

How to set up the Clustermarket – Benchling integration

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Overview

We have developed an app in partnership with Benchling that will allow you and your team to surface your Clustermarket equipment data with a Clustermarket booking calendar link in the Benchling platform. Utilising the powerful entity-linking functionality on the Benchling platform you will be able to link equipment directly to Results or other entities created in Benchling. Similarly, you can add equipment entity links directly to Workflows. You can also reference equipment in your notebook text entries simply by typing “@” followed by the equipment name.

Our app will allow you to:

- Select what equipment data to share from which labs in your organisation
- Utilise Clustermarket as your source of truth for equipment and bookings in the Benchling platform
- Access equipment booking calendars directly from your Benchling Notebook, Registry, or Workflows
- Create Subtemplates containing relevant equipment Lookup tables to easily generate or add into notebook entries across the Benchling tenant that can then be converted into Workflow entries
- Reference equipment in your notebook text entry using the @-mentioning capabilities
- Add equipment to Workflows and structured tables
- Generate workflow tasks from equipment tables
- Automatically sync equipment data to Benchling from Clustermarket when adding, editing or deleting equipment on the Clustermarket platform

Step 1

Request Benchling enable features

To install this integration you will require the following:



- Please ask the Benchling customer support team [support@benchling.com] to enable the features for the Clustermarket app.
 - Benchling apps
 - Global apps
 - App interactivity
 - Developer console

*** You must be a Benchling Tenant Admin and a Clustermarket Admin to set up the integration**

Once you have received notice from the Benchling support team that the features are enabled, move to step 2.

Step 2

Ensure Developer console is enabled

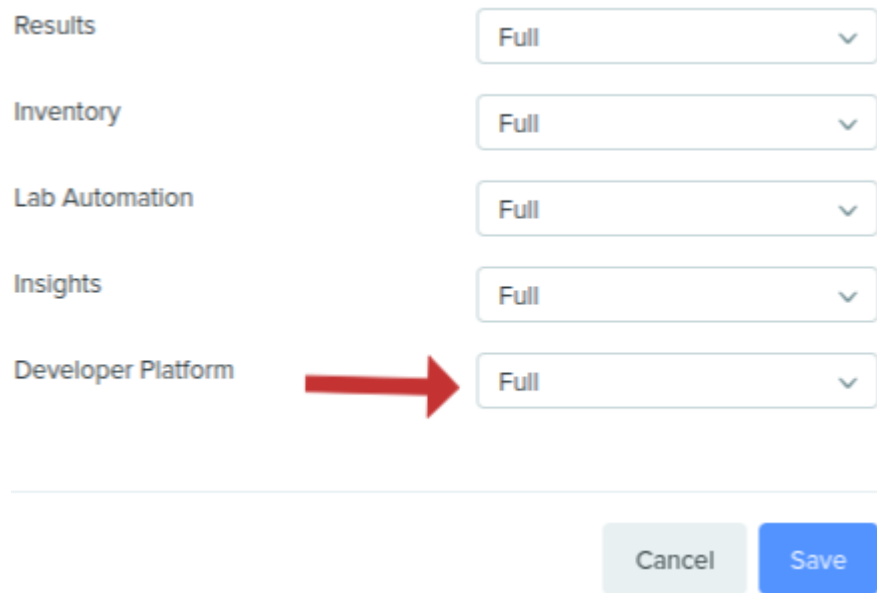
1. Navigate to your profile icon at the bottom of the screen 
2. Click on Tenant admin console 
3. Click on the three dots at the end of the organisation listing you want to enable the app for



- i. Click on Manage application access

[Manage application access](#)

- ii. Enable access rights for the Developer platform (Screenshot next page)

