

# Microsoft SQL Integration Guide

Yeastar P-Series Software EditionYour Phone System Name



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### Microsoft SQL Integration Guide

Yeastar P-Series Software Edition supports the integration with Microsoft SQL, which allows for automatically triggering contact lookup in your Microsoft SQL database when an inbound call reaches your PBX and displaying caller's name if a match is found. In addition, contact synchronization with phonebook(s) enables convenient outbound calling from LinkusYour App Name UC Clients and intelligent inbound call routing based on phonebook(s) matches.

### Requirements

Item	Requirement
YeastarYour Company Name PBX	<ul> <li>Plan: Enterprise Plan (EP) or Ultimate Plan (UP)</li> <li>Firmware: Version 83.16.0.70 or later</li> </ul>
Microsoft SQL	No requirement. All versions of Microsoft SQL Server can integrate with Yeastar P-Series Software Edition.

### Integration flow

The integration between Yeastar P-Series Software Edition and Microsoft SQL enables a variety of features, including caller ID name display, contact synchronization, and intelligent inbound call routing based on phonebook matches.

Depending on the features that you want to implement, you will need to perform different operations for the integration, as shown below:

### Scenario: Caller ID name display

1. Integrate Yeastar P-Series Software Edition with Microsoft SQL

### Scenario: Caller ID name display and contact synchronization

- Integrate Yeastar P-Series Software Edition with Microsoft SQL
- 2. Set up Contact Synchronization from Microsoft SQL

Scenario: Caller ID name display, contact synchronization, and inbound call routing based on phonebook match

1. Integrate Yeastar P-Series Software Edition with Microsoft SQL

- 2. Set up Contact Synchronization from Microsoft SQL
- 3. Set up inbound routes based on phonebook matches<u>Set up inbound</u> routes based on phonebook matches

# Integrate Yeastar P-Series Software Edition with Microsoft SQL

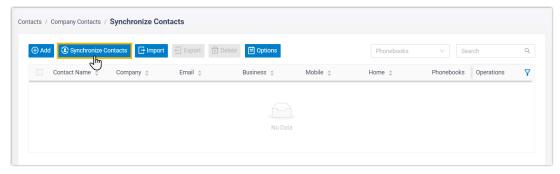
With the integration between Yeastar P-Series Software Edition and Microsoft SQL, inbound calls to PBX will automatically trigger contact lookup in your Microsoft SQL database and display the caller's name if a match is found.

### Requirements

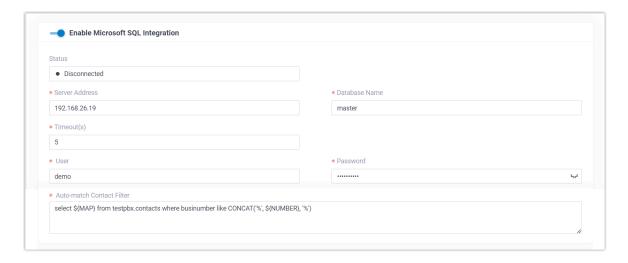
Item	Requirement
YeastarYour Company Name PBX	<ul> <li>Plan: Enterprise Plan (EP) or Ultimate Plan (UP)</li> <li>Firmware: Version 83.16.0.70 or later</li> </ul>
Microsoft SQL	No requirement. All versions of Microsoft SQL Server can integrate with Yeastar P-Series Software Edition.

### **Step 1. Enable Microsoft SQL integration**

- 1. Access the Microsoft SQL configuration page.
  - a. Log in to PBX web portal, go to Contacts > Company Contacts.
  - b. At the top of the page, click **Synchronize Contacts**.



