



RDM Web Application User Guide

 **ataccama**



CONFIDENTIALITY NOTICE

THIS DOCUMENT, PRESENTATION, AND THE INFORMATION IN IT ARE PRIVILEGED AND PROVIDED IN CONFIDENCE, FOR THE SOLE INTERNAL PURPOSE OF EXPLORING BUSINESS OPPORTUNITIES BETWEEN THE DISCLOSING PARTY AND THE INTENDED RECIPIENT CONCERNED. YOU ARE HEREBY NOTIFIED THAT YOU MAY NOT DISCLOSE, USE, DISTRIBUTE, COPY OR FORWARD TO ANY THIRD PARTY OR USE THE INFORMATION FOR ANY OTHER PURPOSE WITHOUT THE EXPRESS WRITTEN PERMISSION OF THE DISCLOSING PARTY.

 **ataccama**

Table of Contents

1	Introduction	9
2	RDM Basics.....	10
2.1	What is Reference Data?.....	10
2.2	Role of Tables.....	10
2.3	Getting Started with RDM.....	10
2.3.1	Logging In.....	11
2.3.2	User Interface.....	12
2.3.3	Default Columns	14
2.3.4	Record Edit States	15
2.3.5	Record Validity	15
2.4	RDM Data Tab Overview.....	16
2.4.1	Categories	17
2.4.2	Tables	17
2.4.3	Views	17
2.4.4	Data Sets	17
2.4.5	Hierarchies	18
2.5	RDM Data Viewing Modes.....	20
2.5.1	Available Modes and their Meaning	20
2.5.2	Selecting the Mode.....	20
2.5.3	Filters	21
2.5.4	Published	22
2.5.5	Edit.....	22
2.5.6	History.....	23
2.5.7	All History	24
2.5.8	Import	25
2.5.9	Cart	25

3	Viewing Data in RDM	26
3.1	Columns Setup	26
3.1.1	In Table Headers Display	26
3.1.2	Referenced Data Display Mode	26
3.2	Column Sorting and Adjustment	27
3.3	Filters	28
3.3.1	Advanced Filter	29
3.3.2	Saving Filters	31
3.4	Viewing Changes in the Data	32
3.5	Viewing Record Details	33
3.5.1	Show Children	34
3.5.2	Hierarchies	34
3.5.3	History	35
3.5.4	State Detail	35
3.6	Viewing Table Details	36
3.7	Switching Between Related Entities	37
4	Working with Records in RDM	39
4.1	Creating Records	39
4.1.1	Record Validation	42
4.1.2	Lookups	43
4.1.3	Enrich and Validate	44
4.2	Editing Records	44
4.2.1	Editing Several Records	45
4.3	Deleting Records	46
4.4	Undoing Changes	47
4.4.1	Reverting Single Record Change	47
4.4.2	Reverting All Record Changes	47
4.5	Marking Records for Later Use	48

4.5.1 Adding Records to the Cart.....	48
4.5.2 Removing Records from the Cart	48
4.6 Move to Publish.....	49
4.6.1 The Result	49
4.7 Return to Edit.....	49
4.8 Records Participated in Bulk Operation.....	50
4.9 Versioning Records in RDM	50
4.9.1 Creating a New Record Version	51
4.9.2 Versioning Options	51
5 Importing and Exporting Data in RDM.....	55
5.1 Importing Data.....	55
5.1.1 Choosing the Import Mode	55
5.1.2 Import Requirements.....	55
5.1.3 Importing Data in the EDIT Mode	56
5.1.4 Importing Data in the IMPORT Mode.....	57
5.2 Exporting Data.....	58
5.3 Moving RDM Data Between Environments	58
5.3.1 Create Dump	59
5.3.2 Load from Dump	60
6 Moving Records Through RDM Workflows	61
6.1 How Workflows Work.....	61
6.2 Fast Record Transition.....	61
6.3 Record Transition with Editing	62
7 Publishing Changes in RDM	63
7.1 Publishing from Create and Edit Dialog.....	63
7.2 The Publish Tab.....	64
7.3 Publishing Scope	64

7.4	Publishing and Rejecting Individual Records	65
7.4.1	Records Participated in Bulk Operation.....	66
8	Monitoring RDM Synchronization.....	67
8.1	Synchronization Tab	67
8.1.1	Synchronization Indicators.....	68
8.2	Browsing Process Runs Details.....	68
8.3	Viewing Unsynchronized Records.....	69
9	RDM Change Log.....	71
10	Tracking Data and System Errors in RDM	73
10.1	System Tab	73
10.2	Problems.....	74
10.3	Action History	74
10.4	Error Log	75
10.5	Long Ops	75
11	Setting Permissions in RDM.....	77
11.1	Permissions Configuration Screen.....	77
11.1.1	Synchronizing User and Role Mapping	78
11.2	Assigning Roles to Users and Managing Roles	78
11.3	Assigning Permissions to Roles	79
11.3.1	Understanding RDM Permissions.....	80
11.3.2	Row Filters	81

1 Introduction

Reference Data Manager (RDM) is used by data stewards and other maintenance personnel for the actual management of reference data, which involves creation or modification of individual values, deletion and synchronization, as well as monitoring and auditing of the user actions.

This guide is intended for front-end users of the RDM web interface. It is designed to provide an overview of the basic functionality of RDM and describe how to perform common functions within the web application interface.

In this guide:

- [RDM Basics](#)
- [Viewing Data in RDM](#)
- [Working with Records in RDM](#)
- [Importing and Exporting Data in RDM](#)
- [Moving Records Through RDM Workflows](#)
- [Publishing Changes in RDM](#)
- [Monitoring RDM Synchronization](#)
- [RDM Change Log](#)
- [Tracking Data and System Errors in RDM](#)
- [Setting Permissions in RDM](#)

2 RDM Basics

This chapter introduces basic concepts of reference data management and presents a short introduction to the RDM web application features and architecture.

2.1 What is Reference Data?

Simply explained, reference data is data that serves as the model for all other data throughout an organization. It is contained within tables and databases, which help bridge one source system to another, and provides the foundation for the entire data architecture. Together with the initiative set forth by the overall data governance program, reference data maintains consistent data across all departments and allows for source system inter-communication.

2.2 Role of Tables

Reference Data tables are entities that compose the framework of the reference data architecture, providing lists of values for each department and the company as a whole. They contain either the backbone data in its base form (central authority) or data that is a derivative of the base-form data (tables used in the various branch systems throughout the enterprise).

Each department within a company works with table data fields in a particular format that suits their processes. Although department A might deal with the same product as department B, the alphanumeric codes or text that represents that product may differ between the two departments. To allow these two separate systems to operate according to their own lists of data, both systems are also connected to the central authority, which drives the same authenticating information to both departments and confirms the same product is being referenced.

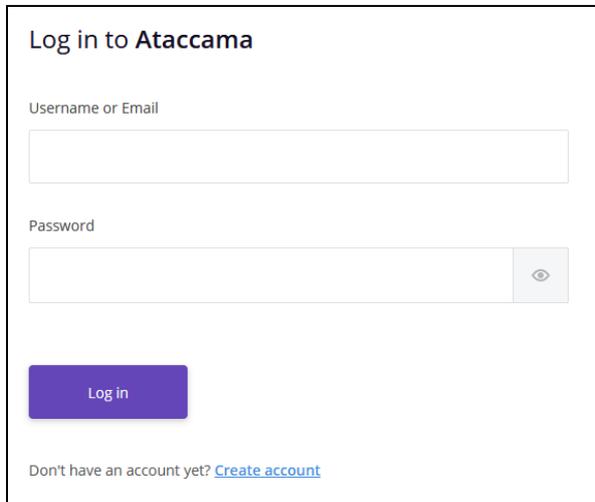
Continue reading for RDM concepts and features:

2.3 Getting Started with RDM

This article describes how to log in into RDM, presents the user interface, and describes concepts and features of RDM needed for further convenient work with the application.

2.3.1 Logging In

RDM is accessed through your browser. When you type in the application address, the login screen appears.

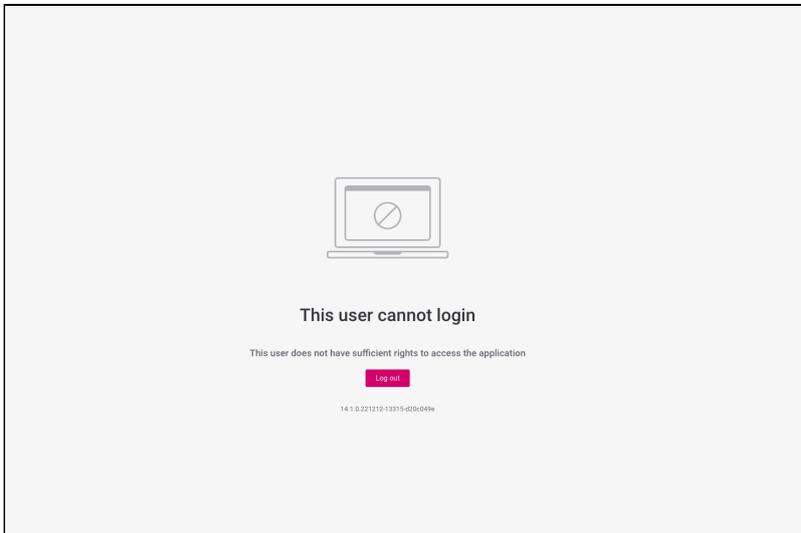


The screenshot shows a login form titled "Log in to Ataccama". It contains two input fields: "Username or Email" and "Password". The "Password" field has a toggle icon (an eye) to the right of the input box. Below the fields is a purple "Log in" button. At the bottom, there is a link: "Don't have an account yet? [Create account](#)".

Upon a successful login, the RDM home screen appears.

It is not possible to log in with two different usernames simultaneously in the same browser on one machine. You have to use a different browser for each login.

In the current version, when you log in to the RDM Webapp, the following message can appear: This user cannot login. It can be caused by a longer process of connecting to the keycloak.



2.3.2 User Interface

The user interface for working with reference data consists of the **Navigation Panel** on the left and the **Viewing Panel** on the right.

Welcome to the Reference Data Management site

Here you may find reference books taken on the centralized maintenance in our bank.

List of supported reference books:

Name	Description	Systems	Business owners	Additional owners
102: Branch	List of branches	Front_Office, CRM, DWH		
120: Country	List of countries where the bank operates			
121: State/Province/Region	List of states, provinces, or regions of countries where the bank operates			
127: City	List of cities with branches			
200: Product	Product list	FLEX		
201: Product Division	Product hierarchy - Division			
202: Product Group	Product hierarchy - Group			
203: Product LOB	Product hierarchy - LOB			
204: Product Eligibility	Product hierarchy - Eligibility			
205: Product Card Brand	Product hierarchy - Card Brand			
206: Product Term Maturity	Product hierarchy - Term Maturity			
503: Person	List of employed persons			
601: Org Chart	Org structure			
602: Rep Assignments	Assignments of Sales Reps to Branches			
614: Roles	List of possible roles			
906: Currency	List of currencies (ISO 4217)			
916: Currency holidays				
Branches overview	Overview of all branches grouped over countries.	Front Office, CRM, DWH		

1 < 1-25 of 32 > |

If you have any questions related to the system, please contact Data Quality Group team via mail

Navigation Panel

The Navigation Panel is organized in an accordion and contains various features for working and publishing reference data, tracking changes, synchronization and troubleshooting. The number of functions you may utilize or perform depends on the role you were assigned by the administrator.