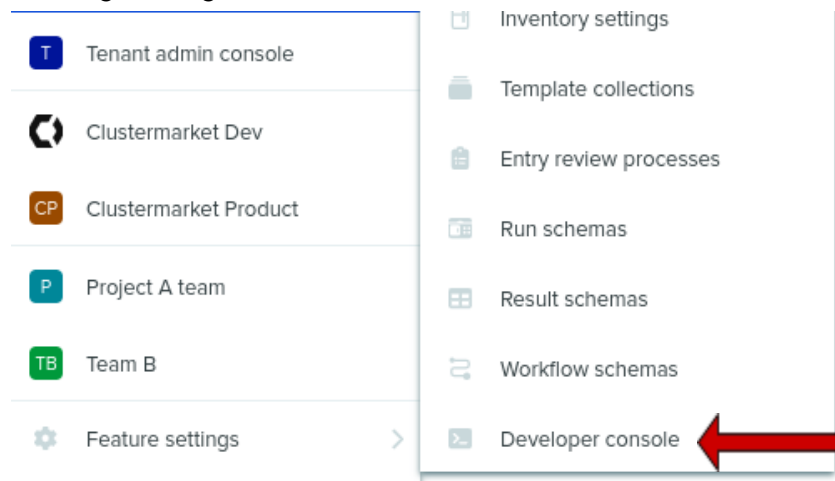


A screenshot of a settings form with five rows. Each row has a label on the left and a dropdown menu on the right. The labels are 'Results', 'Inventory', 'Lab Automation', 'Insights', and 'Developer Platform'. All dropdown menus are set to 'Full'. A red arrow points to the 'Developer Platform' dropdown. At the bottom right, there are two buttons: 'Cancel' (light blue) and 'Save' (blue).

Results	Full
Inventory	Full
Lab Automation	Full
Insights	Full
Developer Platform	Full

Cancel Save

4. Click save
5. Refresh the page and click on your profile icon again
6. Hover on feature settings, you should now see the Developer Console in your feature settings listing



Step 3

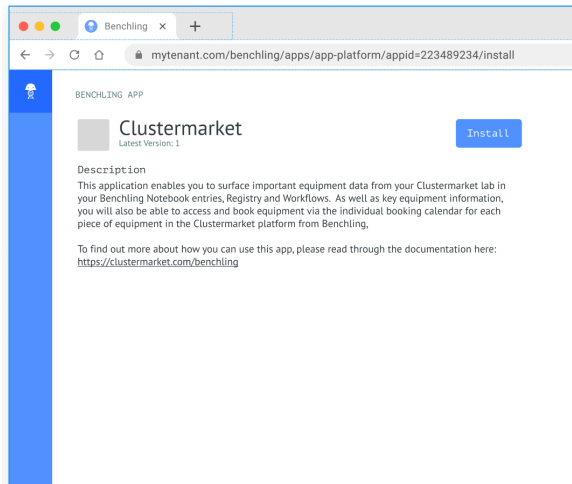
Install the app on your Benchling Tenant

The app is available for you here:

https://<tenant_subdomain>.benchling.com/app-catalog/apps/appdef_H3rsZ4ndbM/install

*you will need to replace **<tenant_subdomain>** with your own Benchling domain details.

1. Copy the link above and add in your tenant subdomain then paste this into your browser, when you hit return you will be asked to log into your Benchling tenant you will be taken to a page that looks like this:



2. If you reach a 404 error page when trying to access the app, please check the following:
 - a. Ensure you are logged in as the Tenant Admin
 - b. Ensure the developer console is enabled ([see step 2](#))
3. Click on the install button at the top right of the page and our app will be installed on your tenant.

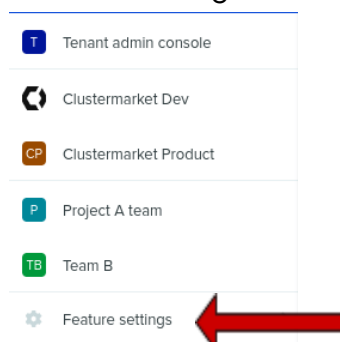
Step 4

Create an equipment schema

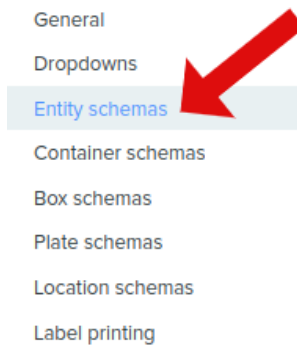
[See video walkthrough](#)

You will get the best experience from the integration by using a new schema, however a pre-existing schema can be used and details can be found [here](#).

