

Virtual system - adding (and deleting) extended attributes managed by CzechIdM

[system](#), [virtual](#), [tutorial](#), [extended](#), [attributes](#)

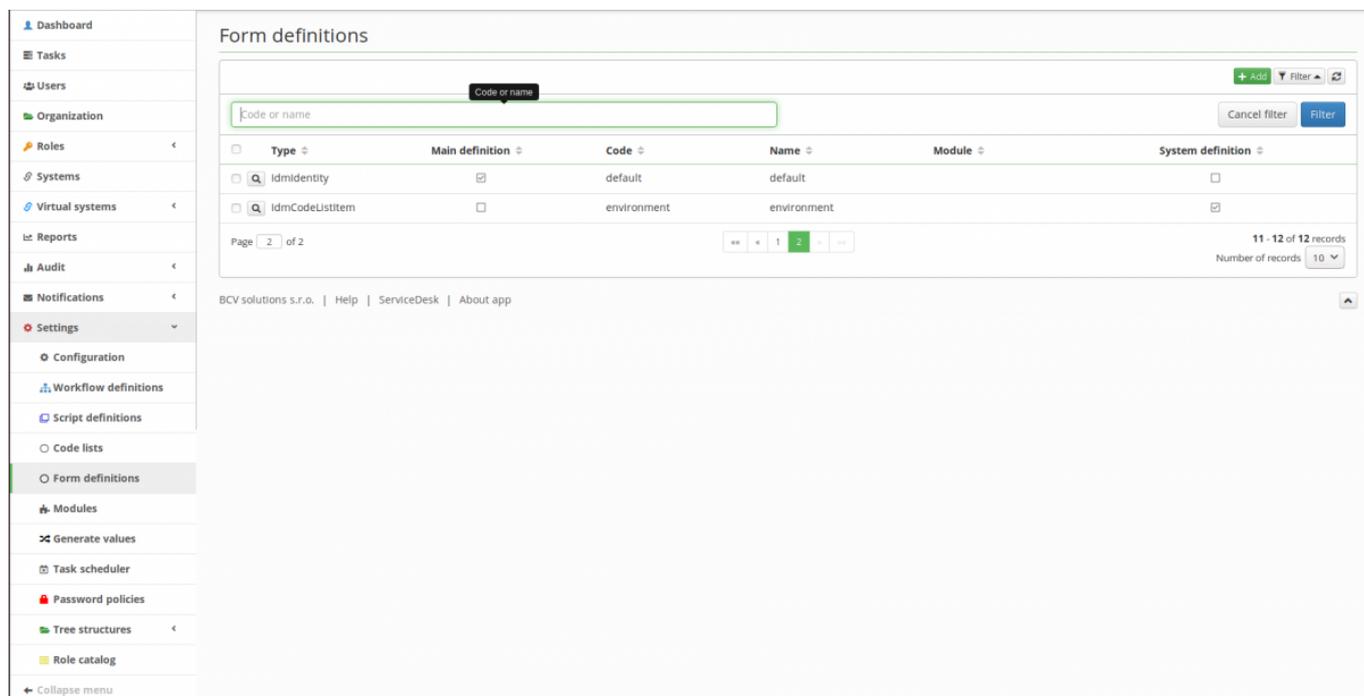
Introduction

After you've connected a virtual system to CzechIdM (see the tutorial [here](#)), you may need to add some extended attributes which are present in the connected system. To achieve this, make sure you have 1) connected the virtual system, 2) have admin set as the implementer, and 3) are logged in as admin.

Let's assume that the managed system contains the information about the building in which each person has their office. To add this information to the IdM, we have to follow several steps.

Step 1: modify form definitions

First, click on Setting in the left panel and choose Form definitions. In the list, find idmIdentity and open it (with the magnifying glass). After that, select Form Attributes and click the green Add button. Only two fields are required: Code, and Name. Make sure you change the Attribute type from default (Short text) if the type is different. You can also set e. g. a default value or a validation using regular expressions if it makes sense in the specific case. Once you've finished, click Save.



