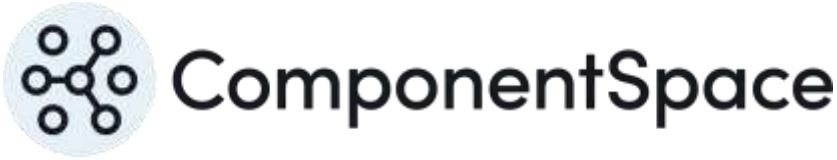


ComponentSpace
SAML for ASP.NET Core
Microsoft 365
Integration Guide

www.componentspace.com

Contents

Introduction

This document describes integration with Microsoft 365.

For information on configuring Microsoft 365 for SAML SSO, refer to the following articles.

https://www.microsoft.com/en-us/download/details.aspx?id=42041

https://msdn.microsoft.com/en-us/library/azure/dn641269.aspx

Microsoft 365 is configured using Windows PowerShell cmdlets.

To download the cmdlets and for further information, refer to the following articles.

https://docs.microsoft.com/en-au/powershell/module/MSOnline

https://docs.microsoft.com/en-us/powershell/module/msonline/set-msoldomainauthentication

Configuring a Domain for SAML SSO

Microsoft 365 supports one or more domains that may be added through the administration portal.

Once added, run the Set-MsolDomainAuthentication PowerShell cmdlet to configure single sign on for the domain.

The following example demonstrates using this cmdlet.

For convenience, it's recommended this is included in a PowerShell .ps1 script file.

```
# Configure Microsoft 365 SSO

# Prompt for the administrator's credentials
$cred=Get-Credential
Connect-MsolService -Credential $cred

$domain = "componentspace.com"
$issuer = "https://ExampleIdentityProvider"
$ssoUrl = "https://localhost:44313/SAML/SingleSignOnService"
$logoffUrl = "https://localhost:44313/SAML/SingleLogoutService"
$cert =
"MIIDATCCAemgAwIBAgIQdPDr/iI1jbhDMTj5VYya+TANBgkqhkiG9w0BAQsFADAWMRQwEgY
DVQQDEwt3d3cuaWRwLmNvbTAeFw0xMzExMjIwODIwNTJaFw00OTEyMzExNDAwMDBaMB
YxFDASBgNVBAMTC3d3dy5pZHAuY29tMIIBIjANBgkqhkiG9w0BAQEFAAOCAQ8AMIIBCgKCA
QEAi0XJRLDrcbSyqUd8XG4BgxObQMYLAkENlmJOsAEpl1xMabUiq1X4v0Fc8ZaCpUE3fFGEN
MEWgBjnQUUE0WtVUh5JPMsukolf9qljbJkCkvHXH3O4Uen7vA2oNQWt4bK96SpXADpZKFvp
k4D7btKOgU/NamjiqwHI4fI8kFJKwKBJchRPUQdC4ljRRmGIrSnpY+t25/d3KGXwbe9Z2MGGy2
hyA0tgOWuchIK+1vAKKBUh9nDEXfr80+xW680w5TqHyDcqbWvQsXXhH0yZLfINKNS6/IojHPs
By7tf36Ck9H5Pw+1PPu6NzBFSz5ZkC8KzrS6vuZXc/ImYrnheMQsqqQIDAQABo0swSTBHBgN
VHQEEQDA+gBD4dY4MCPEmG4sxZrcni8vtoRgwFjEUMBIGA1UEAxMLd3d3LmlkcC5jb22CE
HTw6/4iNY24QzE4+VWMmvkwDQYJKoZIhvcNAQELBQADggEBABhak2aR84MCdyXO4AKOQv
ZybsCMdhRq2i1i0WhD4/xe7Ry5haC6TeXIp8Q4cC3MzsrDal74xHI714BW0loafpHAsXfd9EvkK
TVaJ+1Zpe16+SsTL4upS1cGydigqwUzsdpGck4wI1moJ9477O+46lf2gF27u9Cdk7Onxe/5dwLI
xWmkVRdbQIH5GsKUeAjOdRQmy+X1MX6KyRoaCwWGYwxi5Sa+r+3AtDvD4BX0EJGKFZeeM
```

```
3J/yMpYh/75aN0cFQfDEdJ7C5NE0vonidE0QtIFvsoWtZUtur2fiW7yBxse38TPQsi2r6A6c/TZsZ5
bq31yh3gr3kSN62H8iVKLQLA="

Set-MsolDomainAuthentication -FederationBrandName $domain -DomainName $domain -
Authentication federated -PreferredAuthenticationProtocol SAMLP -IssuerUri $issuer -
SigningCertificate $cert -PassiveLogOnUri $ssoUrl -LogOffUri $logoffUrl –Verbose
```

The Set-MsolDomainAuthentication cmdlet configures authentication for the domain.

The "-Authentication federated" parameter specifies to use single sign on.

The "-PreferredAuthenticationProtocol SAMLP" parameter specifies to use the SAML protocol rather than WS-Federation.

$domain

The $domain is a domain name configured in Microsoft 365.

$issuer

The $issuer is the identity provider's name. This name must match with the local identity provider name. For example, if the LocalIdentityProviderConfiguration Name is https://ExampleIdentityProvider, then the $issuer must be set to the same value.