2. Turn on the option **Enable Microsoft SQL Integration**, then complete the following settings.



Item	Description
Server Address	Enter the address of Microsoft SQL server based on your situation.  • If Microsoft SQL server runs on the default port 1433,
	enter the server's IP address or domain name.
	For example, enter 192.168.26.19.  • If Microsoft SQL server runs on a non-default port, enter the server's IP address/domain name and port.
	For example, enter 192.168.26.19:2233.
Database Name	Enter the name of the database.
Timeout(s)	Set the timeout for the connection to Microsoft SQL server.
User	Enter the username to connect to the database.
Password	Enter the password to connect to the database.
Auto-match Contact Filter	Enter a SELECT statement for contact caller ID matching, in the format select \${MAP} from {schema_name}.{table_name} where {condition_to filter_number}.
	Example: select \${MAP} from testpbx.contacts where businumber like CONCAT('%', \${NUMBER}, '%')  • select \${MAP}: Specify the name of the column in the database that you want to display as the caller ID name.
	Note:  \${MAP} will be replaced by the field values corresponding to the PBX field (First Name,  Last Name, or both) enabled in the Map section.

Item	Description
	<ul> <li>from testpbx.contacts: The table from which you want to select data, which must include two-part names (schema name and table name) in the format</li> </ul>
	<ul> <li>{schema_name}.{table_name}.</li> <li>where businumber like CONCAT('%', \${NUMBER}, '%'): Retrieve the records where businumber contains the value of \${NUMBER} anywhere within it.</li> </ul>

# Step 2. Map contact fields between Yeastar P-Series Software Edition and Microsoft SQL

- 1. Scroll down to the **Map** section.
- 2. Map the fields that are required for displaying caller's name.



a. For **Contacts ID**, **First Name**, and **Business Number**, enter the corresponding column name in Microsoft SQL contacts table.

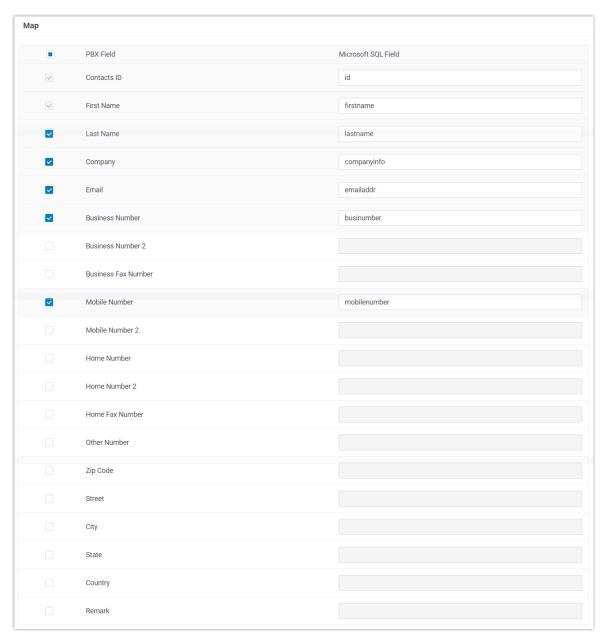


### Note:

In this example, **Business Number** is mapped because it is used as a <u>number filter</u>. You MUST map the number field based on your situation.

When an inbound call matches a contact in your database, the contact's first name will be displayed.

- b. **Optional:** To display contact's last name as well, select the checkbox of **Last Name**, then enter the corresponding column name in Microsoft SQL field.
- 3. If you want to synchronize Microsoft SQL contacts to PBX, enable and map the desired fields.



4. Click Save.

### Result

• Yeastar P-Series Software Edition is connected to your Microsoft SQL server.



• When an inbound call matches a contact in your database, the caller's name will be displayed.

### What to do next

If you want to allow extension users to conveniently call Microsoft SQL contacts from LinkusYour App Name UC Clients, you need to set up contact synchronization from Microsoft SQL server.

For more information, see Set up Contact Synchronization from Microsoft SQL.

# Set up Contact Synchronization from Microsoft SQL

By synchronizing Microsoft SQL contacts to Yeastar P-Series Software Edition, extension users can conveniently call these contacts from LinkusYour App Name UC Clients. In addition, the system can automatically route inbound calls from Microsoft SQL contacts to the specified destinations based on phonebook matches.

### Restrictions

Refer to the table below for the maximum number of company contacts and phonebooks supported by your system.

