Red Hat SSO Integration Guide

Yeastar P-Series Cloud Edition

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Contents

Red Hat SSO Integration Guide

Yeastar P-Series Cloud Edition supports the integration with Red Hat SSO, allowing Red Hat users to log in to Linkus Desktop/Web Client using their Red Hat credentials.

Requirements

Platform	Requirement
Red Hat SSO	**Recommended version**: 7.6 or later
Yeastar PBX	• **Firmware**: Version 84.21.0.16 or later • **Plan**: Enterprise Plan or Ultimate Plan

Key features

The integration of Red Hat SSO and Yeastar P-Series Cloud Edition provides the following key features:

Single Sign-on (SSO)

Allow Red Hat users to log in to Linkus Desktop/Web Client using their Red Hat credentials, eliminating the need to remember separate login passwords and simplifies user access.

Red Hat User Sync

Support one-way synchronization of user accounts from Red Hat SSO to Yeastar PBX. User information updates in Red Hat SSO are automatically synchronized to PBX, thus streamlining user management and reducing manual configuration.

Auto Create Extensions

Automatically create and assign extensions to the synced Red Hat SSO users, allowing them to explore Yeastar PBX's unified communications features through their extensions.

Integration setup and management

Yeastar P-Series Cloud Edition integrates with Red Hat SSO by leveraging the OpenID Connect (OIDC) client for user data synchronization and the SAML 2.0 protocol for Single Sign-on (SSO), enabling the seamless integration and providing secure authentication and authorization across the systems.

For more information about the integration's setup and management, refer to the followings:

Integration setup

To implement the integration, complete the following configurations on Red Hat SSO and PBX sides:

1. Create resources and obtain credentials on the Red Hat side.
    - Create a realm and configure realm key(s) for centralized management and authentication of user identities and SSO.
    - Add users who need to sign in to Linkus clients with their Red Hat credentials.
    - Create an OpenID Connect(OIDC) Client to enable user synchronization to Yeastar PBX.
    - Obtain metadata from Red Hat SSO.
2. Import Red Hat SSO metadata and configure related settings on PBX side.
3. Create an SAML Client on Red Hat to establish the SSO connection between Red Hat and Yeastar PBX.

For more information, see Integrate Yeastar P-Series Cloud Edition with Red Hat SSO.

Post-integration setup

After the integration is implemented, you should configure PBX to enable Red Hat users to sign in via SSO and access PBX's unified communications features.

For more information, see Synchronize Users from Red Hat SSO to Yeastar P-Series Cloud Edition and Allow Users to Log in to Linkus UC Clients with Red Hat SSO.

Integration management

Manage the integration as needed,following the topics below:

- Schedule Automatic User Synchronization
- Manually Perform User Synchronization
- Update Client Secret for Red Hat SSO Integration
- Pause Red Hat SSO Synchronization
- Disable Red Hat SSO Integration

Set up Red Hat SSO Integration

Integrate Yeastar P-Series Cloud Edition with Red Hat SSO

This topic describes how to integrate Yeastar P-Series Cloud Edition with Red Hat SSO.

> **Note:**
> This topic takes **Keycloak 20.0.5** as an example to demonstrate how to implement the integration. The configuration paths may differ from Red Hat SSO, but the required settings are the same.

Requirements

Platform	Requirement
Red Hat SSO	**Recommended version**: 7.6 or later
Yeastar PBX	• **Firmware**: Version 84.21.0.16 or later • **Plan**: Enterprise Plan or Ultimate Plan

Step 1. Create resources and obtain credentials from Red Hat SSO

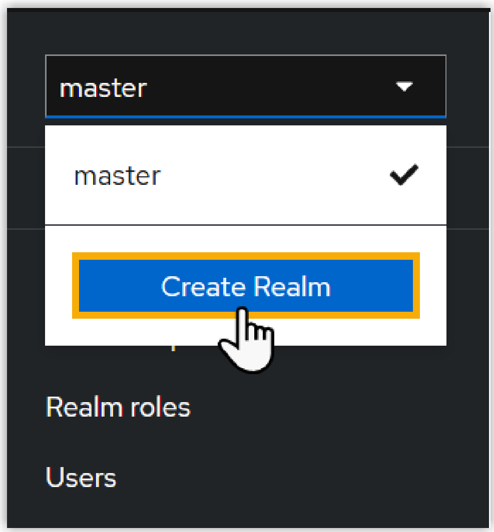
Create the necessary resources and obtain the required credentials from Red Hat SSO, so as to authenticate and authorize interactions between Yeastar PBX and Red Hat SSO.

You need to perform the following operations in the Red Hat SSO portal.

1. Create a realm and configure realm key(s) for centralized management and authentication of user identities and SSO.
2. Add users who need to sign in to Linkus clients with their Red Hat credentials.
3. Create an OpenID Connect(OIDC) Client to enable user synchronization to Yeastar PBX.
4. Obtain metadata from Red Hat SSO for subsequent import into Yeastar PBX.

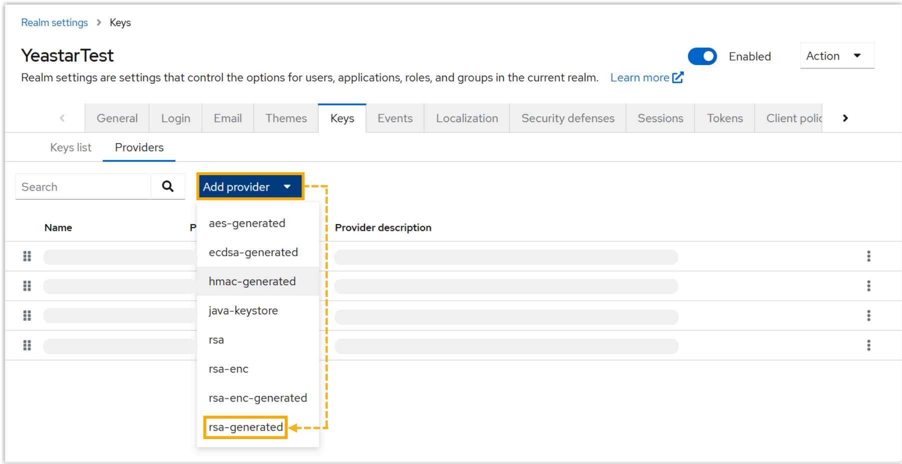
1. Create a realm and configure realm key(s)

1. Log in to the Red Hat SSO admin console using the administrator account.
2. Create a realm.
    a. On the top of the left pane, click **master**, then select **Create Realm**.



    b. In the **Realm name** field, enter a name, then click **Create**.

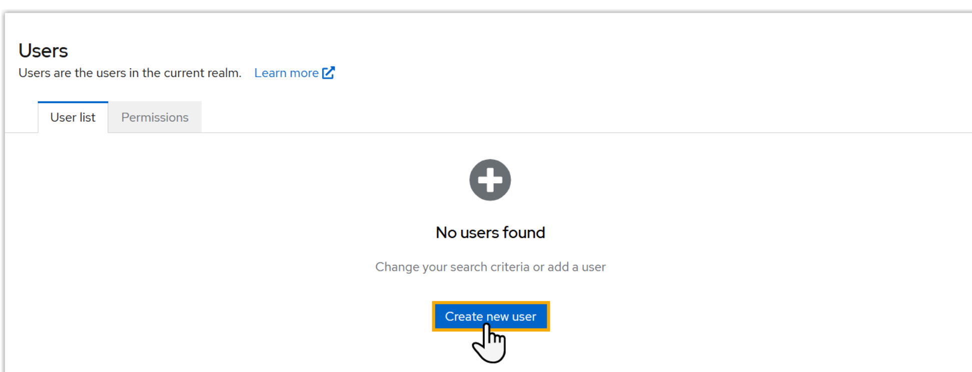
    The current realm is now set to the realm you just created.
3. Configure realm keys for cryptographic signatures and encryption.
    a. On the left navigation bar, click **Realm settings**.
    b. Under **Keys** tab, click **Providers**.
    c. Click **Add provider**, then select **rsa-generated** provider to generate a key pair with a self-signed certificate.



Note:
Yeastar PBX supports a maximum of **5** certificates. Metadata with more than 5 certificates can NOT be imported into Yeastar PBX.

2. Add users

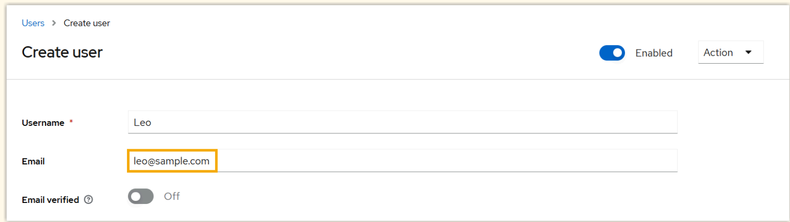
1. On the left navigation bar, click **Users**.
2. Under the **User list** tab, click **Create new user**.



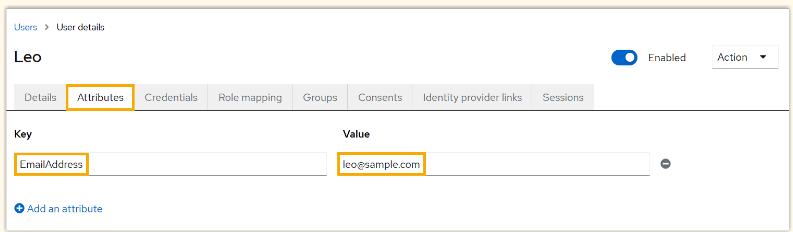
3. Enter the details for the new user.

Important:
Since user's email address is used as the unique identifier to determine user's eligibility for Red Hat SSO, make sure the email address is properly configured.

- If you use the built-in **Email** field as the unique identifier for SSO, enter the user's email address in the **Email** field.



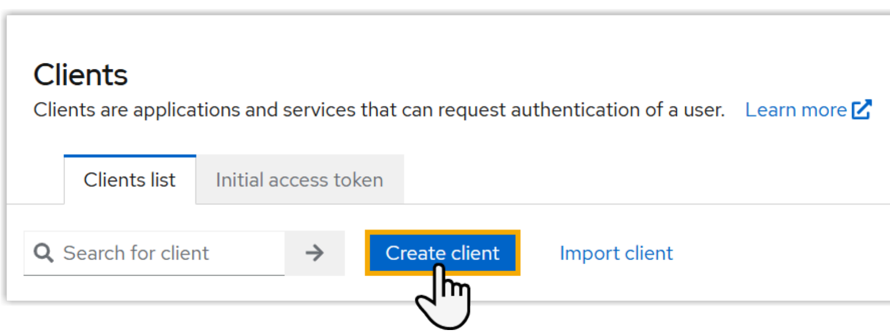
- If you use a custom email-related attribute as the unique identifier for SSO, add the attribute and specify the key and value.



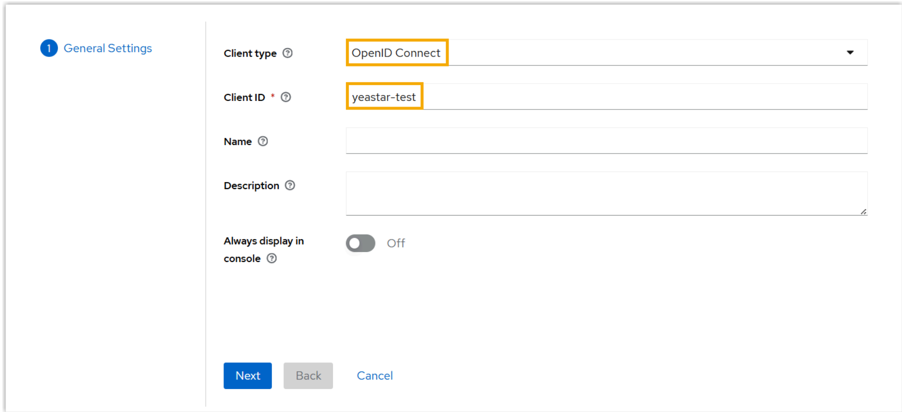
4. Click **Save**.

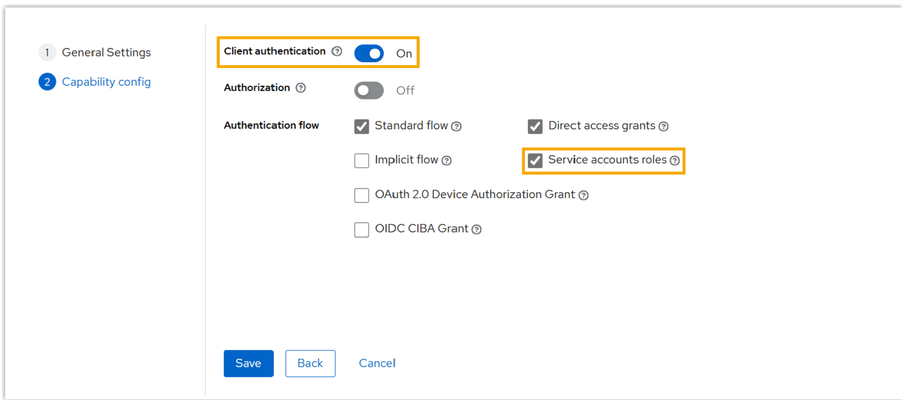
3. Create an OpenID Connect(OIDC) Client

1. On the left navigation bar, click **Clients**.
2. Create an OIDC Client.
   a. Under **Clients list** tab, click **Create client**.



