

# MachPanel KeyCloak SSO Authentication

## Summary

This article provides you information about how to configure MachPanel KeyCloak SSO Authentication in MachPanel.

## Applies to

Applies to MachPanel v7.2.11 and above.

## KeyCloak Single-Sign On Overview


KeyCloak is an Open Source Identity and Access Management. It is used to Add authentication to applications and secure services with minimum effort.

Users authenticate with KeyCloak rather than individual applications. This means that your applications don't have to deal with login forms, authenticating users, and storing users. Once logged-in to KeyCloak, users don't have to login again to access a different application. This also applied to logout. KeyCloak provides single-sign out, which means users only have to logout once to be logged-out of all applications that use KeyCloak.

## Integrating KeyCloak SSO with MachPanel

### Step 1:

- Download [KeyCloak](#)

 **KEYCLOAK**

Guides Docs Downloads Community Blog

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## Downloads

21.0.1

For a list of community maintained extensions check out the [Extensions](#) page.

### Server

Keycloak	Distribution powered by Quarkus	<a href="#">ZIP (sha1)</a>	<a href="#">TAR.GZ (sha1)</a>
Container image	For Docker, Podman, Kubernetes and OpenShift	<a href="#">Quay</a>	
Operator	For Kubernetes and OpenShift	<a href="#">OperatorHub</a>	

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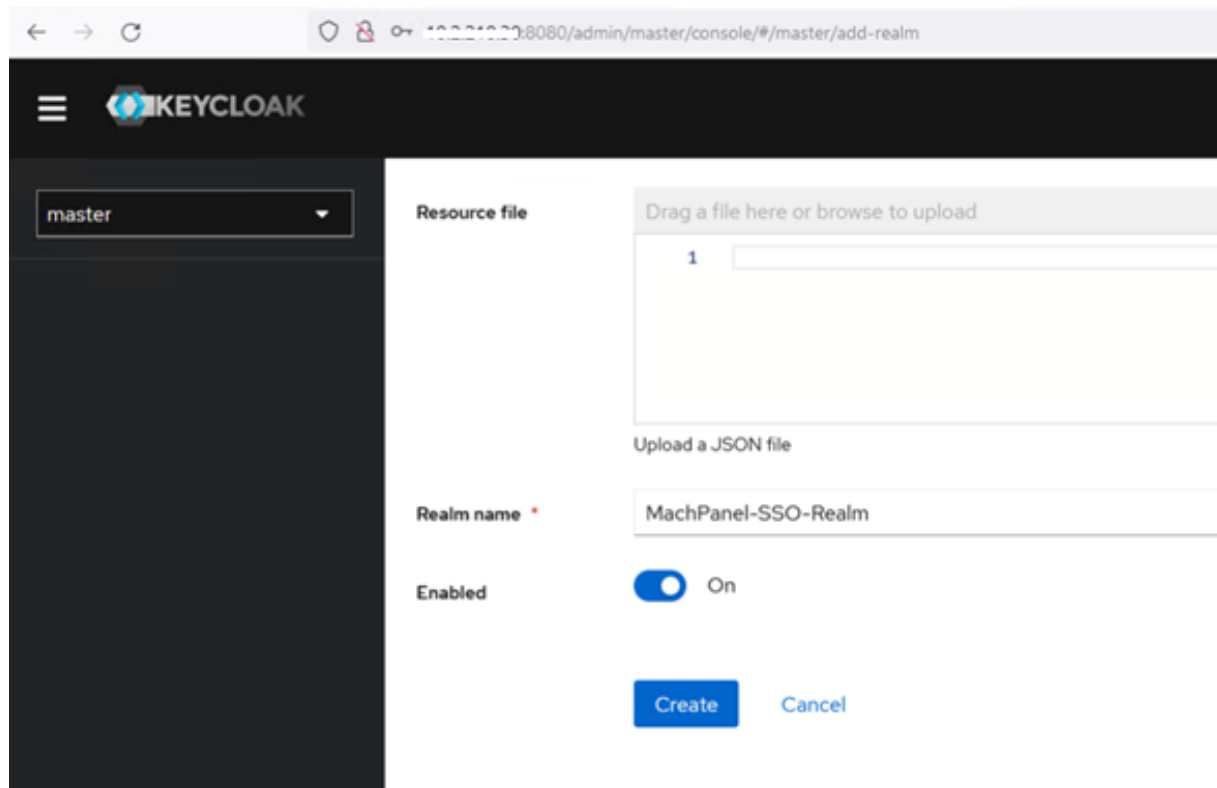
- Unzip the Package.
- Open CMD and navigate to BIN folder inside the directory containing the unzipped package.
- Execute: **kc.bat start-dev**

```
c:\keycloak-20.0.2\bin>kc.bat start-dev
```

- Browse **https://<IP.of.KeyCloak.Machine>:8080** (Replace "<IP.of.KeyCloak.Machine>" with the IP of KeyCloak Server.
- Create Admin user for Master Realm. Like:
  - o Username: Admin
  - o Password: Admin
- Login via Admin User.