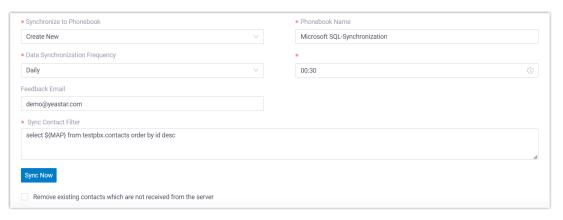
Maximum Number of Extensions (N)	N < 1000	N ≥ 1000
Company contacts (total)	200,000	500,000
Company phonebooks	200	500

### **Prerequisites**

You have mapped the desired contact fields between Yeastar P-Series Software Edition and Microsoft SQL.

### **Procedure**

- 1. On Microsoft SQL configuration page, scroll down to the **Contacts Synchronization** section.
- 2. Enable and set up contact synchronization from Microsoft SQL server.
  - a. Turn on the option Contacts Synchronization.
  - b. Complete the following settings.

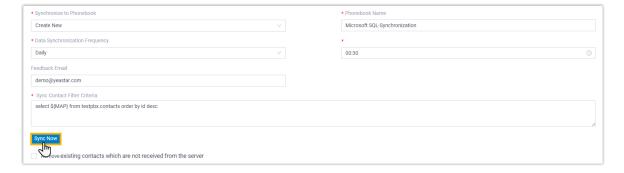


Item	Description
Synchronize to Phonebook	Select where to store the contacts that will be synchronized from your database.  • Create New: Create a new phonebook from scratch to store the synced contacts.
	If you choose the option, enter the phonebook name in the <b>Phonebook Name</b> field.  • Read Specific Property Value and Create New: Create a new phonebook based on the property value of a specific column in your contact table to store the synced contacts.  If you choose the option, enter a column name of the contact table in the <b>Property Name</b> field.
	Note: This is helpful when you want to route inbound calls from Microsoft SQL contacts to the specified destinations in PBX based on phonebook matches.
	For example, there is a column named as <b>belongto</b> , which designates the team responsible for servicing the contacts - <b>Sales</b> and <b>Support</b> . By entering belongto in the field, the system will create two phonebooks - <b>Sales</b> and <b>Support</b> after you save the setting, and route inbound calls to the responsible team based on the phonebook matches after you configure proper inbound routes.
	<ul> <li>{existing_phonebook}: Select an existing empty phonebook to store the synced contacts.</li> </ul>

Item	Description
	Note: The existing empty phonebooks are synchronized from Contacts > Phonebooks.
Data Synchronization Frequency	Select the frequency to synchronize contacts, then configure time in the follow-up field.
	Note: Synchronizing a large number of contacts will affect system performance, we recommend that you schedule contact synchronization during off-peak hours.
Feedback Email	Optional. Enter an email address to get notified of the contact synchronization result.
	Note:  A maximum of 5 email addresses are supported; Use a semicolon ; to separate multiple addresses.
Sync Contact Filter	Enter a SELECT statement for contact synchronization from Microsoft SQL, in the format select \${MAP} from {schema_name}.{table_name}.
	Note: TOP clause is not supported.
	<b>Example</b> : select \${MAP} from testpbx.contacts order by id desc
	select \${MAP}: Specify the name of the column in the database that you want to synchronize to PBX.  -
	Note:  \${MAP} will be replaced by the field values corresponding to the PBX field enabled in the Map section.
	• from testpbx.contacts: The table from which you want to select data, which must include two-part names (schema name and table name) in the format {schema_name}.{table_name}.

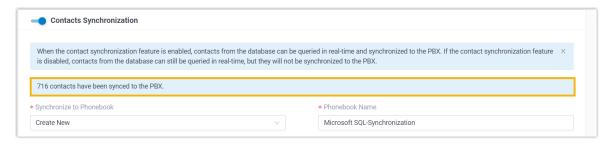
Item	Description
	<ul> <li>order by id desc: Sort the result in descending order.</li> </ul>
Remove existing contacts which are not received from the server	If enabled, contacts that were successfully synchronized last time but do not exist in the current synchronization will be deleted by default.

- c. Click Save.
- 3. Click **Sync Now** to synchronize contacts to PBX immediately.

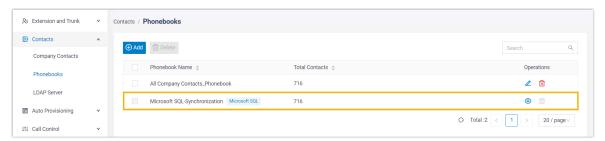


### Result

• A notification banner is appeared, displaying the number of contacts that have been successfully synchronized to PBX.



