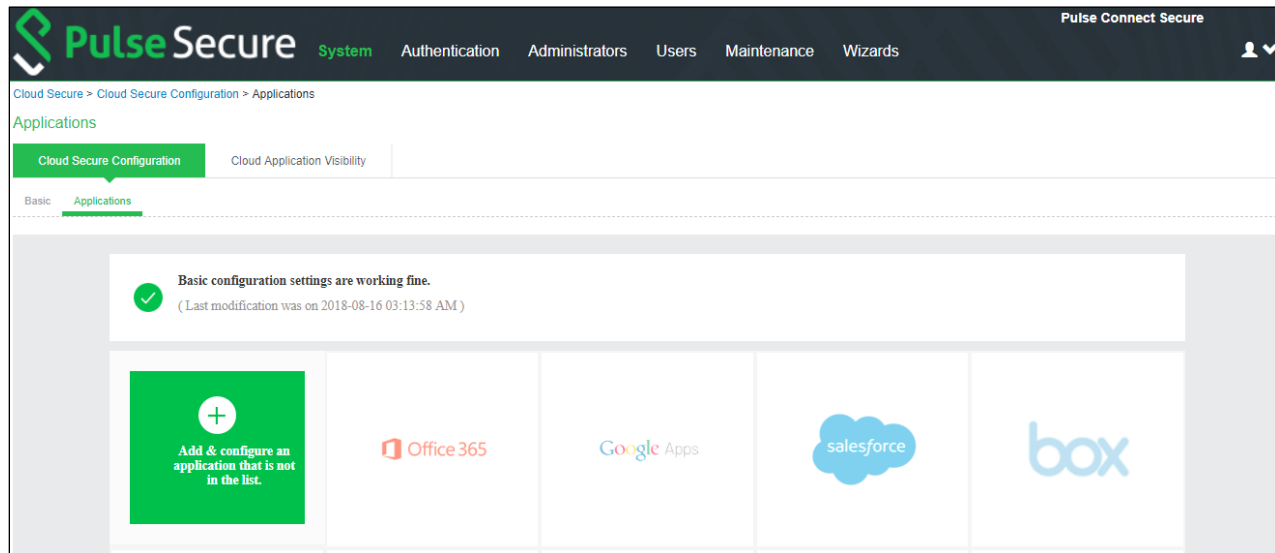
Get-CsOauthConfiguration

6. Be sure to disconnect the remote PowerShell when you are finished.

Remove-PSSession \$sfboSession

Configuring O365 Cloud Application on PCS

The Admin can configure the O365 Cloud Applications as Peer SP once the basic configurations are completed. The O365 application is available with some pre-populated application settings for ease of configuration.



To configure O365 application:

1. Click the **Office 365** icon to configure the application.
2. Select **Enable Directory Server lookup** to enable LDAP server for fetching additional attributes. If the LDAP server is already configured the details will be pre-populated. Admin also has a provision to create a new LDAP server in the same section.
3. Under Cloud Application Settings:
 - a. Enter the application name.
 - b. Click Browse and select the application icon.
 - c. Select the **Subject Name Format = Persistent**.
 - d. Enter the Subject Name.
 - e. Under Metadata details, the metadata file is uploaded from a remote URL by default. The Admin can also choose to upload the metadata file from a local file or through manual configuration by entering the Entity ID and Assertion Consumer Service URL.
 - f. (Optional) Set **Create Bookmark** to **Yes** to support IdP initiated SSO.
 - g. Set the Force Authentication Behaviour to **Ignore Re-Authentication**.
 - h. Set the Signature Algorithm to Sha-1 or Sha-256.
4. Under Enhanced Client or Proxy Profile (ECP) Settings.
 - a. Enable **Detect duplicate ECP request** to detect and stop from sending any duplicate ECP requests to backend AD server.
 - b. Enter the user threshold.
 - c. Enter the blocking time in minutes.
5. Under **SAML Customization & User Access settings**, assign the application to applicable roles.
6. Click **OK**.

Figure 1 Application Configuration

Cloud Secure > Cloud Secure Configuration > Applications > Application Configuration

Application Configuration

Cloud Secure Configuration | Cloud Application Visibility

Basic | Applications

Configuration of 'Office 365' application for Cloud Secure

(Last modification was on 2019-04-22 02:41:10 PM.)