1. Click on your profile icon in the bottom left side of the navigation bar
2. Click on feature settings



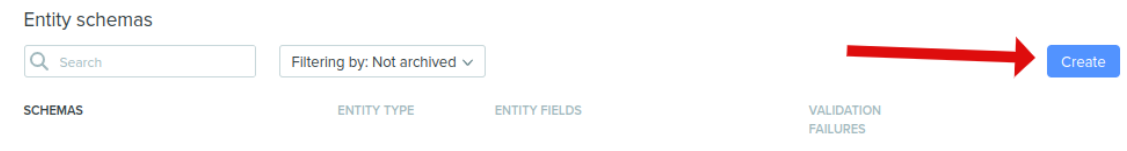
3. Select entity schemas from the left navigation bar



INVENTORY SETTINGS

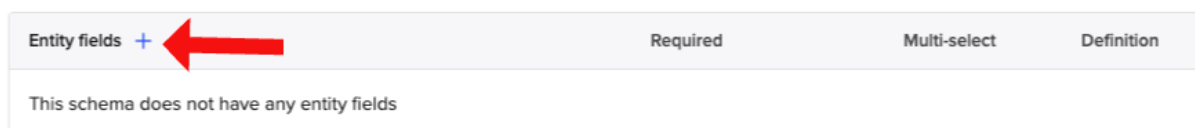
- General
- Label printing

4. If you have the correct permissions on your tenancy you should now see a create button on the top right corner of the page





5. Click on the create button and work through the following steps:



- Give your schema the prefix: **EQ**
- In the Name section please add: **Equipment**
- In the Entity type section select: **Custom Entity** from the dropdown list
- Do not add any constraints
- Click the blue + button in the table next to the Entity fields title and add 8 fields






- Add the following fields into the form
 - Equipment type
 - Manufacturer
 - Model
 - Description
 - Contact person
 - Last maintenance date
 - Calendar
- Mark all of the fields as required and leave all other sections on the table as they are
- In the Containable type dropdown select: **None**
- Available registration Naming options: **Leave the first 3 boxes ticked**

Your schema should now look like the image below:



Prefix*  Name* 


Eq  Equipment 

☐ Use Registry ID as display label  Name template 


☐ Include Registry ID in chips  [Set name template](#)

[Example](#) [Example ID](#)



Entity type* 
 Custom Entity 


Constraint 

This schema does not have a constraint

Entity fields 	Required	Multi-select	Parent link	Definition
Name	✓			Aa Text
Equipment type	✓			Aa Text
Manufacturer	✓			Aa Text
Model	✓			Aa Text
Description	✓			Aa Text
Contact person	✓			Aa Text
Calendar	✓			Aa Text
Last maintenance date	✓			Aa Text

[Show archived fields \(1\)](#)


Containable Type* 
 None 



Available Registration Naming Options* 



- ☒ Generate new registry IDs
- ☒ Generate registry IDs based on entity names
- ☒ Generate new registry IDs and replace name with registry ID
- ☐ Generate new registry IDs, rename according to name template, and keep old name as alias
- ☐ Generate new registry IDs, and replace name according to name template

- Click on the next button
- Search for the Clustermarket equipment data and scheduling app in the Manage collaborators search box

Manage collaborators

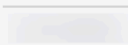

Clusteq  [Add collaborator](#)

 Clustermarket Product @Product organization  a product, who can

 Clustermarket equipment data & scheduling app 

Collaborators

User / App / Organization / Team Access policies

 ADMIN 


- Add the app as a collaborator
- Set the access policies for the app to Admin
- Click create

