

## MindSphere

### App MindSphere app SIMATIC Notifier

#### Application Manual

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## Legal information

### Warning notice system

This manual contains notices you have to observe in order to ensure your personal safety, as well as to prevent damage to property. The notices referring to your personal safety are highlighted in the manual by a safety alert symbol, notices referring only to property damage have no safety alert symbol. These notices shown below are graded according to the degree of danger.

 <b>DANGER</b>
indicates that death or severe personal injury <b>will</b> result if proper precautions are not taken.

 <b>WARNING</b>
indicates that death or severe personal injury <b>may</b> result if proper precautions are not taken.

 <b>CAUTION</b>
indicates that minor personal injury can result if proper precautions are not taken.

<b>NOTICE</b>
indicates that property damage can result if proper precautions are not taken.

If more than one degree of danger is present, the warning notice representing the highest degree of danger will be used. A notice warning of injury to persons with a safety alert symbol may also include a warning relating to property damage.

### Qualified Personnel

The product/system described in this documentation may be operated only by **personnel qualified** for the specific task in accordance with the relevant documentation, in particular its warning notices and safety instructions. Qualified personnel are those who, based on their training and experience, are capable of identifying risks and avoiding potential hazards when working with these products/systems.

### Proper use of Siemens products

Note the following:

 <b>WARNING</b>
Siemens products may only be used for the applications described in the catalog and in the relevant technical documentation. If products and components from other manufacturers are used, these must be recommended or approved by Siemens. Proper transport, storage, installation, assembly, commissioning, operation and maintenance are required to ensure that the products operate safely and without any problems. The permissible ambient conditions must be complied with. The information in the relevant documentation must be observed.

### Trademarks

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### Disclaimer of Liability

We have reviewed the contents of this publication to ensure consistency with the hardware and software described. Since variance cannot be precluded entirely, we cannot guarantee full consistency. However, the information in this publication is reviewed regularly and any necessary corrections are included in subsequent editions.

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# Introduction

## 1.1 Security information

### Security information

Siemens provides products and solutions with industrial security functions that support the secure operation of plants, systems, machines and networks.

In order to protect plants, systems, machines and networks against cyber threats, it is necessary to implement - and continuously maintain - a holistic, state-of-the-art industrial security concept. Siemens' products and solutions constitute one element of such a concept.

Customers are responsible for preventing unauthorized access to their plants, systems, machines and networks. Such systems, machines and components should only be connected to an enterprise network or the internet if and to the extent such a connection is necessary and only when appropriate security measures (e.g. firewalls and/or network segmentation) are in place.

For additional information on industrial security measures that may be implemented, please visit:

<https://www.siemens.com/industrialsecurity> (<https://new.siemens.com/global/en/company/topic-areas/future-of-manufacturing/industrial-security.html>)

Siemens' products and solutions undergo continuous development to make them more secure. Siemens strongly recommends that product updates are applied as soon as they are available and that the latest product versions are used. Use of product versions that are no longer supported, and failure to apply latest updates may increase customer's exposure to cyber threats.

To stay informed about product updates, subscribe to the Siemens Industrial Security RSS Feed under:

<https://www.siemens.com/industrialsecurity> (<https://new.siemens.com/global/en/company/topic-areas/future-of-manufacturing/industrial-security.html>)

## 1.2 Note on EU General Data Protection Regulation (GDPR)

### Data protection

Siemens observes the principles of data protection, in particular the principle of data minimization (privacy by design). For the SIMATIC Notifier product, this means: the product processes / stores the following personal data: User Name (first name and last name), email address, user role, language and app data (message filter).

No private or intimate data is processed or stored.

The above data are required for the login, the billing function and for the internal user administration (administrator can see the role and the status of other users). The storage of data is appropriate and limited to what is necessary, as it is essential to identify the authorized

## 1.5 Basic information about notifications

operators. The data needs to be maintained manually by you and if necessary, these can also be deleted. If you need support, please contact customer support.

The above data will not be stored anonymously or pseudonymized, because the purpose (identification of the operating personnel) cannot be achieved otherwise.

The above data is protected against loss of integrity and confidentiality by state-of-the-art security measures.

## 1.3 Function overview

### Introduction

The MindSphere app SIMATIC Notifier offers you globally accessible notifications that are generated in case of an event. It monitors the variables stored in the MindSphere according to the notification rules you have configured.