Delete App

Enable Directory Server lookup [\(Show Details\)](#)

LDAP server for fetching additional attributes that needs to be sent as part of SAML Attribute statements.

Cloud Application Settings

(Few of the below settings are pre-populated based on the application)

Application Name	Office 365
Application Icon	<p>Browse cs-office-365.png Preview</p>
Subject Name Format	Persistent
Subject Name	<OBJECTGUID>
Metadata Details	<input type="radio"/> From Local File <input checked="" type="radio"/> From Remote URL <input type="radio"/> Manual configuration
Metadata URL	http://nexus.microsoftonline-p.com/federationmetadata/saml20/federationmetadata.xml
Create Bookmark	<input type="radio"/> Yes <input checked="" type="radio"/> No
Force Authentication Behavior	<input type="radio"/> Reject AuthnRequest <input type="radio"/> Re-Authenticate <input checked="" type="radio"/> Ignore Re-Authentication
Signature Algorithm	<input checked="" type="radio"/> Sha-1 <input type="radio"/> Sha-256

Enhanced Client or Proxy Profile (ECP) Settings View Blocked ECP Requests

Detect duplicate ECP requests

Enable detection of Duplicate ECP requests and stop them from sending to backend authentication server.

Users threshold

Blocking time (in minutes)

SAML Customization settings

Customize SAML attributes [\(Show Details\)](#)

Attributes to be sent in SAML Attribute Statements can be configured as name-value pairs and/or to be fetched from configured LDAP directory server.

User Access settings

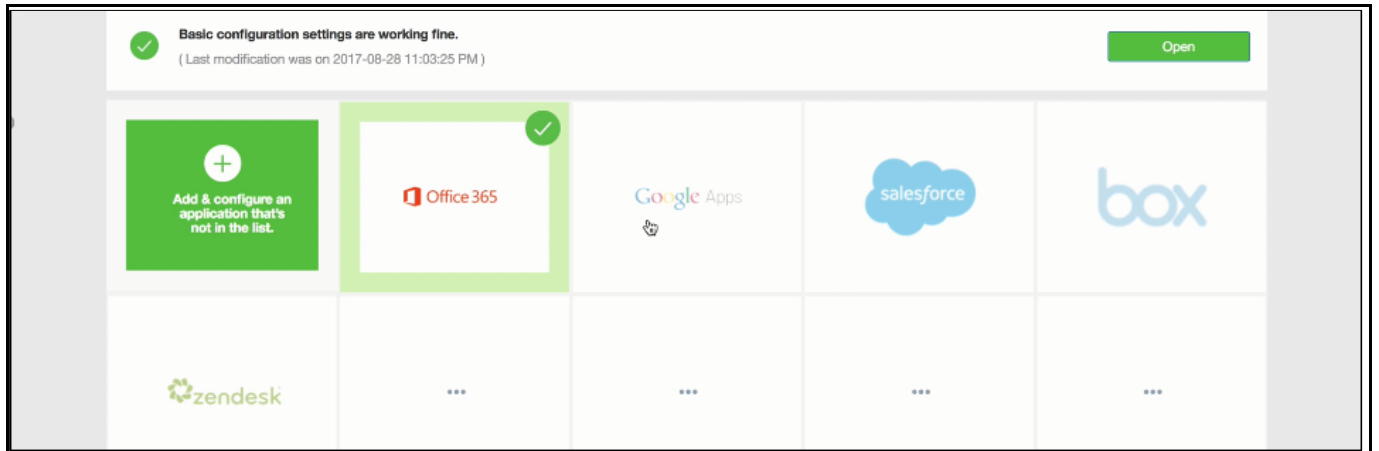
Select All Roles [\(Show Roles\)](#)

Allow access to the application only if the user belongs to below selected roles.

Continue with these settings? OK LATER

The following screen with a green tick mark on the O365 application is displayed after a successful configuration.