Code	Name	Attribute type	Face type	Default value	Required	Unique	Min	Max	Regex	System attribute	Order
building	building	Short text (2000 chars)	Short text (2000 chars)		<input type="checkbox"/>	<input type="checkbox"/>				<input type="checkbox"/>	0
klinika	klinika	Short text (2000 chars)	Short text (2000 chars)		<input type="checkbox"/>	<input type="checkbox"/>			.(3,30)	<input type="checkbox"/>	0
rights	rights	Short text (2000 chars)	Short text (2000 chars)		<input type="checkbox"/>	<input type="checkbox"/>				<input type="checkbox"/>	0

Step 2: add the attribute to VS configuration

Click Virtual systems in the left panel and select List. Open you virtual system and select Configuration. Add your attribute (building) to the list of attributes and click on save.

The screenshot shows the 'NewVirtualSystem System details' page in the czechidm interface. The 'Connector configuration' section is active, showing 'Virtual system connector 1.0.1 (czechidm)'. Under 'Attributes (multi)', a list of attributes is displayed: 'uusepeior e', 'rights', 'klinika', and 'building'. The 'Implementers' section shows 'Administrator (admin)' selected. The 'Roles of implementers' section has a search box and a dropdown menu. A 'Save' button is visible at the bottom right.

Step 3: modify scheme and mapping

3a - scheme

Click Scheme in your virtual system. You should only see ACCOUNT; open it with the magnifying glass. In Scheme attributes, click the green Add button. In here, fill out the name of the attribute (building), its data type (java.lang.String in this case), and check boxes for Able to read, Able to create, Able to edit, and Returned by default. Click save.

The screenshot shows the 'Scheme attributes' management interface. On the left is a navigation menu with options: Configuration, Provisioning brake, Accounts, Entities, Scheme (selected), Mapping, Roles, Synchronization, and Provisioning. The main area is titled 'System name' with a dropdown set to 'NewVirtualSystem'. Below it is 'Object name' with a dropdown set to '._ACCOUNT_'. There are 'Back' and 'Save and continue' buttons. The 'Scheme attributes' section features a table with columns: Name, Data type, Required, and Multivalued. The table contains 11 rows of attributes. At the bottom, there is a pagination control showing 'Page 1 of 2' and a 'Number of records' dropdown set to 10.

Name	Data type	Required	Multivalued
building	java.lang.String	<input type="checkbox"/>	<input type="checkbox"/>
email	java.lang.String	<input type="checkbox"/>	<input type="checkbox"/>
._ENABLE_	java.lang.Boolean	<input type="checkbox"/>	<input type="checkbox"/>
firstName	java.lang.String	<input type="checkbox"/>	<input type="checkbox"/>
klinika	java.lang.String	<input type="checkbox"/>	<input type="checkbox"/>
lastName	java.lang.String	<input type="checkbox"/>	<input type="checkbox"/>
._NAME_	java.lang.String	<input checked="" type="checkbox"/>	<input type="checkbox"/>
phone	java.lang.String	<input type="checkbox"/>	<input type="checkbox"/>
rights	java.lang.String	<input type="checkbox"/>	<input checked="" type="checkbox"/>
titleAfter	java.lang.String	<input type="checkbox"/>	<input type="checkbox"/>

The screenshot shows the 'Attribute details' configuration interface for the 'building' attribute. The left navigation menu is the same as in the previous screenshot, with 'Scheme' selected. The main area is titled 'NewVirtualSystem System details' and 'Attribute details'. It shows 'Attribute belongs to object' as '._ACCOUNT_'. The 'Name' field is 'building'. The 'Data type' is 'java.lang.String'. Below these are several checkboxes: 'Required' (unchecked), 'Able to read' (checked), 'Multivalued' (unchecked), 'Able to create' (checked), 'Able to edit' (checked), and 'Returned by default' (checked). 'Back' and 'Save' buttons are at the bottom right.