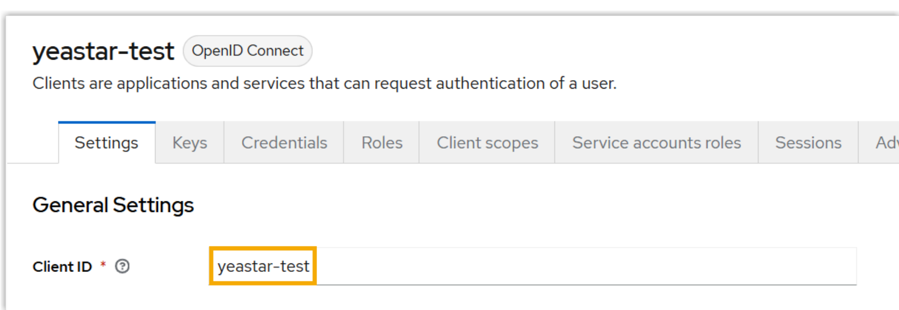
   b. Set the client, then click **Save**.



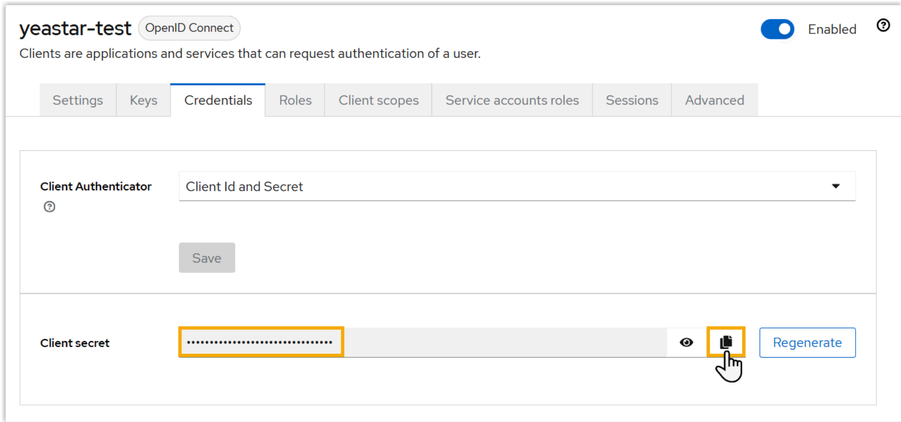


Item	Description
Client type	Select **OpenID Connect**.
Client ID	Enter a name to help you identify the client.
Client authentication	Enable this option.
Authentication flow	Select the checkbox of **Service accounts roles** to authorize the client to obtain an access token.

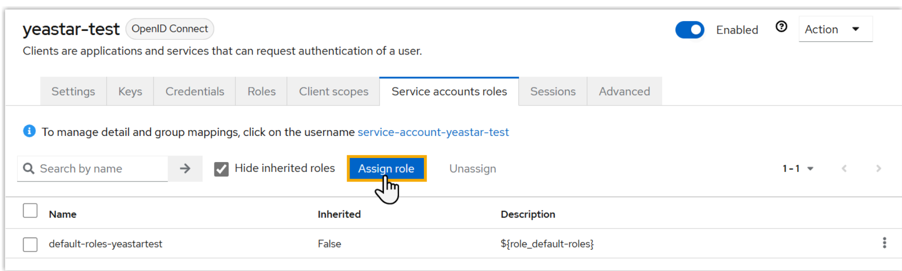
3. Check and note down client credentials.
    - **Client ID**: Under **Settings** tab, copy the client ID.



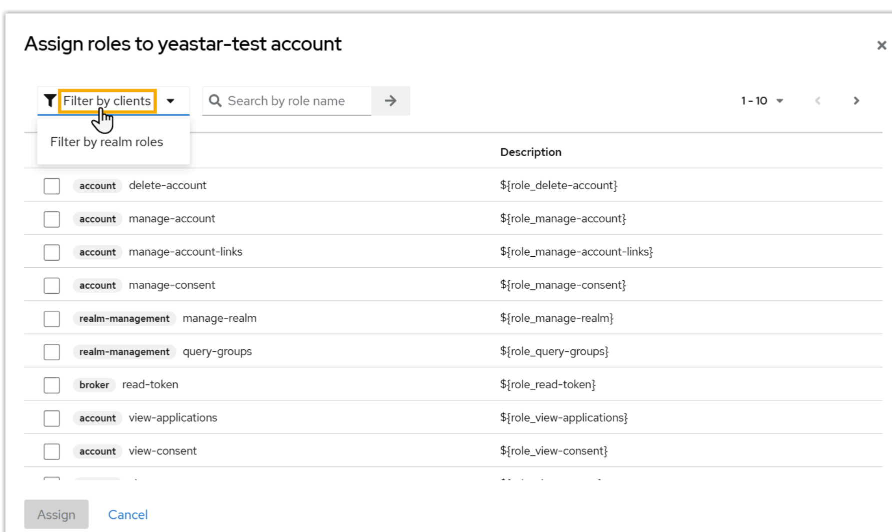
- **Client Secret**: Under **Credentials** tab, copy the client secret.



4. Assign permissions to the service account.
    a. Under **Service accounts roles** tab, click **Assign role**.



    b. On the top-left corner, select **Filter by clients** from the drop-down list.



    c. Search for and assign the following permissions.

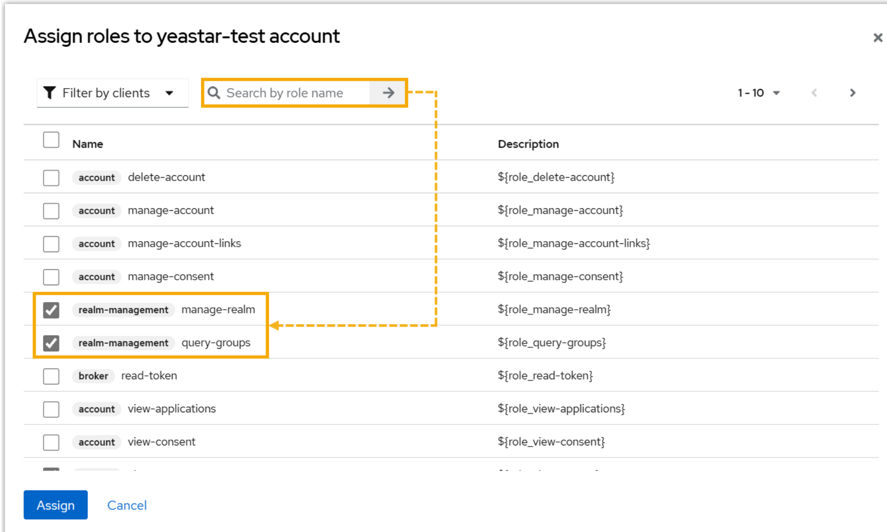
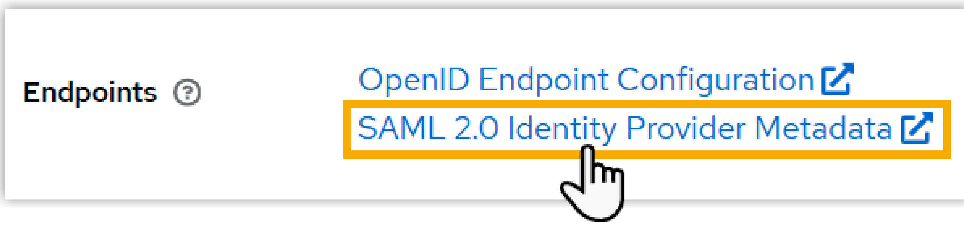
Illustration	Permission
	• query-groups • query-users • view-groups • view-users • manage-re

Illustration	Permission
	al m

d. Click **Assign**.

4. Obtain metadata from Red Hat SSO

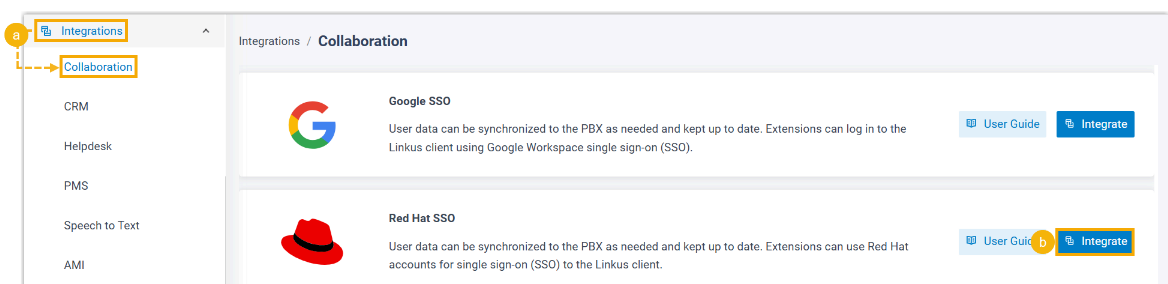
1. On the left navigation bar, click **Realm settings**.
2. Scroll down to the bottom, click **SAML 2.0 Identity Provider Metadata**.



3. Obtain metadata in either of the following ways:
   - Copy the metadata URL from the browser's address bar
   - Save the metadata XML file to your computer

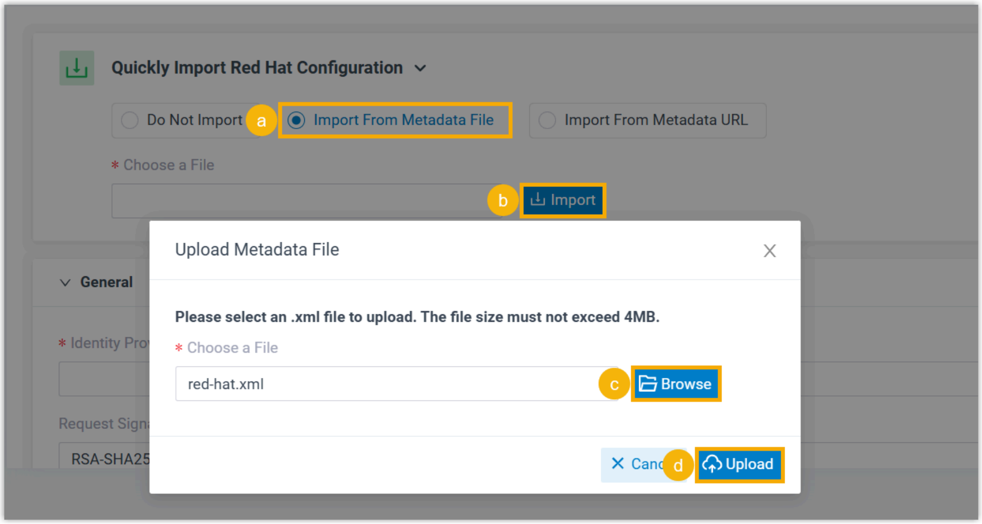
Step 2. Import Red Hat SSO metadata and configure settings on Yeastar PBX

1. Access the configuration page of Red Hat SSO.



   a. Log in to PBX web portal, go to **Integrations > Collaboration**.
   b. On the right of **Red Hat SSO**, click **Integrate**.
2. Import Red Hat SSO configurations via metadata XML file or metadata URL.

Import from metadata XML file



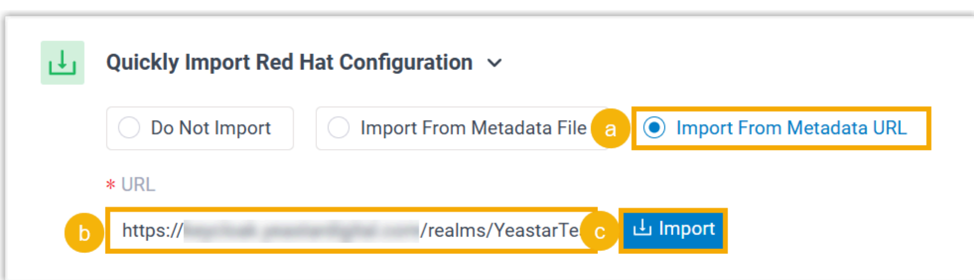
a. In the **Quickly Import Red Hat Configuration** section, select **Import From Metadata File**.
b. Click **Import**.
c. Click **Browse** and select the `.xml` file.

> **Note:**
> The file size must not exceed 4MB.

d. Click **Upload**.

The key metadata will be parsed from the file and automatically populated in Yeastar PBX.

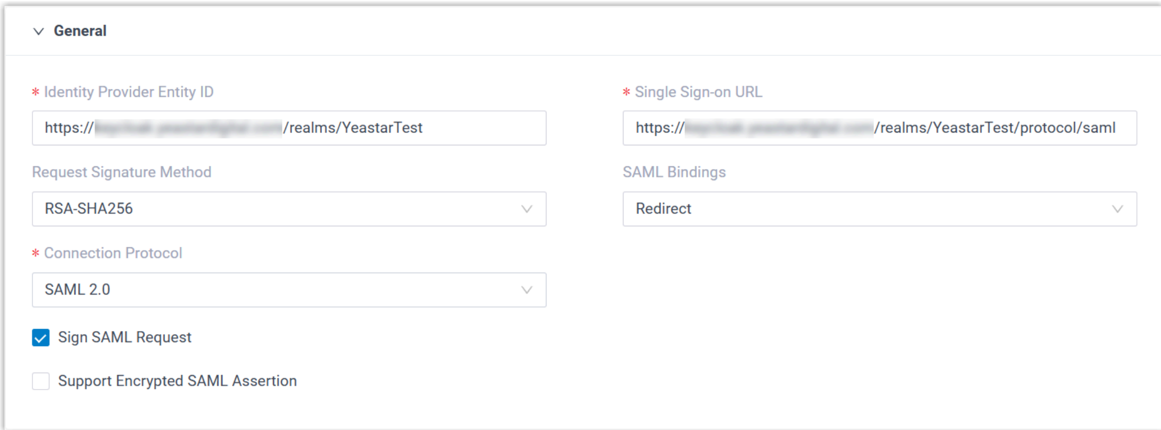
Import from metadata URL



a. In the **Quickly Import Red Hat Configuration** section, select **Import From Metadata URL**.
b. In the **URL** field, enter the metadata URL.
c. Click **Import**.