Figure 2 O365 Configuration Completed



End-User Flow

End user can access O365 services from both mobile and desktops and flow varies depending on the platform type. User flow for iOS, Android and desktop platforms are listed below.

iOS Mobile (iOS Native Mail Client)

1. User receives a welcome email once admin creates an account in Pulse Workspace.
2. Follow the instructions outlined in the email and register the mobile device.
3. Upon successful registration, user is notified to install the enterprise applications from Pulse Workspace. In addition to this Active Sync and VPN profiles are installed on the client device.
4. Go to **Setting > Mail, Contact, Calendars > Accounts** and verify that Active Sync Profile is added with required details.
5. Launch the iOS Native Mail client application for accessing the emails using SSO which doesn't require credentials.

Android Mobile (Divide Productivity App)

1. User receives a welcome email once admin creates an account in Pulse Workspace.
2. Follow the instructions outlined in the email and register the mobile device.
3. Upon successful registration, user is notified to install the enterprise applications from Pulse Workspace. In addition to this Active Sync and VPN profiles are installed on the client device.
4. Launch the Divide Productivity Application for accessing the emails using SSO which doesn't require credentials.

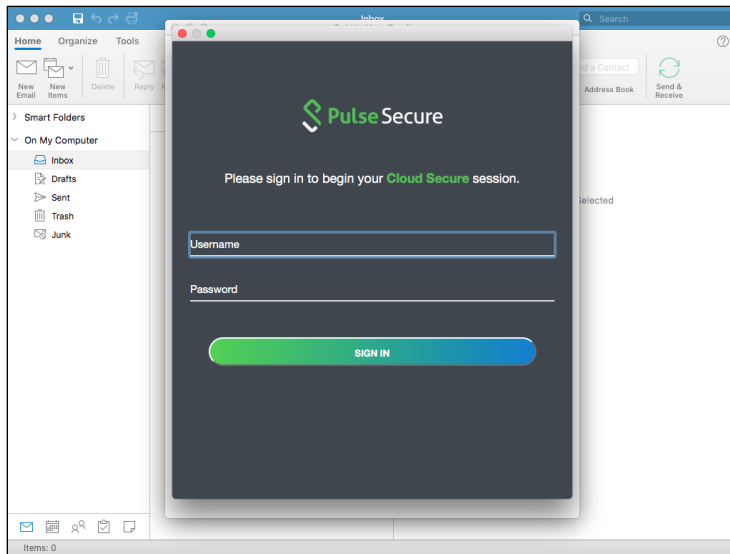
Microsoft Outlook Application (Android & iOS)

1. User receives a welcome email once admin creates an account in Pulse Workspace.
2. Follow the instructions outlined in the email and register the mobile device.
3. Upon successful registration, user is notified to install the outlook application from Pulse Workspace. In addition to this, VPN profile gets installed on the client device.
4. Launch the Microsoft Outlook Application. VPN tunnel gets established automatically in iOS whereas in Android user has to manually establish VPN connection from Pulse client. Choose 'Office 365' from the list of Email services and input Username. User should get redirected automatically and will be give accesss to Emails without asing for credentials again.

Screenshots for Outlook Application with HC on Mac OS

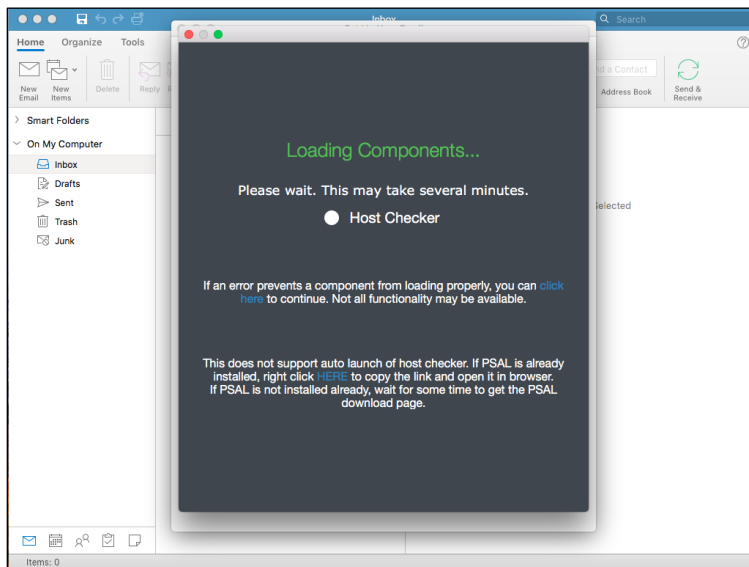
1. Open the Outlook application, enter the username and password and click **Sign-In**