Microsoft 365 restricts the issuer to a single domain. If the issuer is already defined for a domain, an "Unable to convert the domain. The settings you selected are already in use." error occurs.

$ssoUrl

The $ssoUrl is the identity provider's SSO service URL. In browser-based SP-initiated SSO, Microsoft 365 will send an authentication request to this endpoint.

$logoffUrl

The $logoffUrl is the identity provider's SLO service URL.

$cert

The $cert is the identity provider's base-64 encoded certificate. Microsoft 365 will use this certificate to verify signed SAML assertions from the identity provider.

Confirming a Domain's SSO Settings

Run the Get-MsolDomainFederationSettings cmdlet to confirm a domain's SSO settings.

```
$domain = "componentspace.com"
Get-MsolDomainFederationSettings -DomainName $domain
```

Run the Get-MsolDomainFederationSettings cmdlet to list the domains and their authentication methods.

```
Get-MsolDomain
```

Updating a Domain's SSO Settings

If the federation settings are to be updated, the authentication method must first be reset to managed.

The following example cmdlet resets the domain to managed.

```
$domain = "componentspace.com"
Set-MsolDomainAuthentication -DomainName $domain -Authentication Managed
```

Once reset, run the Set-MsolDomainAuthentication cmdlet to configure single sign on for the domain.

Adding a User

Run the New-MsolUser cmdlet to add a user to the domain.

Refer to the Microsoft document for instructions on bulk provisioning.

```
New-MsolUser -UserPrincipalName test@componentspace.com -ImmutableId 12345678 -
FirstName Test -LastName User -DisplayName "Test User" -LicenseAssignment
"componentspaceau:ENTERPRISEPACK" -usageLocation US
```

UserPrincipalName

The UserPrincipalName is the primary user identity.

ImmutableId

The ImmutableId is uniquely identifies the user.

LicenseAgreement

The LicenseAssignment assigns licenses to the user. Use the Get-MsolAccountSku cmdlet to select a value for the license assignment.

Immutable Identifier

The immutable identifier uniquely and permanently identifies a user.

The SAML response sent by the identity provider includes the immutable identifier as the subject name identifier in the SAML assertion. The user principal name is included as the IDPEmail SAML attribute. Both these values must match with the Microsoft 365 configuration for single sign on to be successful.

For user information stored in Active Directory, the user's object GUID (objectGUID attribute) may be used as the immutable identifier.

For user information stored in a database or some other user registry, a unique identifier must be assigned as the immutable identifier.

In the example identity provider, a fixed immutable identifier is used.

Confirming a User's Settings

Run the Get-MsolUser to confirm a user's settings.

```
Get-MsolUser -UserPrincipalName test@componentspace.com
```

Additional details, including the immutable identifier, may be retrieved using a PowerShell select.

```
Get-MsolUser -UserPrincipalName test@componentspace.com | select UserPrincipalName, ImmutableId, FirstName, LastName
```

Updating a User

Users may be updated by using the PowerShell Set-MsolUser cmdlet.

```
Set-MsolUser -UserPrincipalName test@componentspace.com -ImmutableId 12345678
```

Deleting a User

During testing, it may be necessary to delete and reconfigure users in Microsoft 365.

Users may be deleted using the Microsoft 365 administration portal or by using the PowerShell Remove-MsolUser cmdlet.

```
Remove-MsolUser -UserPrincipalName test@componentspace.com
```

Deleting a user moves the user to the Microsoft 365 recycle bin. To create a user with the same name, the user first must be removed from the recycle bin. This requires the object identifier associated with the user.

The Get-MsolUser cmdlet is used to retrieve the object identifier.

```
Get-MsolUser -ReturnDeletedUsers -SearchString test@componentspace.com | select UserPrincipalName, ObjectId
```

The Remove-MsolUser cmdlet is used to delete the user from the recycle bin.

```
Remove-MsolUser -RemoveFromRecycleBin –ObjectId 67d6bdaa-b312-41b9-b8d0-8311dabc07ed
```

Microsoft 365 SAML Metadata

Metadata may be downloaded from:

https://nexus.microsoftonline-p.com/federationmetadata/saml20/federationmetadata.xml

Identity Provider Configuration

The following partner service provider configuration is included in the example identity provider's SAML configuration.

```
{
 "Name": "urn:federation:MicrosoftOnline",
 "Description": " Microsoft 365",
 "SignAssertion": true,
 "AssertionConsumerServiceUrl": "https://login.microsoftonline.com/login.srf",
 "SingleLogoutServiceUrl": "https://login.microsoftonline.com/login.srf",
 "NameIDFormat": "urn:oasis:names:tc:SAML:2.0:nameid-format:persistent",
 "AuthnContext": "urn:oasis:names:tc:SAML:2.0:ac:classes:PasswordProtectedTransport",
 "PartnerCertificates": [
  {
   "FileName": "certificates/microsoft365-1.cer"
  },
  {
   "FileName": "certificates/microsoft365-2.cer"
  }
 ],
 "MappingRules": [
  {
   "Rule": "Clear"
  },
  {
   "Rule": "Constant",
   "Value": "12345678"
  },
  {
   "Rule": "Constant",
   "Name": "IDPEmail",
   "Value": "test@componentspace.com"
  }
 ]
}
```

Some of this information was extracted from the Microsoft 365 SAML metadata.