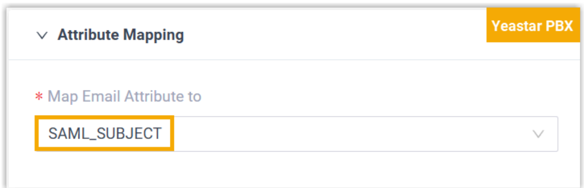
The key metadata will be parsed from the file and automatically populated in Yeastar PBX.

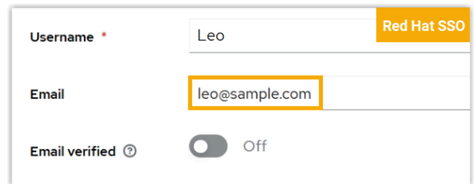
3. In the **General** section, check and complete the following settings.



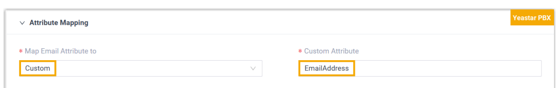
Item	Description
Identity Provider Entity ID	The unique identifier for Red Hat SSO. This value is parsed from the metadata and automatically populated.
Single Sign-on URL	The URL of the Red Hat's SAML SSO service, where Yeastar PBX will send SAML authentication requests. This value is parsed from the metadata and automatically populated.
Request Signature Method	Select the hashing algorithm used to sign SAML requests.
SAML Bindings	Select the binding mechanism for SAML message exchange between Yeastar PBX and Red Hat SSO. Currently, only **Redirect** binding is supported. When a Red Hat user attempts to sign in to Linkus clients, PBX sends base64-encoded and URL-encoded SAML messages as URL parameters to Red Hat SSO.
Connection Protocol	Specify the protocol used to exchange authentication and authorization data between Yeastar PBX and Red Hat SSO.
Sign SAML Request	Specify whether to sign SAML requests and responses.
Support Encrypted SAML Assertion	Specify whether to encrypt SAML assertions.

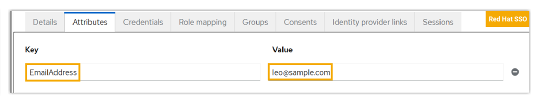
4. In the **Attribute Mapping** section, specify the attribute that will be used to identify Red Hat users for SSO.
    - If you use the built-in **Email** field as the unique identifier for SSO, select **SAML_-SUBJECT**, and ensure users' email addresses are configured in Red Hat SSO.



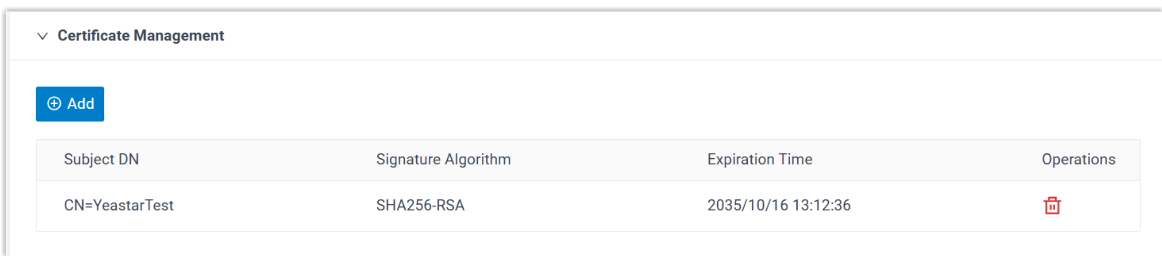


    - If you use a custom email-related attribute as the unique identifier for SSO, select **Custom**, and configure the custom attribute in PBX as well as in the Red Hat SSO user settings.



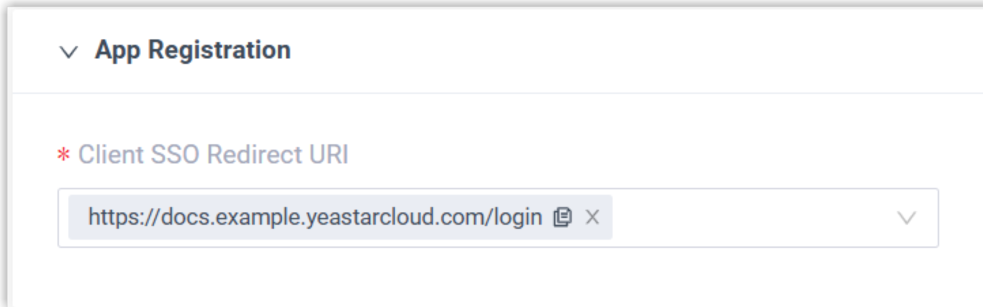


5. **Optional:** In the **Certificate Management** section, add or manage certificates as needed.

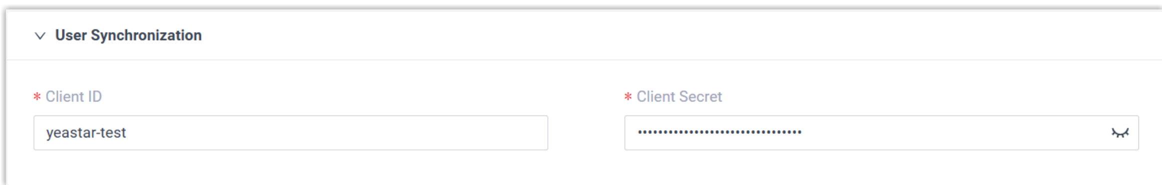


> **Note:**
> - Certificates parsed from metadata will be automatically uploaded and displayed here.
> - If you manually upload certificates, the certificates must meet the following requirements:
>   - **Format**: `.pem`, `.crt`, `.cer`, or `.cert`
>   - **File Size**: No more than 4MB
> - Up to **5** certificates are supported. PBX will try the certificates in the order they are listed, using the next one only if the previous certificate fails.

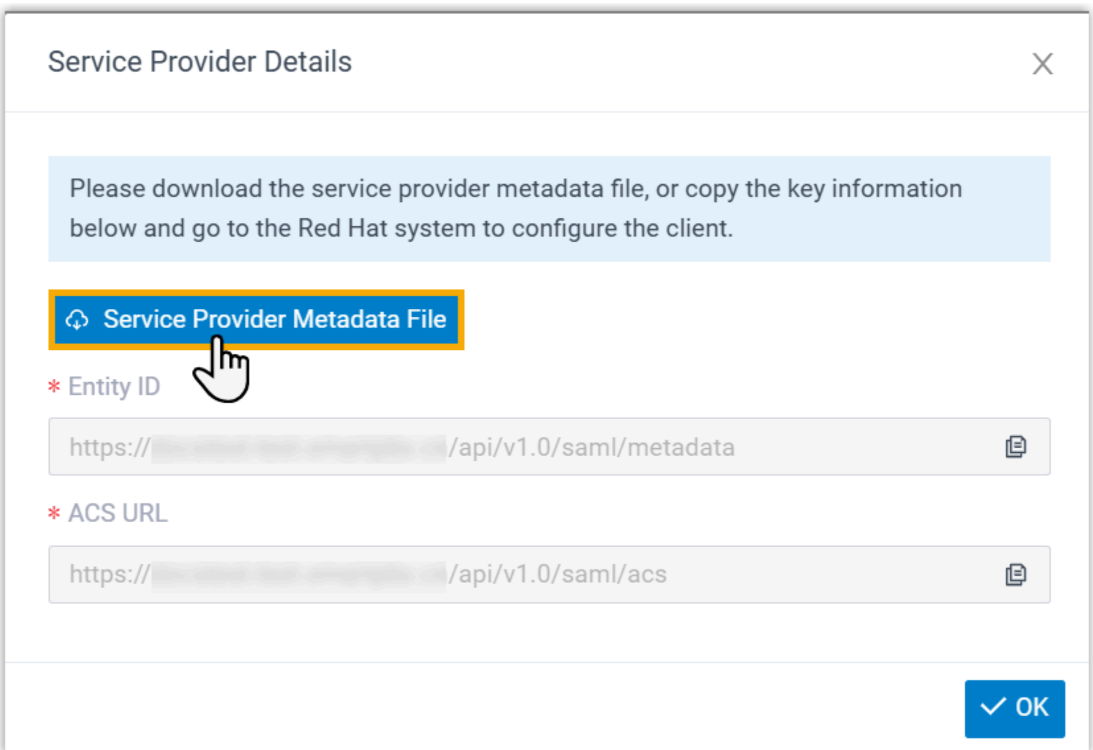
6. In the **App Registration** section, select the URL via which users can sign in to Linkus clients using their Red Hat credentials.



7. In the **User Synchronization** section, paste the [client ID and client secret of OIDC Client](#).

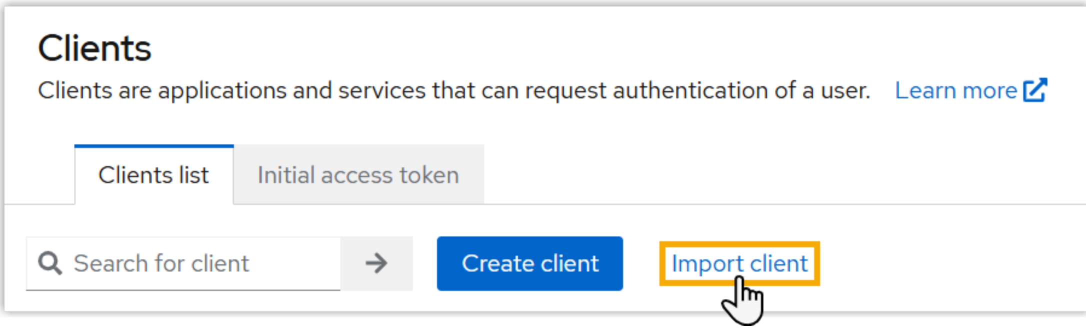


8. Click **Save**.
9. In the pop-up window, click **Service Provider Metadata File** to download the metadata file for SAML client configuration on Red Hat SSO.

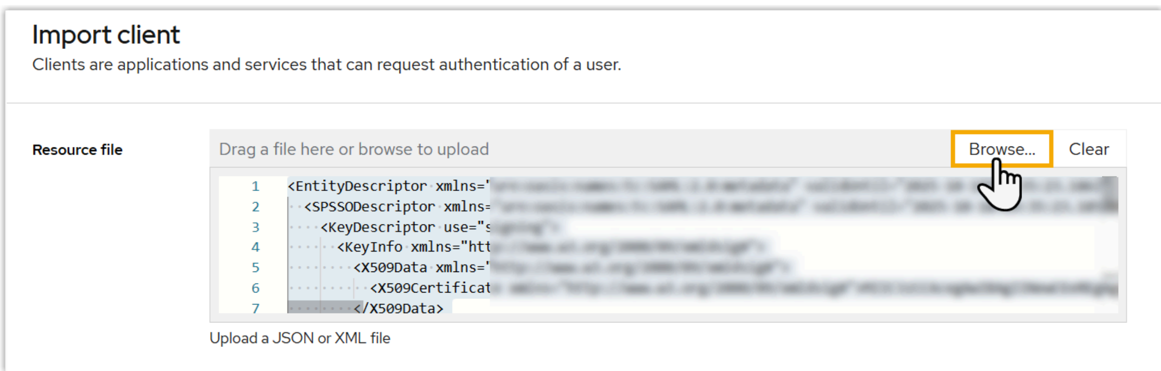


Step 3. Create an SAML client on Red Hat SSO

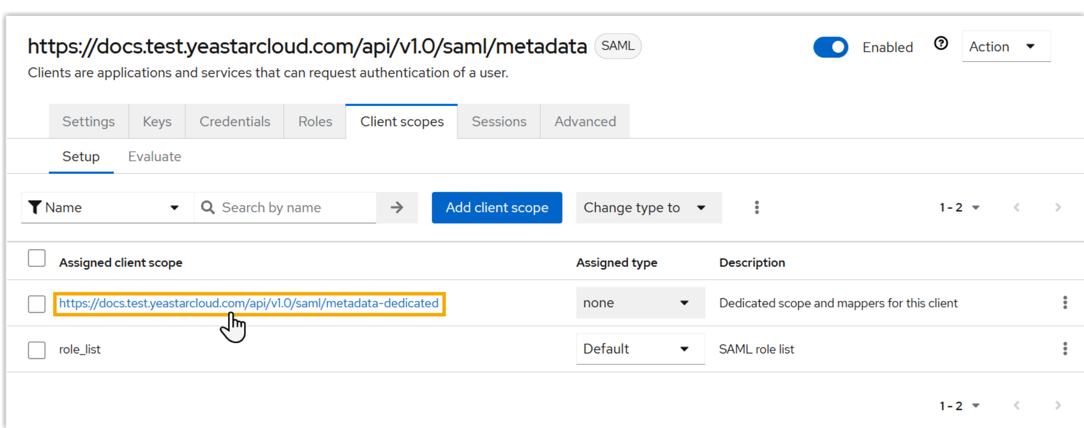
1. On the left navigation bar, click **Clients**.
2. Under **Clients list** tab, click **Import client**.



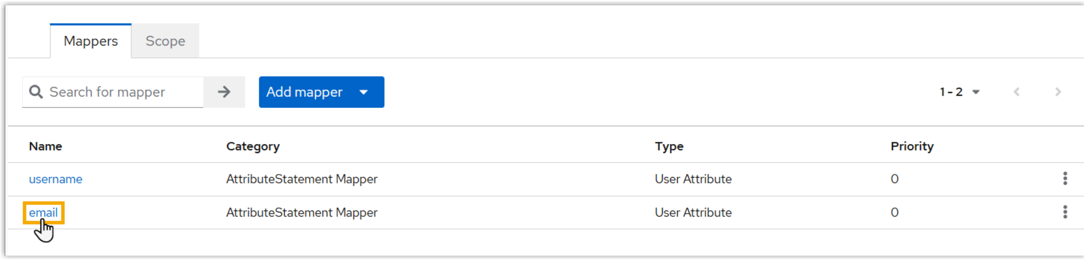
3. In the **Resource file** section, click **Browse** to upload the metadata file obtained from Yeastar PBX.