Figure: Pre Sign-In Notification



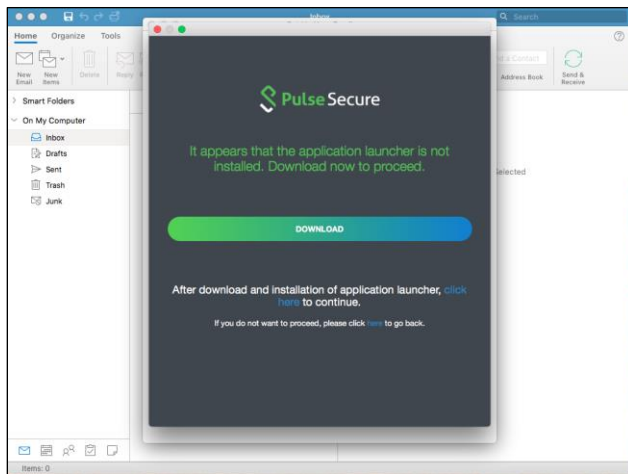
2. The HC page is displayed.

Figure: HC page



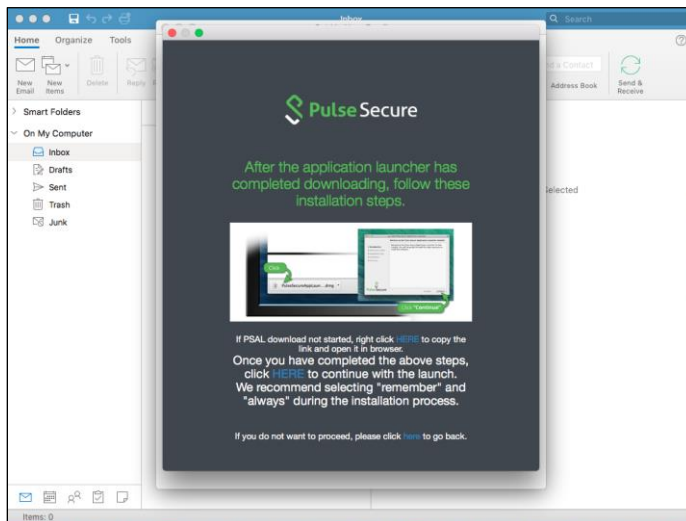
3. If PSAL is not installed wait for the PSAL download page.

Figure: PSAL download



4. After clicking on Download, copy the first Click **here** link and open it in a browser to download and install PSAL.

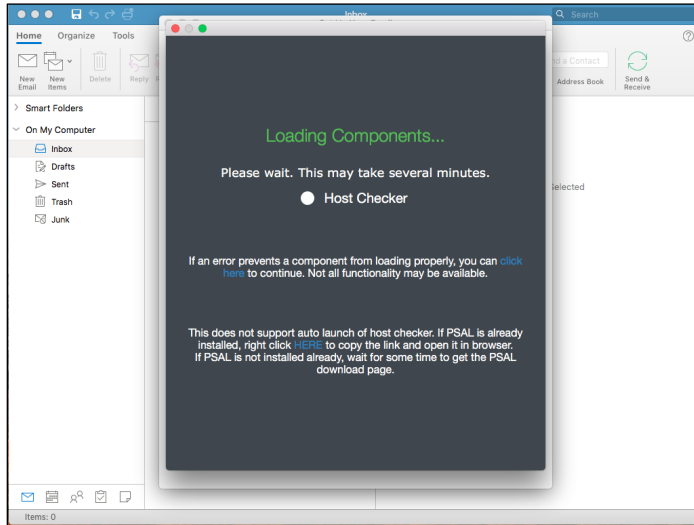
Figure: Install PSAL



Once the above step is completed, click on the second Click **HERE** link to continue with the HC launch.