The two partner certificate files correspond to the two signing certificates included in the metadata.

The mapping rules are for testing purposes only and should not be used in production.

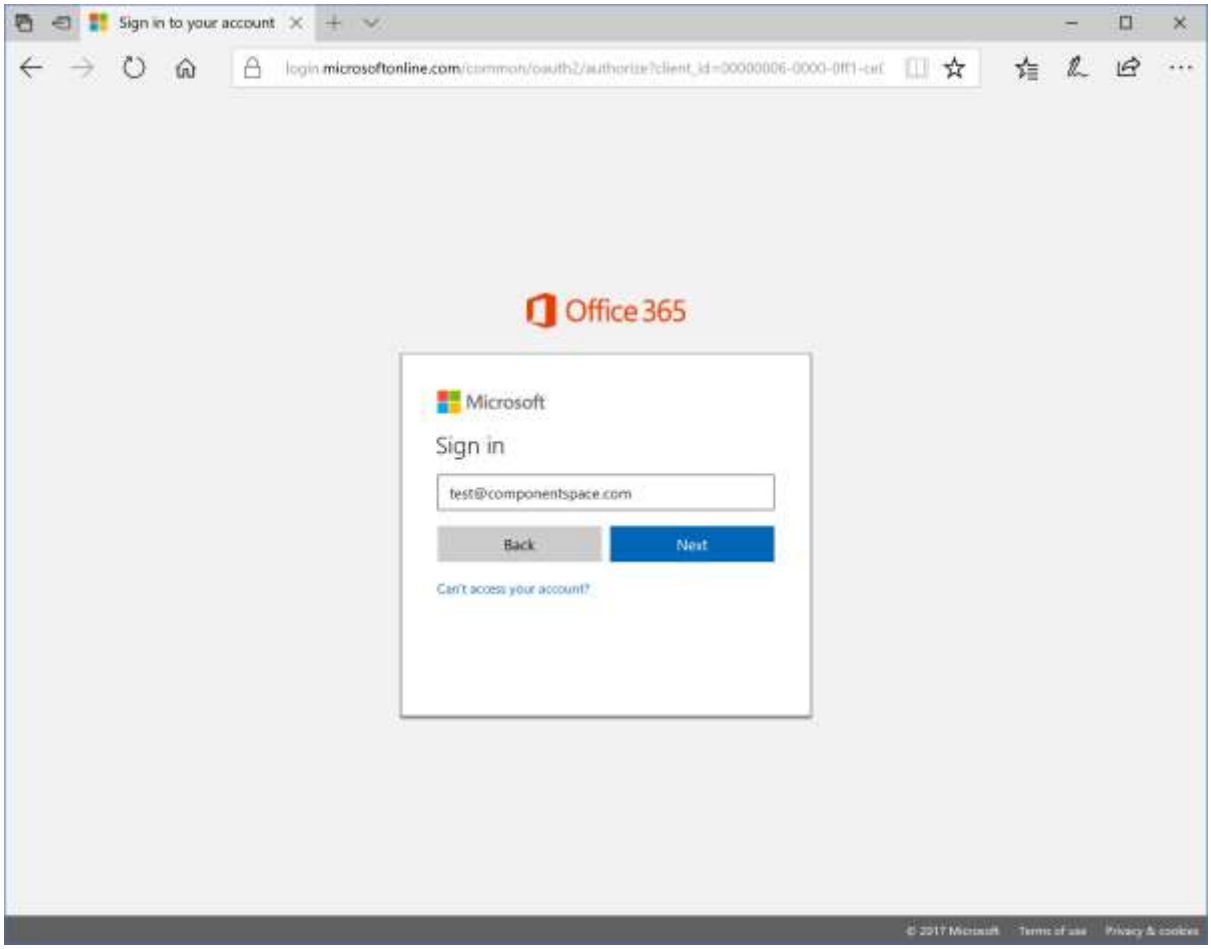
Ensure the PartnerName specifies the correct partner identity provider.

```
"PartnerName": "urn:federation:MicrosoftOnline"
```