### Step 2: (If you already have Realm available then Skip this step and move to Next Step)

- Always create New Realm. **Do not use Master Realm**



The screenshot shows the Keycloak Admin Console interface. The browser address bar indicates the URL: `https://192.168.1.10:8080/admin/master/console/#/master/add-realm`. The left sidebar shows the 'master' realm selected. The main content area is titled 'Resource file' and contains a file upload section with the text 'Drag a file here or browse to upload'. Below this is a list of uploaded files, currently empty. There is a section for 'Upload a JSON file'. The 'Realm name' field is filled with 'MachPanel-SSO-Realm'. The 'Enabled' toggle switch is turned 'On'. At the bottom, there are 'Create' and 'Cancel' buttons.

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After creation go to Realm Settings and set "Require SSL" to "None".

The screenshot shows the Keycloak administration interface for the 'MachPanel-SSO-Realm'. The left sidebar contains a menu with options like 'Manage', 'Clients', 'Client scopes', 'Realm roles', 'Users', 'Groups', 'Sessions', 'Events', 'Configure', 'Realm settings', 'Authentication', 'Identity providers', and 'User federation'. The 'Realm settings' option is selected. The main content area is titled 'MachPanel-SSO-Realm' and includes a subtitle: 'Realm settings are settings that control the options for users, applications, roles, and groups in the current realm. [Learn more](#)'. Below this is a tabbed interface with 'General', 'Login', 'Email', 'Themes', 'Keys', 'Events', 'Localization', 'Security defenses', 'Sessions', 'Tokens', and 'Client policies'. The 'General' tab is active. It contains several form fields: 'Realm ID' (set to 'MachPanel-SSO-Realm'), 'Display name', 'HTML Display name', and 'Frontend URL'. The 'Require SSL' dropdown is highlighted in yellow and set to 'None'. Below this is the 'ACR to LoA Mapping' section with a table for mapping keys to values. The 'User-managed access' toggle is set to 'Off'. At the bottom, there are links for 'OpenID Endpoint Configuration' and 'SAML 2.0 Identity Provider Metadata', and 'Save' and 'Revert' buttons.

## Step 3: Configure "User Federation" (If you already have Federation Configured then Skip this step and move to Next Step)

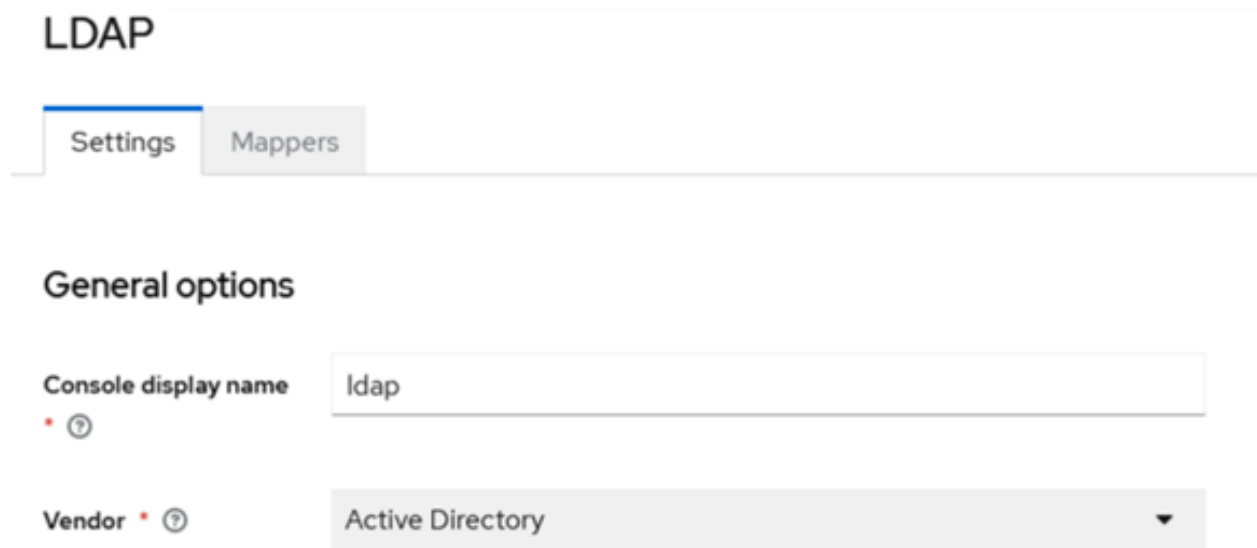
- Navigate to "User Federation" and click on "Add new Provider" button:

The screenshot shows the Keycloak administration interface for the 'MachPanel-SSO-Realm', specifically the 'User federation' tab. The left sidebar is the same as in the previous screenshot, but the 'User federation' option is now selected. The main content area is titled 'User federation' and includes a subtitle: 'User federation provides access to external databases and directories, such as LDAP and Active Directory. [Learn more](#)'. Below this is a button labeled 'Add new provider' which is highlighted with a red box. To the right of this button is a link for 'Manage priorities'. The rest of the page is currently empty.