### Browser recommendation

We recommend the Google Chrome web browser. Preferably use 1920x1080 resolution.

## 1.4 What's new in Notifier?

You can find all important new features in Notifier here: New features in Notifier ([https://sie.ag/notifier\\_whatsnew](https://sie.ag/notifier_whatsnew))

## 1.5 Basic information about notifications

### Notifications

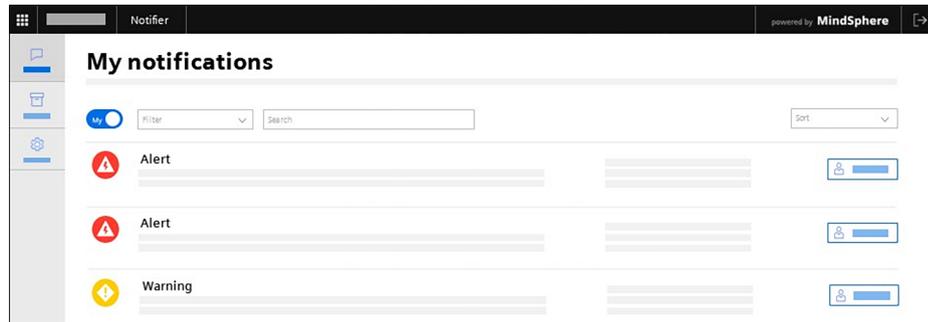
There are three types of notifications which can be created:

Symbol	Notification type	Description
	Alert	Alerts are critical notifications with the highest priority, for example requiring immediate action. Alerts can be accepted by a user. This means that this user will take care of the underlying problem that triggered the alert, e.g. by lowering the temperature in a boiler.
	Warning	Warnings are medium priority notifications that inform the user of an important status or problem in the plant. Similar to alerts, users can also accept incoming warnings.
	Information	Informative notifications give users a tip or information about low-priority events, such as upcoming maintenance. Information can also be accepted.

## Structure of the app

### Views in the app

The Notifier has the following tabs:



Tab	Description	
	Notifications	<p>You can view notifications in the tab "Notifications":</p> <ul style="list-style-type: none"> <li>All notifications for a tenant</li> <li>"My notifications" based on a configured filter</li> </ul>
	Archive	<p>In the "Log" tab, you can see the last 200 resolved notifications. In MindSphere, all fixed notifications are available for 365 days from the day they are logged.</p>
	Settings	<p>You have the following options in the "Settings" tab:</p> <ul style="list-style-type: none"> <li>Manage notification rules</li> <li>Manage "My notifications"</li> <li>User information</li> <li>Usage information</li> </ul> <p>You can find more information on user and usage information here: <a href="#">User profile (Page 9)</a></p>



## User profile

### User information

Here, you can see your user information and set the interface language of the app.

### User roles as tenant

If you are logged on as a tenant user or administrator in MindSphere, you have the following options:

Activities	Users	Administrator
Add, edit or delete notification rules (from tenant and subtenants)	-	x
View and accept notifications	x	x
View archive	x	x
Display notifications from other apps (origin apps), such as SIMATIC Performance Insight or SIMATIC Notifier	x	x
Delete notifications	-	x

#### Note

##### General information on tenants and subtenants

A tenant is the digital representation of a real company in MindSphere. A tenant includes users, data, assets, locations and other properties.

You can also create and manage **subtenants** in a tenant. The subtenants form a self-contained subarea so that users of this subtenant can only access the contents of this area.

You can find more on this topic and on **Cross tenancy** in the documentation for MindSphere Settings: MindSphere settings (<https://documentation.mindsphere.io/resources/html/settings/en-US/114946506891.html>)

### User roles as subtenant

If you are logged on as a subtenant user or administrator in MindSphere, you have the following options:

Activities	Users	Administrator
Add, edit or delete notification rules that were created by the subtenant.	-	x
Display notification rules that were created by a tenant.	-	x

Activities	Users	Administrator
Display and accept notifications that belong to a location of the subtenant.	x	x
View archive	x	x
Display notifications from other apps (origin apps), such as SIMATIC Performance Insight or SIMATIC Notifier	x	x
Delete notifications	-	x

### Smart devices

You can see your connected smart devices here.