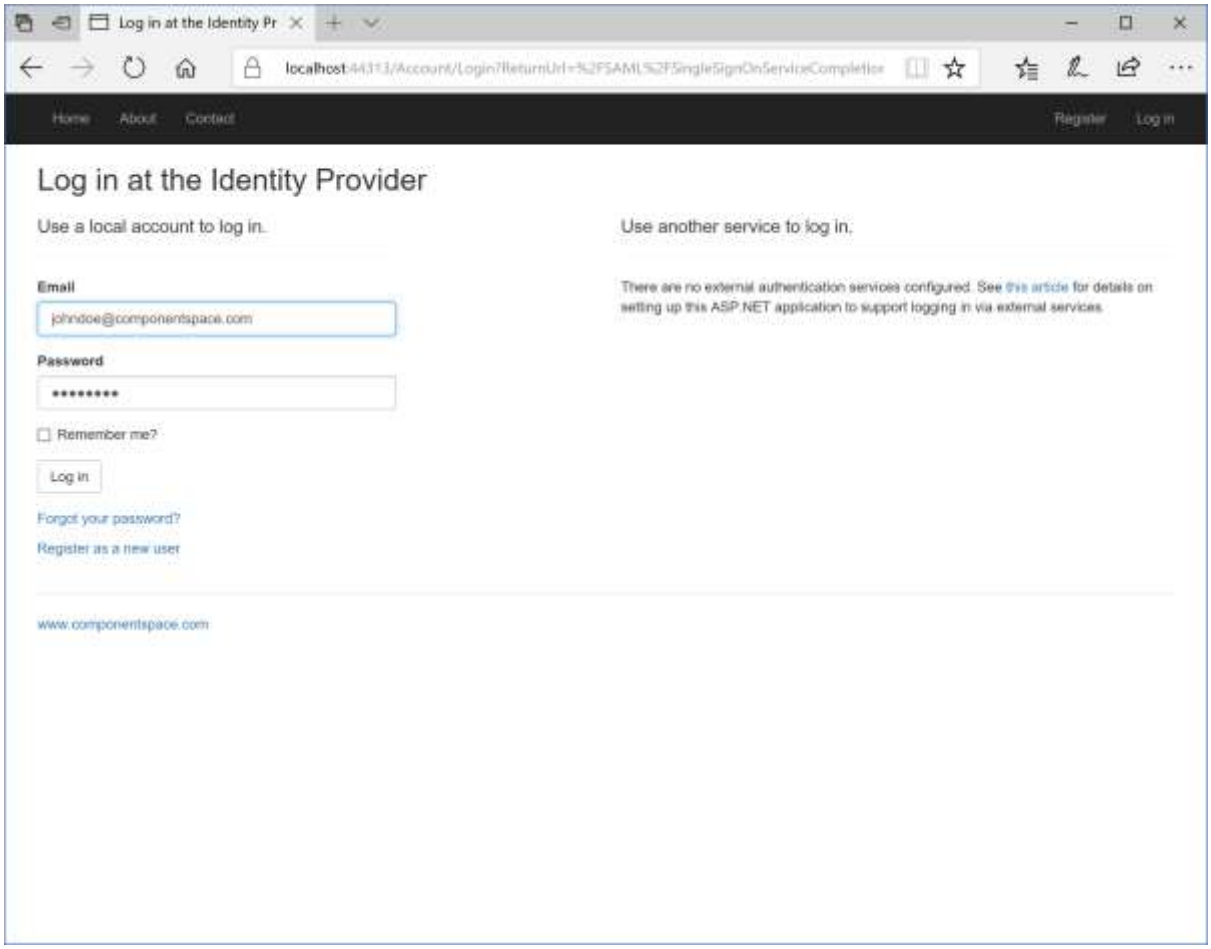
SP-Initiated SSO

Browse to https://portal.microsoftonline.com.

Specify a user with a federated domain name (e.g. test@componentspace.com).