The Navigation Panel contains the following tabs:

- **Data.** Involves defined tables, views, hierarchies, categories, and related problems.
- **Workflows.** List of defined workflows, which control processing of table data.
- **Publish.** List of changes made to reference data intended for publishing.
- **Synchronization.** Communication with defined systems connected to central authority tables.
- **Change Log.** Displays a list of performed changes in the reference data, based on the filters entered by the user.
- **System.** Displays error log information including data problems, action history, and long operation data.

Some of the links and associated screens are available only for users with higher access privileges: supervisors, managers, and administrators.

Viewing Panel

The Viewing Panel is the main working space in RDM. After selecting a corresponding item in the *Navigation Panel*, the Viewing Panel will be the place for viewing details, editing, and publishing records, performing synchronizations with targets systems etc.

The Viewing Panel is organized similarly to a web browser: all the different features and tables are opened in separate tabs.

The **Toolbar** above a displayed table contains various viewing-mode-dependent functions.

503: Person									
503: Person									
[]	[Id]	[Gid]	[State]	[Val]	Employee ID	Name	Role	E-mail Address	[Username]
<input type="checkbox"/>	1	2		✓	3007	Izaak Steinert	Region...	izaak.stein@ex...	
<input type="checkbox"/>	2	3		✓	3011	Auila Alcot	Region...	auila.alcot@ex...	
<input type="checkbox"/>	3	4		✓	3016	Augustin Noble	Region...	augus.noble@ex...	
<input type="checkbox"/>	4	5	Edited	✓	3027	Danielle Deutsch	Region...	danielle.deu...	admin
<input type="checkbox"/>	5	6	Edited	!	9012	Doris Yaeger	Region...	doris.yaeger@ex...	admin
<input type="checkbox"/>	6	7		✓	3045	John Smith	Admini...	john.smith@exa...	
<input type="checkbox"/>	7	8		✓	3063	Minerva Duprey	Region...	miner.dupre@ex...	
<input type="checkbox"/>	8	9		✓	3078	Lanni Clabaugh	Region...	lanni.claba@ex...	
<input type="checkbox"/>	9	10		✓	3082	Creigh Macaulay	Region...	creig.macau@ex...	
<input type="checkbox"/>	10	11		✓	3599	Ratti Egbert	Region...	ratti.egber@ex...	
<input type="checkbox"/>	11	12		✓	5003	Lanni Clabaugh	Sales ...	lanni.claba@ex...	
<input type="checkbox"/>	12	13		✓	5005	Pauletta Scola	Sales ...	paule.scola@ex...	

2.3.3 Default Columns

Besides the attributes imported from the database, RDM adds its own system attributes called default columns. These are enclosed in square brackets, e.g. [**State**]. The visibility of specific default columns depends on the [data-viewing mode](#).

The full list of default columns and their meaning is presented the following list (without the brackets):

- **Id.** Unique record identifier.
- **Gid.** Group ID (used with record versioning: same GID and different ID mean a different version of the record). See [Versioning Records in RDM](#).
- **State.** Workflow state.
- **Valid.** Validity indicator. Valid records are marked with a green tick, and invalid records with a red exclamation mark. See [Record Validity](#) below.
- **User.** The user that made the change.
- **Date from.** (in HISTORY and ALL_HISTORY modes) Attribute values are effective from this date.
- **Date to.** (in HISTORY and ALL_HISTORY modes) Attribute values are effective until this date.
- **Tags.** (in ALL_HISTORY mode) Lists the tags used during record publishing.

2.3.4 Record Edit States

To assist in identifying edited records (prior to their publication), as well as viewing them from the historical point of view (which records are obsolete or still valid), the RDM Web Application includes color-coded dots to reflect the type of process that was initiated:

- **Green**. The record was newly created.
- **Orange**. A change was performed on an existing record.
- **Red**. An existing record was deleted.

If a color-coded dot is present by the record or attribute value, it shows which changes have been performed on the specific record if any, in the context of the given mode or feature.

2.3.5 Record Validity

Some attributes in RDM tables are subject to validity conditions, which define if the input value is valid. The conditions are checked when you create or edit records in RDM. Two kinds of validations are used:

1. **Instantaneous validations** are performed automatically when you enter an attribute value (the conditions can be, for example, regular expressions or string size). If the input value does not meet the conditions, an error icon appears next to the attribute field. Hover over the icon to find out more about the issue.
2. **Online validations** are based on more complex conditions and are run automatically after a change is detected or triggered manually by clicking **Validate** in the *Create detail/Edit detail* dialogue or upon closing it. They are performed by ONE plans (that use, for example, phone number or address lookups) or SQL queries in RDM. If the input value does not meet the conditions, a *Warning* icon appears next to the attribute field. Hover over the icon to find out more about the issue.

Name *	Wynford		valid
Code *	Frankfurt am Main010	WARNING There must be only one manager in the same city!	
Branch Manager *	Augustin Noble	⚠	valid
Phone *	(234) 688-4578		valid
City *	● Bristol	EQ	valid
Address *	●	!	valid

Records that do not satisfy online validation conditions or are imported to RDM with invalid inputs have the INVALID value in the **Validity** default column and cannot be published.

Record validity conditions and validations are defined by the administrator in the RDM backend and cannot be changed directly in the web application.

2.4 RDM Data Tab Overview

The **Data** tab involves all operations related to reference data and can have the following nodes:

Node	Presence	Functionality
Categories	if configured	<ul style="list-style-type: none"> Shows logically grouped or related tables. Useful in case a large number of tables is used.
Tables	always	Lists all tables in the reference data model and enables viewing them.
Views	if configured	Shows custom subsets and joins of several related tables in one table (view).
Data sets	if configured	Shows custom reports based on data from one or many tables.
Hierarchies	if configured	Shows a cascade view of parent and child tables and the attribute they are related by.
Problems	always	Lists tables with records not passing validation rules or non-existing parents.
Most used	always	Lists most frequently accessed items.

	[Id]	[Gid]	[State]	[Vali]	Name	Code	Branch Manager	Phone	City
<input type="checkbox"/>	1	3		✓	Locke & Main	Aix-en-Pro...	Arletta Bricker	(541) 234-5875	Aix-en-Provence
<input type="checkbox"/>	2	6		✓	Mayfield & Highw...	Ajaccio020	Gregory K Thoben	(226) 436-4567	Ajaccio
<input type="checkbox"/>	3	7		✓	Steeles & Laurel...	Ajaccio030	Gregory K Thoben	(345) 745-7632	Ajaccio
<input checked="" type="checkbox"/>	4	12	Edited	✓	Wynford	Frankfurt ...	Augustin Noble	(234) 688-45...	Frankfurt am Main
<input type="checkbox"/>	5	15		✓	Guelph Line & Ma...	Joensuu010	Lanni Clabaugh	(647) 456-7832	Joensuu
<input type="checkbox"/>	6	17		✓	Eglinton & Warden	Kotka010	Augustin Noble	(226) 345-6789	Kotka
<input type="checkbox"/>	7	19		✓	Bayfield & Heath...	Leeds010	Dieter Koenig	(323) 465-7454	Leeds
<input type="checkbox"/>	8	21		✓	Hwy 10 & Eglinto...	Le Mans020	Dieter Koenig	(432) 676-7454	Le Mans
<input type="checkbox"/>	9	25		✓	Kennedy & Ellesm...	Norwich010	Izaak Steinert	(518) 236-7243	Norwich
<input type="checkbox"/>	10	28		✓	Winston Churchil...	Paris010	Rebecca Jones	(314) 567-4532	Paris
<input type="checkbox"/>	11	33		✓	Third Line & Dun...	Tampere010	Rebecca Jones	(213) 423-6453	Tampere

All nodes in the table above are configured in the RDM back-end and cannot be created, modified or removed in the web application.

Visibility of tables and attributes under individual nodes is subject to permission settings configured by the administrator.

For more information, see to [Setting Permissions in RDM](#).

2.4.1 Categories

Categories organizes tables into logical groups and subgroups for viewing convenience. Categories can consist of tables, views, and hierarchies.

Each object in the specific category is displayed upon clicking on its name in the *Categories* Link of the *Data* Tab. Depending on the type of object (table, view, hierarchy), the functions related to browsing the object are further described in the appropriate section below.

2.4.2 Tables

As opposed to the *Categories* node, which might or might not contain all tables under its sub-sections, the **Tables** node lists all tables with reference data available to you given your viewing rights.

2.4.3 Views

Views provide users with a logical subset of existing tables. Views are typically composed of two or more tables, which is achieved by joining selected tables into one record grouping.

Views are mainly intended for viewing data; however, all data-modifying features are available in this node as well.

2.4.4 Data Sets

Data sets are custom reports based on SQL queries that can show any information about the reference data from one or two tables.

Consider the following example: as a Head of Sales in a bank, you want to verify the number of branches in each region your bank is present in. Your RDM solution developer can write a simple SQL query using SQL functions like `count` that will generate such a report.

Country	Number of branches
Canada	2
Finland	13
France	16
Germany	1
United Kingdom	3
United States	4

2.4.5 Hierarchies

The **Hierarchies** node in the *Data* tab of the Navigation Panel contains a list of configured hierarchies and their individual breakdowns into sub-level structures. Instead of viewing records in separate tables, the hierarchies show how the tables are organized and related. By using hierarchies, you can see how values in child tables are related to values in parent tables.

The screenshot below presents a hierarchy of a bank's branch locations.

What you can see here is that **Vancouver010** is the only branch in the city of **Vancouver** in **British Columbia**, and British Columbia is one of the 13 regions of **Canada**. Also, the bank has no branches in the cities of **Calgary** and **Edmonton**.

Branch Hierarchy
✕

Branch Hierarchy Edit Actions

120: Country (6) ▾

- > United States
- > United Kingdom
- > Germany
- > France
- > Finland
- ▼ Canada
 - ▼ 121: State/Province/Region (rel: State Province Country) (13) ▾
 - ▼ Alberta
 - ▼ 127: City (rel: City State Province) (2) ▾
 - ▼ Calgary
 - 102: Branch (rel: Branch City) (0) ▾
 - ▼ Edmonton
 - 102: Branch (rel: Branch City) (0) ▾
 - ▼ British Columbia
 - ▼ 127: City (rel: City State Province) (1) ▾
 - ▼ Vancouver
 - ▼ 102: Branch (rel: Branch City) (1) ▾
 - > Vancouver010
 - > Manitoba
 - > New Brunswick
 - > Newfoundland And Labrador
 - > Northwest Territories

Hierarchical data of table 'Branch City' referenced by relation 'Branch City'

Detail of the row referenced by relation 'Vancouver010'Parent data:Vancouver010

[State]	[Valid]	Name	Code	Branch Manager	Phone	City	Address	Valid From
valid		Queen & Kenr Vancouver0	Gregory K Thoben	(647) 234-32	Vancouve	239 Queen St	2010 Nov 5 01	

How to Read a Hierarchy

1. Expand the top parent table – you are presented with a list of values of this table.
2. Expand one of the values to see the available child tables that use that value.
3. Expand one of the child tables to see its values.
4. Continue down through the hierarchy.