• You can check the synchronized contacts and their associated phonebook(s) in **Contacts > Company Contacts / Phonebooks**, which are tagged as Microsoft SQL.



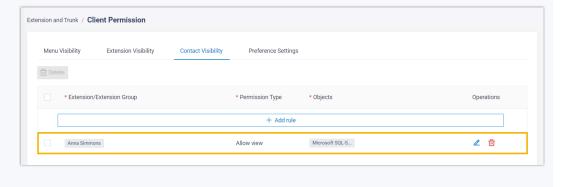
 Authorized extension users can view and call the contacts directly from LinkusYour App Name UC Clients.



#### Note:

To achieve this, you need to grant the viewing permission of the associated phonebook to extension users (Path: **Extension and Trunk > Client Permission > Contact Visibility**) and extension users need to upgrade LinkusYour App Name UC Clients to the specified version, as shown below:

- LinkusYour App Name iOS Client: Version 5.7.3 or later
- LinkusYour App Name Android Client: Version 5.7.4 or later
- LinkusYour App Name Windows Desktop: Version 1.7.3 or later
- LinkusYour App Name Mac Desktop: Version 1.7.3 or later



### What to do next

If you want to route inbound calls to specified destinations based on phonebook matches, you need to configure inbound routes to route calls by matching contacts in different phonebooks.

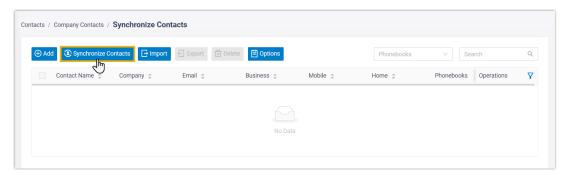
For more information, see Route Inbound Calls by Matched Phonebook Contacts.

### Disable Microsoft SQL Integration

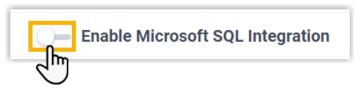
You can disable Microsoft SQL integration on Yeastar P-Series Software Edition at any time when you want to pause the database integration.

### **Procedure**

- 1. Access the Microsoft SQL configuration page.
  - a. Log in to PBX web portal, go to Contacts > Company Contacts.
  - b. At the top of the page, click **Synchronize Contacts**.



2. Turn off the option Enable Microsoft SQL Integration.



3. Click Save.

### Result

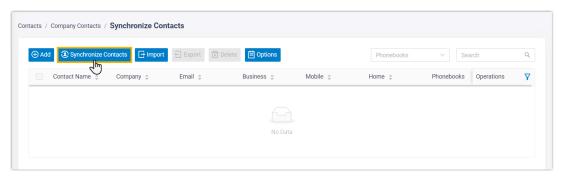
- The Status field displays Disabled.
- The Microsoft SQL configurations are retained, and can be used directly the next time the integration is enabled again.

### Disconnect Microsoft SQL Integration

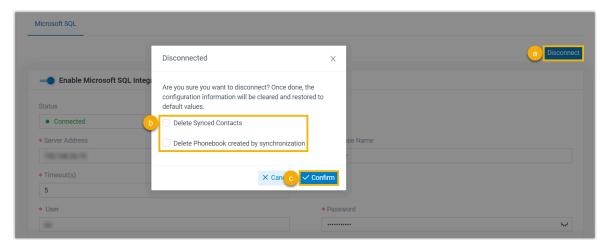
If you want to integrate with another database, you need to disconnect the current Microsoft SQL integration first.

### **Procedure**

- 1. Access the Microsoft SQL configuration page.
  - a. Log in to PBX web portal, go to Contacts > Company Contacts.
  - b. At the top of the page, click **Synchronize Contacts**.



2. Disconnect Microsoft SQL integration.



- a. At the top-right corner, click **Disconnect**.
- b. **Optional:** To delete the synced contacts or created phonebook, select the check-box of **Delete Synced Contacts** and **Delete Phonebook created by synchronization**.
- c. Click Confirm.

### Result

The Microsoft SQL integration is disconnected.