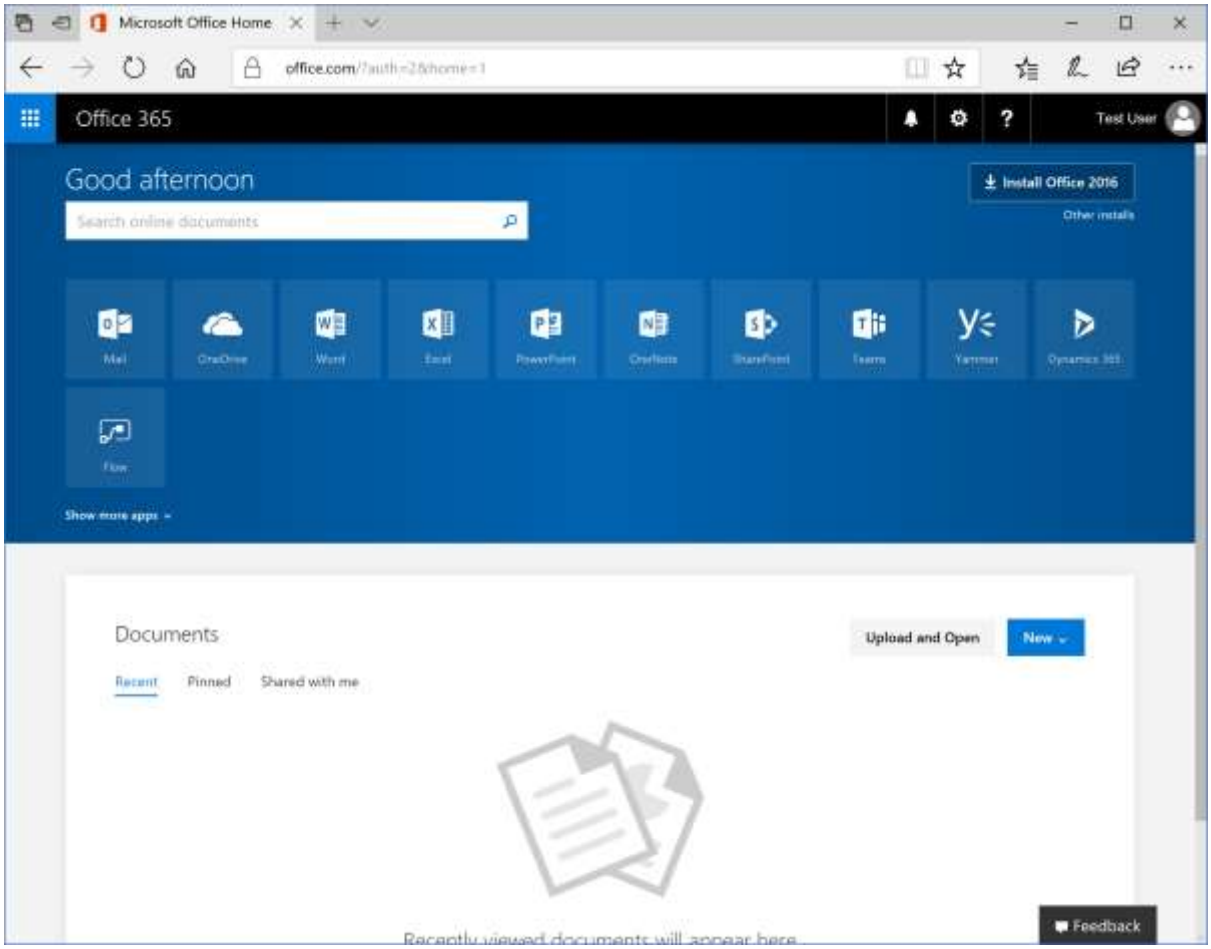


Microsoft 365 passes control to the identity provider.



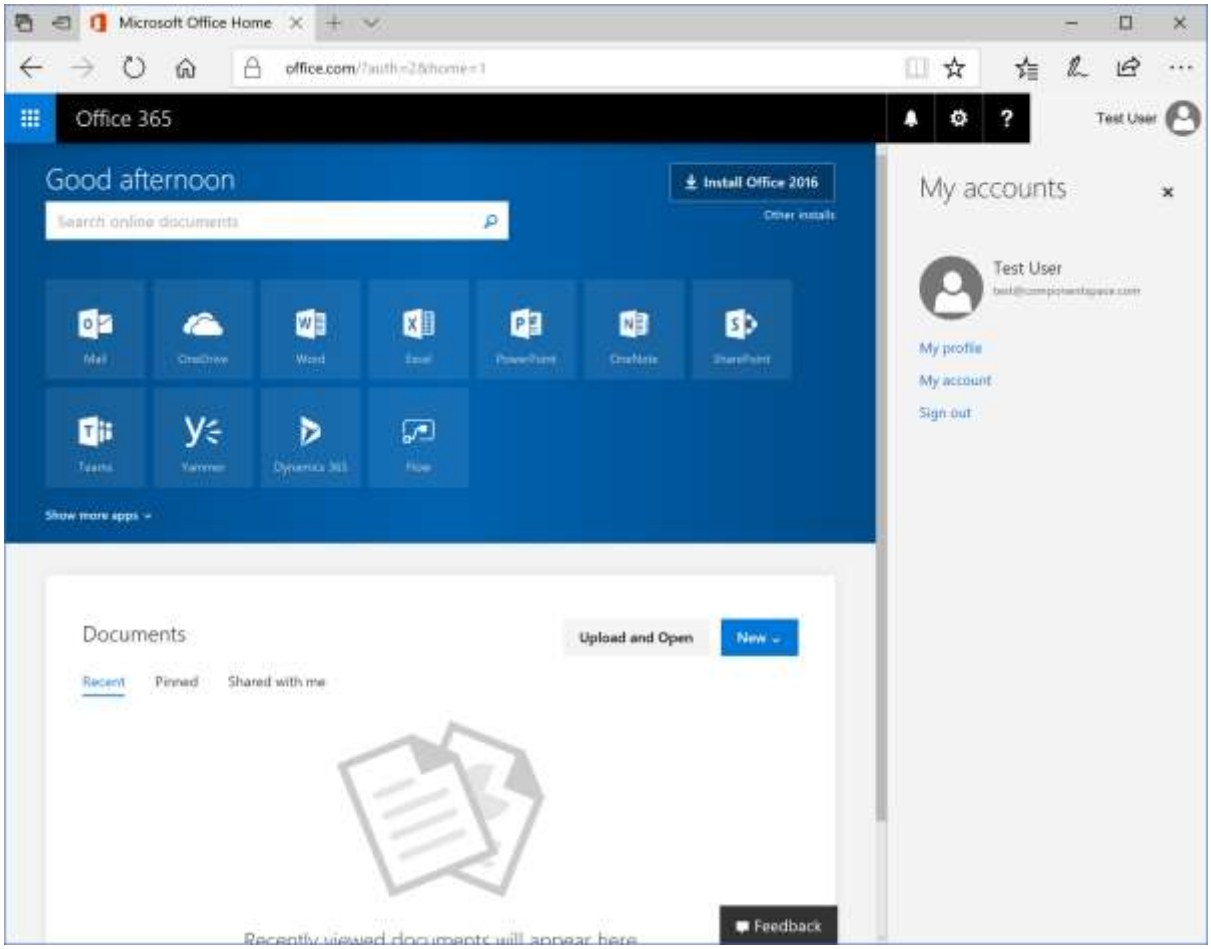
Login at the identity provider.