You can filter out the values of any table as well as creating and editing records from a hierarchy. For information on Filters, see [Filters](#). For information on creating and editing records, see [Working with Records in RDM](#).

Problems

This node contains data related problems (inconsistencies, referential integrity issues, etc.) and is also present in the **Systems** tab. For more information on the *Problems*, refer to [Problems](#).

2.5 RDM Data Viewing Modes

After opening a table or a view, browsing is possible from different perspectives called *modes*. Mode accessibility depends on the user permissions.

2.5.1 Available Modes and their Meaning

The available viewing modes are:

- **Published** - shows the latest "official" version of reference data used.
- **Edit** - shows records with changes (creation/editing/deletion) made since the latest publish action, if any.
- **History** - shows records in the published state at a given point in time.
- **All history** - shows all changes ever made to all records.
- **Cart** - shows records added to the cart in the EDIT mode. Serves for working with specially marked records.
- **Import** - a mode for importing data. Shows the state of imported records as compared to the latest state of the record (published or edited) or published state at some point in time.
- **Inputs** - a mode for importing data from connected systems. Shows the state of imported records as compared to the latest state of the record (published or edited) or published state at some point in time. Available only to users with system rights.

2.5.2 Selecting the Mode

When viewing a table, modes are selected in the Mode drop-down list in the **upper-right** part of the Viewing Panel. This mode will be applied to the currently viewed table.

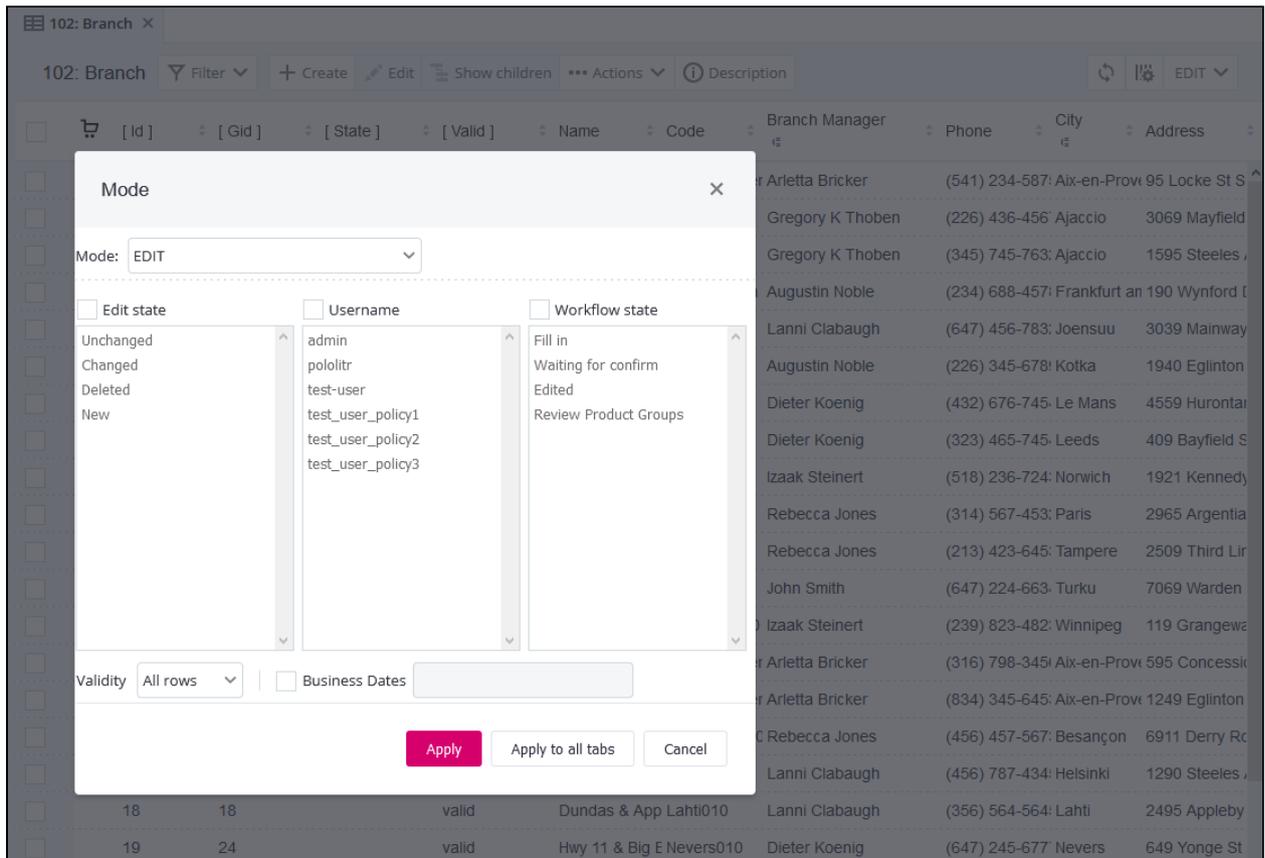
The **Default Mode** can be changed right below the **Data** tab. All tables or views will open in the mode selected here.

The screenshot shows the Reference Data Manager interface for a '102: Branch' repository. The table displays 16 rows of data. The 'EDIT' button in the top right corner is highlighted with a red box. The table columns are: Id, Gi, State, Valid, Name, Code, Branch Manager, and Phone. The data rows are as follows:

Id	Gi	State	Valid	Name	Code	Branch Manager	Phone
1	3		✓	Locke & Main	Aix-en-Provence020	Arletta Bricker	(541) 234-5875
2	6		✓	Mayfield & Highway 10	Ajaccio020	Gregory K Thoben	(226) 436-4567
3	7		✓	Steeles & Laureleaf	Ajaccio030	Gregory K Thoben	(345) 745-7632
4	12	Edited	✓	Wynford	Frankfurt am Main010	Augustin Noble	(234) 688-4575
5	15		✓	Guelph Line & Mainway	Joensuu010	Lanni Clabaugh	(647) 456-7832
6	17		✓	Eglinton & Warden	Kotka010	Augustin Noble	(226) 345-6789
7	19		✓	Bayfield & Heather	Leeds010	Dieter Koenig	(323) 465-7454
8	21		✓	Hwy 10 & Eglinton Ave	Le Mans020	Dieter Koenig	(432) 676-7454
9	25		✓	Kennedy & Ellesmere	Norwich010	Izaak Steinert	(518) 236-7243
10	28		✓	Winston Churchill & Argentinia	Paris010	Rebecca Jones	(314) 567-4532
11	33		✓	Third Line & Dundas	Tampere010	Rebecca Jones	(213) 423-6453
12	35	Edited	✓	Shoppers Warden	Turku010	John Smith	(647) 224-6634
13	38	Edited	✓	Progress & Grangeway	Winnipeg010	Vanessa Lewinsky	(239) 823-4824
14	2		✓	Concession & Summit	Aix-en-Provence010	Arletta Bricker	(316) 798-3456
15	4		✓	Eglinton & Creditview	Aix-en-Provence030	Arletta Bricker	(834) 345-6453
16	9		✓	Derry & Bronte	Besancon010	Rebecca Jones	(456) 457-5673

2.5.3 Filters

All modes except the CART and PUBLISHED feature additional mode-specific filters. These filters are accessed by clicking on the filter icon in the Mode drop-down menu and selecting **Setup filters**. The filtering options may apply to the currently displayed table (**Apply**) or to all tables in the repository (**Apply to all tabs**).



2.5.4 Published

The PUBLISHED mode shows the most current version of reference data tables being used by the company.

This mode does not provide any additional filters.

2.5.5 Edit

The EDIT mode is the mode in which the data in RDM is edited. It displays the current version of data and allows viewing records with their associated changes, which await publishing into the source systems of the company.

In EDIT mode, the raw value of the attribute is displayed. Value presenters are only applied in PUBLISHED and HISTORY modes.

In the screenshot below, one record has been newly created ● and not published yet, one record was deleted ● and two record were edited ●. Edited records also have edited fields highlighted.

For more information of color-coded dots, see [Record Edit States](#).

602: Rep Assignments										
602: Rep Assignments Filter + Create Edit ... Actions Description EDIT										
<input type="checkbox"/>	<input type="checkbox"/>	[Id]	[Gid]	[State]	[Valid]	Branch	Reps	Date from	Date to	[Username]
<input type="checkbox"/>	●	1	3	Waiting for confi valid		● Oulu010	5142;5819	2015 Sep 1 02:00	2025 Sep 30 02	admin
<input type="checkbox"/>	●	2	5	Waiting for confi valid		● Bristol010	5003;5028	2015 Sep 1 02:00	2025 Oct 31 01	admin
<input type="checkbox"/>		3	4	valid		Paris010	5003;5032	2015 Sep 21 02:00	2025 Sep 1 02:00	
<input type="checkbox"/>	●	4	2	Edited	valid	Lille010	5091	2016 May 2 06:00	2025 Sep 30 02	admin
<input type="checkbox"/>	●	7	8	Edited	valid	Saintes010	5091;5341	2016 Mar 1 00:00	2025 Apr 30 00	admin

The EDIT mode has a set of diverse filtering options. The options displayed in the mode dialog include filtering by:

- Username
- Edit state
- Workflow state. For more information on workflows, refer to [Moving Records Through RDM Workflows](#).
- Validity. For more information on record validity, refer to [Record Validity](#).

2.5.6 History

The HISTORY mode provides the state of **published** data based on the selected date and time.

Select the date by accessing **Setup filters**. You can also manually specify the time.

The unique columns for this and ALL_HISTORY modes are [**Date from**] and [**Date to**], which show the range of dates during which the current edition of records is valid.

If the selected date is older than the table creation date, the table data appears blank. If no date is selected, the displayed data will correspond to that in the PUBLISHED mode.

The screenshot shows the Reference Data Manager interface for '102: Branch'. The table displays the following data:

Product Groups	Include in DWH Dimensions	Start Loading From	Official Website	[Username]	[Date from]	[Date to]
31 06 CC;CHQ;HBL;OS	True		Official site of Progress	admin	2020 Oct 8 19:38::	
7 01:0 PI;TF;LC;FX;CM;CHC	True	2000 Apr 8 06:00:00	Official site of Concessi	admin	2020 Oct 8 19:38::	
13 02: ACC;CC;CM;LC	True		Official site of Eglinton	admin	2020 Oct 8 19:38::	
23 01 ACC;CC;CHQ;CL;CM	True	2000 May 19 06:00:00	Official site of Derry & F	admin	2020 Oct 8 19:38::	
8 01:0 RM;OS;PI;TF;FX;CHC	True		Official site of Hwy 401	admin	2020 Oct 8 19:38::	
20 02 RM;OS;PI;TF;FX;CHC	True		Official site of Dundas	admin	2020 Oct 8 19:38::	
1 02:0 CC;CHQ;CL;CM;OS	False		Official site of Hwy 11 &	admin	2020 Oct 8 19:38::	
9 02:0 ACC;CC;CHQ;CL;CM	False		Official site of Maplevie	admin	2020 Oct 8 19:38::	
22 01 ACC;CC;CM;LC	True		Official site of Bramalea	admin	2020 Oct 8 19:38::	
25 02 ACC;CC;CM;LC	False	2000 Jul 3 06:00:00	Official site of Sunny Me	admin	2020 Oct 8 19:38::	
2 01:0 CC;CL;CM;IBS	True	2000 May 7 06:00:00	Official site of Cooksvill	admin	2020 Oct 8 19:38::	
27 02: ACC;CC;CM;LC;TF	False	2010 Aug 4 02:00:00	Official site of Major Ma	admin	2020 Oct 8 19:38::	
12 02 CC;CL;CM;IBS	True	2010 May 26 02:00:00	Official site of Main & W	admin	2020 Oct 8 19:38::	
1 02:0 ACC;CC;CHQ;CL;CM	False	2010 Nov 17 01:00:00	Official site of Birchmou	admin	2020 Oct 8 19:38::	

2.5.7 All History

The ALL_HISTORY mode displays the complete data history showing all changes ever made to records, including the relevant color-coded dots that interpret the applied data changes.