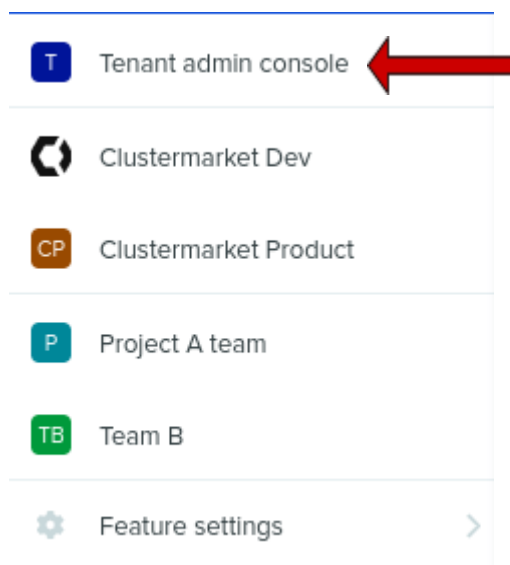
Step 5

Set permissions for the Clustermarket app

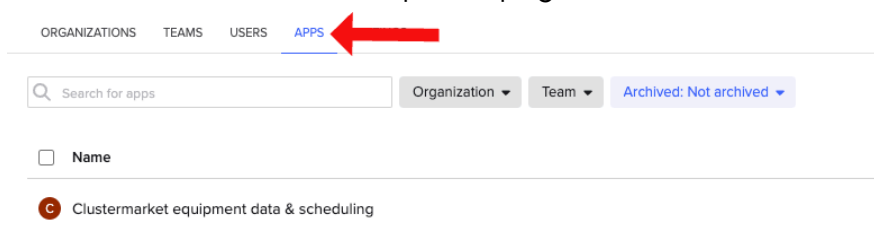
To ensure the equipment data from Clustermarket is available wherever you need it in your Benchling tenant, please work through the following relevant areas to set the correct permissions:

Tenant admin permissions (**required**):

1. Click on your profile Icon 
2. Click on Tenant admin console in the menu




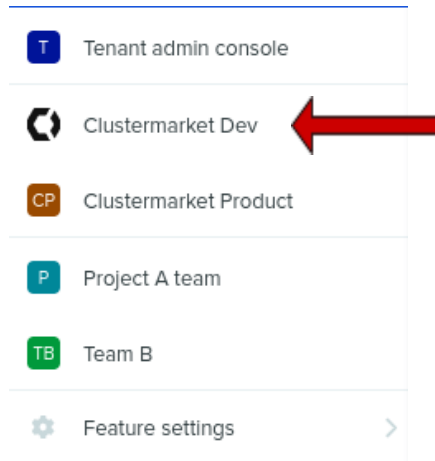
3. Click on the APPS tab in the opened page



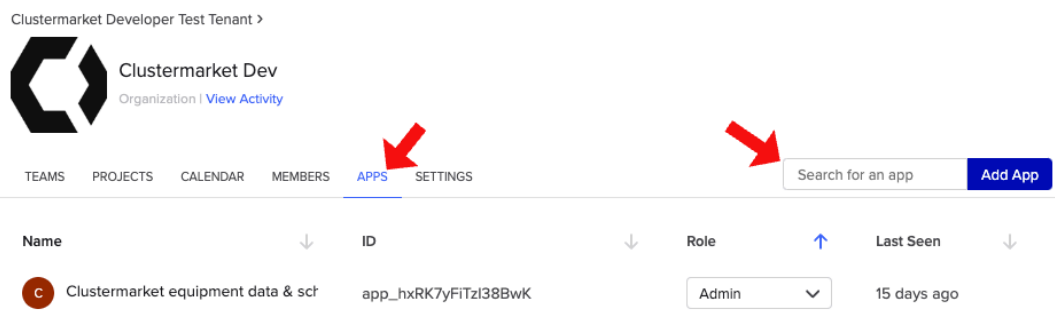
4. If you do not see the Clustermarket app listed search for it in the search box and add it to your Tenant admin console

Organization permissions (required):

1. Click on your profile Icon 
2. Click on the organisation that requires access to the app in your Tenant from the menu




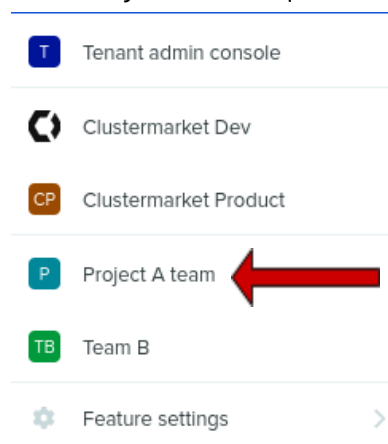
3. Click on the APPS tab in the page that opens
4. If the Clustermarket app is not listed please search for it in the APPS search box and add it to your Organization