3b - mapping

After that, we have to add the attributes to the mapped attributes. Click Mapping and open Provisioning where you will see the list of mapped attributes. Click Add. Select the Attribute in schema (building). Check the box Extended attr. and fill out the desired IdM key. Click Save.

- ≡ Synchronization
- Provisioning

Entity type

Identity

Account protection (before delete)
Enables account protection before deletion. When trying to remove an IdM account (last relation assigning this account), it will be marked as 'is protected'. Such an account will not be deleted or provisioned. To really delete the IdM account (and thus the account on the end system), it will occur after the expiration of the protection interval. Deleting performs a scheduled task.

Length of protection interval (in days)

Back Save and continue

Mapped attributes

+ Add
Filter
↻

<input type="checkbox"/>	Name	IdM key	Identifier	Entity attr.	Extended attr.	Transform from system	Transform to system
<input type="checkbox"/>	building	building	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	email	email	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	__ENABLE__	disabled	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
<input type="checkbox"/>	firstName	firstName	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	klinika	klinika	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	lastName	lastName	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	__NAME__	username	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	'Rights' - multivalued merge attribute.		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	titleAfter	titleAfter	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	titleBefore	titleBefore	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

1 - 10 of 10 records

- ≡ Basic information
- Configuration
- Provisioning brake
- ≡ Accounts
- Entities
- ≡ Scheme
- ≡ Mapping
- ≡ Roles
- ≡ Synchronization
- Provisioning

Attribute mapping details

Basic settings Where is attribute used?

Disabled

Mapping name
Default provisioning (Identity - Provisioning)

Attribute in schema
building (__ACCOUNT__)

Name
building
User-defined name of the attribute

Strategy
Set value as it is

Send always

Send IdM value only if its not null

Identifier

Entity attr.

Extended attr.
Main form definition is supported only.

Entity field
Select ...

Confidential attr.

Authentication attr.
Attribute used for authentication on connected system.

Include on password change
Send this attribute into provisioning, when password is changed.

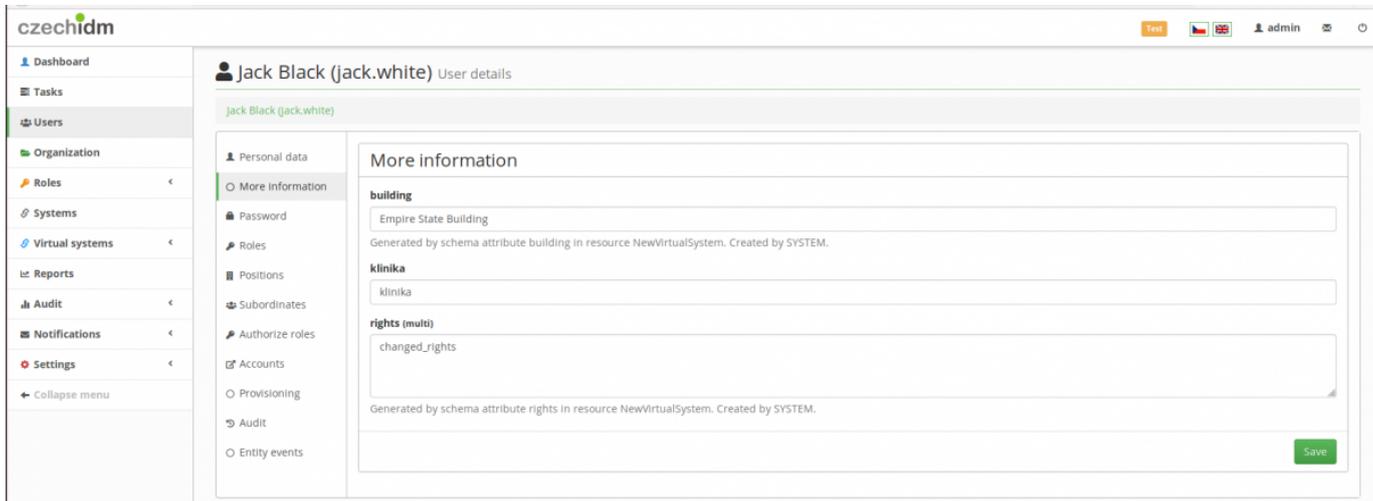
IdM key
building
Name of entity attr., name of extended attr., or key to confidential storage.