4. Click **Save**.
5. Set user attribute for the SAML Client.
   a. Under **Client scopes** tab, click the dedicated scope and mappers for the client.



b. Under **Mappers** tab, click the email attribute or the custom email-related attribute.

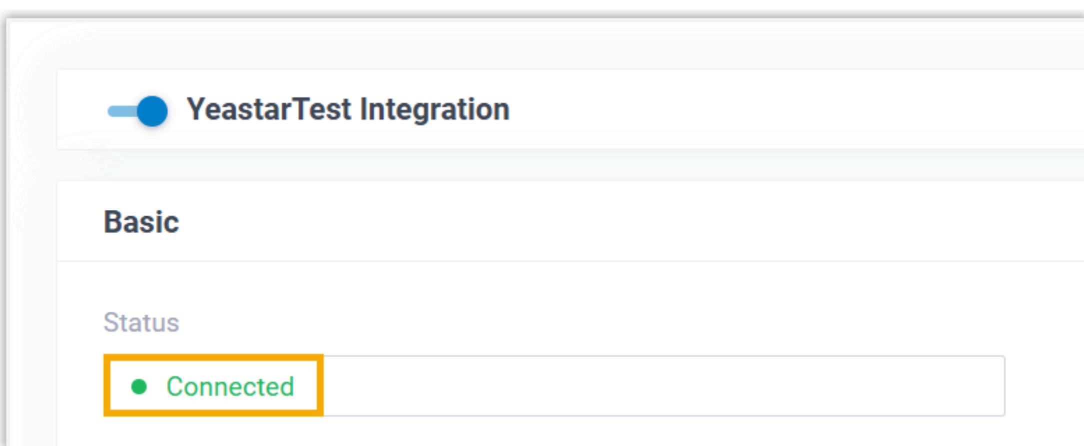


c. In the **User Attribute** field, enter the user attribute.

d. Click **Save**.

Result

The status of the integration displays **Connected**, indicating that the PBX is successfully connected to Red Hat SSO.



What to do next

- Synchronize Red Hat SSO users to Yeastar PBX and assign extensions to them.
- Enable Red Hat SSO to allow users to sign in to Linkus clients with their Red Hat Credentials.

Synchronize Users from Red Hat SSO to Yeastar P-Series Cloud Edition

After integrating Yeastar P-Series Cloud Edition with Red Hat SSO, you can synchronize Red Hat SSO users to Yeastar PBX and assign extensions to them, so that the users can use their office extensions for business communications with their Red Hat credentials.

Introduction

Before you begin, read the following information on the supported number and scope of user synchronization.

Number of users supported for synchronization

The number of users that can be synchronized from Red Hat SSO depends on the number of extensions that PBX system can create.

Scopes of user for synchronization

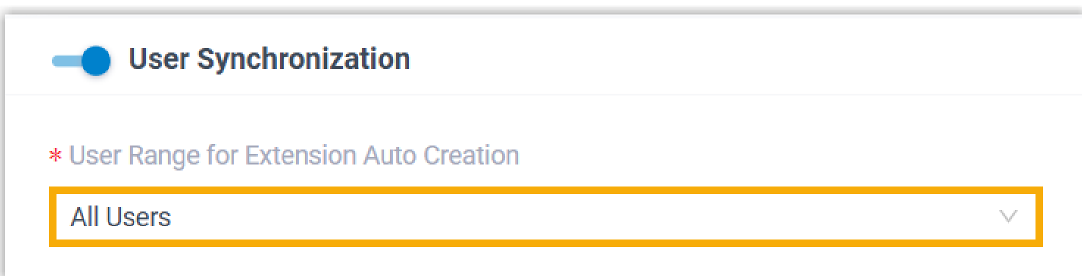
Yeastar PBX allows you to flexibly define the synchronization scope for Red Hat SSO users. Refer to the following table for more details.

Synchronization scope	Description	Instruction
Synchronize all users	Synchronize all users within the organization. Extensions will be automatically created and associated with the synced users based on your assignment rule.	Synchronize all Red Hat SSO users to Yeastar PBX
Synchronize users in specific organizational unit	Synchronize users from specific organizational unit(s). Extensions will be automatically created and associated with the synced users based on your assignment rule.	Synchronize Red Hat SSO users in specific organizational unit to Yeastar PBX

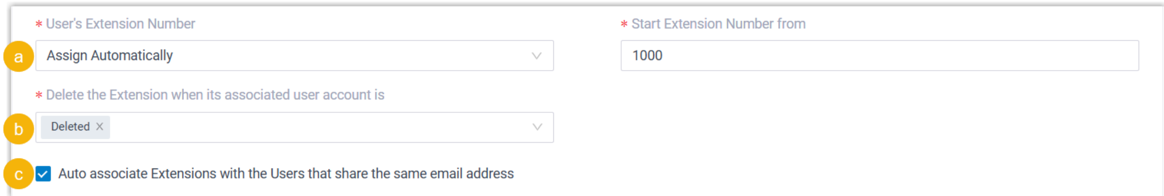
Synchronization scope	Description	Instruction
Synchronize users in specific group	Synchronize users from specific group(s). Extensions will be automatically created and associated with the synced users based on your assignment rule.	[Synchronize Red Hat SSO users in specific group to Yeastar PBX]
Synchronize specific users	Synchronize manually selected users. You need to assign extensions manually for the synced users. **Note:** This requires you to create extensions in advance before you set up user synchronization from Red Hat SSO.	[Synchronize specific Red Hat SSO users to Yeastar PBX]

Synchronize all Red Hat SSO users to Yeastar PBX

1. Access the configuration page of user synchronization.
    a. Log in to PBX web portal, go to **Integrations > Collaboration**.
    b. Scroll down to the **User Synchronization** section.
2. In the **User Range for Extension Auto Creation** drop-down list, select **All Users**.



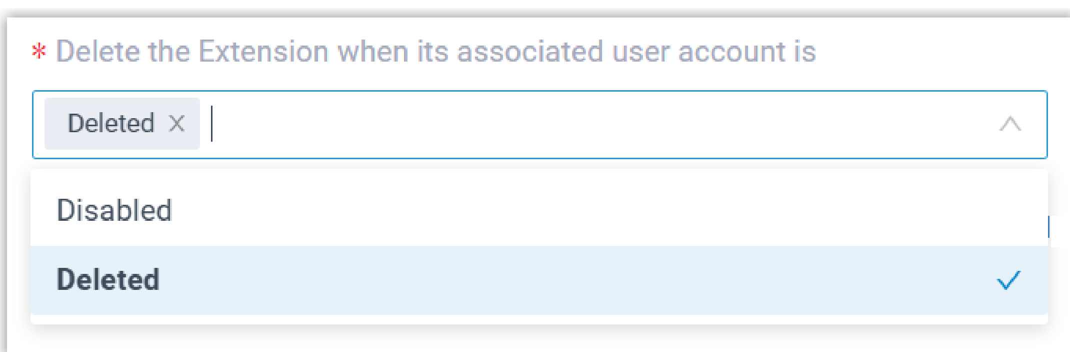
3. Set up extension assignment policies to define how the synced Red Hat SSO users are associated with PBX extensions.



a. In the **User's Extension Number** drop-down list, select a rule for assigning extensions.

Item	Description
Assign Automatically	Assign extension numbers from a specific starting number. If you select this option, you need to specify a starting number in the **Start Extension Number from** field.
Read Specific Property Value	Assign extension numbers based on the value of a specific user account property. If you select this option, you need to specify a property name in the **Property Name** field.

b. In the **Delete the Extension when its associated user account is** drop-down list, select the account status(es) at which PBX will stop synchronizing the users, and delete their associated extensions.

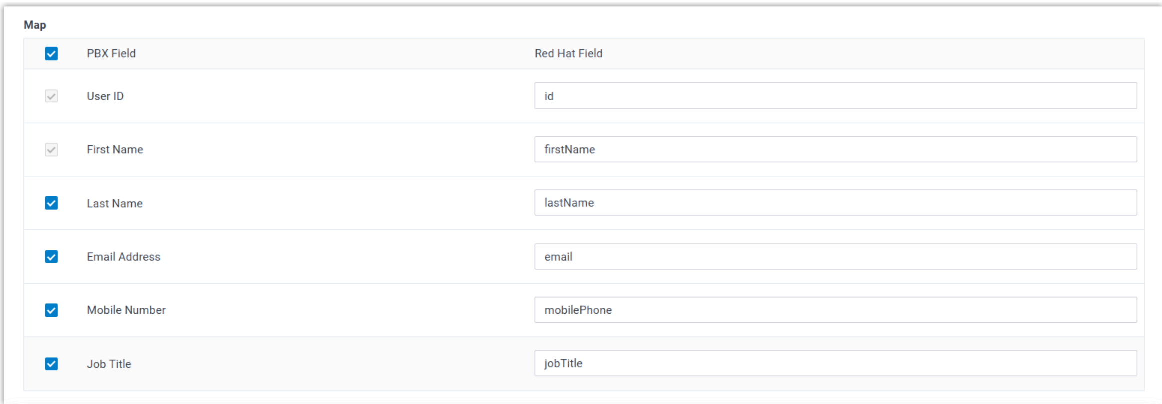


c. For the **Auto associate Extensions with the Users that share the same email address** option, set whether to synchronize the Red Hat SSO users who have the same email addresses as existing extensions.

- If selected, the users with same mailboxes will be synchronized to PBX and associated with the existing extensions.

  The extensions' user information will be overwritten by that of the users.
- If unselected, the users with same mailboxes will NOT be synchronized to PBX, as Yeastar PBX does NOT allow duplicated email addresses.

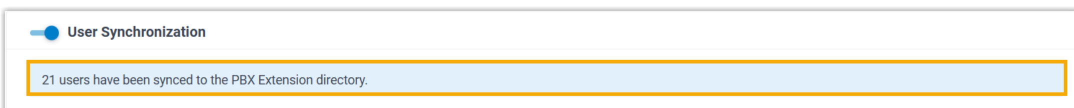
4. If you want to send Linkus Welcome Email to the synced users, select the checkbox of **Send Welcome Email automatically after an extension is created**.
5. In the **Map** section, select and map the fields for the user information that you want to synchronize.



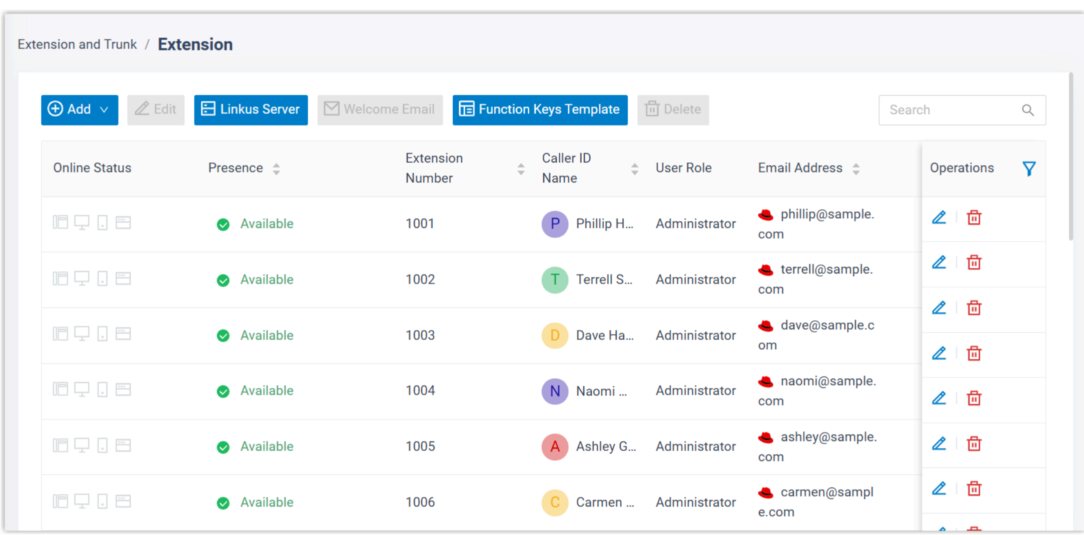
6. Click **Save**.

   PBX will perform the initial user synchronization immediately. When the synchronization is completed, the followings are achieved:

   - A notification banner appears to show the synchronization result.



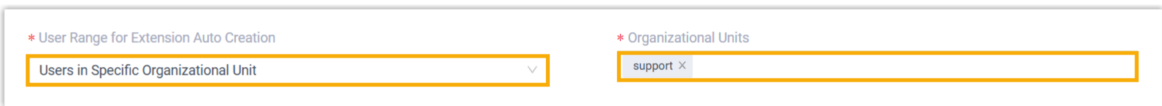
   - All Red Hat SSO users are synchronized to the PBX and assigned extensions (Path: **Extension and Trunk > Extension**). These extensions are marked with , and can NOT be deleted from PBX.



> **Note:**
> The **First Name**, **Last Name**, **Email Address**, **Mobile Number**, and **Job Title** of these extensions are synchronized from Red Hat. Therefore, they can only be updated in Red Hat, and the changes will be reflected to the PBX during a synchronization.

Synchronize Red Hat SSO users in specific organizational unit to Yeastar PBX

1. Access the configuration page of user synchronization.
    a. Log in to PBX web portal, go to **Integrations > Collaboration**.
    b. Scroll down to the **User Synchronization** section.
2. Set the system to synchronize users from specific organizational unit(s).



    a. In the **User Range for Extension Auto Creation** drop-down list, select **Users in Specific Organizational Unit**.
    b. In the **Organizational Units** drop-down list, select one or more organization units.
3. Set up extension assignment policies to define how the synced Red Hat SSO users are associated with PBX extensions.
    a. If you want the system to automatically delete the extensions associated with out-of-sync Red Hat SSO users, select the checkbox of **Auto delete the Extensions no longer in sync**.