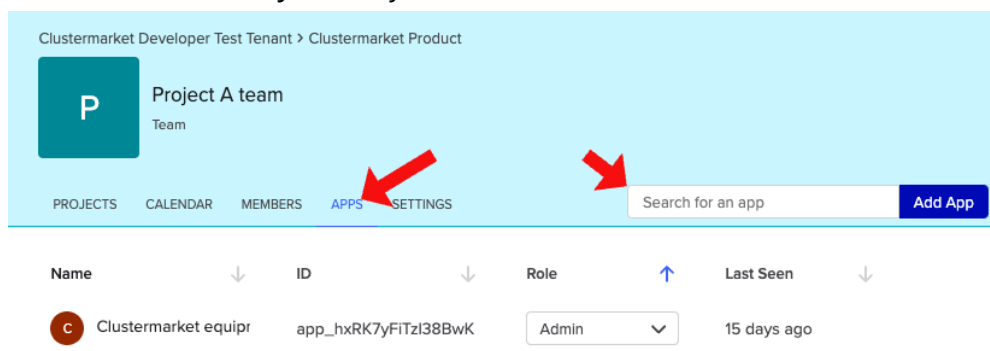
5. Please set the Role to Admin

Project permissions:

1. Click on your profile Icon 
2. Click on the Project that requires access to the app in your Tenant from the menu




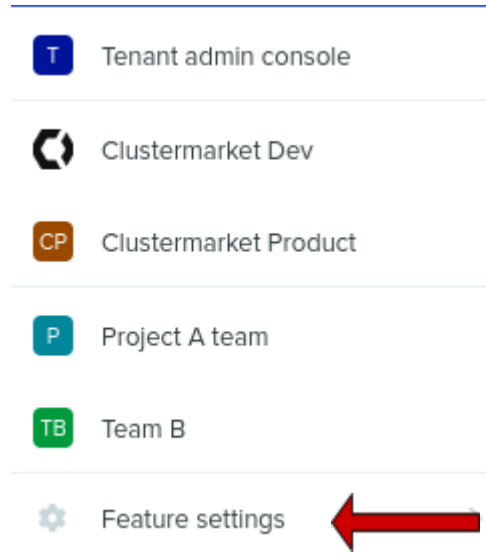
3. Click on the APPS tab in the page that opens
4. If the Clustermarket app is not listed please search for it in the APPS search box and add it to your Project



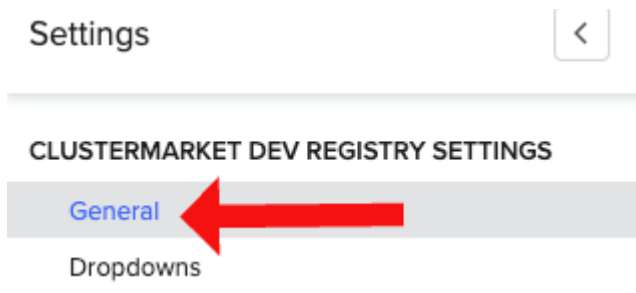
5. Please set the role to Admin

Registry permissions (required):

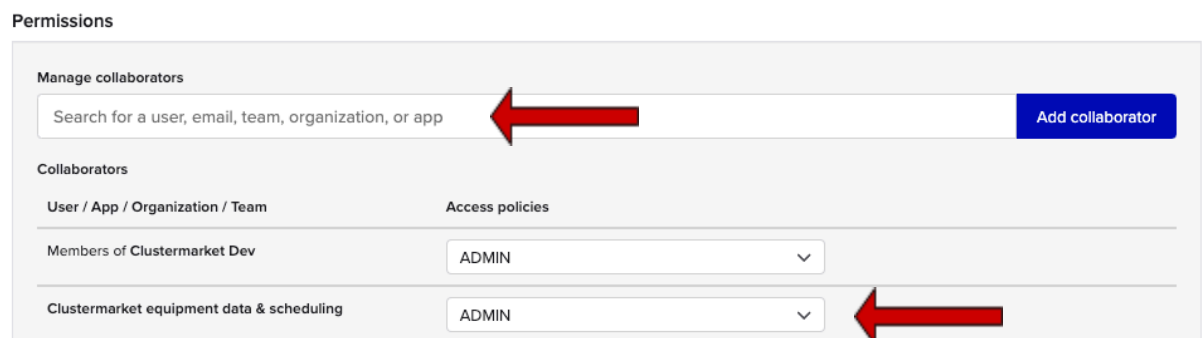
1. Click on your profile icon 
2. Click on the Feature settings option