5. If PSAL is downloaded, copy the Click Here link and open it in a browser to run the HC.

Figure: Launch HC



Desktops/Laptops

Cloud Secure requires Microsoft Office 2013 or 2016 client for providing SSO access to emails through modern authentication.

In Office 2016 client, Microsoft has added support for modern authentication (for doing web browser SSO) and is enabled by default. Prior to this, earlier versions of outlook client supports only ECP profile for SAML exchange.

Follow the below steps for enabling modern authentication in Office 2013 clients on Windows platform:

1. Update Office 2013 client to obtain the update that includes the new Azure Active Directory Authentication Libraries (ADAL) based authentication features.
2. Set the following registry keys.

Registry Key	Type	Value
HKCU\SOFTWARE\Microsoft\Office\15.0\Common\Identity\EnableADAL	REG_DWORD	1
HKCU\SOFTWARE\Microsoft\Office\15.0\Common\Identity\Version	REG_DWORD	1



Note: End-Users are usually not recommended to change the registry settings.

Follow the below steps for setting up Outlook client to access emails:

1. Add email account in Outlook client.
 - For Windows, navigate to **File > Add Account**. Provide name, email address and password and click **Next**.
 - For Mac, navigate to **Tools > Account**. Click + and Select **New Account**. Provide email address and click **Continue**. Provide password in the Account Information prompt and click **OK**.
2. Outlook client starts searching for server settings and once the details are obtained, new browser window is opened and gets redirected to PCS login page.
3. Provide user credentials and 'Sign In' for authenticating with PCS.
4. After successful authentication with PCS, SAML SSO is triggered and email account gets added to Outlook.



Note: End user needs to manually establish VPN connection with PCS before accessing emails through Outlook client. This enables SSO access to the cloud resource by leveraging re-use VPN functionality.

Other Office365 Applications

1. Access any other Office 365 applications (Word, Excel, PowerPoint, OneDrive, Skype For Business etc.)
2. To Sign In, provide Email Address and Click **Next**.
3. User will be redirected to PCS login page. Provide user credentials and Sign In for authenticating with PCS.
4. After successful authentication, user will be provided access to the application.

Troubleshooting

Cloud Secure deployment involves PCS, PWS/MDM, Cloud Service Provider and Pulse Mobile client. Troubleshooting starts with identifying the exact components/devices that might be causing the problem. Hence for troubleshooting any issue below set of logs has to be collected.

- On PCS : Enable the event codes - saml, auth, soap at level "50" and collect debug logs. You can also capture the Policy traces for the specific user.
- On Mobile Client : You can use Send Logs feature for collecting the client logs.
- On Browsers: You can download the SAML tracer plugin and use it to validate the SAML message flows.

Troubleshooting Tips

1. Check User Access logs to see if SAML ECP response is sent by PCS.
2. Check if PCS and O365 SP are in same time zone. NTP Server can also be configured on PCS to resolve time zone issues.
3. Possible causes of error "Cannot Get Mail. The connection to the server failed" on the Native Mail App but User Access Logs on PCS shows SAML ECP response sent successfully.
 - Signing Certificate configured in Basic Identity Provider settings in PCS is different from the certificate configured on O365 SP.
 - IDPEmail attribute is not configured in Peer SP configuration on PCS.
4. Possible causes of error "**Cannot Get Mail. The connection to the server failed**" on the Native Mail App and User Access Logs on PCS shows error 'SAML ECP Login : Building of SAML ECP response failed for user <username>'.
 - Check if LDAP server details are correct and LDAP server is configured as Directory Server in O365 Peer SP.
5. Possible causes of error "**Cannot Get Mail. The connection to the server failed**" on the Native Mail App and User Access Logs on PCS shows error '**SAML ECP Login : failed for user <username>**'.
 - Check if the compliance check passed on the user device and user role is assigned to the user.
6. If there is an error '**No SP configured with entity ID : urn:federation:MicrosoftOnline**' on user device, check Event logs for similar error message. It implies that PCS is not configured with O365 Peer SP.

Requesting Technical Support

Technical product support is available through the Pulse Secure Global Support Center (PSGSC). If you have a support contract, then file a ticket with PSGSC.

- Product warranties—for product warranty information, visit <https://www.pulsesecure.net>.