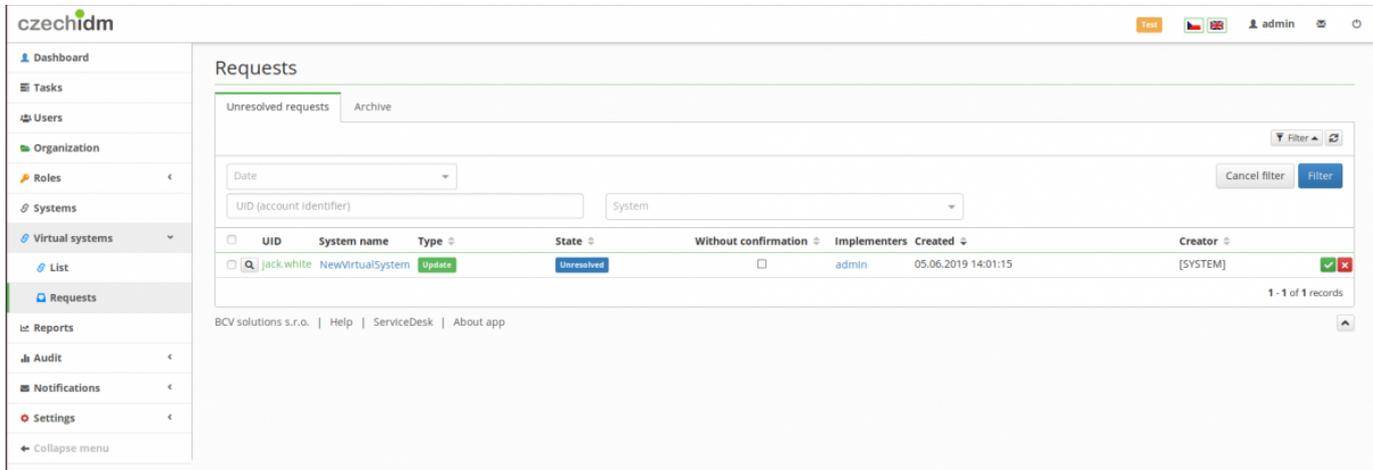
If you want to have a multivalued attribute, you have to set it as multivalued not only in Scheme but also in Settings > Form definitions > VsAccount (for the virtual system you are editing). Go to Form Attributes, open the Form Attribute with the magnifying glass and check Multivalued.

Step 4: check the functionality

If you open the details of a user with a role defined in the virtual system (with the magnifying glass), click Show full details and select More information, you should now see that you can set the value of the attribute (building). Try to fill in some test information and click Save.



Now go to Virtual systems in the left panel and click Requests. You should now see that there is a new request. If you open it you will see in the detail that the attribute has changed. Also, if you click Notifications and Notifications history in the left panel, you will see that the implementer has been notified that they should make the change in the system they manage and then confirm they've done so in the IdM.



Attribute	Target value	Previous value
__ENABLE__	true	true
__NAME__	jack.white	jack.white
building	Empire State Building	
email	em@em.com	em@em.com
firstName	Jack	Jack
klinika	klinika	klinika
lastName	Black	Black
phone		
rights	lékař primář	lékař primář
titleAfter		
titleBefore		

Deleting attributes on virtual systems

Some of the attributes may be superfluous in some cases, e. g., a system which only needs identity's first name and last name to create a login won't need to know user's phone number. Unless we remove those attributes, they will present an unnecessary administrative load since the implementer will be notified each time they change, even though they are not relevant for them.