Select the date range of history by accessing **Setup filters**. You can also manually specify the time.

The figure below shows three cases of record-editing history:

1. The record with *Gid* = 3 was created ●, published, and edited ●.
2. The record with *Gid* = 4 was created ● and published; no other changes has ever been performed on it.
3. The record with *Gid* = 12 was created ● and then deleted ●; it does not exist anymore.

For more information of color-coded dots, see [Record Edit States](#).

[Id]	[Gid]	Branch	Reps	Date from	Date to	[Username]	[Date from]	[Date to]	[Tags]
1	3	Nevers010	5142;5819;2015 Sep 1 02:00: 2025 Sep 30 02 admin	2020 Oct 8 19:38:	2021 Jan 21 18:				
1	3	Oulu010	5142;5819;2015 Sep 1 02:00: 2025 Sep 30 02 admin	2021 Jan 21 18:33					
2	5	Pau010	5003;5028;2015 Sep 1 02:00: 2025 Oct 31 01 admin	2020 Oct 8 19:38:	2021 Jan 21 18:				
2	5	Bristol010	5003;5028;2015 Sep 1 02:00: 2025 Oct 31 01 admin	2021 Jan 21 18:33					
3	4	Paris010	5003;5032;2015 Sep 21 02:00: 2025 Sep 1 02:00 admin	2020 Oct 8 19:38:					
4	2	Lille010	5091	2016 May 2 06:00: 2025 Sep 30 02 admin	2020 Oct 8 19:38:				
11	12	Vaasa010	3027;5143;2017 Apr 1 00:00: 2024 Jul 26 00:00 admin	2021 Jan 21 18:39	2021 Jan 21 18:				
11	12	Vaasa010	3027;5143;2017 Apr 1 00:00: 2024 Jul 26 00:00 admin	2021 Jan 21 18:39	2021 Jan 21 18:				

Filtering options in the ALL_HISTORY mode include edit state, username, and tags (for more information on tagging, see [Publishing Changes in RDM](#)), plus the definition of the time range for which history is shown.

2.5.8 Import

The IMPORT mode is used for data import. For more information, see [Importing and Exporting Data in RDM](#).

2.5.9 Cart

The CART mode shows records which were added to the cart in the EDIT mode. Adding records to the cart, usually, serves the purpose of marking and separating the records from the rest, e.g., for publishing. For information on adding records to the cart, see [Marking Records for Later Use](#). For information on publishing, see [Publishing Changes in RDM](#).

3 Viewing Data in RDM

This section describes the various RDM features related to viewing data. The features are described for the case when the table is opened in the EDIT mode.

3.1 Columns Setup

For any table opened in any mode, it is possible to choose the displayed columns. This is done by clicking **Columns Setup** in the toolbar:



In the **Columns setup** dialog, you can **choose which columns to display, move column relative position** and **choose header labels** and **referenced data display mode**. The latter two options will put corresponding icons next to the column name; they are provided in the description below.

3.1.1 In Table Headers Display

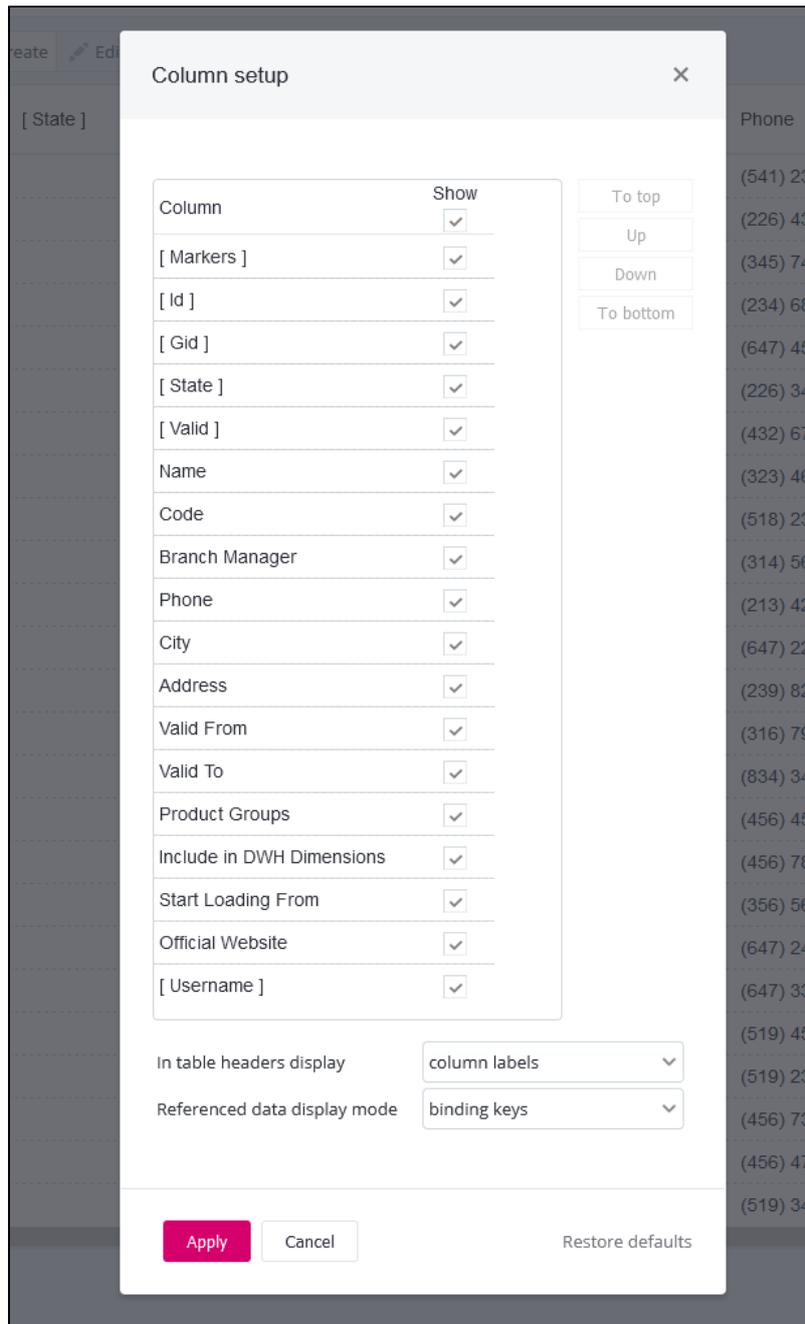
In table headers display determines what column names for the given table will be shown:

- **column labels** - labels defined in the back-end
- **column IDs**  - column names as seen in the database

3.1.2 Referenced Data Display Mode

Referenced data display mode determines how parent attributes will be showed in the current (child) table. This field and combo-box will be displayed only if the current table has any parent tables. The display options are the following:

- **labels**  - the defined label column values will be displayed
- **generated keys**  - RDM-generated *GID* values will be displayed
- **binding keys**  - the actual value of the binding key between the tables will be displayed



3.2 Column Sorting and Adjustment

RDM enables **column width adjustment** and **sorting by column**. Other convenient column width options accessible by right-clicking any column are:

- **Autofit current column** - set current column width according to its longest value.
- **Autofit all columns** - set all columns width according to their longest value.

- **Scale columns to page width** - all columns will be resized to fit the browser window.
- **Set current column width** - set the size of the column in pixels.

200: Product										
	[Id]	[Gic]	[State]	[Valid]	GUID	Product Code	Preferred Name	Long Name	Short Name	
<input type="checkbox"/>	1	2		✓	01_f			Accoun...	Student Acc...	PRC1010
<input type="checkbox"/>	2	3		✓	01_f			Accoun...	Student Acc...	PRC1020
<input type="checkbox"/>	3	4		✓	01_f			Accoun...	Student Acc...	PRC1030
<input checked="" type="checkbox"/>	4	5	Edited	✓	01_f			Accoun...	Student Acc...	PRC1040
<input type="checkbox"/>	5	6		✓	01_PT...	PRC1050	Chequing Accou...	Chequing Ac...	PRC1050	
<input type="checkbox"/>	6	7		✓	01_PT...	PRC1060	Small Business...	Small Busin...	PRC1060	
<input type="checkbox"/>	7	8		✓	01_PT...	PRC1070	Foreign Curren...	Foreign Cur...	PRC1070	
<input type="checkbox"/>	8	9		✓	01_PT...	PRC1080	Foreign Curren...	Foreign Cur...	PRC1080	
<input type="checkbox"/>	9	10		✓	01_PT...	PRC1090	Foreign Curren...	Foreign Cur...	PRC1090	
<input type="checkbox"/>	10	11		✓	01_PT...	PRC1100	Savings Accoun...	Savings Acc...	PRC1100	
<input type="checkbox"/>	11	12		✓	01_PT...	PRC1110	Savings Accoun...	Savings Acc...	PRC1110	
<input type="checkbox"/>	12	13		✓	01_PT...	PRC1120	Savings Accoun...	Savings Acc...	PRC1120	
<input type="checkbox"/>	13	14		✓	01_PT...	PRC1130	Savings Accoun...	Savings Acc...	PRC1130	

3.3 Filters

When opening an entity from the navigation panel, a list of records is pre-loaded. You can narrow down the record listing by applying a filter.

1. Click **Filter** – the filtering pane opens.
2. Click **Add condition** to add the first attribute into your search definition. Alternatively, right-click your desired attribute and select **Add value to filter** to automatically add it to the filter.
3. Select the search operator: =, contains, etc.
4. Change case sensitivity if necessary.
5. Add **Add condition** again to search by one more attribute.
6. Change the AND/OR operator between conditions.
7. Click **Filter** – the record listing changes to reflect the filter conditions.

Filter options are dependent on the operator data type. For example, if you are searching for **City** the option to filter using **contains** will be available, but this will not be available if you are searching for **Valid To**.

The screenshot shows the '102: Branch' filter configuration interface. At the top, there is a 'Filter' button (highlighted in red) and a star icon. Below this, the configuration is set to 'City contains' and 'Valid To ='. The 'AND' operator is highlighted in red. To the right, there is an 'Add condition' button (highlighted in red). Below the configuration, there is a 'Toggle between and/or operator' label and a 'Filter' button (highlighted in red). Other buttons include 'Clear', 'Discard', and 'Save'.