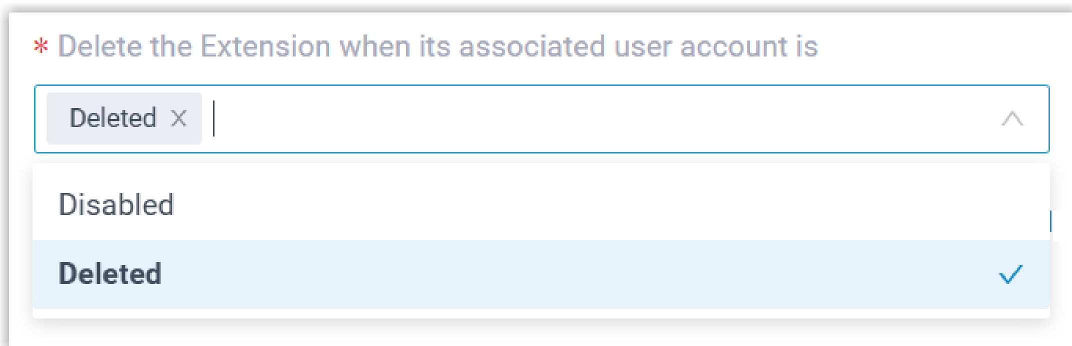
    > **Note:**
    > This helps automatically remove unused extensions when the user synchronization scope changes.

    b. In the **User's Extension Number** drop-down list, select a rule for assigning extensions.

Item	Description
Assign Automatically	Assign extension numbers from a specific starting number.

Item	Description
	If you select this option, you need to specify a starting number in the **Start Extension Number from** field.
Read Specific Property Value	Assign extension numbers based on the value of a specific user account property. If you select this option, you need to specify a property name in the **Property Name** field.

c. In the **Delete the Extension when its associated user account is** drop-down list, select the account status(es) at which PBX will stop synchronizing the users, and delete their associated extensions.

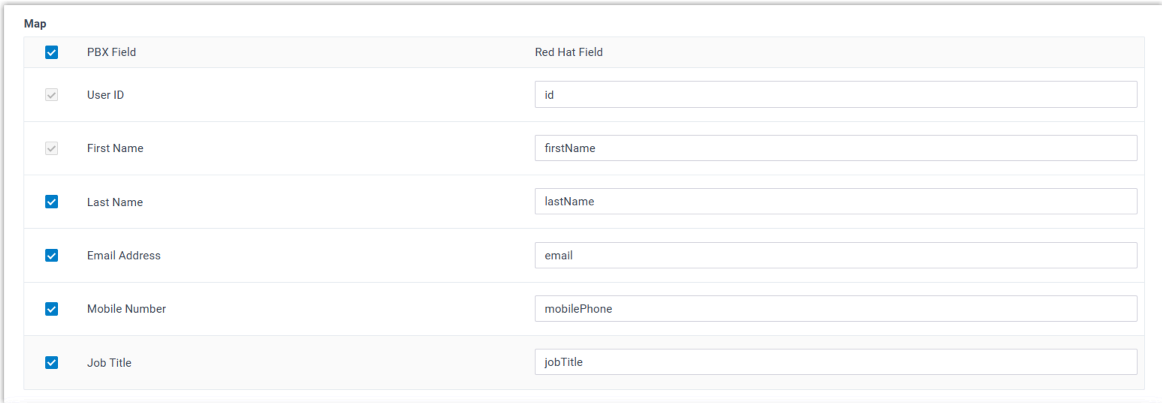


d. For the **Auto associate Extensions with the Users that share the same email address** option, set whether to synchronize the Red Hat SSO users who have the same email addresses as existing extensions.

- If selected, the users with same mailboxes will be synchronized to PBX and associated with the existing extensions.

  The extensions' user information will be overwritten by that of the users.
- If unselected, the users with same mailboxes will NOT be synchronized to PBX, as Yeastar PBX does NOT allow duplicated email addresses.

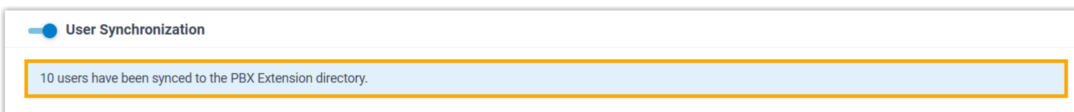
4. If you want to send Linkus Welcome Email to the synced users, select the checkbox of **Send Welcome Email automatically after an extension is created**.
5. In the **Map** section, select and map the fields for the user information that you want to synchronize.



6. Click **Save**.

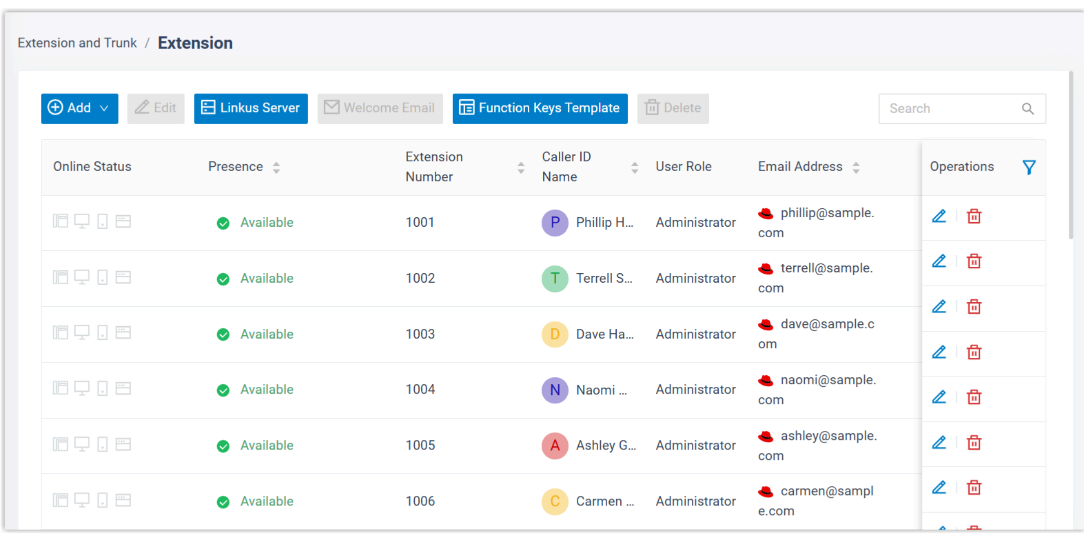
   PBX will perform the initial user synchronization immediately. When the synchronization is completed, the followings are achieved:

   - A notification banner appears to show the synchronization result.



   - Red Hat SSO users in the specified organizational unit(s) are synchronized to the PBX and assigned extensions (Path: **Extension and Trunk > Extension**).

     These extensions are marked with , and can NOT be deleted from PBX.

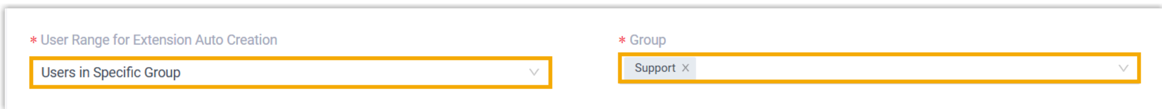


> **Note:**
> The **First Name**, **Last Name**, **Email Address**, **Mobile Number**, and **Job Title** of these extensions are synchronized from Red Hat. There-

fore, they can only be updated in Red Hat, and the changes will be reflected to the PBX during a synchronization.

Synchronize Red Hat SSO users in specific group to Yeastar PBX

1. Access the configuration page of user synchronization.
    a. Log in to PBX web portal, go to **Integrations > Collaboration**.
    b. Scroll down to the **User Synchronization** section.
2. Set the system to synchronize users from specific group(s).



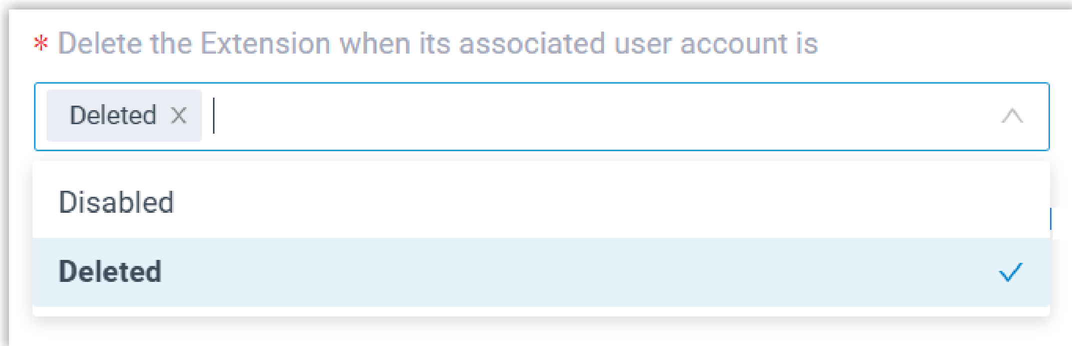
    a. In the **User Range for Extension Auto Creation** drop-down list, select **Users in Specific Group**.
    b. In the **Group** drop-down list, select one or more groups.
3. Set up extension assignment policies to define how the synced Red Hat SSO users are associated with PBX extensions.
    a. If you want the system to automatically delete the extensions associated with out-of-sync Red Hat SSO users, select the checkbox of **Auto delete the Extensions no longer in sync**.

> **Note:**
> This helps automatically remove unused extensions when the user synchronization scope changes.

    b. In the **User's Extension Number** drop-down list, select a rule for assigning extensions.

Item	Description
Assign Automatically	Assign extension numbers from a specific starting number. If you select this option, you need to specify a starting number in the **Start Extension Number from** field.
Read Specific Property Value	Assign extension numbers based on the value of a specific user account property. If you select this option, you need to specify a property name in the **Property Name** field.

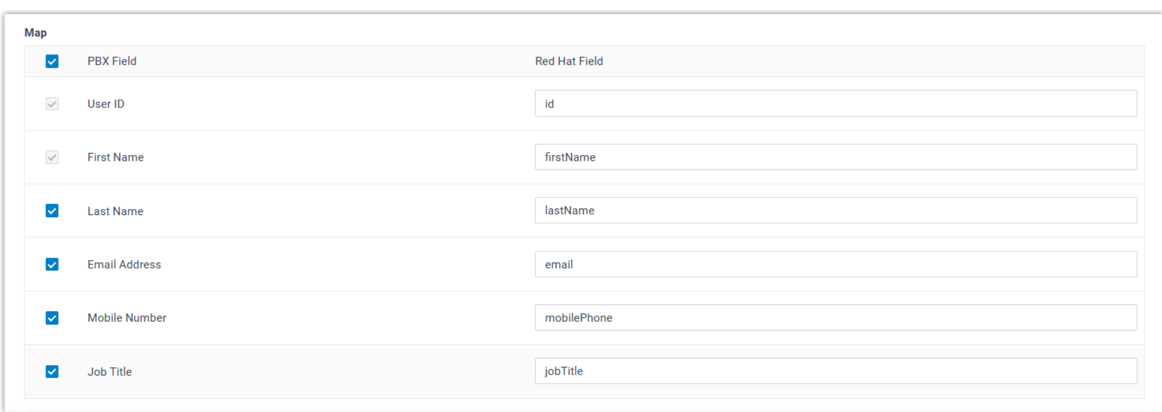
c. In the **Delete the Extension when its associated user account is** drop-down list, select the account status(es) at which PBX will stop synchronizing the users, and delete their associated extensions.



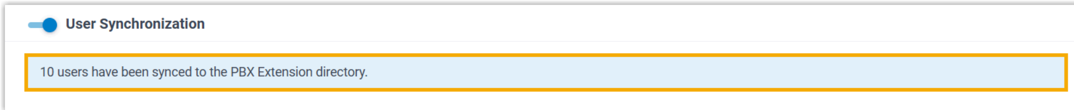
d. For the **Auto associate Extensions with the Users that share the same email address** option, set whether to synchronize the Red Hat SSO users who have the same email addresses as existing extensions.
   - If selected, the users with same mailboxes will be synchronized to PBX and associated with the existing extensions.

     The extensions' user information will be overwritten by that of the users.
   - If unselected, the users with same mailboxes will NOT be synchronized to PBX, as Yeastar PBX does NOT allow duplicated email addresses.

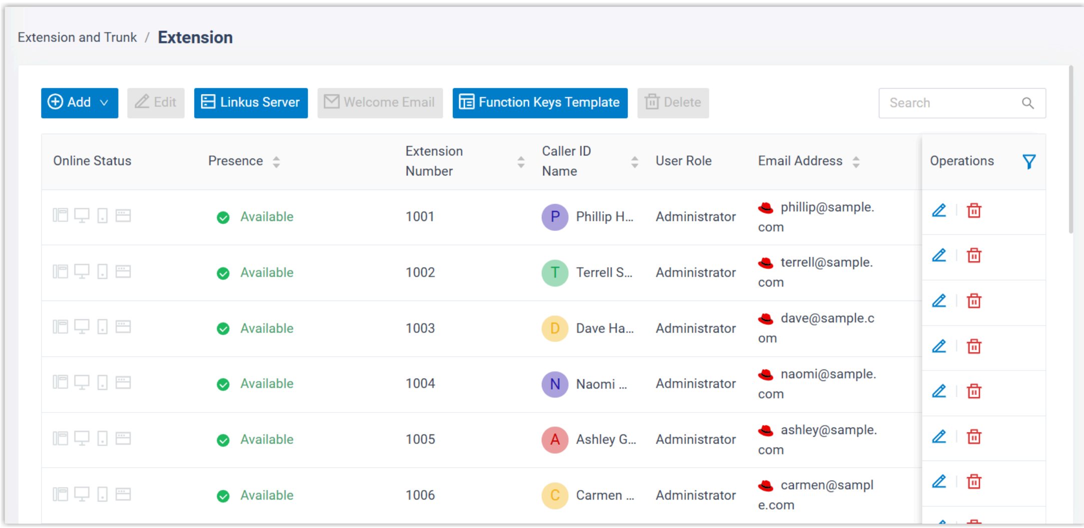
4. If you want to send Linkus Welcome Email to the synced users, select the checkbox of **Send Welcome Email automatically after an extension is created**.
5. In the **Map** section, select and map the fields for the user information that you want to synchronize.