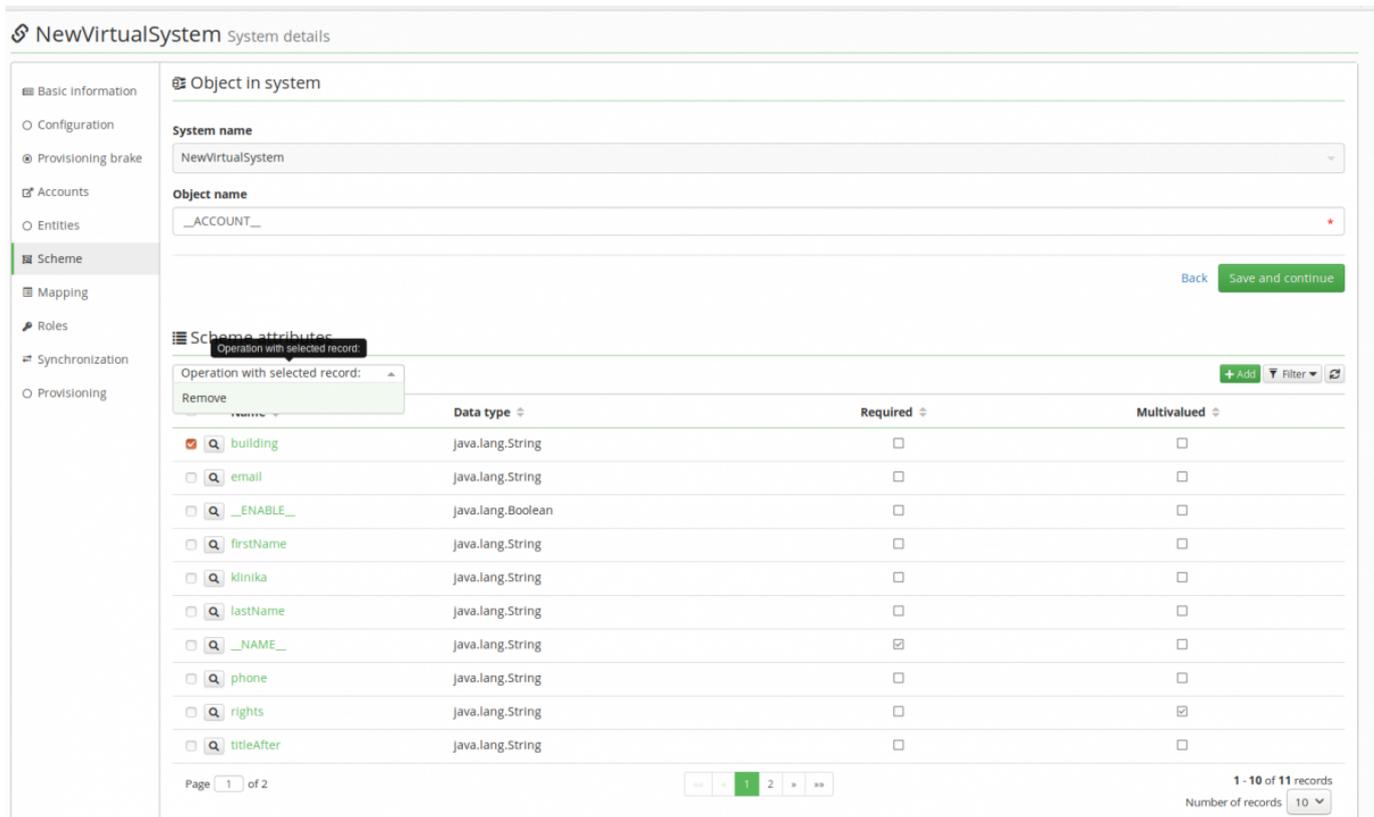
Removing these attributes is similar in process to creating them - basically, we have to retrace our steps and undo the changes we've made in steps 1, 2 and 3.