3.3.1 Advanced Filter

Use the advanced filter or combine it with the basic filter when the basic filter alone is not enough. It functions similarly to the WHERE SQL clause and uses SQL-like syntax. To get started:

1. Click **Filter** – the filtering pane opens.
2. Switch to the **Advanced filter** tab.
3. Type your query.
4. Click **Apply**.

Step 1: Use **Ctrl+Space** to get a list of all columns. Column names are case-sensitive and must be in double quotes if they contain more than one word.

Step 2: Next, set the filtering rules using operators and/or functions. Operators are not case-sensitive, but functions are. Operators appear in purple in the advanced condition box. The following are supported:

- Operators: LIKE, ESCAPE, FALSE, TRUE, NULL, CASE, IS, IN, =, <>, >, >=, <, <=, IS NOT NULL, ISNULL, NOTLIKE, LIKEESCAPE, NOTLIKEESCAPE, LIST, FUNC
- Logical operators: AND, OR, NOT
- Functions: upper, lower, length, concat, now, toDate, toDateTime, substring

Step 3: To define the criteria, state what value you are filtering by. Values must be in single quotes and are case-sensitive. They appear in **red** in the advanced condition box.

Examples

These examples show possible advanced filter use cases.

1. **Combining AND/OR operators:** You want to find a woman (Diana) who recently got married and changed her surname from her maiden name (Jones) to her married name (Smith), but are unsure which name is in her record detail.

Advanced filter condition: "First Name" = 'Diana' AND ("Last Name" = 'Jones' OR "Last Name" = 'Smith')

2. **IN operator:** You want to find all clients located in Toronto and Vancouver.

The IN operator is used instead of multiple OR operators.

Advanced filter condition: City IN ('Toronto', 'Vancouver')

3. **to_date function:** You want to find all the records of people born before January 1st, 1980. You must define both the date and its format.

Advanced filter condition: "Birth Date" < toDate('1.1.1980', 'd.M.yyyy')

4. **Now function:** You want to find all products past their expiration date.

Advanced filter condition: "Expiration Date" < now()

5. **Substring function:** You want to find records of people whose names contain the letters 'mi' as the second and third letter.

You must define the value ('mi'), the operator (=) and the substring function. The substring function is defined as substring("Column Name", start index, length of value). It is possible to use a substring within a substring. Advanced filter condition: 'mi' = substring("First Name", 1, 2)

6. **Like operator:** You want to find a record of a person, but are not sure how to spell his name. To substitute one symbol, use the underscore ('Jo_' could return Jon). To substitute more than one symbol, use the percentage sign ('Jo%' could return Jon, John, Jonathan).

Advanced filter condition: "First Name" LIKE 'Jo%'

Advanced Filter Syntax

- Column names that contain spaces should be in double quotes, e.g., "First Name" but City. Use Ctrl+Space to get a list of columns.
- Wildcard expressions:

Wildcard symbol	Meaning	Example
_	Matches exactly one symbol	Jo_ matches Jon but not John.
%	Matches one or more symbols	Jo% matches Jon, John, and Jonathan.

Advanced Filter Examples

- "First Name" IN ('John','Smith') AND "Last Name" IN ('John','Smith')
- "First Name" LIKE 'Jo__'
- "Postal Code" NOT LIKE 'M__ ___' AND City = 'Toronto'
- "Postal Code" >= 'M4%' AND "Postal Code" <='M6%'

The filter icon is highlighted when the filter is turned on.

3.3.2 Saving Filters

It is possible to save filters as well as view the 100 most recently applied filters by clicking the **star icon** and toggling the **My Saved Filters** and **Search History** options. Saved filters are displayed alphabetically while search history is displayed chronologically.

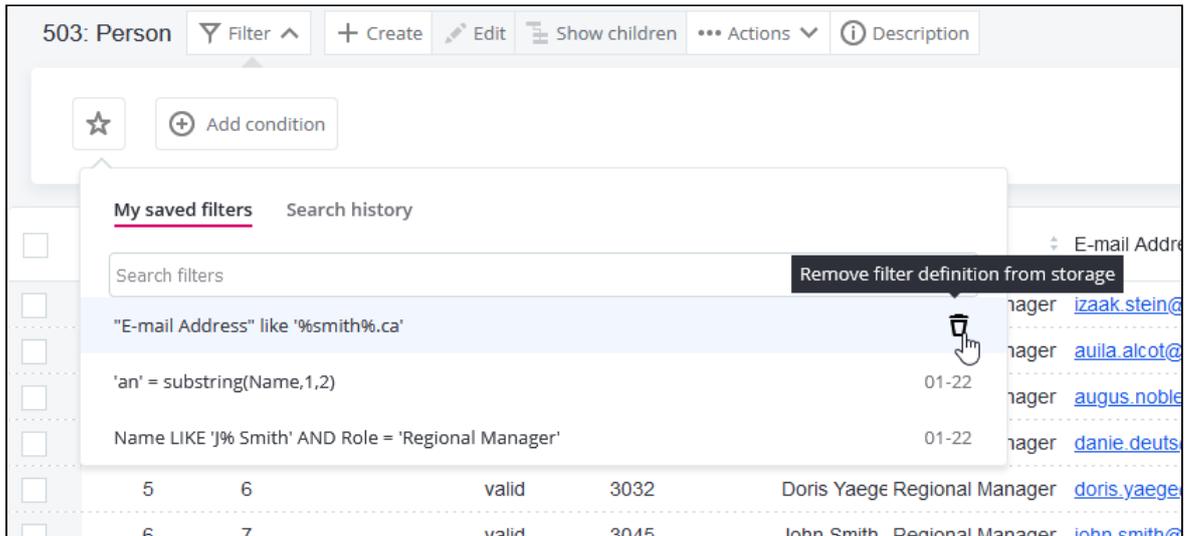
To save a filter:

1. Enter the filter parameters.
2. Click **Save**.
3. In the dialog box, you can enter a filter name. Once a filter is saved, it can no longer be renamed.
4. Click **OK**.

To delete your saved filter:

1. **Hover** over the saved entry.

2. In the right corner, **click the bin icon.**



3.4 Viewing Changes in the Data

To see the changes in an edited record simply hover over the changed attributes to see the last published and the edited (current) value of the attribute.

503: Person									
[Id]	[Gi	[State]	[Valid]	Employ	Name	Role	E-mail Address	[Username]	
1	2		✓	3007	Izaak Steinert	Region...	izaak.stein@ex...		
2	3		✓	3011	Auila Alcot	Region...	auila.alcot@ex...		
3	4		✓	3016	Augustin Noble	Region...	augus.noble@ex...		
4	5	Edited	✓	3027	Danielle Deutsch	Region...	danielle.deut...	admin	
5	6		✓	3027	Danielle Deutsch	Region...	doris.yaege@ex...		
6	7	Waitin...	✓	3027	Danielle Deutsch	Admin...	john.smith@exa...	admin	
7	8		✓	3027	Daniel Deutsch	Region...	miner.dupre@ex...		
8	9		✓	3027	Daniel Deutsch	Region...	lanni.claba@ex...		
9	10		✓	3082	Creigh Macaulay	Region...	creig.macau@ex...		
10	11		✓	3599	Ratti Egbert	Region...	ratti.egber@ex...		
11	12		✓	5003	Lanni Clabaugh	Sales ...	lanni.claba@ex...		
12	13		✓	5005	Pauletta Scola	Sales ...	paule.scola@ex...		
13	14		✓	5028	Ludlew Lisk	Sales ...	ludle.lisk@exa...		

3.5 Viewing Record Details

For fuller information on changes and other information about any given record, simply **double-click** it.

The **Record detail** dialog will open in a separate tab showing the value of four default columns on top:

- **[Id]** - Record id.
- **[State]** - Record edit state: new (indicated by a green dot), edited (indicated by an orange dot), or deleted (indicated by a red dot). To know more about record edit states, see [Getting Started with RDM](#), section Record Edit States.
- **[Workflow state]** - Record workflow state (depends on the configuration). To know more about workflows, see [Moving Records Through RDM Workflows](#).
- **[User]** - The user that has made the latest change.

Name	Edited	Published	Validation
Name	Progress & Grangeway	Progress & Grangeway	✓
Code	Winnipeg010	Winnipeg010	✓
Branch Manager	● Vanessa Lewinsky	Izaak Steinert	✓
Phone	● (239) 823-4824	(239) 823-4823	✓
City	Winnipeg	Winnipeg	✓
Address	119 Grangeway Ave	119 Grangeway Ave	✓
Valid From	1980 Jan 1 06:00:00	1980 Jan 1 06:00:00	✓
Valid To	2025 Dec 31 06:00:00	2025 Dec 31 06:00:00	✓
Product Groups	Credit Cards Cheques ...	Credit Cards Cheques Home Buyin...	✓
Include in DWH Dimensions	True	True	✓
Start Loading From			✓
Official Website	www.progressgrangeway-examp...	www.progressgrangeway-example.ca	✓

Validation results

All messages Global messages

Table attributes are displayed in a table showing their **Edited** and **Published** values. The **Validation** column displays any problems with validation that might exist for a given attribute. The details are displayed in the panel below.

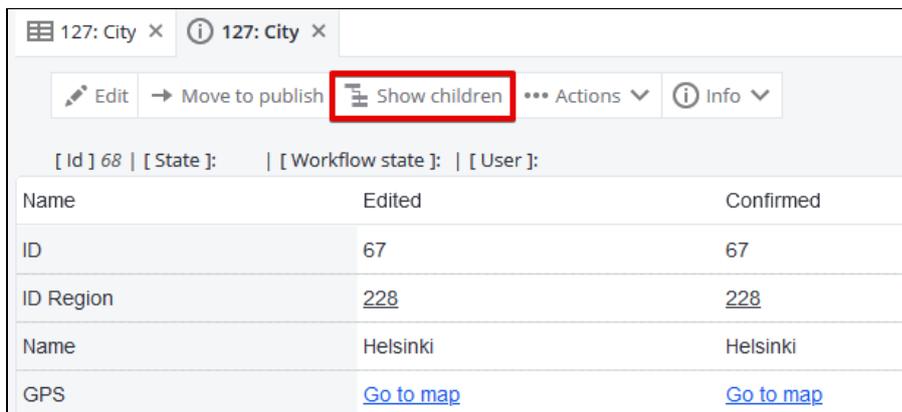
An orange dot next to an attribute name indicates that the attribute value has been edited.

Upon clicking the link-like attribute values, like *Izaak Steinert* and *Winnipeg* in the figure above, a detail for the corresponding parent record will be opened in a new tab.

Other records detail features are described below.