The identity provider returns control to Microsoft 365 where the user is automatically logged in.



SP-Initiated SLO

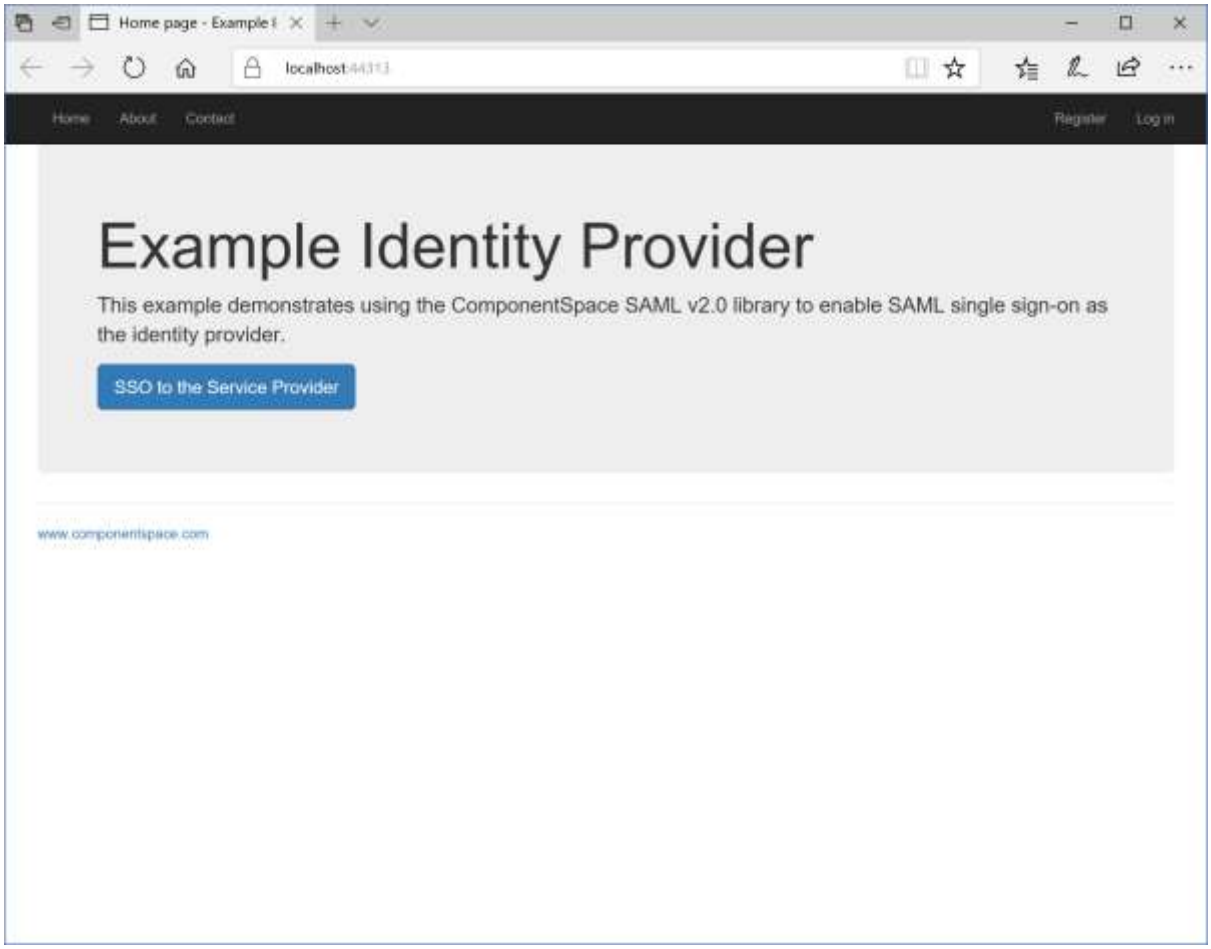
Logout from Microsoft 365.