6. Click **Save**.
   PBX will perform the initial user synchronization immediately. When the synchronization is completed, the followings are achieved:
   - A notification banner appears to show the synchronization result.



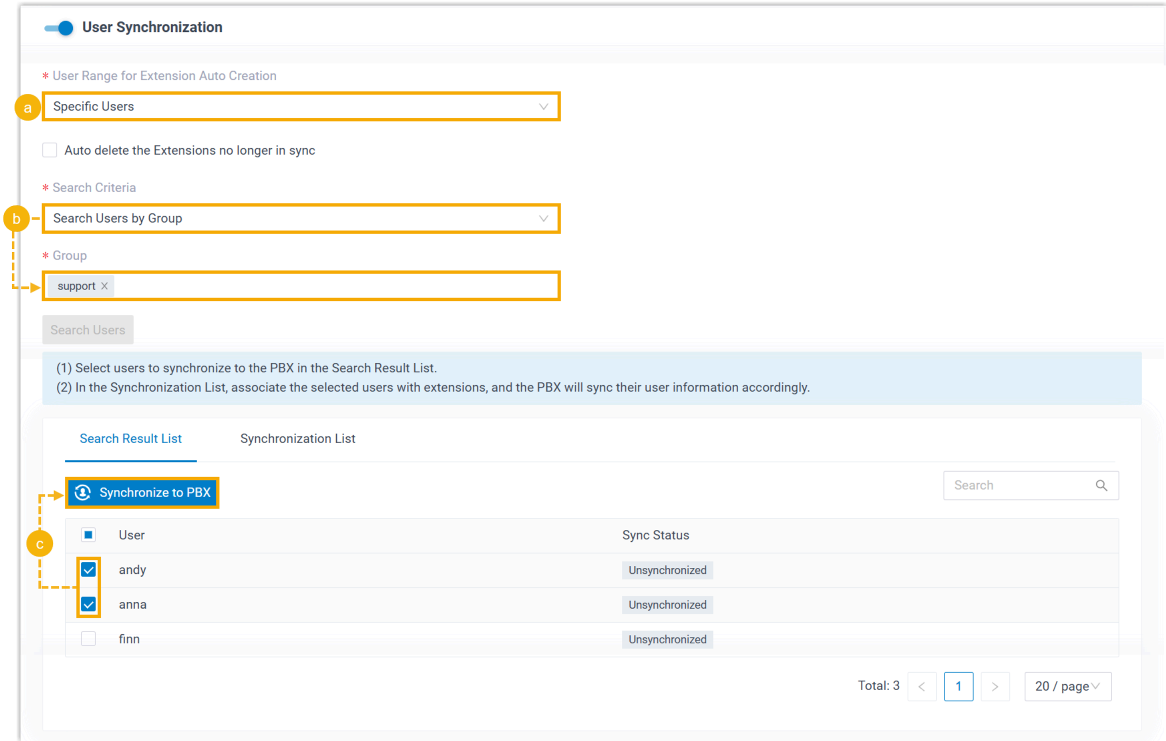
- Red Hat SSO users in the specified group(s) are synchronized to the PBX and assigned extensions (Path: **Extension and Trunk > Extension**). These extensions are marked with , and can NOT be deleted from PBX.

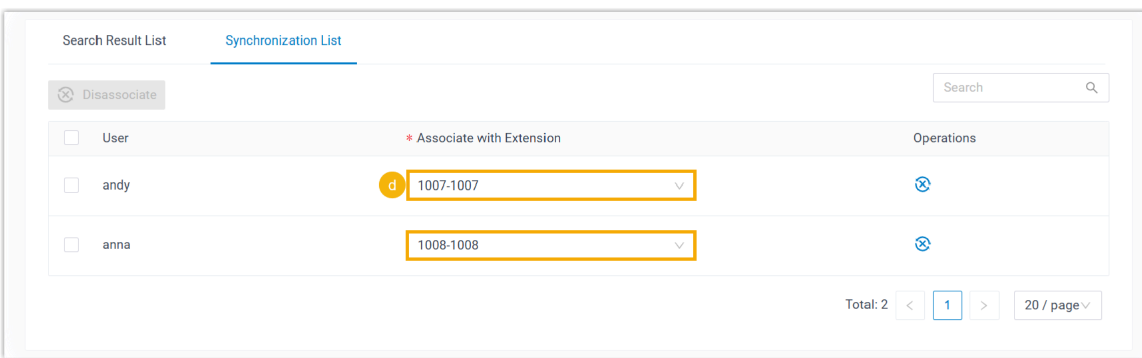


> **Note:**
> The **First Name**, **Last Name**, **Email Address**, **Mobile Number**, and **Job Title** of these extensions are synchronized from Red Hat. Therefore, they can only be updated in Red Hat, and the changes will be reflected to the PBX during a synchronization.

Synchronize specific Red Hat SSO users to Yeastar PBX

1. Access the configuration page of user synchronization.
    a. Log in to PBX web portal, go to **Integrations > Collaboration**.
    b. Scroll down to the **User Synchronization** section.
2. Set the system to synchronize specific users and manually assign extensions to the users.

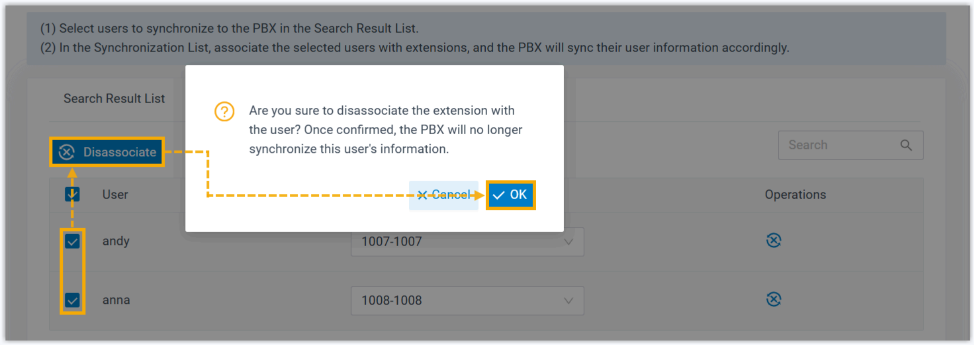




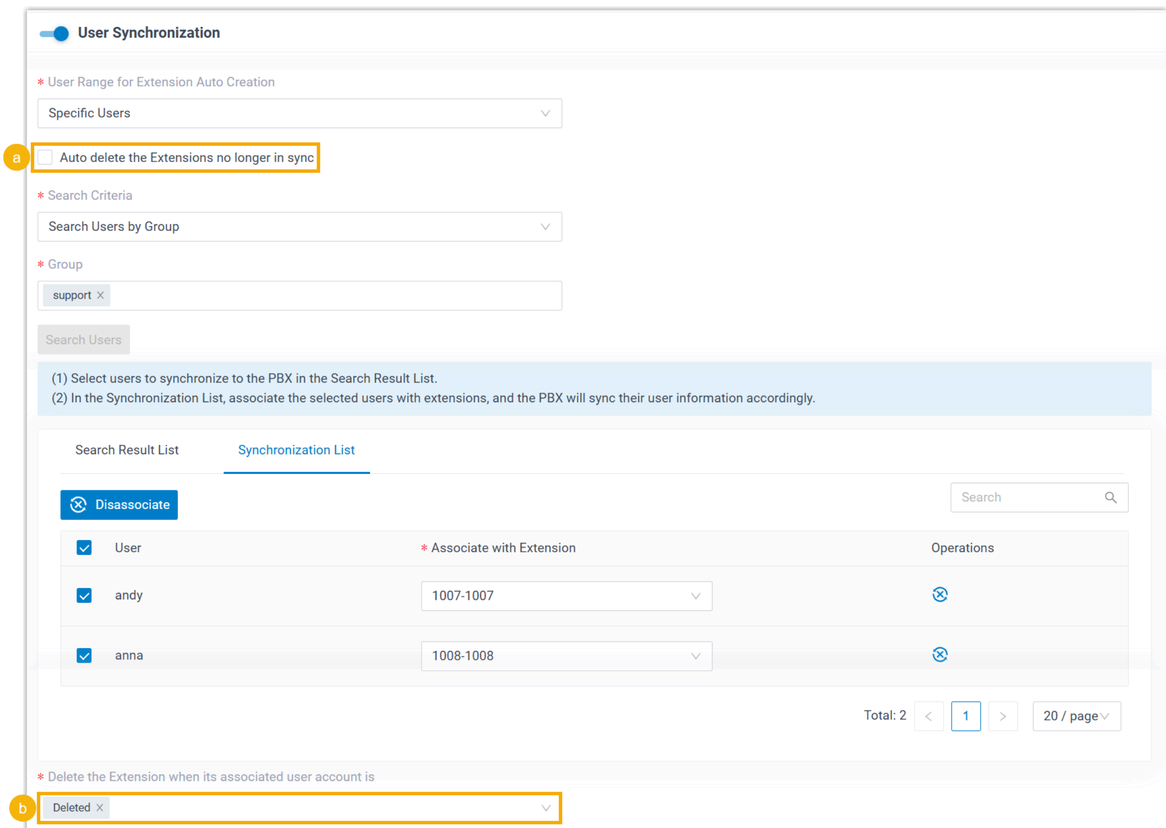
a. In the **User Range for Extension Auto Creation** drop-down list, select **Specific Users**.
b. In the **Search Criteria** drop-down list, set whether to search users by organizational unit or by group. Then specify the target unit or group, and click **Search Users**.

   Users that match the selected criteria are listed in the search results.
c. In the **Search Result List** section, select the checkboxes of the desired users, then click **Synchronize to PBX**.
d. In the **Synchronization List**, select an extension from the drop-down list to associate with the user.

Note:
In case you want to cancel syncing a selected Red Hat SSO user, proceed as follows:



3. Set up extension management policies to define how to handle the extensions associated with Red Hat SSO users when the user synchronization scope or user account status changes.

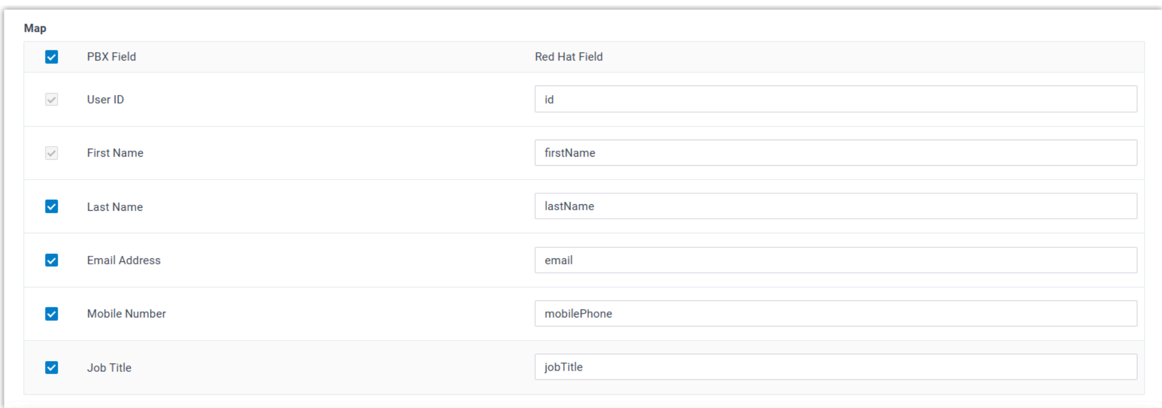


a. If you want the system to automatically delete the extensions associated with out-of-sync Red Hat SSO users, select the checkbox of **Auto delete the Extensions no longer in sync**.

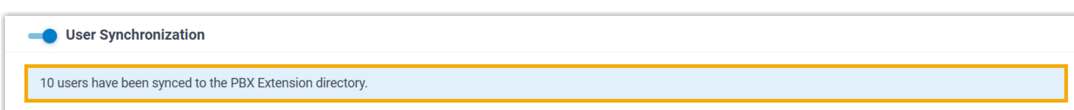
> **Note:**
> This helps automatically remove unused extensions when the user synchronization scope changes.

b. In the **Delete the Extension when its associated user account is** drop-down list, select the account status(es) at which PBX will stop synchronizing the users, and delete their associated extensions.

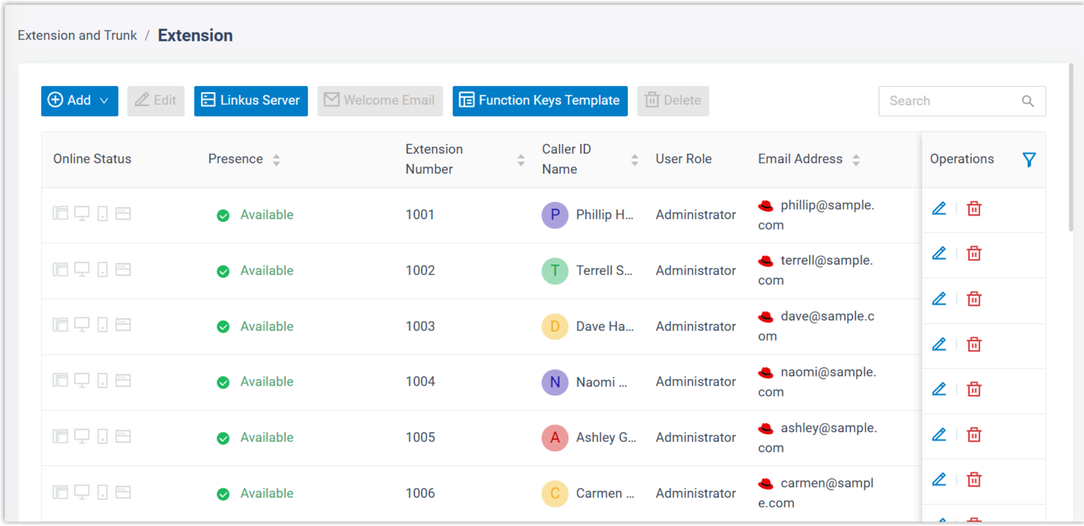
4. If you want to send Linkus Welcome Email to the synced users, select the checkbox of **Send Welcome Email automatically after an extension is created**.
5. In the **Map** section, select and map the fields for the user information that you want to synchronize.