## MachPanel KeyCloak SSO Authentication

Configure as follows:

Set "Console display name" and select "Vendor" as "Active Directory" from drop down:



**LDAP**

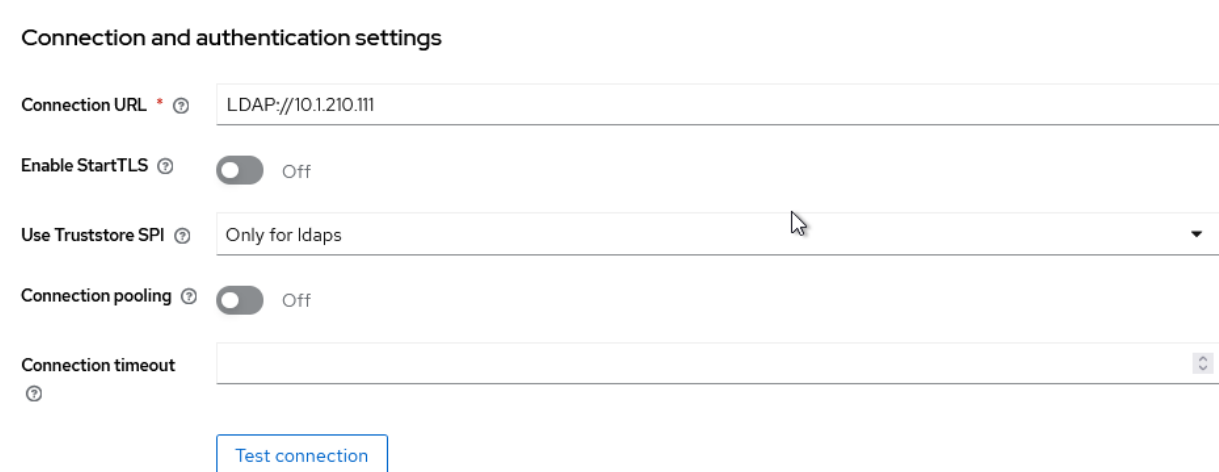
Settings Mappers

**General options**

Console display name

Vendor

Set "Connection URL" as LDAP://<AD Server IP>:



**Connection and authentication settings**

Connection URL

Enable StartTLS ☐ Off

Use Truststore SPI

Connection pooling ☐ Off

Connection timeout

[Test connection](#)

Set "Bind Type" as "Simple".

Set "Bind DN" by copying "Distinguished Name" of your "Administrator" account.



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Set "Password" of the Administrator account.

Bind type * ?	<input type="text" value="simple"/>
Bind DN * ?	<input type="text" value="CN=Administrator,CN=Users,DC=ess2019,DC=local"/>
Bind credentials * ?	<input type="password" value="••••••••"/>
<input type="button" value="Test authentication"/>	

Configure LDAP Settings for searching and updating users from AD to Realm as follows:

"Users DN" = Distinguished Name of OU from where the users have to be searched / updated.

"Username LDAP Attribute" = Attribute that needs to be used for login authentication. Set "userPrincipalName" here.

Set other parameters as follows:

<b>LDAP searching and updating</b>	
Edit mode * ?	<input type="text" value="READ_ONLY"/>
Users DN * ?	<input type="text" value="DC=ess2019,DC=local"/>
Username LDAP attribute * ?	<input type="text" value="userPrincipalName"/>
RDN LDAP attribute * ?	<input type="text" value="userPrincipalName"/>
UUID LDAP attribute * ?	<input type="text" value="objectGUID"/>
User object classes * ?	<input type="text" value="person, organizationalPerson, user"/>
User LDAP filter ?	<input type="text"/>
Search scope ?	<input type="text" value="Subtree"/>
Read timeout ?	<input type="text"/>
Pagination ?	<input type="checkbox"/> Off

## MachPanel KeyCloak SSO Authentication

Set "Synchronization Settings", "Kerberos Integration" and "Advanced settings" as shown below and finally hit "Save" button:

### Synchronization settings

Import users ⓘ ☒ On

Sync Registrations ⓘ ☒ On

Batch size ⓘ

Periodic full sync ⓘ ☒ On

Full sync period ⓘ

Periodic changed users sync ⓘ ☒ On

Changed users sync period ⓘ

### Kerberos integration

Allow Kerberos authentication ⓘ ☐ Off

Use Kerberos for password authentication ⓘ ☐ Off

### Cache settings

Cache policy ⓘ

### Advanced settings

Enable the LDAPv3 password modify extended operation ⓘ ☐ Off

Validate password policy ⓘ ☐ Off

Trust email ⓘ ☐ Off

[Query Supported Extensions](#)