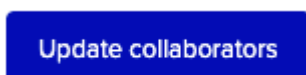
3. Click on the General option in the left navigation



4. If the Clustermarket app is not listed please search for it in the Manage collaborators search box and add it to your Registry




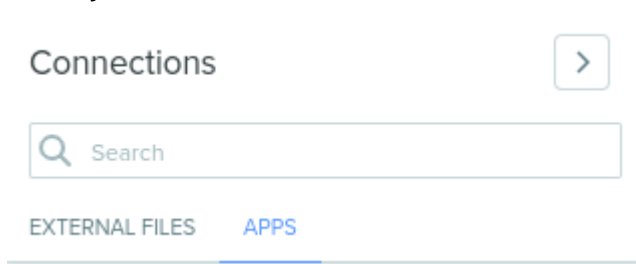
5. Please ensure the app has Admin access policies
6. If you have had to add the app as a collaborator, please click on the Update button at the bottom of the page to complete the permissions setting.



Step 6

Mapping Clustermarket data to your Benchling Registry

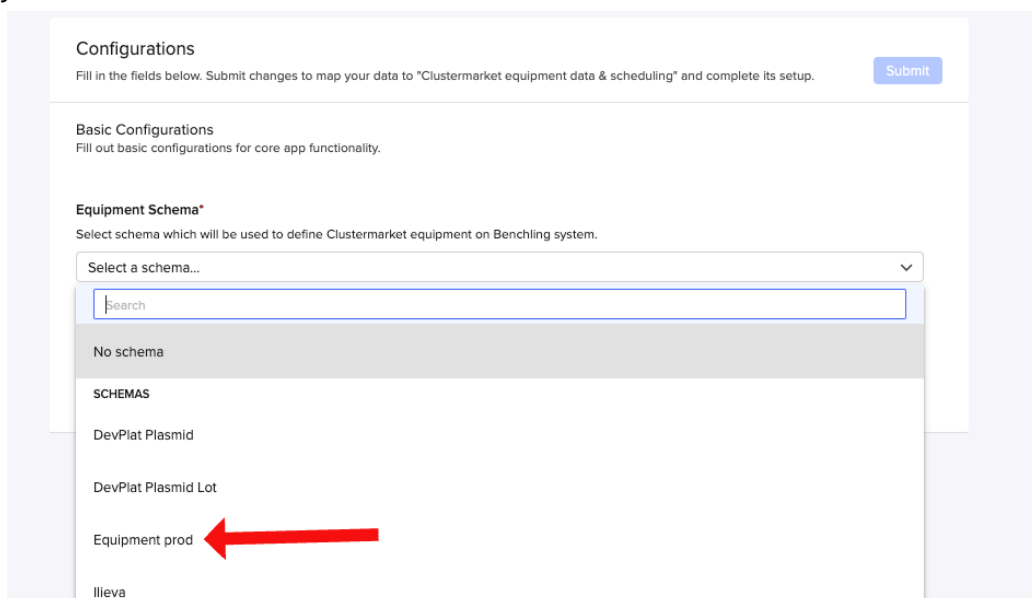
1. Select the Connections button  from the left navigation menu
2. Then click on the APPS link under the search box. If the Clustermarket app is not listed, just search for it via the search box



3. Click on the Clustermarket equipment data and scheduling app
4. Click on the CONFIGURATION tab in the top navigation



5. In the Equipment Schema dropdown field please select the schema you have just created



6. A series of App Fields and Schema Fields will now be displayed below the Entity schema dropdown. The Schema fields will be empty

- From the Schema fields dropdown select the schema field you created that maps to the app field listed – the correct mapping is shown in the image below

Basic Configurations
Fill in the fields below. Submit changes to map your data to "Clustermarket equipment data & scheduling" and complete its setup. [Submit](#)

Equipment Schema*
Select schema which will be used to define Clustermarket equipment on Benchling system.
Equipment prod