6. Click **Save**.
PBX will perform the initial user synchronization immediately. When the synchronization is completed, the followings are achieved:
   - A notification banner appears to show the synchronization result.



   - The specified Red Hat SSO users are synchronized to PBX and assigned extensions (Path: **Extension and Trunk > Extension**). These extensions are marked with , and can NOT be deleted from PBX.



Note:
The **First Name**, **Last Name**, **Email Address**, **Mobile Number**, and **Job Title** of these extensions are synchronized from Red Hat. Therefore, they can only be updated in Red Hat, and the changes will be reflected to the PBX during a synchronization.

What to do next

Enable the Single Sign-on (SSO) feature to allow the synced users to log in to Linkus UC Clients using their Red Hat credentials.

For more information, see Allow Users to Log in to Linkus UC Clients with Red Hat SSO.

Allow Users to Log in to Linkus UC Clients with Red Hat SSO

After synchronizing users from Red Hat SSO to Yeastar P-Series Cloud Edition, you can enable the Single Sign-on (SSO) feature on PBX, allowing Red Hat SSO users to log in to Linkus clients using their Red Hat credentials.

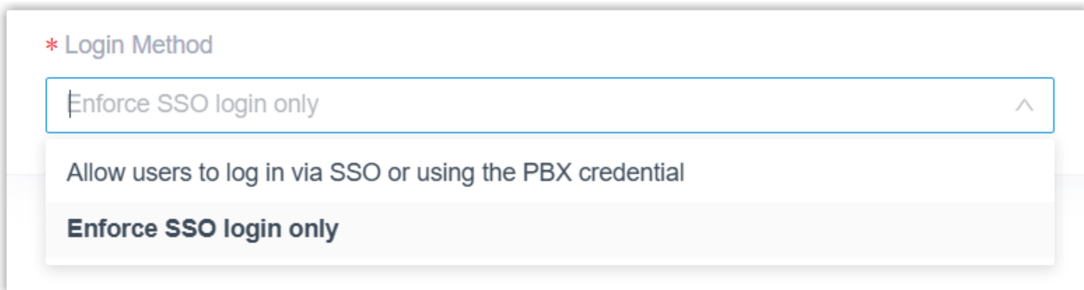
Prerequisites

- You have integrated Yeastar P-Series Cloud Edition with Red Hat SSO.
- You have synchronized users from Red Hat SSO to Yeastar P-Series Cloud Edition.

Procedure

1. Log in to PBX web portal, go to **Integrations > Collaboration**.
2. Scroll down to the **Single Sign-on (SSO)** section, then turn on the switch.

3. **Optional:** In the **Login Method** drop-down list, specify how Red Hat SSO users can log in to Linkus clients.



   - **Allow users to log in via SSO or using the PBX credential**: Red Hat SSO users can log in to Linkus clients via SSO or using the associated extension's account credentials.
   - **Enforce SSO login only**: Red Hat SSO users can log in to Linkus clients only via SSO.

   > **Note:**
   > Red Hat SSO login to **Linkus Mobile Client** is currently NOT supported. If you enforce SSO-only login, Red Hat SSO users will NOT be able to sign in to and use **Linkus Mobile Client**.

4. Click **Save**.

Result

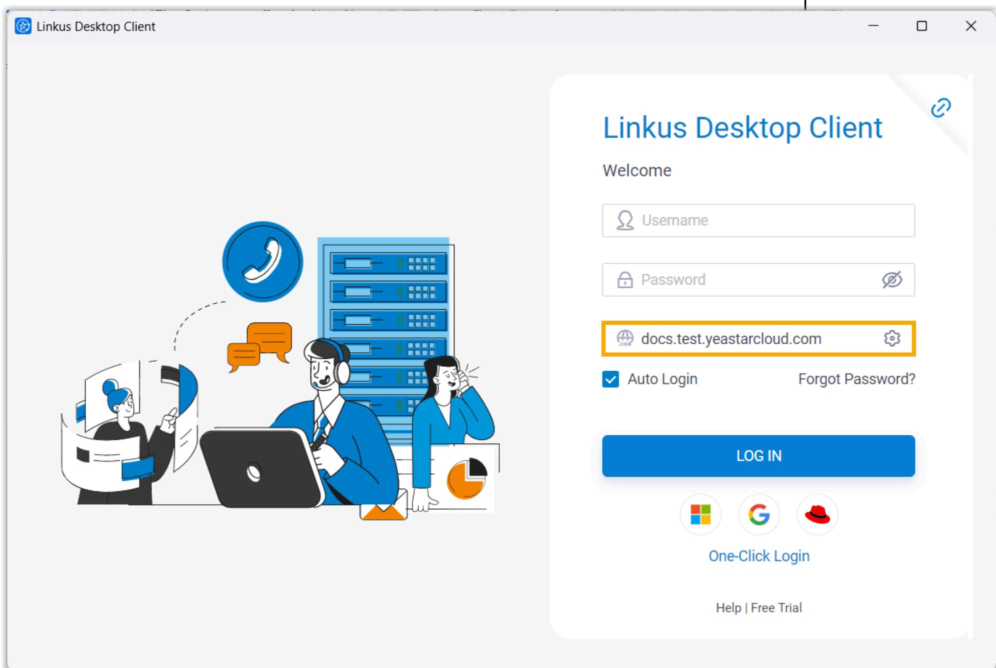
The synced users can directly log in to Linkus clients using their Red Hat credentials.

What to do next

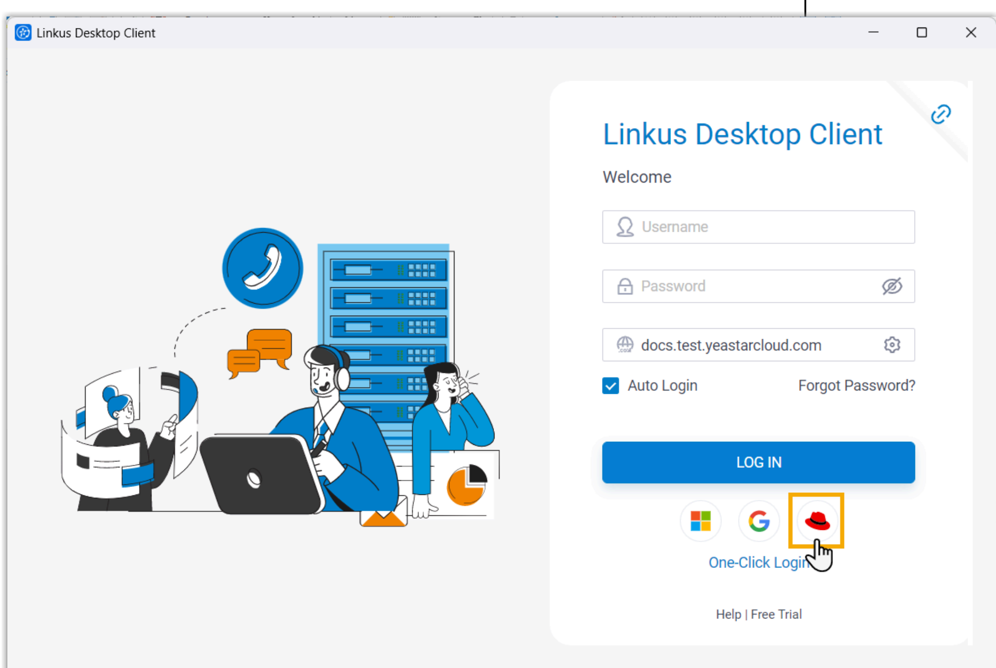
Instruct users on how to log in to Linkus clients using their Red Hat credentials.

<table>
<tr><th>Client</th><th>Instruction</th></tr>
<tr><td>Linkus Desktop Client</td><td>

1. Upgrade Linkus Desktop Client to version 1.18.5 or later.
2. In the **Domain** field, enter the PBX address that is allowed for Red Hat SSO.

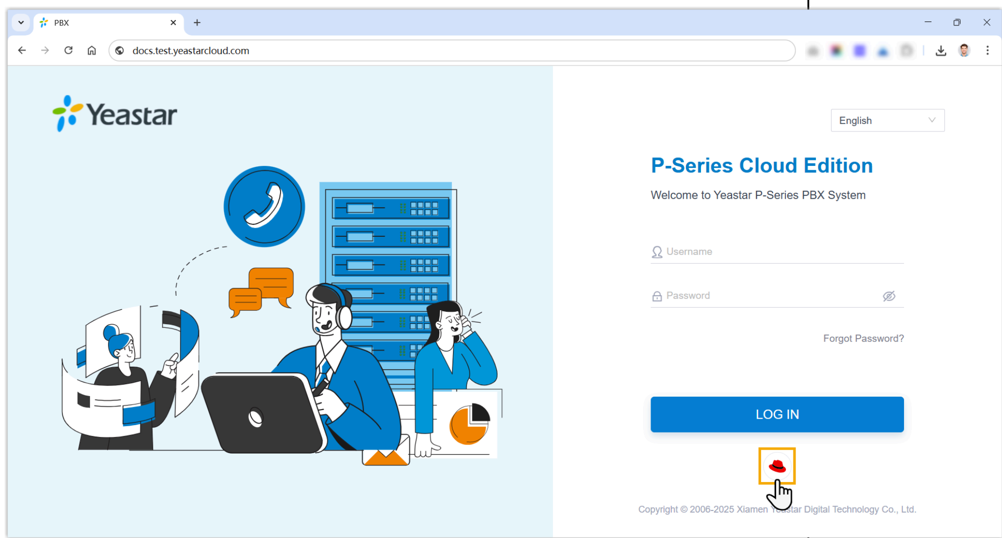


3. Click , and sign in with Red Hat credentials.



</td></tr>
</table>

Client	Instruction
Linkus Web Client	1. Access Linkus Web Client using the PBX address that is allowed for Red Hat SSO. 2. Click , and sign in with Red Hat credentials.



Manage Red Hat SSO Integration

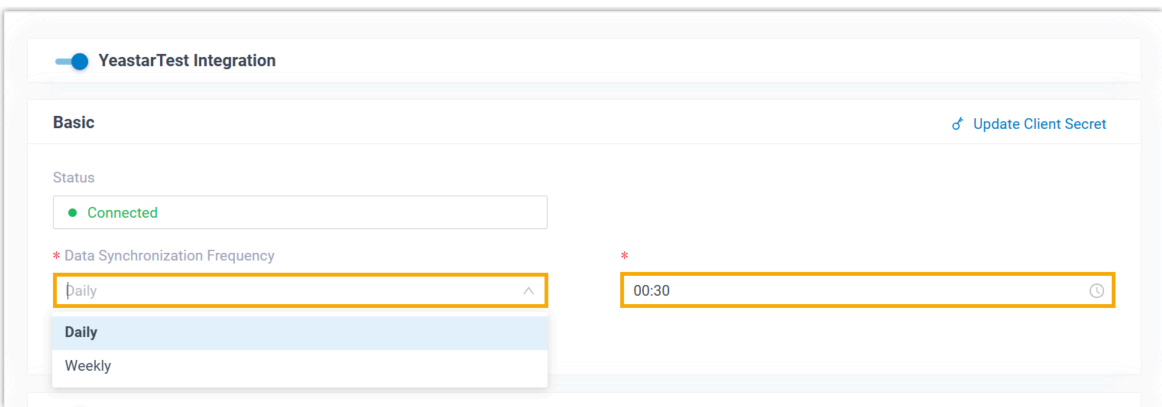
Schedule Automatic User Synchronization

By default, Yeastar P-Series Cloud Edition automatically performs user synchronization at 00:30 everyday. You can customize the automatic synchronization schedule to synchronize users from Red Hat SSO to Yeastar P-Series Cloud Edition at a specified time.

Procedure

1. Log in to PBX web portal, go to **Integrations > Collaboration**.
2. In the **Basic** section, select the data synchronization frequency and set a specific time.

   > **Note:**
   > It's recommended to schedule synchronization during non-office hours.

3. Click **Save**.

Result

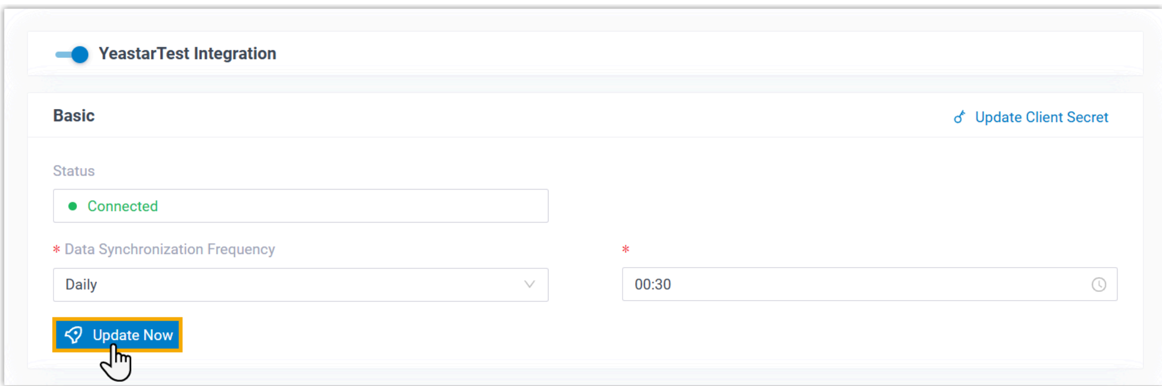
The PBX system will automatically perform periodic synchronizations according to the schedule.