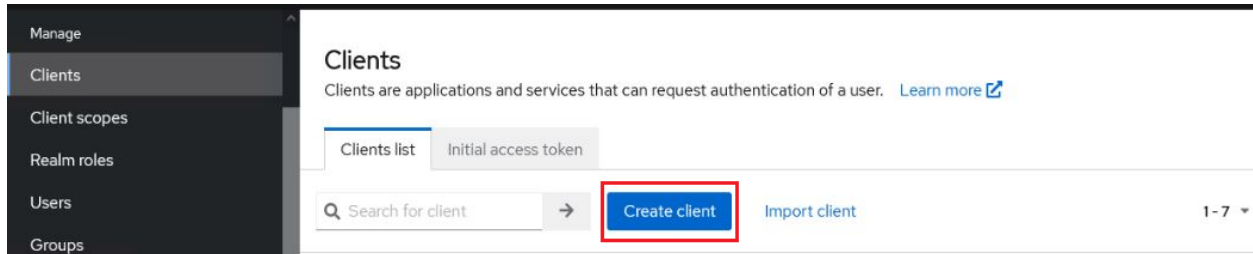
[Save](#)

[Cancel](#)

# MachPanel KeyCloak SSO Authentication

## Step 4: Create and Configure Client:

Navigate to "Clients" under Newly configured Realm and click on "Create Client" button:



Configure as follows (replace **https://supportpanel.machsol.com** with **https://<yourpanel.yourdomain.com>** where applies):

**General Settings**

Client ID \* ⓘ MP-Test

Name ⓘ MP-Test

Description ⓘ

Always display in console ⓘ ☒ On

**Access settings**

Root URL ⓘ

Home URL ⓘ https://supportpanel.machsol.com

Valid redirect URIs ⓘ https://supportpanel.machsol.com/\* ⊖  
[+ Add valid redirect URIs](#)

Valid post logout redirect URIs ⓘ https://supportpanel.machsol.com ⊖  
[+ Add valid post logout redirect URIs](#)

Web origins ⓘ https://supportpanel.machsol.com ⊖  
[+ Add web origins](#)

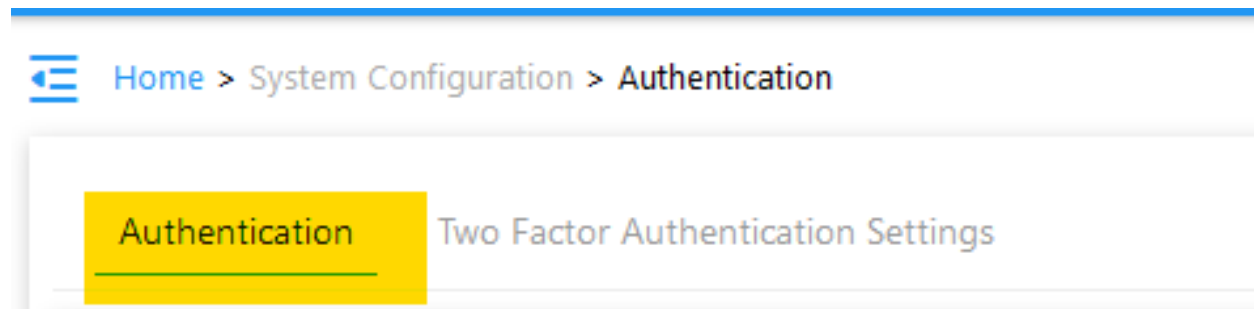
Admin URL ⓘ

## MachPanel KeyCloak SSO Authentication



### Step 5 (Configure MachPanel to work with KeyCloak):

- Configure following in MachPanel, Navigate to **Home > System Configuration > Authentication** being logged in as Provider in MachPanel:



Scroll down to enable "KeyCloak SSO" and enter the required details:

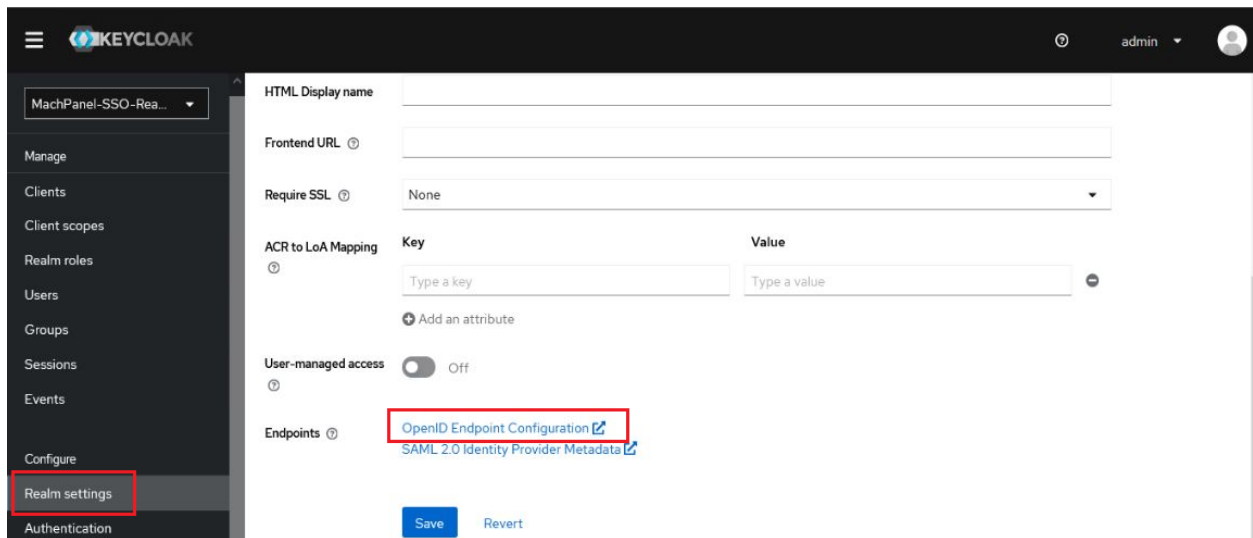
Make sure the "Issuer Endpoint" URL is accessible from MachPanel Control Panel server.

Its up to you to enable or disable the "Auto-Redirect to KeyCloak Login" and "Signout from KeyCloak on panel Signout" options.

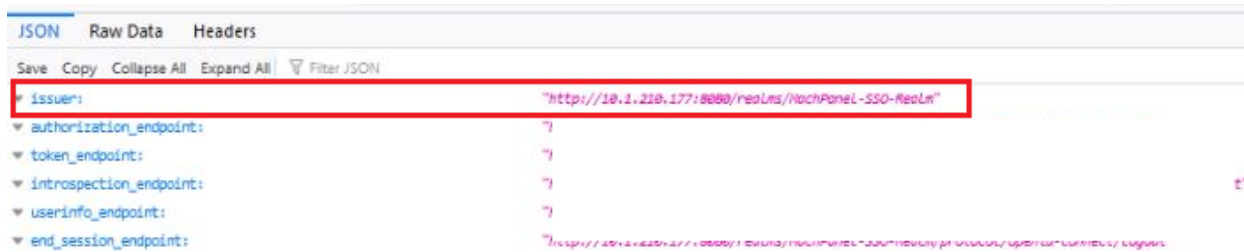
KeyCloak SSO	
* Enable:	<input checked="" type="checkbox"/>
* Issuer Endpoint:	<input type="text" value="http://10.1.210.177:8080/realms/MachPanel-SSO-Realm"/>
* Client Id:	<input type="text" value="MP-Test"/>
* Secret:	<input type="text" value="oreJKM6byQVzYYucFr6qk2xv0CoMNgfr"/>
* Auto-Redirect to KeyCloak Login:	<input checked="" type="checkbox"/>
* Signout from KeyCloak on panel signout:	<input checked="" type="checkbox"/>
* Comma separated IPs to not use KeyCloak:	<input type="text"/>
<input type="button" value="Save Settings"/>	

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You can get "Issuer Endpoint" from following interface in "KayCloak":