If you want to stop provisioning an attribute which is present in other systems you have to do even fewer changes. This can be relevant in the above mentioned phone number case. In this case, undo only steps 2 and 3.

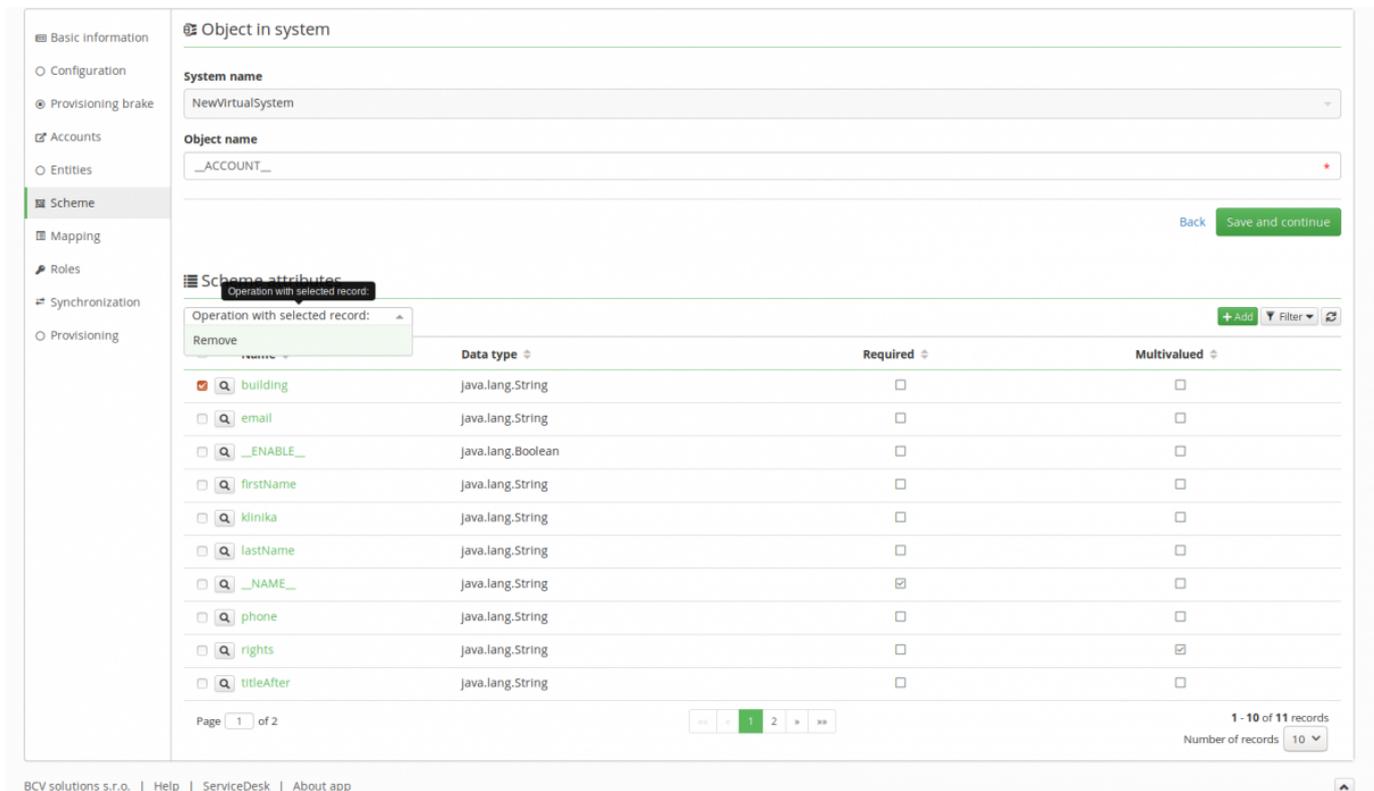


If you want to remove an attribute from a virtual system which was already used, so it has existing virtual accounts with this attribute filled, you have to remove the values of the accounts' attributes first. This can now (as of v. 10) be done only in DB. So make sure you have an access to the IdM database.