### Usage information

The usage information shows you how many notification rules have been used on a monthly basis.

## Quality codes

### Description

The quality code measures the quality of the connection from a data provider to the MindConnect element. For the Notifier app, this means that a value with quality code  $\neq$  TRUE is ignored in the app, because the quality code is not transferred to MindSphere as well. This value is ignored for the creation of notification rules.

The following table is based on the OPC UA standard and shows the quality codes possible for OPC UA and S7:

Quality code (hex)	Quality code (dec)	Quality	Description
0x00000000	0	GOOD	Good quality, all values could be read.
0x00BA0000	12189696	GOOD_INCOMPLETE	Good quality, but the values may be incomplete. A least 1 value could be read.
0x002F0000	3080192	GOOD_OVERLOAD	Sampling has slowed down due to resource constraints.
0x40920000	1083310080	UNCERTAIN_INITIAL_VALUE	Uncertain initial value Quality of the value is worse than usual. It might still be possible to use the value.

The quality code has the binary 8-bit structure QQSSSSL. Digits 1 and 2 (QQ) of the quality code define the quality of the value. Digits 3 to 6 (SSSS) of the quality code specify the sub-status of the quality. Digits 7 and 8 (LL) are optional and define possible limits.



## Showing my notifications

In the Notifier, you can show notifications in the following ways:

- All notifications: You will see all notifications that have been created for a tenant.
- My notifications: If you have not set any filter criteria, you will see all notifications.
- My notifications: If you have set filter criteria, such as notification type = "Alert", then only the alerts are shown. In "My notifications" you can also link multiple filter criteria using and/or interconnections, such as notifications of type "Alert" OR "Warning". This will show all alerts and warnings.

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### Note

#### Showing notifications on a smart device

The smart device shows the notifications that were selected using the "My notifications" filter criteria.

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### Configure filter

The following filter criteria are available:

- Notification type
- Location

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### Note

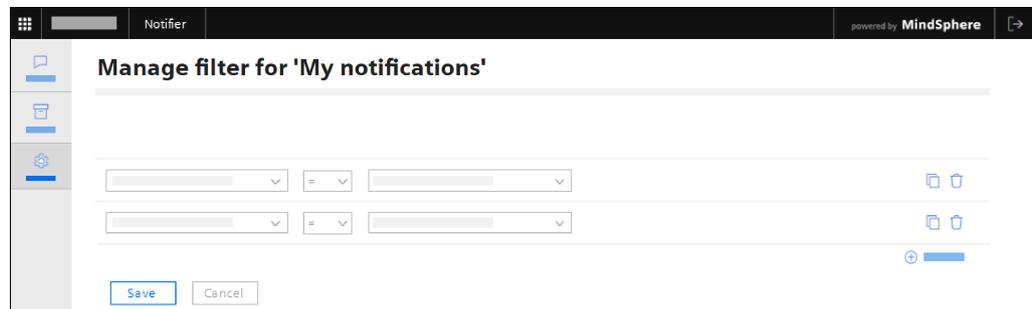
#### Autocomplete for locations

To create notification rules, you can use autocomplete to easily access existing locations. Autocompletion means that you get a contextual list from which you can select the locations you want.

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To configure the filter, follow these steps:

1. Under "Settings", click "Manage my notifications".
2. For example, select the notification type as the variable and Warning as the value.



3. Save the filter.

## Result

All warnings are shown.



# Creating notifications

## Creating notification rules

Notification rules must be created to trigger notifications when a specific event occurs:

1. Under "Settings", click "Manage notification rules".  
All created notification rules are listed here.
2. Click "Add notification rule".
3. Select a notification type, for example Information.
4. Write a notification text.
5. Select a location to which the notification belongs.
6. Specify when the notification is to be generated by specifying at least one variable to be monitored and a corresponding comparison value.  
For example, if you use an INT variable, you can enter an integer as the value. You can create a condition using the operands  $>$ ,  $=$ ,  $<$ , and  $<>$ .