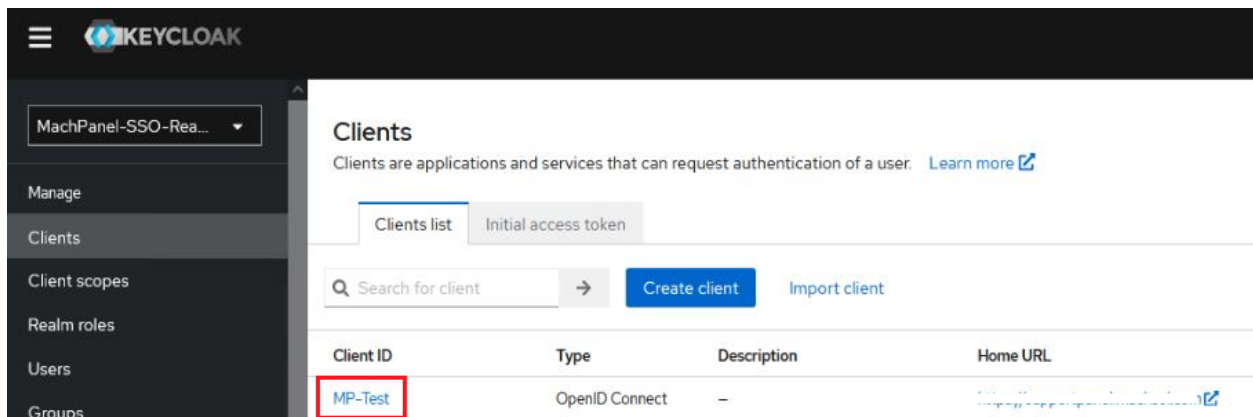


The image shows the Keycloak administration console for the 'MachPanel-SSO-Rea...' realm. The left sidebar contains navigation links: Manage, Clients, Client scopes, Realm roles, Users, Groups, Sessions, Events, Configure, **Realm settings** (highlighted with a red box), and Authentication. The main content area is the 'Realm settings' page. It includes fields for 'HTML Display name', 'Frontend URL', and 'Require SSL' (set to 'None'). There is an 'ACR to LoA Mapping' section with 'Key' and 'Value' input fields. A toggle for 'User-managed access' is set to 'Off'. The 'Endpoints' section shows links for 'OpenID Endpoint Configuration' and 'SAML 2.0 Identity Provider Metadata', both highlighted with red boxes. At the bottom are 'Save' and 'Revert' buttons.



The image shows the 'JSON' view of the Keycloak realm settings. The 'issuer' field is highlighted with a red box and contains the value 'http://10.1.210.177:8080/realms/MachPanel-SSO-Realm'. Other fields like 'authorization\_endpoint', 'token\_endpoint', 'introspection\_endpoint', 'userinfo\_endpoint', and 'end\_session\_endpoint' are also visible.

You can get "Client Id" from following interface in KeyCloak:

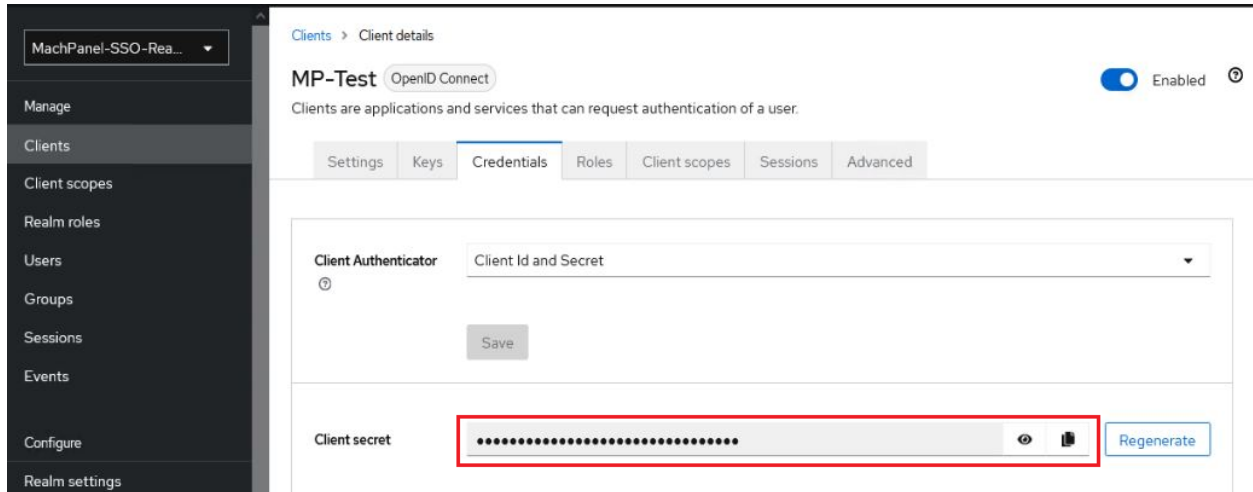


The image shows the 'Clients' page in the Keycloak administration console. The left sidebar has navigation links: Manage, Clients, Client scopes, Realm roles, Users, and Groups. The main content area is the 'Clients' page, which includes a 'Clients list' tab and an 'Initial access token' tab. There is a search bar and buttons for 'Create client' and 'Import client'. A table lists the clients, with the 'MP-Test' client highlighted by a red box.

Client ID	Type	Description	Home URL
<b>MP-Test</b>	OpenID Connect	—	<a href="#">https://10.1.210.177:8080/realms/MachPanel-SSO-Realm/protocol/openid-connect/auth</a>

Lastly, you can get "Client Secret" by clicking on "Client ID" and then going to "Credentials" tab:

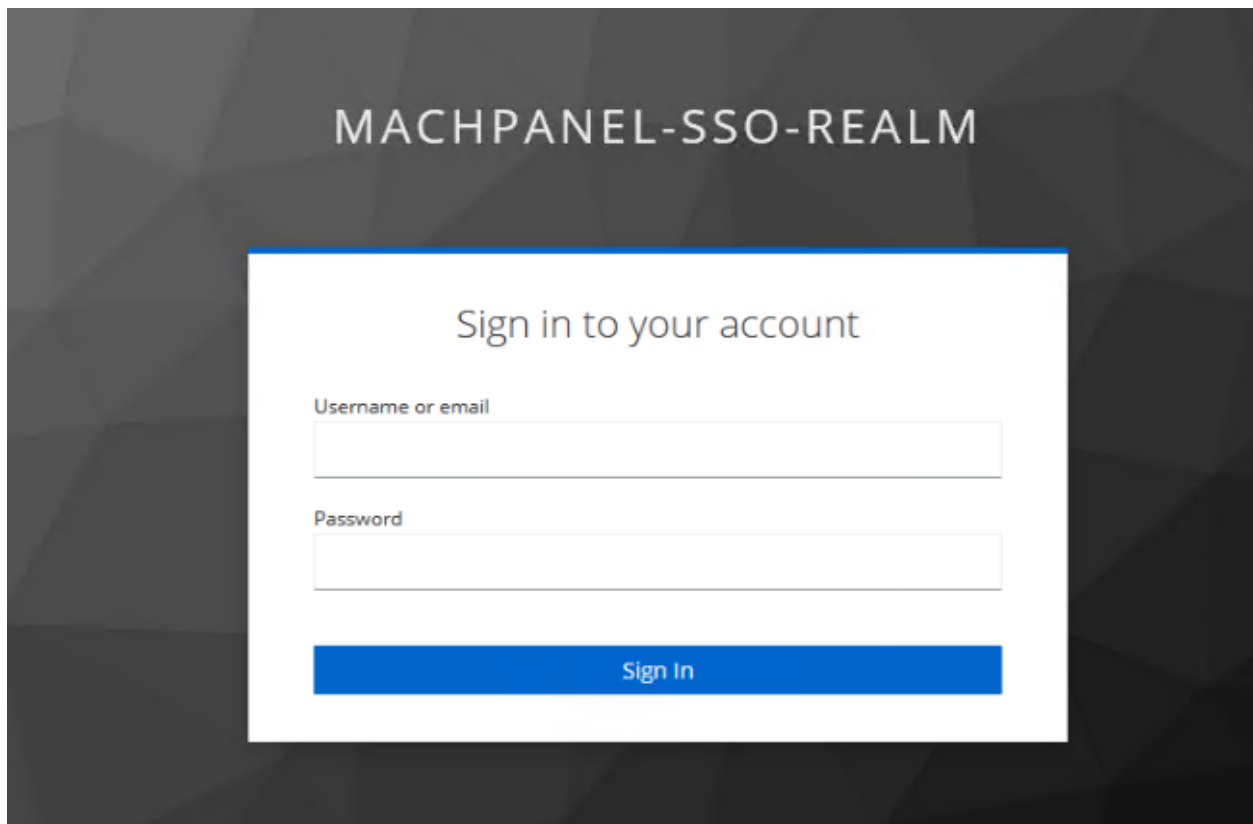
## MachPanel KeyCloak SSO Authentication



The screenshot shows the Keycloak Admin Console interface. On the left is a sidebar with navigation links: Manage, Clients, Client scopes, Realm roles, Users, Groups, Sessions, Events, Configure, and Realm settings. The main content area is titled 'Clients > Client details' and shows the configuration for a client named 'MP-Test' using 'OpenID Connect'. The 'Enabled' toggle is turned on. Below the client name are tabs for Settings, Keys, Credentials (selected), Roles, Client scopes, Sessions, and Advanced. The 'Credentials' tab contains a 'Client Authenticator' dropdown set to 'Client Id and Secret' and a 'Save' button. Below this is the 'Client secret' section, which features a masked secret field (indicated by dots) enclosed in a red rectangular box, a 'Regenerate' button, and icons for copying and pasting the secret.

After setting all the values in MachPanel, hit save and your panel will start redirecting to KeyCloak Login Page for authentication.

- After that when you try to login to your panel you will be redirected to KeyCoak Sign showing the Machpanel SSO Realm Name in title:



The screenshot displays the Keycloak login page. The background is dark with a geometric pattern. At the top, the text 'MACHPANEL-SSO-REALM' is displayed in large, white, uppercase letters. Below this, a white rectangular box contains the login form. The form has the heading 'Sign in to your account' in a medium-sized font. It includes two input fields: 'Username or email' and 'Password'. At the bottom of the form is a prominent blue button with the text 'Sign In' in white.