First, remove the mapping of the attribute. Click Virtual systems, List, Mapping, and Provisioning. Check the checkbox next to the attribute you want to remove. Above the list, a new dialog should appear, Operation with selected record. Click and choose Remove. Click Yes.



Then move to Scheme, click ACCOUNT. Check the checkbox next to the attribute you want to remove. Above the list, a new dialog should appear, Operation with selected record. Click and choose Remove. Click Yes.



Then go to Configuration, find Attributes and delete the attribute you want to remove. Click Save.

Connector configuration

Virtual system connector 1.0.1 (czechidm) Test connector

Connector configuration Pooling configuration

Required confirmation by the Implementer
If not checked, then all requests will be solved immediately. No notification will be sent to implementers.

Attributes (multi)

- rights
- klinika
- building

Properties for create EAV model.

Implementers

Administrator (admin)

Requests for implementing changes on the real system will be created for these implementers. Every implementer must be an identity in CzechidM. Values are UUIDs of identities (multivalued).

Roles of implementers

Select or type to search ...

All identities with these roles will be implementers. Every role must be a role in CzechidM. Values are UUIDs of roles (multivalued).

Supports account disable/enable

Save

Next, delete the attribute from the Form definitions of VsAccount. Click Form definitions in Settings, find the VsAccount item, check under Name that this is the virtual system from which you are removing the attribute. Open the item using the magnifying glass.

Type	Main definition	Code	Name	Module	System definition
<input checked="" type="checkbox"/>	<input type="checkbox"/>	czechidm:virtual-system-basic:eu.bcvsolutions.idm.vs.connector.basic.BasicVirtualConnector:1.0.1:systemId=4c64fdc4-e3ef-43d6-b904-fcc6334ef434	Virtual system for [new virtual]		<input checked="" type="checkbox"/>

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Go to Form Attributes, check the box next to the attribute you want to remove and click on Operation with selected record, choose Remove and click Yes.

Virtual system for [NewVirtualSystem]

Form attributes

Operation with selected record: Remove

Attribute type	Face type	Default value	Required	Unique	Min	Max	Regex	System attribute	Order
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>				<input type="checkbox"/>	0
<input type="checkbox"/>	<input checked="" type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>				<input type="checkbox"/>	0
<input type="checkbox"/>	<input checked="" type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>				<input type="checkbox"/>	0
<input type="checkbox"/>	<input checked="" type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>				<input type="checkbox"/>	0
<input type="checkbox"/>	<input checked="" type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>				<input type="checkbox"/>	1
<input type="checkbox"/>	<input checked="" type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>				<input type="checkbox"/>	2
<input type="checkbox"/>	<input checked="" type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>				<input type="checkbox"/>	3
<input type="checkbox"/>	<input checked="" type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>				<input type="checkbox"/>	4
<input type="checkbox"/>	<input checked="" type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>				<input type="checkbox"/>	5

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If this operation fails with the message that there are already some values, you must go to the IdM

database and delete those values by SQL. It's strongly recommended to make a backup of the database prior to this action.