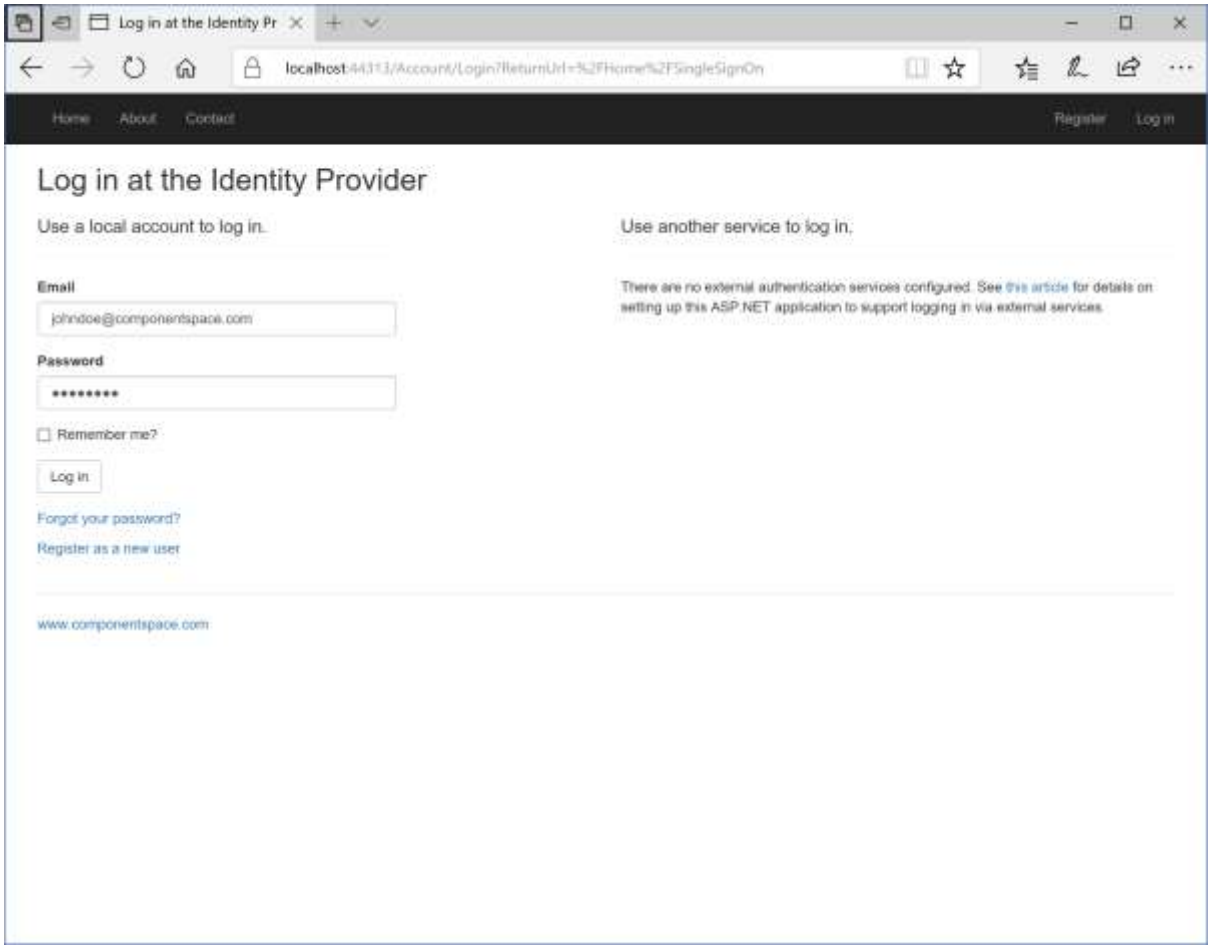
The user is also logged out from the identity provider.

IdP-Initiated SSO

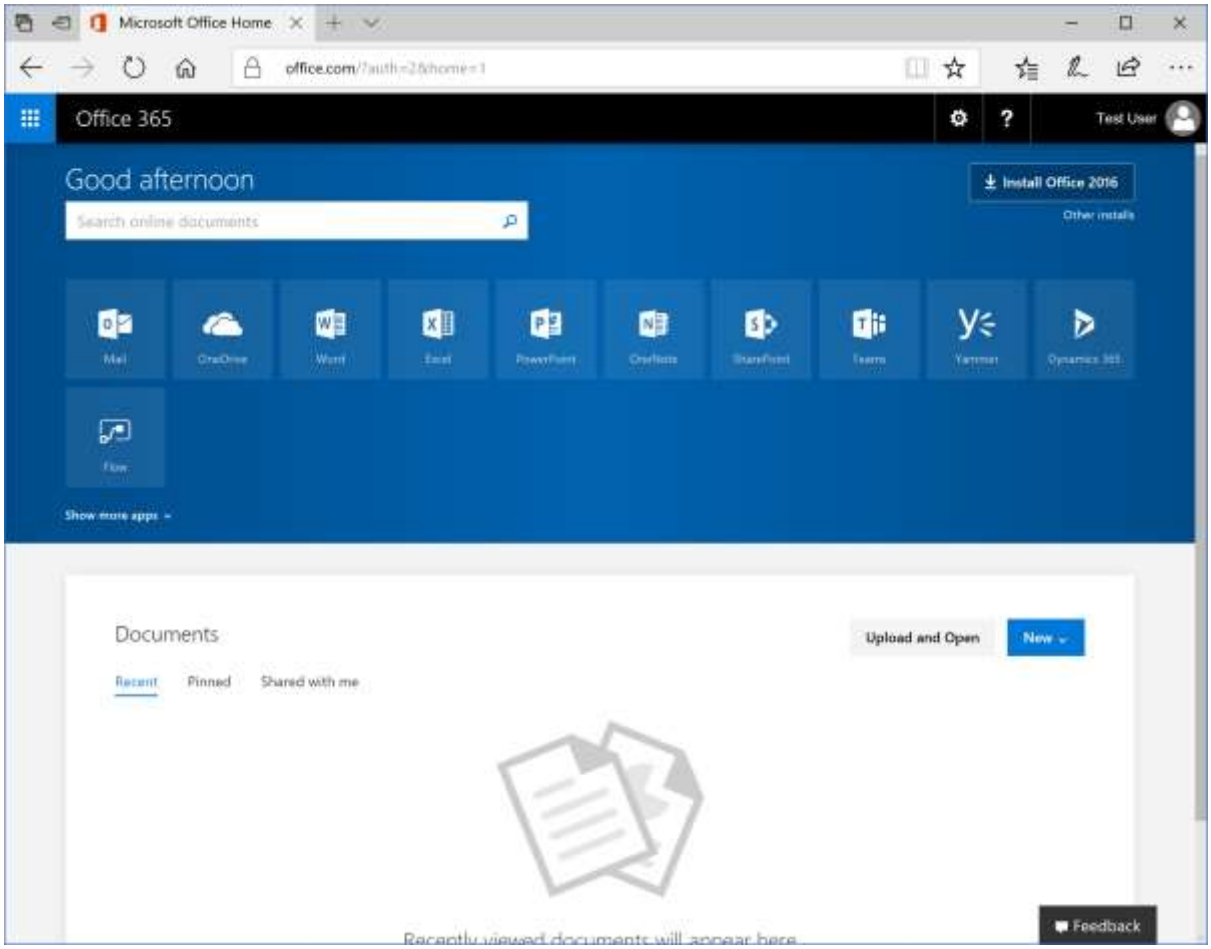
Browse to the identity provider.