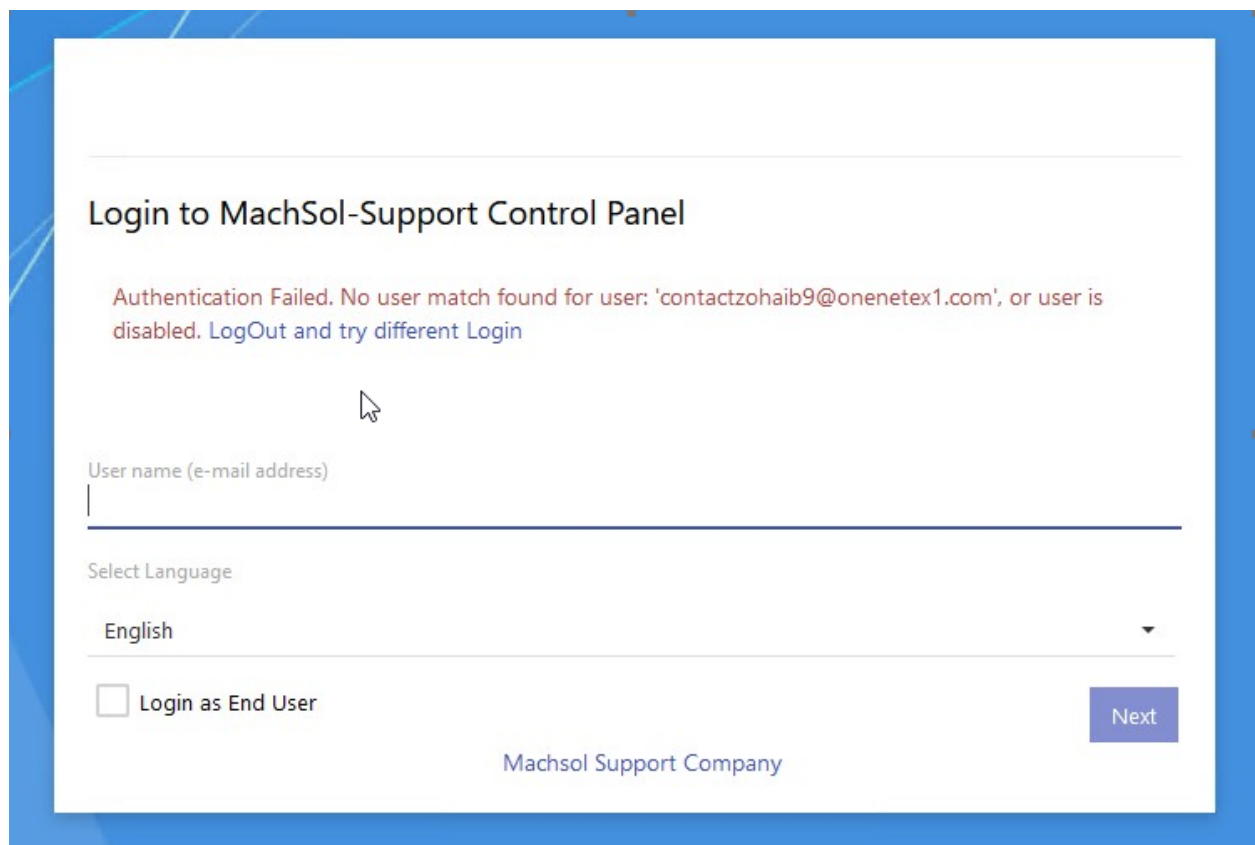
### Step 6: Lastly you must associate AD Accounts with Staff and/or Customer Accounts and Contacts:

**Before Login, ensure that you associate your Provider/Provider Staff, Reseller/Reseller Staff, Customer and Customer Contacts with appropriate AD Accounts in MachPanel.**

You can do that by following the details on KB link below:

<https://kb.machsol.com/Knowledgebase/55606/Authenticate-Active-Directory-user-Staff-Customer-and-Co>

If you login to KeyCloak via a user that exists in AD and is able to authenticate, but its not associated with any staff/customer/contact in MachPanel, then you will get an error as follows:



The screenshot shows a login page for the MachSol-Support Control Panel. The page has a blue header and a white main content area. The title "Login to MachSol-Support Control Panel" is displayed. Below the title, an error message in red text states: "Authentication Failed. No user match found for user: 'contactzohaib9@onenetex1.com', or user is disabled. LogOut and try different Login". Below the error message, there is a text input field for "User name (e-mail address)" and a "Select Language" dropdown menu currently set to "English". At the bottom left, there is a checkbox labeled "Login as End User". At the bottom right, there is a blue "Next" button. The footer text "Machsol Support Company" is centered at the bottom.

Login to MachSol-Support Control Panel

Authentication Failed. No user match found for user: 'contactzohaib9@onenetex1.com', or user is disabled. LogOut and try different Login

User name (e-mail address)

Select Language

English

☐ Login as End User

Next

Machsol Support Company

## MachPanel KeyCloak SSO Authentication

Clicking on the link will log you out of KeyCloak and allow you to login again using a correct user.

If there is ever any issue and you want to update configuration of MachPanel but cannot login due to issue with KeyCloak configuration, you can login to MachPanel directly 'bypassing SSO' by using **"http://localhost:786"** directly on the control panel server (the default URL for MachPanel).

MachPanel Knowledgebase

<https://kb.machsol.com/Knowledgebase/55740/MachPanel-KeyCloak-SSO-Authentic...>