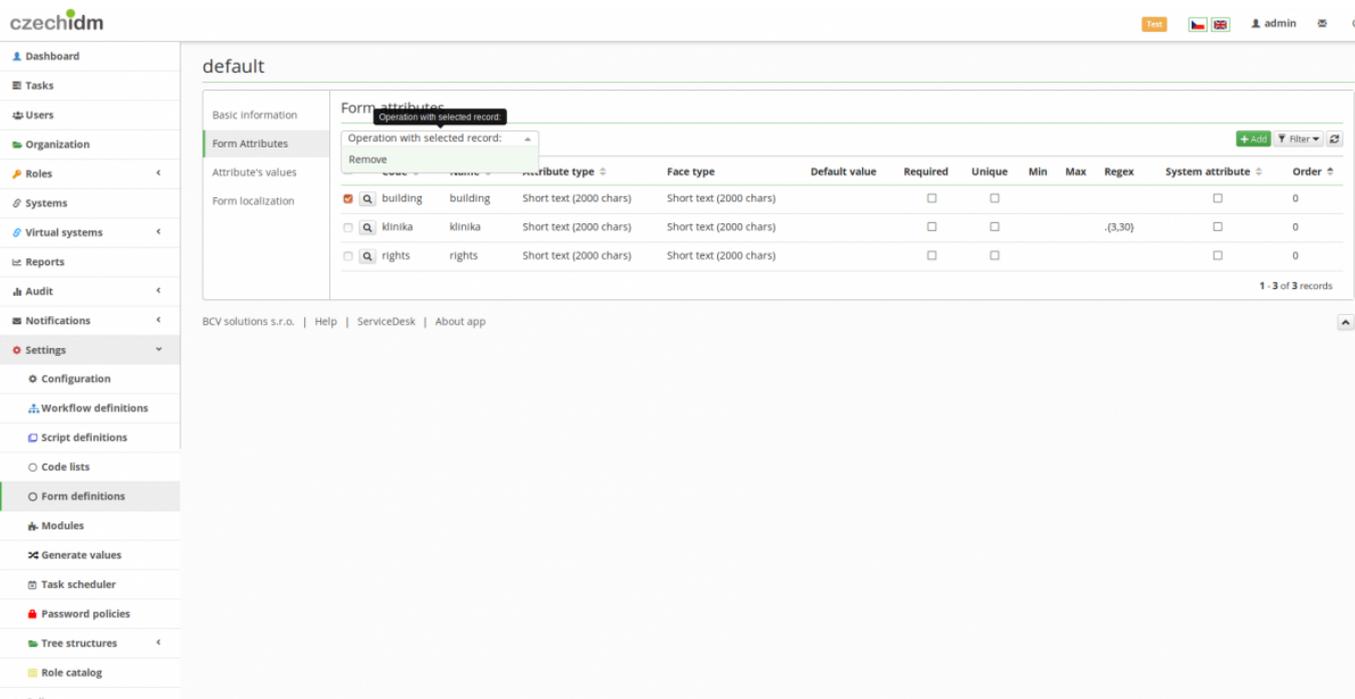
```
-- Check the values you are about to delete - change the code of your
attribute and your system name --
SELECT * FROM vs_account_form_value WHERE attribute_id IN (SELECT id FROM
idm_form_attribute WHERE code='building' AND definition_id IN (SELECT id
FROM idm_form_definition WHERE name LIKE 'Virtual system for
%NewVirtualSystem%'))

-- Delete the values
DELETE FROM vs_account_form_value WHERE attribute_id IN (SELECT id FROM
idm_form_attribute WHERE code='building' AND definition_id IN (SELECT id
FROM idm_form_definition WHERE name LIKE 'Virtual system for
%NewVirtualSystem%'));
```

Then you can remove the attribute from the Form Attributes as written above.

The attribute is still present in the detail of the user; however, it is no longer connected to the virtual system and the implementer will not be notified when the attribute's value changes.

If you want to remove the attribute from the IdM entirely, you have to undo step 1 as well. Please note, however, that if any role has this attribute filled in (not empty), you will not be able to remove the attribute. Go to Settings, Configuration, Form definitions, Form Attributes. Check the checkbox next to the attribute you want to remove. Above the list, a new dialog should appear, Operation with selected record. Click and choose Remove. Click Yes.



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