The screenshot displays the 'Create notification rule' window in the SIMATIC Notifier application. The window has a dark header bar with 'Notifier' and 'powered by MindSphere' text. A sidebar on the left contains navigation icons. The main content area is titled 'Create notification rule' and contains several input fields: a dropdown menu, a text area, and a numeric input field. Below these are two rows of comparison operators (dropdowns) and values (input fields), each with a trash icon. At the bottom, there are 'Save' and 'Cancel' buttons.

### Note

#### Autocomplete for locations and tags

To create notification rules, you can use autocomplete to easily access existing locations and tags. Autocompletion means that you get a contextual list from which you can select the locations and tags you want.

## Error display in notification rules

Incorrect notification rules appear in the overview "Manage notification rules" with a red error icon. For example, incorrect notification rules can occur when a location or tag to which a notification rule refers has been deleted.



The red error icon is also displayed directly in the navigation on the (Settings) icon:



# Accepting notifications

## Description

You can accept each notification individually by clicking the "Accept" button.

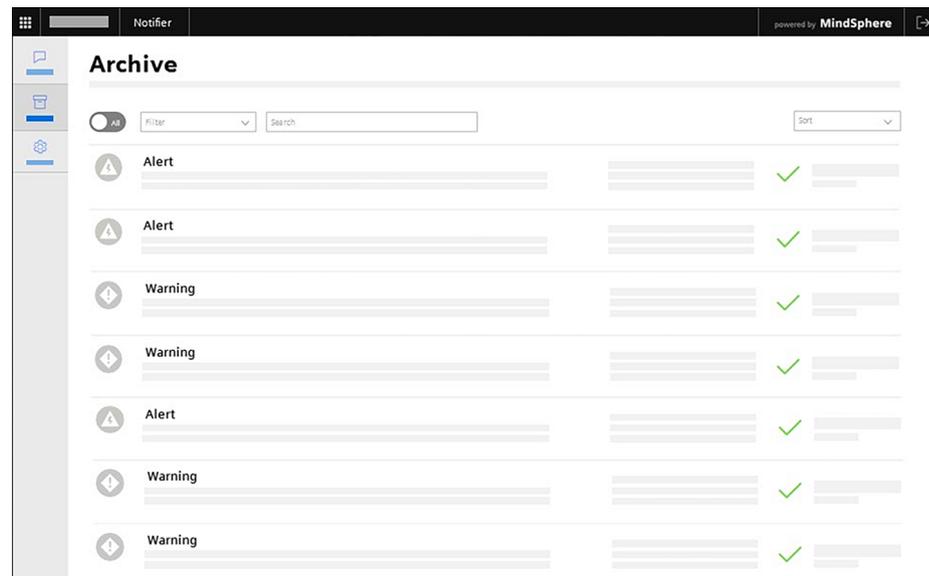
By accepting a notification, you signal to other users that you will take care of the underlying problem. The acceptance of a notification cannot be undone.

## Note

### Notification automatically resolved

A notification is marked as "Automatically resolved" and displayed in the "Archive" tab if the following conditions apply:

- The notification has not been accepted by any user.
- The reason for triggering the notification no longer exists, for example, that the value of the variable no longer corresponds to the value in the notification rule.
- A notification for a subtenant was accepted by an administrator/user of the tenant. ("Accepted by others")



## Note

### Number of archived notifications

The last 200 accepted notifications are always displayed in the log of the Notifier app. In MindSphere, the accepted notifications are saved for 365 days starting at the time of archiving.



# Deleting notifications

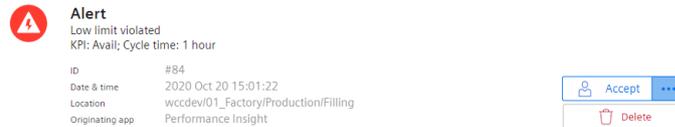
## Description

You can delete both active and already accepted notifications.

## Procedure for deleting active notifications

To delete an active notification, proceed as follows:

1. Click the "Notifications" tab.  
Depending on the setting you have selected, either all notifications or only your filtered notifications are displayed.
2. In the desired notification, click the selection field "..." to the right of the "Accept" button.