Click the button to SSO.

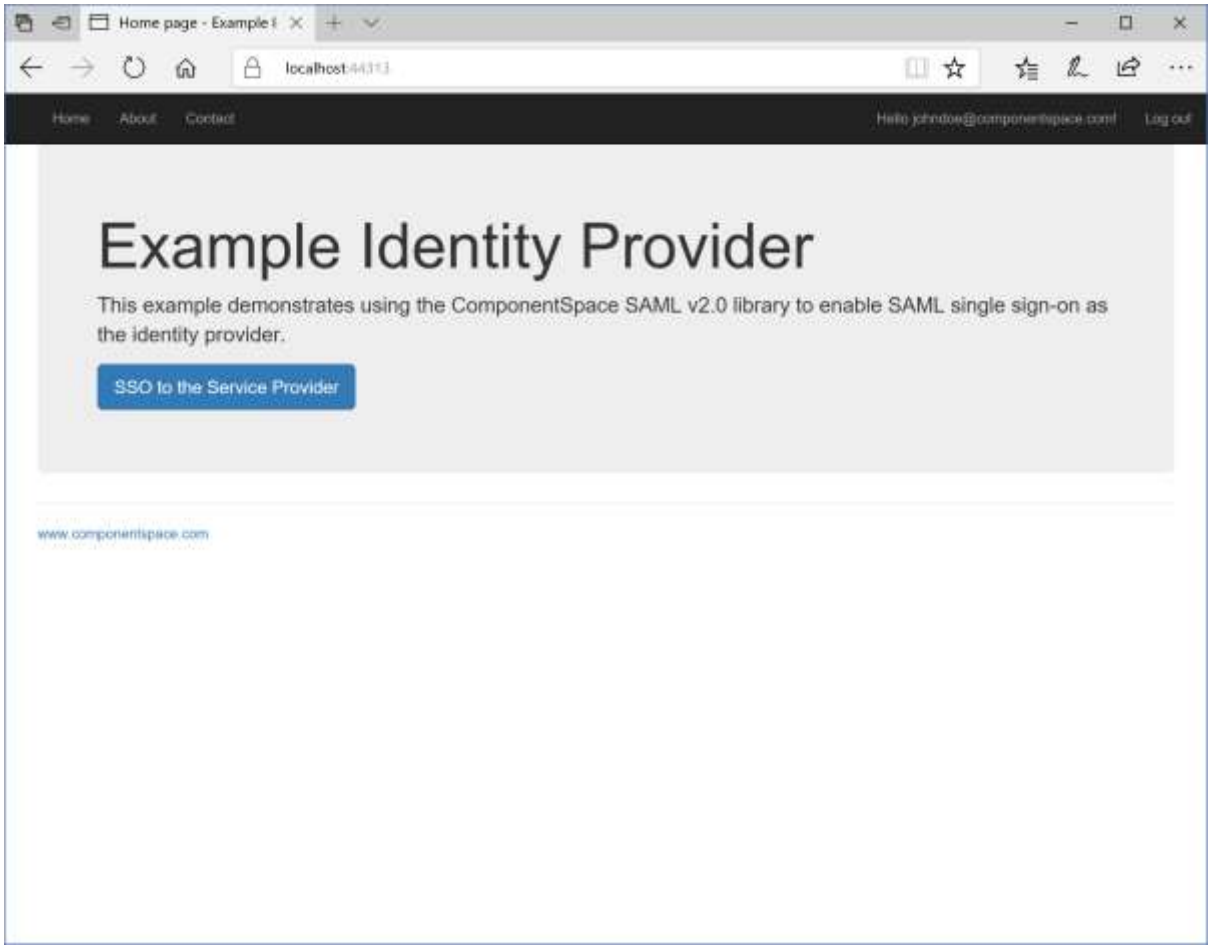


Login and control passes to Microsoft 365 where the user is automatically logged in.



IdP-Initiated SLO

Browse to the identity provider and logout.



Control passes to Microsoft 365 but the user is not logged out.

This is a limitation in Microsoft 365 of a less frequently used scenario.

The user should close the browser to ensure successful logout.