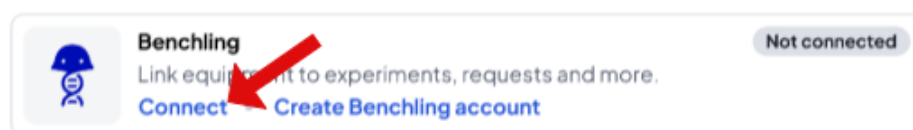
App Fields	Schema Fields
equipment_name*	Name
equipment_type*	Equipment type
manufacturer*	Manufacturer
model*	Model
description*	Description
contact_person*	Contact person
last_maintenance*	Last Maintenance date
booking_url*	Calendar

unique_identifier*
Integration unique identifier provided by Clustermarket

Step 7

Connecting your Clustermarket account to your Benchling tenant

- Log into your Clustermarket account
- Navigate to the integration section of your Clustermarket lab/Organisation in the left navigation
- Click on the connect button for the Benchling integration from the list



- Select the 'I already have the Clustermarket app and schema set up' option in the modal

Have you installed the Clustermarket app and schema on your Benchling tenant?

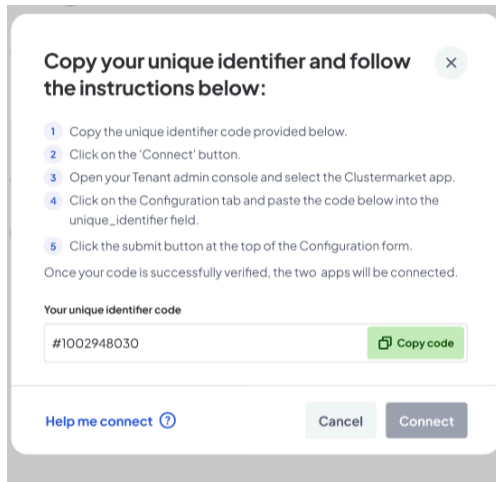
In order to connect, you need to have the Clustermarket app and mapping schema installed on your tenant. If you have not done this please contact the Benchling team to organise this.

☒ I already have the Clustermarket app and schema set up on my Benchling tenant.

☐ I need to set up the Clustermarket app and schema on my Benchling tenant.

[Help me connect](#) [?](#) [Cancel](#)


5. If you have multiple labs available in your account a box will open allowing you to select the labs you want to connect to your Benchling tenant
6. Select which of your labs you want to share equipment data from
7. Click Next
8. You will now see a modal with a unique identifier code

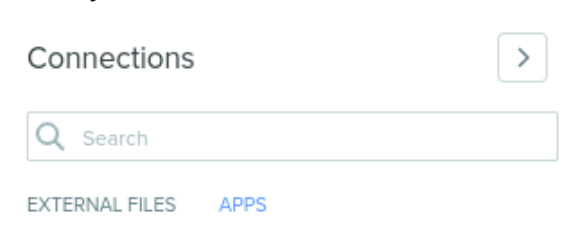


9. Copy to code
10. Click Connect - The page that currently opens is incorrect - please navigate back to your benchling tenant.

Step 8

Activate the integration

1. Return to your Benchling tenant
2. Select the Connections button  from the left navigation menu
3. Then click on the APPS link under the search box. If the Clustermarket app is not listed, just search for it via the search box



4. Click on the Clustermarket equipment data and scheduling app
5. Click on the CONFIGURATION tab in the top navigation
6. Paste the Unique Identifier code you have just copied on the Clustermarket site into the unique_Identifier section of the page

Configurations
Fill in the fields below. Submit changes to map your data to "Clustermarket Bookit Development" and complete its setup. [Submit](#)

Basic Configurations
Fill out basic configurations for core app functionality.

Equipment Schema*
Select schema which will be used to define Clustermarket equipment on Benchling system.

Equipment

App Fields	Schema Fields
equipment_name*	Name
equipment_type*	Equipment type
manufacturer*	Manufacturer
model*	Model
description*	Description
contact_person*	Contact person
booking_url*	Calendar

unique_identifier*
Integration unique identifier provided by Clustermarket

MTE3LjEwNy4yMDIzLTA0LT01DE2QjA3QjxiFVUQw== ←

- Click on the submit button at the top of the page.
- Now click the Activate button on the right side of the page

This has now triggered an automated flow that will send the equipment data from the labs you selected on Clustermarket over to your Benchling tenancy and create each piece of equipment as an Entity in your registry.