3. Click "Delete".
4. Confirm the message as to whether you really want to delete the notification with "OK".

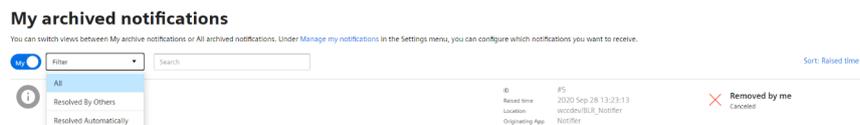
## Procedure for deleting accepted notifications

To delete an already accepted notification, proceed as follows:

1. Click the "Notifications" tab.  
Depending on the setting you have selected, either all notifications or only your filtered notifications are displayed.
2. In the desired notification, click the  icon to the right of "Accepted by ...".
3. Confirm the message as to whether you really want to delete the notification with "OK".

## Result

The notification disappears from the list of active or accepted notifications and is displayed in the log as follows:



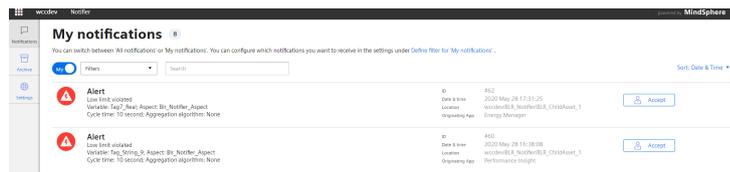


# Notification triggered by other app

## Description

Notifications can also be triggered by other apps, such as SIMATIC Performance Insight or SIMATIC Energy Manager.

To allow you to identify where the notification originated, the detail text of the respective notification contains the Operating App area. This information is available for both active and archived notifications:



You need to define limits in the respective app so that a notification can be triggered. The corresponding notification is then triggered when the high or low limit is violated and is displayed in the Notifier.



# Setting up the connection from the Notifier app to MindSphere

# 10

## Description

You can use the SIMATIC Notifier app on your mobile device to connect to MindSphere. By setting up this connection, new notifications are shown as push notifications on your mobile device and you can view and accept them directly on the mobile device.

The SIMATIC Notifier app shows all notifications that you can see in the MindSphere Notifier app under "My notifications".

## Requirement

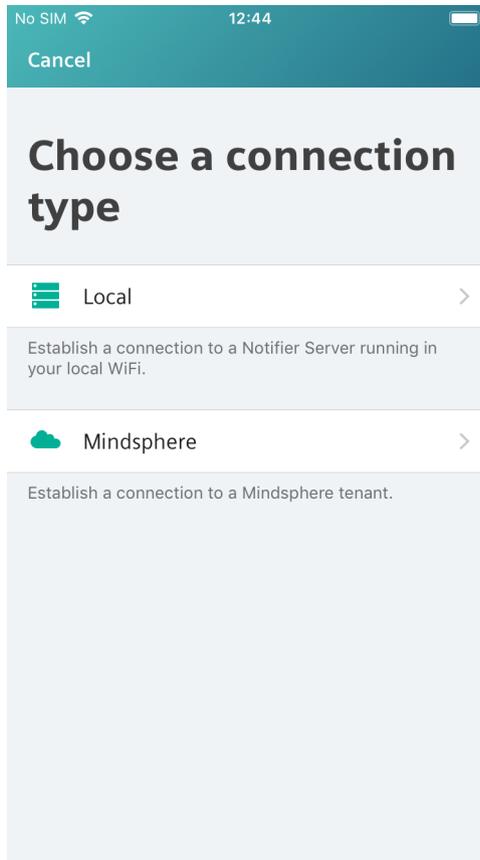
You have assigned the following user roles to the user in the settings for MindSphere:

- Notifier: User or Admin (access to Notifier MindSphere app for the user)
- Notifiermobileaccess:mobileuser (Access to Notifier from a mobile device via SIMATIC Notifier app)