Manually Perform User Synchronization

In case you want to immediately apply a new synchronization rule or update the information changes from Red Hat SSO to Yeastar P-Series Cloud Edition, you can manually start a synchronization.

Procedure

1. Log in to PBX web portal, go to **Integrations > Collaboration**.
2. In the **Basic** section, click **Update Now**.



Result

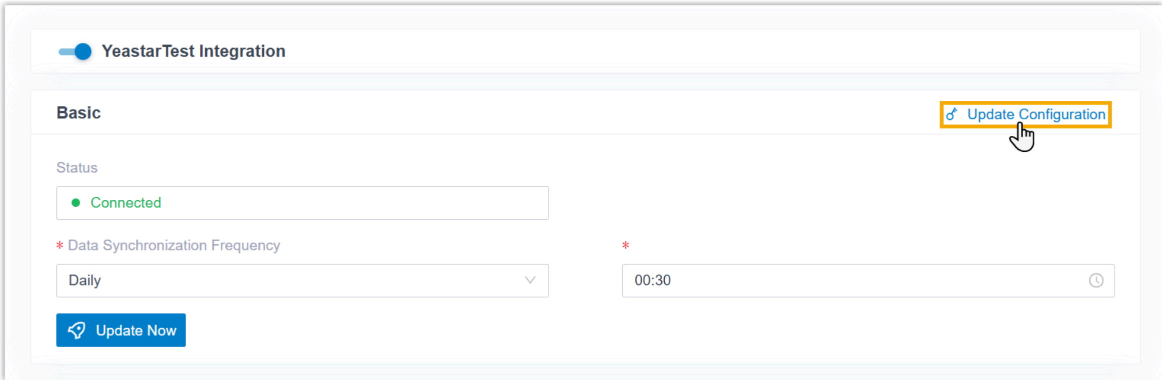
The PBX system immediately performs user synchronization once.

Update Client Secret for Red Hat SSO Integration

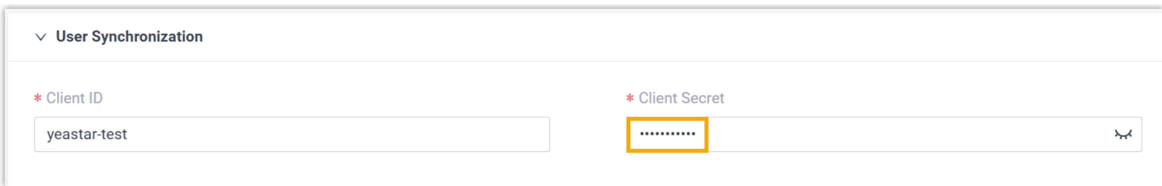
In case you want to replace client secret for the OIDC Client, you can follow this topic to proceed.

Procedure

1. Log in to PBX web portal, go to **Integrations > Collaboration**.
2. At the top-right of the **Basic** section, click **Update Configuration**.



3. Scroll down to the **User Synchronization** section, then paste the new client in the **Client Secret** field.



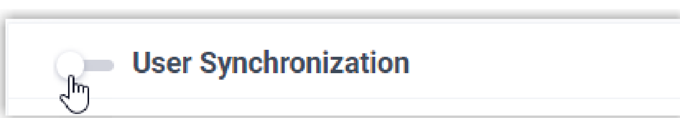
4. Click **Save**.

Pause Red Hat SSO Synchronization

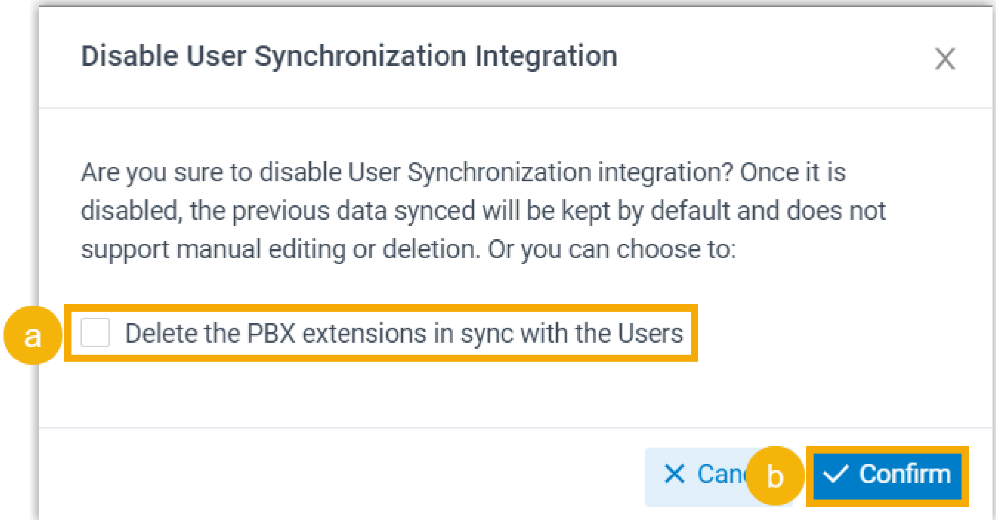
If you want to prevent the synced user data from being overwritten by the updates from Red Hat SSO, you can temporarily put the sync on hold. This topic describes how to pause the user synchronization from Red Hat SSO.

Procedure

1. Log in to PBX web portal, go to **Integrations > Collaboration**.
2. Turn off the switch of **User Synchronization**.



3. Click **Save**.
4. In the pop-up window, do as follows:



a. If you want to delete the PBX extensions associated with the synced users, select the checkbox of **Delete the PBX extensions in sync with the Users**.
b. Click **Confirm** to proceed.

Result

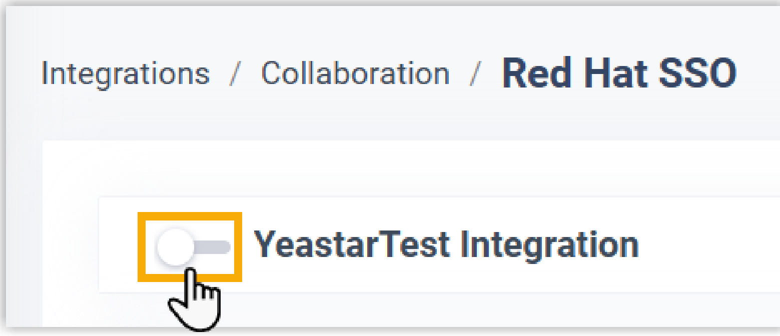
- The user synchronization is paused.
- The settings of **User Synchronization** remain and can not be edited.
- If you choose to retain the associated PBX extensions, you can NOT update the user information of the extensions or delete the extensions.

Disable Red Hat SSO Integration

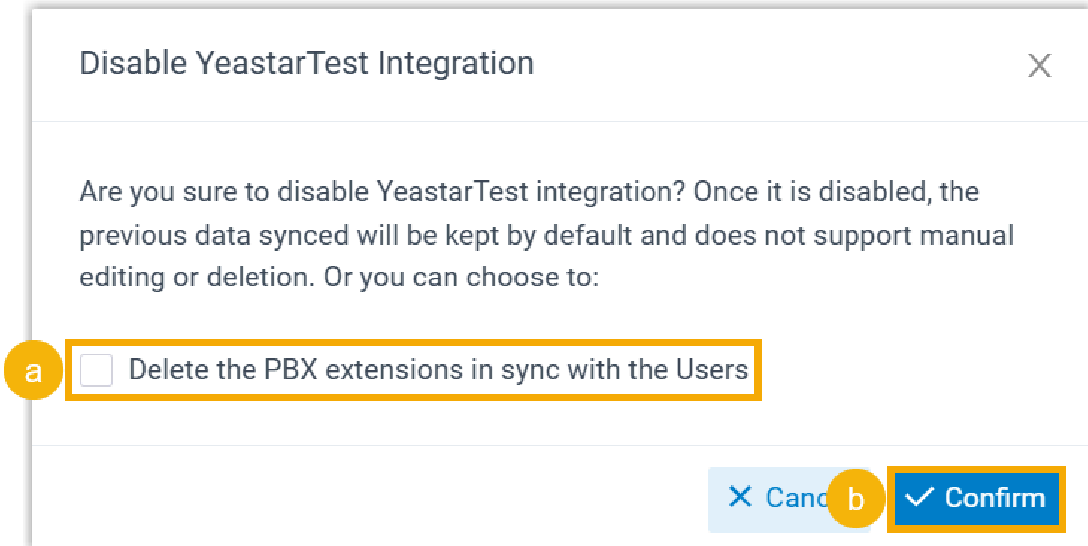
If you need to troubleshoot the PBX, you can suspend the Red Hat SSO integration instead of disconnecting it. This topic describes how to disable the Red Hat SSO integration temporarily without losing the existing configurations.

Procedure

1. Log in to PBX web portal, go to **Integrations > Collaboration**.
2. On the top of the integration page, turn off the switch.



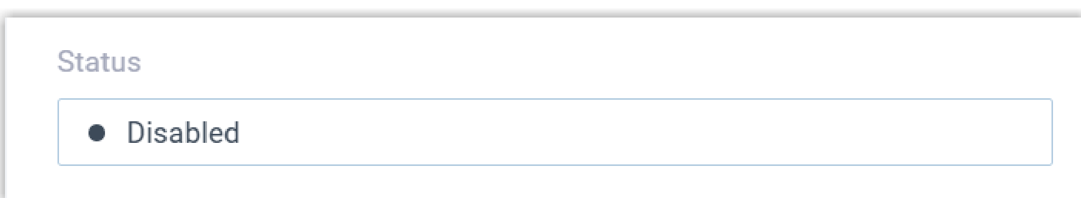
3. Click **Save**.
4. In the pop-up window, do as follows:



a. If you want to delete the PBX extensions associated with the synced users, select the checkbox of **Delete the PBX extensions in sync with the Users**.
b. Click **Confirm** to proceed.

Result

- The **Status** displays "Disabled", indicating that the integration is suspended.



- The integration configurations remain and can not be edited.

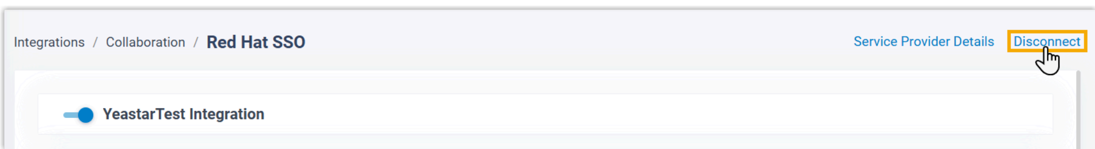
- Red Hat users can NOT log in to Linkus UC Clients using their Red Hat credentials for now.

Disconnect Red Hat SSO Integration

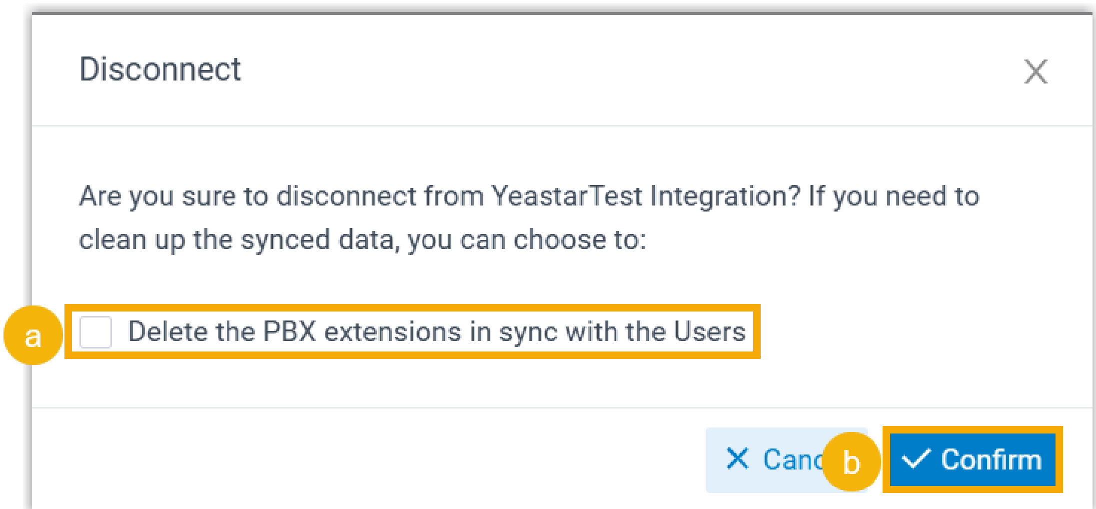
If you want to integrate with another directory, you need to disconnect the current Red Hat SSO integration first. This topic describes how to disconnect the integration.

Procedure

1. Log in to PBX web portal, go to **Integrations > Collaboration**.
2. At the top-right of the integration page, click **Disconnect**.



3. In the pop-up window, do as follows:



   a. If you want to delete the PBX extensions associated with the synced users, select the checkbox of **Delete the PBX extensions in sync with the Users**.
   b. Click **Confirm** to proceed.

Result

The Red Hat SSO integration is disconnected.

Firmware Dependency Reference

This topic outlines the key enhancements introduced to Red Hat SSO integration and the corresponding minimum PBX firmware version required to use them.

Release Date	Description	Required PBX Firmware
December 3, 2025	Added support for specifying the login method for Red Hat SSO users when signing in to Linkus clients. You can choose to either enforce SSO-only login, or allow users to sign in via SSO or with their associated extension's account credentials.	84.21.0.66 or later
November 10, 2025	Initial release.	84.21.0.16 or later