***It can take up to 5 minutes for your equipment data to sync into the Benchling registry**

Booking Permissions

All permissions for accessing and booking equipment continue to be managed via the Clustermarket site, so even if one of your team accesses and references equipment in the Benchling platform, they will not be able to access or book it unless they have been given permission to do so.

FAQ's

Why do I have to request for the Features to be enabled on my Benchling tenant?

Feature enablement requests are an internal change that require internal Benchling teams to access a gated customer tenant. Benchling requires explicit requests and permission from the customer to enable these features and ensure protection of your tenant.

Where do I find the integration?

To find the integration app please see this [section](#) at the top of the document, and then follow the rest of the set-up steps. For additional support in regards to using the Benchling platform, their help centre documentation and video's can be found here: <https://help.benchling.com/hc/en-us>

Why is the connect button for the Benchling integration greyed out?

This occurs if you do not have the correct admin permissions on the Clustermarket platform – if your lab is a member of an organisation, you must ask your Organisation Admin to connect the integration. This is because an organisation will have multiple labs that can share equipment data with your Benchling tenant and they will need to decide which labs should do so.

If you are not part of an organisation and have Admin rights to your Clustermarket account please contact support@clustermarket.com so we can help resolve the issue for you.

I am getting errors when I try to install the integration, who can help me?

Benchling 404 error


If you receive a 404 error when trying to connect to the Benchling Global app store, this is most likely because one of the feature settings for your account has not been set, please contact your benchling customer support team or start a live chat on your benchling tenant and request they confirm the following features are enabled on your account:

- Benchling apps
- Global apps
- App interactivity
- Developer console

Clustermarket errors

If you receive an error message when trying to connect the Benchling integration from the Clustermarket platform, please can you first check the following on the Benchling platform:

1. In your Benchling tenant, navigate to the feature settings menu from your profile icon and click on the General link at the top of the page which will show you a permissions list. The app needs to be added to this list.
2. Check to see if the Clustermarket equipment data & scheduling app is listed

General settings 

Permissions

Manage collaborators

Search for a user, email, team, organization, or app Add collaborator

Collaborators

User / App / Organization / Team	Access policies
Members of Clustermarket Dev	WRITE
Bug_fix.testapp	ADMIN
Clustermarket equipment data & scheduling	ADMIN
Histo test v.2	READ
Project A team	READ
Admins of Project A team	READ
StagingVesl_org.testapp	ADMIN
Staging_midnightjob.testapp	ADMIN
Benchling Support	ADMIN
Francisco Ralo	ADMIN
Kerrie Lapworth	ADMIN

Update collaborators

3. If not, please search for it in the manage collaborations search box at the top of the page and give the app Admin rights

If you continue to experience errors after trying to connect from the Clustermarket platform, please email support@clustermarket.com with details on the error message you are seeing, and we will work with you to resolve the problem.

Can I reuse an existing schema?

It is possible to reuse an existing schema in your Benchling tenant – to do this, you will need to ensure the following fields are mapped in the schema:

- Name
- Equipment type
- Manufacturer
- Model
- Description
- Contact person
- Last maintenance date
- Calendar

Then any other fields in your schema need to be set to Not required – this can be done by:

1. navigating to feature settings from your profile icon,
2. then selecting the entity schema option and selecting the schema you wish to reuse.
3. From here, click on the edit icon next to each entity field and ensuring the Required box is not ticked:

Entity fields +	Required	Multi-select	Parent link	Definition
Name	<input type="checkbox"/>	<input type="checkbox"/>		Aa Text
Equipment type				Aa Text
Manufacturer				Aa Text

If any fields that are not part of the list above are marked as required then the equipment upload from Clustermarket will fail.

My schema's not working, who can I talk to for support?

If you have any problems with the activation of your app on the Benchling platform, please contact the Benchling customer services team who will be able to help you resolve any issues. There is a small chat icon in the bottom right of your Benchling tenant, where you can request help

My equipment data is not syncing, who can help me?

If you are having any issues with syncing your data from Clustermarket to Benchling please contact support@clustermarket.com who will help you to resolve the issue.

What happens when I remove the integration?

If you decide to stop using the application, we will run a 'soft archive' which will enable you to retain the equipment data in your tenancy, but you will no longer be able to add new equipment or book the equipment from your Benchling tenancy on the Clustermarket site.