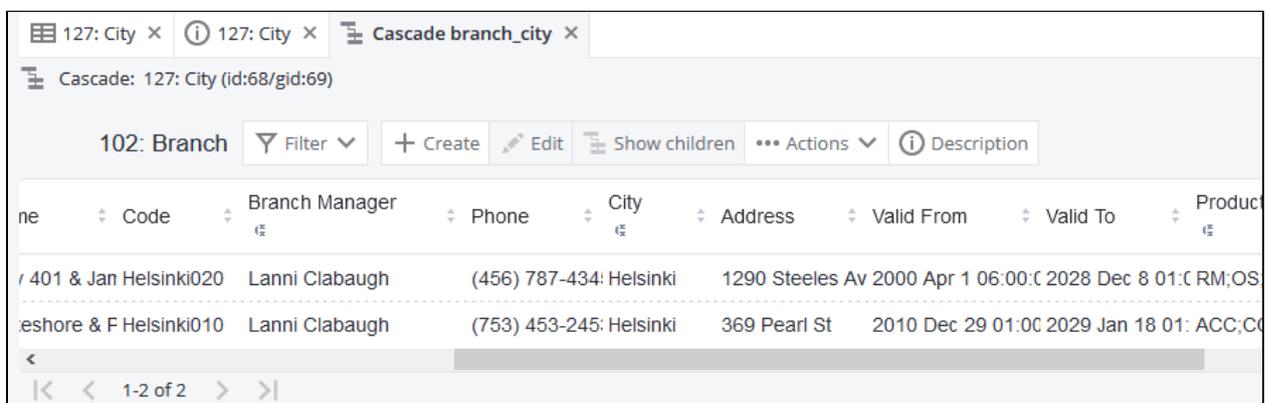
3.5.1 Show Children

To view children of a given record, click **Show children** from the toolbar of the record detail. Alternatively, navigate to **Hierarchies** in the left-hand toolbar and chose a hierarchy, expand the entities and right-click to show **Create child** and **Show children** options.



Name	Edited	Confirmed
ID	67	67
ID Region	228	228
Name	Helsinki	Helsinki
GPS	Go to map	Go to map

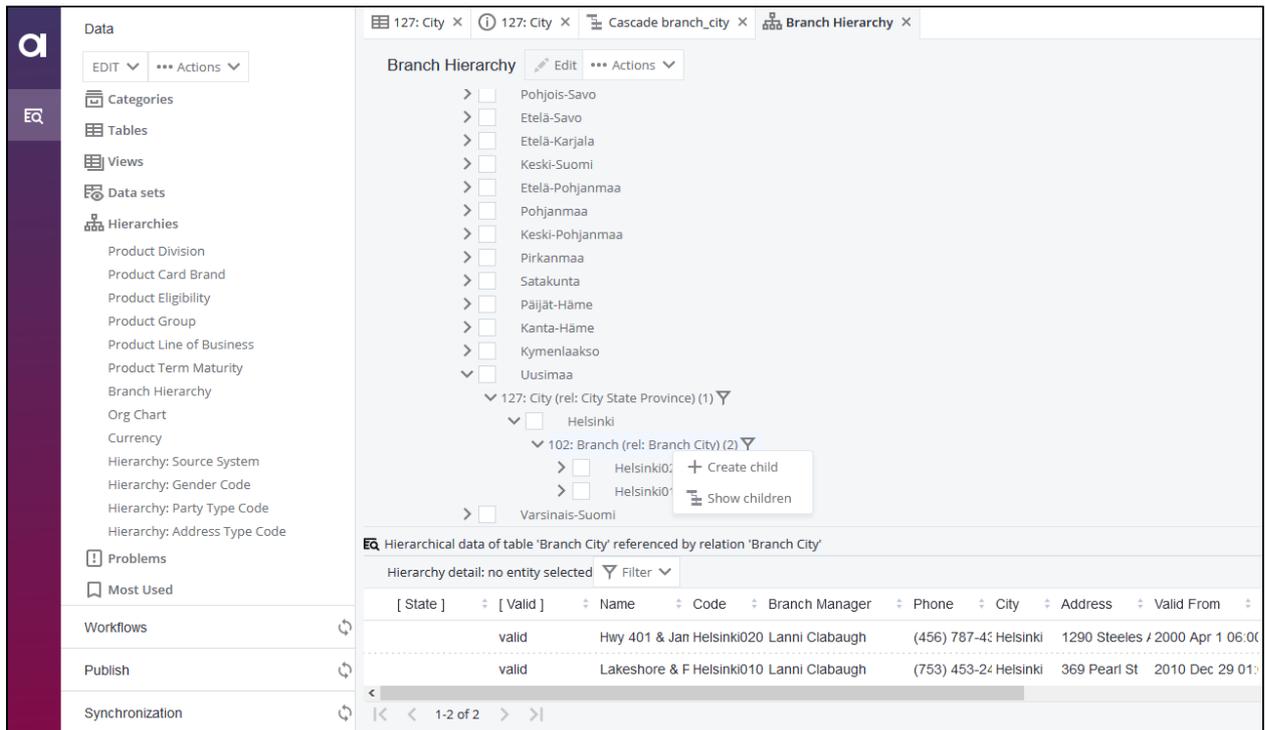
A cascade dialog opens. On the screenshot below, the child table *102: Branch* takes the value of the city (Helsinki) from the parent table *127: City*.



Code	Branch Manager	Phone	City	Address	Valid From	Valid To	Product
401 & Jan Helsinki020	Lanni Clabaugh	(456) 787-434	Helsinki	1290 Steeles Av	2000 Apr 1 06:00:00	2028 Dec 8 01:00:00	RM;OS
eshore & F Helsinki010	Lanni Clabaugh	(753) 453-245	Helsinki	369 Pearl St	2010 Dec 29 01:00:00	2029 Jan 18 01:00:00	ACC;C

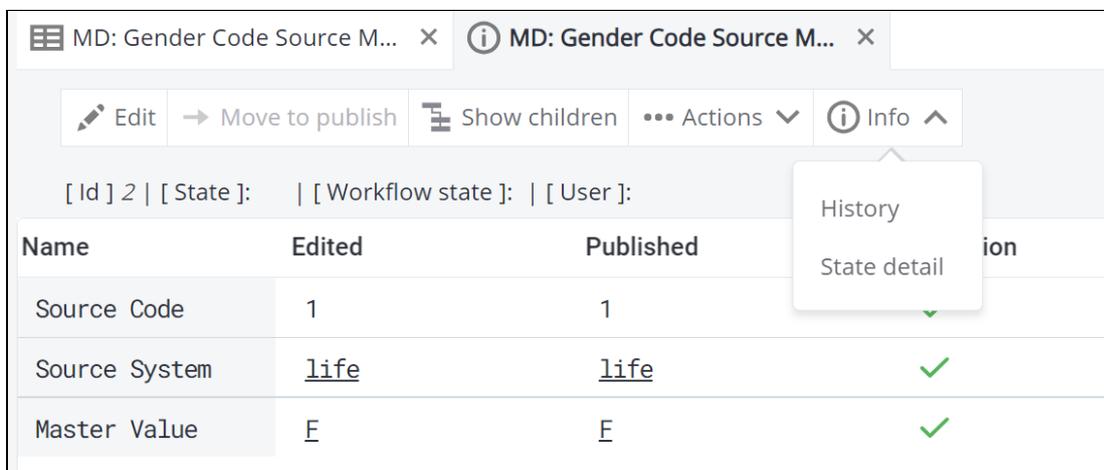
3.5.2 Hierarchies

To view parent-child relationships in the data, navigate to **Hierarchies** in the left-hand toolbar. Here you can expand each entity to display the child records. Alternatively, right-click and select **Show children**. You can also create new child records for the chosen entity, to do this, right-click and select **Create child**.



3.5.3 History

To view record history, select **Info > History** from the record detail toolbar.

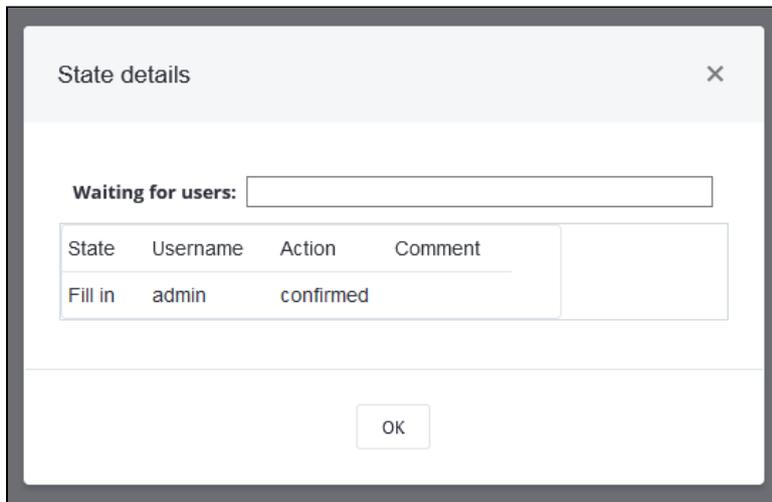


The table that opens shows a different version of the record per line, specifying the validity period for each version (**Date from** and **Date to** default columns) as well as values of each attribute.

3.5.4 State Detail

To view the history of the record workflow state, select **Info > State detail** from the record detail toolbar.

If a workflow for the given table and action (Create, Edit, Delete) is configured (more in [Moving Records Through RDM Workflows](#)) and the record is edited, **State details** dialog show the history of workflow actions performed and current pending action. In the screenshot below, user *admin* moved the record in the workflow, and now no one else is required to perform any action before the record can be sent to publishing.



3.6 Viewing Table Details

To see detailed information about a table, click **Description** from the toolbar.



The **Table description** dialog opens, containing the following tabs:

- **Table** - contains the *Name* and *Label* of the table, its *Description*, *Owner* and *Owner of additional attributes*, *Support in systems* (connected systems) and your privileges for the given table (*Edit*, *Delete*, *Create*, *Publish*).
- **Columns** - lists column metadata, such as *Label*, *Name* and data type (default columns, like *State*, *Valid* or *Username* are not displayed), *Required* and *Read Only* flags as well as *Validator parameters* and *Description*.
- **Relationships** - lists the relationships between tables in the data model, specifying the relationship *Name*, *Parent table*, *Child table*, the child *Columns* and *Parent Columns*.
- **Unique keys** - lists tables' unique keys and their constituent columns.
- **Row restrictions** - displays any applied, user-defined SQL restrictions.
Configuring row-based restrictions is described in [Setting Permissions in RDM](#).

- **Business Dates** - displays the information about the business dates columns and infinity (minimum and maximum values) settings. See [Versioning Records in RDM](#) for more information.

Table description

Table Columns Relationships Unique keys Row restrictions

Name **product** | Label **200: Product**

Description

Product list

Owner

Owners of additional attributes

Support in systems **FLEX**

Edit | Delete | Create | Publish

Close

3.7 Switching Between Related Entities

To quickly switch between related entities, click on the table button to the left of the table title. A drop down will show the related entities.

MD: Party Type Source Ma... x

MD: Party Type Source Mapping ^ MD: Party Type Source Mapping Filter v + Create Edit ... Act

State]	[Valid]	Source Code	Source System	Master Value
	valid	0	life	P
<input type="checkbox"/>	valid	1	life	C
<input type="checkbox"/>	valid	B	crm	C
<input type="checkbox"/>	valid	C	life	C
<input type="checkbox"/>	valid	C	sor	C
<input type="checkbox"/>	valid	P	crm	P
<input type="checkbox"/>	valid	P	life	P
<input type="checkbox"/>	valid	P	sor	P

1-8 of 8 < >

4 Working with Records in RDM

This chapter describes how and which changes to data in RDM are performed.

The features described on this page require you to open a table in the EDIT mode. For the changes to take effect, they need to be published. See [Publishing Changes in RDM](#) for more information.