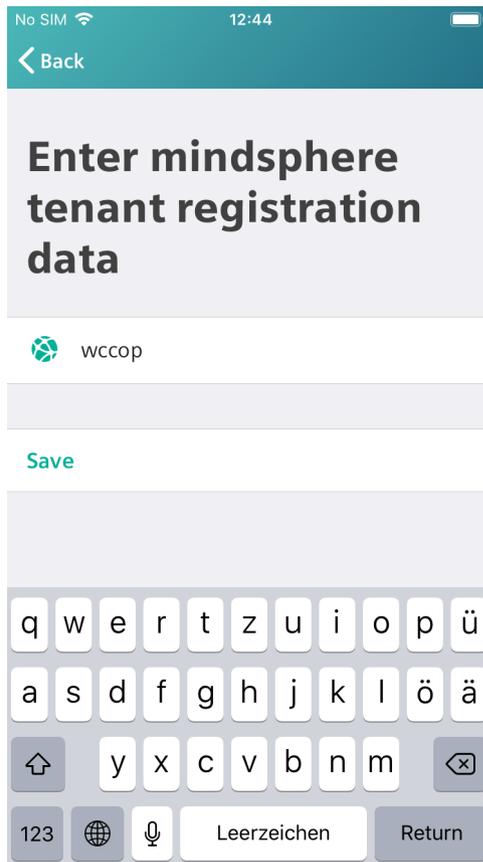
## Procedure for setting up a connection

Proceed as follows to set up the connection on your mobile device:

1. Click "Select a connection type".  
The connection type selection window opens.

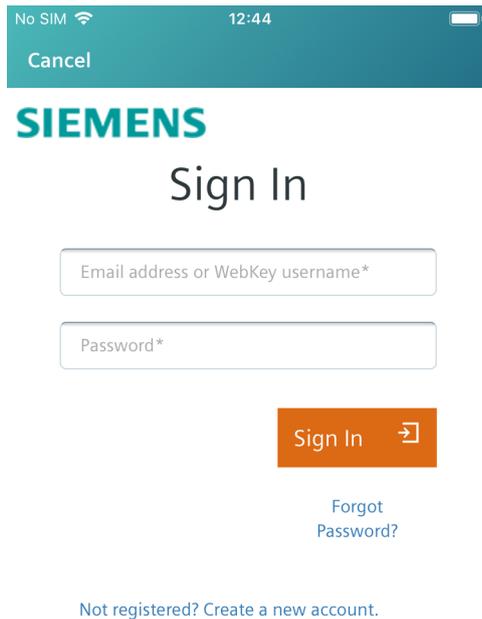


2. Click "MindSphere".  
A window for entering the tenant name opens.



3. Enter the tenant name you want to connect to.
4. Click "Save".

5. Enter the user name and password of your MindSphere account.



No SIM 12:44

Cancel

**SIEMENS**

Sign In

Email address or WebKey username\*

Password\*

Sign In →

[Forgot Password?](#)

[Not registered? Create a new account.](#)

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6. Click "Log on".  
During your first login to MindSphere, you will be asked to activate the push notifications on your mobile phone. This ensures that you will see the notifications directly on your mobile device.

## Procedure for deleting a connection

Proceed as follows to delete the connection:

1. Under "Settings > Connection", click "Disconnect".

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### Note

#### Deleting the connection in the MindSphere app

If you delete the connection to a mobile device in the MindSphere app by clicking on the recycle bin icon in the user administration, it can take several hours for the deletion to become effective.

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**Note**

**Deleting the connection to the MindSphere app on your mobile device**

When you delete the connection to the MindSphere app on your mobile device, check to make sure that the mobile device has actually been removed in the MindSphere app. This is necessary because, if there was no connection to the MindSphere app when you deleted the connection, the mobile device in the MindSphere app will not be removed and you will still receive push notifications on your mobile device.

---

**Result**

You have successfully connected to MindSphere app via the SIMATIC Notifier app on your mobile device and all existing notifications are shown in the overview.



# Notifier OpenAPI specification

## Description

The Notifier OpenAPI specification is a standard for describing REST-compliant application programming interfaces (API). With the OpenAPI, you can connect your user-developed app to the Notifier and access the interfaces of the Notifier even when the two apps are located on different tenants. In this way, notifications can be triggered from your app and displayed in the Notifier.

The routes for the Notifier can be found in the title bar under "API Documentation" by clicking on Notifier.

## MindSphere Operator Cockpit

You can find additional information on how to integrate your user-developed app into MindSphere here:

- Operator Cockpit (<https://documentation.mindsphere.io/resources/html/operator-cockpit/en-US/index.html>)
- Instructions for access to MindSphere APIs (<https://developer.mindsphere.io/howto/howto-local-development.html>)

## Procedure

To establish a connection to the Notifier via the OpenAPI, follow these steps:

1. You can retrieve information, for example, by calling the "getTimeSeries" method.
2. Additional routes can be found in the OpenAPI.