4.1 Creating Records

1. To add a new record to a table, click **Create** in the toolbar.

In case you want to create a record duplicating some attributes of an already existing record, go to **Tables**, select the record and then click **Create**. This will copy all attribute values to the new record. You can then modify them as needed.

2. Fill in the record information. If an issue is reported, check the validation messages for more information about how to solve it (see [Record Validation](#)).
Validation errors on the row level are shown in a banner at the top of the record detail screen. For attribute level errors, hover over the warning or error icon to learn more.
Make sure to fix the errors before moving on to the next step as otherwise your changes cannot be saved.

☰ Create record
✕

✓ Validate
1 attribute has issues

⚠ Unique key 'Empl_ID' violated.

Employee ID *	5028	⚠
Name *	Adam Newman	
Role *	Regional Manager	▼
E-mail Address	a.newman@example.ca	

Publish
▼
Discard changes

If there are any attributes of Boolean type, the field is by default empty.

Include in DWH Dimensions
Click here to check

Click once to set the value to `true` and then switch between `true` or `false` as needed. You can also clear the field to leave it empty (select **X**).

Include in DWH Dimensions

True

✕

If your instance of RDM is configured to use a checkbox for Boolean values instead, select or clear the checkbox accordingly.

For attributes of datetime type, the following elements are supported:

- Hours (either 12-hour or 24-hour clock)
- Minutes
- Seconds
- AM/PM switch: Displayed if the datetime pattern in the domain configuration uses one of these characters: a, h, K (as defined in the [GWT datetime pattern documentation](#)).

The screenshot shows a 'Create record' form for a Branch entity. The form includes the following fields and values:

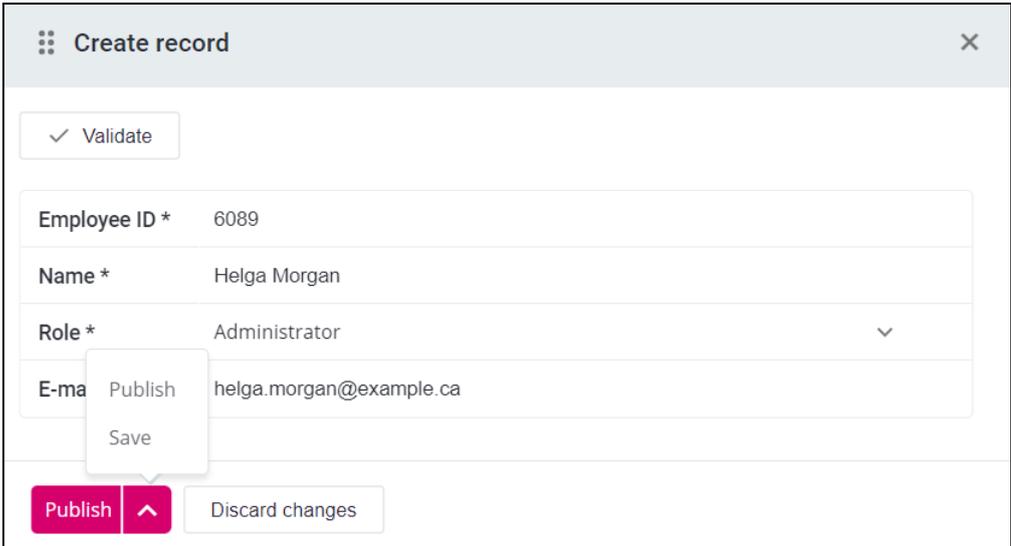
Field	Value
Name *	Johnson & C
Code *	Ajaccio
Branch Manager *	Gregory K TH
Phone *	(541) 234-58
City *	Ajaccio
Address *	95 Locke St
Valid From	1980 Jan 1 06:00
Valid To	2025 Dec 31 06:00
Product Groups	Accounts, Cash Management, Lines of Credit, Plans
Include in DWH Dimensions	<input type="checkbox"/> False
Start Loading From	1980 Apr 2 06:00
Official Website	www.lockemain-...e.ca

The date picker is open over the 'Valid From' field, showing a calendar for January 1980 with the 1st highlighted. Below the calendar is a time picker showing 06:00:00.

The 12-hour clock supports using the following range of digits: 1-12. For example, you can combine this with the AM/PM switch to display midnight as 12:00 AM and noon as 12:00 PM. If K is used to define the datetime pattern (in the domain configuration), the AM/PM switch is displayed but the value is converted from the 0-11 range to 1-12.

You cannot edit milliseconds using the time picker. To modify them, directly edit the relevant part of the datetime value (for example, sss). This value is not overwritten if you use the time picker to provide other datetime parts.

3. To save the record for further publishing, select **Save** from the actions menu. To publish the record immediately, select **Publish** or choose **Publish** from the actions menu.



The screenshot shows a 'Create record' form with the following fields and actions:

- Validate**: A button with a checkmark icon.
- Employee ID ***: Text input containing '6089'.
- Name ***: Text input containing 'Helga Morgan'.
- Role ***: Dropdown menu showing 'Administrator'.
- E-mail**: Text input containing 'helga.morgan@example.ca'.
- Actions**: A menu with 'Publish' and 'Save' options.
- Buttons**: A red 'Publish' button and a 'Discard changes' button.

4. If you saved the changes in the previous step, you need to send record to publishing (see [Move to Publish](#)).

A green dot is used to label new records. The dot is displayed at the beginning of the row.

4.1.1 Record Validation

When viewing record details, detected issues are directly displayed on fields:

- **Error:** The attribute does not comply with validation parameters and, if applicable, the online validation.
- **Warning:** The attribute complies with validation parameters but does not pass the online validation.

Hover over the issue icon to find out more about what caused the issue and how to fix it. If there are no issues reported, it means the attribute passed all validations applied.

Records are validated in real time, as soon as you update an attribute value. For more information about validity in RDM, see [Record Validity](#).

Edit record

Enrich Validate 2 attributes have issues

Name * Steeles & Laureleaf

Code * [Red error icon]

Branch Manager * Gregory K Thoben

Phone * (345) 745-7632

City * Ajaccio [EQ icon]

Address * 1595 Steeles Ave E

Valid From * 222 Jan 1 06:00:00 [Yellow warning icon]

Valid To * 2025 Dec 30 00:00:00

Product Groups: International Banking Services, Accounts, Credit Cards, Cash Management, Lines of Credit and Loans

Include in DWH Dimensions: False

Start Loading From

Official Website: www.steeleslaureleaf-example.ca

Update children recursively

Save Discard changes

WARNING Column 'valid_from' is smaller than 'Mon Jan 01 01:00:00 GMT+100 1900'.

Address	Valid From
95 Lock...	1980 Jan ...
3069 Ma...	1980 Jan ...
1595 St...	1980 Jan ...
190 Wyn...	1980 Jan ...
3039 Ma...	1980 Jan ...
1940 Eg...	1980 Jan ...
409 Bav...	1980 Jan ...
4359 Hu...	1980 Jan ...
1921 Ke...	1980 Jan ...
2965 Ar...	1980 Jan ...
2509 Th...	1980 Jan ...
7069 Wa...	1980 Jan ...
119 Gra...	1980 Jan ...
595 Con...	2000 Apr ...
1249 Eg...	2000 Apr ...
6911 De...	2000 Apr ...
1290 St...	2000 Apr ...
2495 Ap...	2000 Apr ...
649 Yon...	2000 Apr ...
99 Map1...	2000 Apr ...

4.1.2 Lookups

Some attributes are filled in from parent tables using lookups. There are three possible kinds of lookup display:

- **Window lookup** - Opens the parent table displaying all database attributes (i.e., excluding RMD [default](#) ones); allows choosing one value. Alternatively, start typing into the field. This displays the values containing the input expression.
- **Combo-box lookup** - Allows choosing one parent attribute from the list, without showing any additional attributes.

- **Multi-value lookup** - Allows choosing several parent attributes from a parent table, similar to the window lookup. The buttons have the following functions:
 -  - Opens a dialog for adding parent attribute values.
 -  - Opens a dialog for removing parent attribute values.
 -  - Removes all added parent attribute values.

4.1.3 Enrich and Validate

When configured, **Enrich** fills in one or several attributes based on one of several attribute values. For example, in the previous image (in section **Record Validation**), the **Code** field can be filled in by the *Enrich* functionality based on the **Name** field and the number of semicolon-separated values in the **Product Groups** field. Other cases might use lookups for filling in information based on a code. The *Enrich* functionality is configured in the RDM backend.

When configured, **Validate** performs complex online validations of applicable fields. For more information, see [Record Validity](#).

Records are validated immediately after a value is changed. However, you can also manually validate data at any point.

4.2 Editing Records

When making changes to data, RDM locks the table you are working with as well as any tables with a relationship to that table.

To edit a record:

1. Open an existing table.
2. Select a record and click **Edit** from the toolbar.
3. Fill in the attribute in the **Edit detail** dialog.
4. Check the **Update children recursively** checkbox.
5. Select **Publish > Save** to save changes and display record detail, or select **Publish** to publish the changes immediately.
6. If you saved the changes in the previous step, you need to publish changes (see [Move to Publish](#)).

See [Creating Records](#) for more information about the **Edit detail** dialog.

The **Update children recursively** checkbox must be selected when the edited record has child records. Otherwise, editing records results in an `Inconsistent column value with parent` error with the child tables, making the affected records invalid and changes (editing) unpublishable. You can view child records by clicking **Show children** in the record detail. See [Show Children](#) for more information.

Note, however, that you must have editing permissions on the given table. If you do not, the edited record will still be unpublishable due to the same error.

If the record has been edited by someone else, it is locked for editing for other users. However, if you have editing rights and want to edit the record, select it and click **Action > Assign to me** from the toolbar. You can now edit the record.

An orange dot is used to label edited records and attributes. The dot is displayed at the beginning of the row for records and next to the modified attribute on the record detail screen.

4.2.1 Editing Several Records

Editing several records simultaneously is available in RDM through the *Multi edit* feature. This feature is useful for cases when several records need to have one or several attributes changed to the same value.

To edit several records:

1. Open an existing table.
2. Select the records for editing in one of the two ways:
 - Select manually with checkboxes.
 - Apply a filter. For more information on filters, see [Filters](#).
3. Click **Action > Multi edit** from the toolbar of the opened table.
4. In the **Edit more rows** dialog, select either **Use selected rows** or **Use all rows currently filtered** depending on your selection method in the previous step.
5. Click **Add columns** in the next dialog.
6. In the **Add columns** dialog, select the columns to edit and click **Select**.

7. In the subsequent **Edit detail** dialog, fill in the details for the selected rows. You can add and remove the attributes to be edited using **Add columns** and **Delete columns** options (select columns to be deleted first).
8. Click **OK** to finish.
9. Publish changes (see [Move to Publish](#)).

The *Multi edit* feature is only available in **Tables**.

An orange dot is used to label edited records and attributes. The dot is displayed at the beginning of the row for records and next to the modified attribute on the record detail screen.

4.3 Deleting Records

To delete one or several records:

1. Open an existing table.
2. Select the records for deleting in one of the two ways:
 - Select manually with checkboxes.
 - Apply a filter. For more information on filters, see [Filters](#) .
3. Click **Action > Delete** from the toolbar of the opened table.
4. In the confirmation dialog, select either **Use selected rows** or **Use all rows currently filtered** depending on your selection method in the previous step.
5. Select **Recursively** if you are deleting rows with parent attributes.
6. Click **OK** to confirm.
7. Publish changes (see [Move to Publish](#)).

The **Recursively** checkbox must be selected when deleting records with attributes used directly in child tables. Otherwise, deleting records results in a `Rows with non-existing parents` error with the child tables, making the affected records invalid and changes (deletion) unpublishable.

Note, however, that you must have delete permissions on the given table. If you do not, the deleted record will still be unpublishable due to the same error.

A red dot is used to label deleted records. The dot is displayed at the beginning of the row.

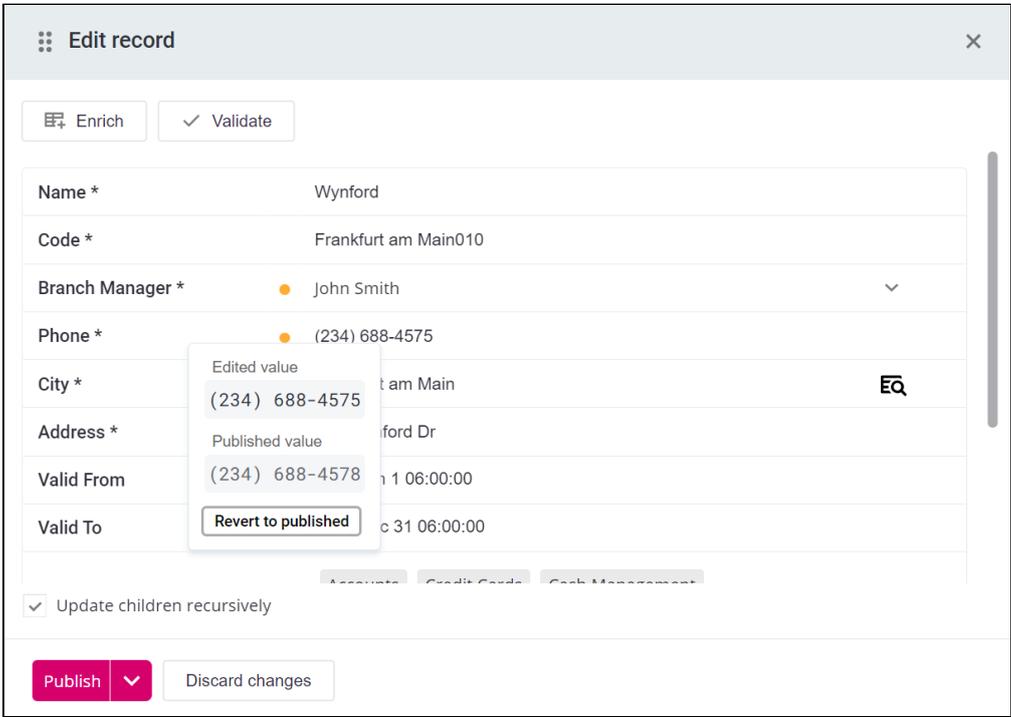
4.4 Undoing Changes

4.4.1 Reverting Single Record Change

It is possible to undo a change made to a specific attribute value and restore the edited value to the last published state.

To do so:

1. Open an existing table.
2. Select the record for which you need to revert changes.
3. Select **Edit** in the toolbar to open the **Edit** dialog.
4. Click the orange dot to see the current and the published value.



The screenshot shows the 'Edit record' dialog box with a comparison overlay for the 'Phone' field. The overlay displays the 'Edited value' as '(234) 688-4575' and the 'Published value' as '(234) 688-4578'. A 'Revert to published' button is visible in the overlay. The dialog also includes fields for Name, Code, Branch Manager, City, Address, Valid From, and Valid To, along with a 'Publish' button and a 'Discard changes' button.

Field	Edited value	Published value
Name *	Wynford	Wynford
Code *	Frankfurt am Main010	Frankfurt am Main010
Branch Manager *	John Smith	John Smith
Phone *	(234) 688-4575	(234) 688-4578
City *	Frankfurt am Main	Frankfurt am Main
Address *	Wynford Dr	Wynford Dr
Valid From	2023-01-01 06:00:00	2023-01-01 06:00:00
Valid To	2023-12-31 06:00:00	2023-12-31 06:00:00

5. Select **Revert to published**.

Currently, this functionality is only available for attributes that do not compose the foreign key of the record.

4.4.2 Reverting All Record Changes

In order to quickly cancel all changes made to the record, use the *Restore* feature.

The *Restore* feature is available only for records in the *Edited* state and only for the user who performed the operation. Records moved further down the workflow must first be returned to the edit state first.

The *Restore* feature will completely remove newly created records that were not published.

To undo changes:

1. Open an existing table.
2. Select the records to undo in one of the two ways:
 - Select manually with checkboxes.
 - Apply a filter. For more information on filters, see [Filters](#).
3. Click **Action > Restore** from the toolbar of the opened table.
4. In the **Restore** dialog, select either **Use selected rows** or **Use all rows currently filtered** depending on your selection method in the previous step.
5. Click **OK** to finish.

4.5 Marking Records for Later Use

In case there is a need to earmark certain records for further work or publishing (not to publish records edited by someone else), RDM provides the possibility to add such records to the *Cart*.

4.5.1 Adding Records to the Cart

To add records to the cart in the opened table:

1. Select the desired records.
2. Click **Action > Add to cart**.

After this, the records will have a cart icon  in the corresponding column. Now when you switch from the [editing mode](#) to CART, you will see only the records you have added to the cart.

4.5.2 Removing Records from the Cart

To remove records from the cart in the opened table:

1. Select the desired records.
2. Click **Action > Remove from cart**.

After this, the cart icon in the corresponding column disappears.

4.6 Move to Publish

Before becoming available for publishing to users with corresponding privileges, the changes made to a record (create, edit, or delete) must first be saved as final by the user who made them. This is done with the **Move to publish** feature.

To send a record to publishing:

1. Open an existing table.
2. Select the records for moving to publish in one of the two ways:
 - Select manually with checkboxes.
 - Apply a filter. For more information on filters, see [Filters](#) .
3. Click **Move to publish** in the *Features Bar* of the opened table.
4. In the **Move to publish?** dialog, select **Use selected rows** or **Use all rows currently filtered** depending on your selection method in the previous step.
5. Click **OK** to finish.

4.6.1 The Result

After you send records to publishing, the record state (displayed in the [**State**] column will change either to *Waiting for publishing*, which means that it is ready for publishing or to the next workflow state if a workflow is defined for the current table. In the latter case, the record is not available for publishing until it passes all necessary workflow stages. For more information on workflows, see [Moving Records Through RDM Workflows](#). For information on publishing records, see [Publishing Changes in RDM](#).

For users with Publish permissions, it is possible to publish changes directly from the create or edit dialog. To learn more, see [Publishing Changes in RDM](#).

4.7 Return to Edit

The *Return to Edit* feature reverts the record to the *Edited* state of the workflow after it has been [moved to publish](#). This feature is reserved for users with the publishing permission.

To return one or several records to the *Edited* state:

1. Open an existing table.

2. Select the records in one of the two ways:
 - Select manually with checkboxes.
 - Apply a filter. For more information on filters, see [Filters](#) .
3. Click **Action > Return to edit** from the toolbar of the opened table.
4. In the *Return to edit state?* dialog, select **Use selected rows** or **Use all rows currently filtered** depending on your selection method in the previous step.
5. Click **OK** to finish.

4.8 Records Participated in Bulk Operation

When performing some actions in RDM, you might encounter the following message: *Records participated in bulk operation. Should I apply action to whole bulk operation?*

This means that the record on which you are trying to perform undo, return to edit, or move to publish operations has been edited or deleted recursively, affecting child records. Therefore, you are asked whether you want to perform the current action on the affected child records as well, that is, recursively. In most cases, you need to confirm. Recursive editing and deleting is described in previous sections.

4.9 Versioning Records in RDM

Reference Data Manager supports versioning of records, i.e., a possibility to create multiple versions of the same record with different validity intervals. The beginning and the end of the validity interval is stored in special columns – called business date columns – assigned with those properties in the table properties. Validity intervals of a child record must correspond to those of the parent record.

Record Versioning Example

The RDM table below demonstrates record versioning on the example of a machinery part, whose code changes on 2015-03-14. Since this information is available beforehand, the value can be entered into RDM even before it becomes valid (e.g., the data manager enter this information on 2015-02-15). The convenience lies in the ability to enter such information ahead of time as soon as the information about a change becomes available.

[Id]	[Gid]	Part Specification	Valid From	Valid To
33	1	QIX-102-A	2000-01-01	2015-03-13
34	1	QIX-201-C	2015-03-13	2099-01-01

The *GID* attribute is the attribute that groups the same records with different values in different intervals.

4.9.1 Creating a New Record Version

To check whether a table has business date columns configured, click **Description** from the Toolbar.

To create a new version of the record:

1. Select a record and click **Action > Split rows**.
2. Keep **Use selected rows** selected and click **OK**.
3. Choose the versioning option. See [Versioning Records in RDM](#).
4. Click **OK** to finish.

4.9.2 Versioning Options

Let us take a look at the options for creating new record versions with the following sample record:

[Id]	[Gid]	Part Specification	Valid From	Valid To
33	1	QIX-102-A	2000-01-01	2015-03-13

Before Selected Record Version

This option will simply create a new record with the **Valid From** column equal to the minimum date defined the RDM back-end.

The option is usually used in special cases, e.g., when it is necessary to align the beginning of validity of all records in the table to a specific date.

Having the the minimum date set to 1900-01-01, we get the following outcome:

- The original record version interval does not change.
- The new version starts to be valid at the pre-defined minimum allowed date and stops to be valid immediately before the original version starts to be valid.

When	[State]	[Id]	[Gid]	Part Specification	Valid From	Valid To
Before		33	1	QIX-102-A	2000-01-01	2015-03-13
After		33	1	QIX-102-A	2000-01-01	2015-03-13
	●	34	1	QIX-201-C	1900-01-01	2000-01-01

After Selected Record Version

This option will simply create a new record with the **Valid To** column equal to the maximum date (defined in the RDM back-end).

The option is usually used in special cases, e.g., when it is necessary to align the end of validity of all records in the table to a specific date.

Having the maximum date set to 2099-12-31, we get the following outcome:

- The original record version interval does not change.
- The new version starts to be valid immediately after the original version ends being valid and stops to be valid at the pre-defined maximum allowed date.

When	[State]	[Id]	[Gid]	Part Specification	Valid From	Valid To
Before		33	1	QIX-102-A	2000-01-01	2015-03-13
After		33	1	QIX-102-A	2000-01-01	2015-03-13
	●	34	1	QIX-201-C	2015-03-13	2099-12-31

Custom (As Valid From)

Using the **Custom (as valid from)** option, it is possible to create a new record version beginning or ending with the date entered. The outcome will depend on where the date is placed in regards to the original record's validity interval.

Let's look at the three main scenarios:

- The entered date is inside the original record's validity interval.
- The entered date in before the left edge of the validity interval.
- The entered date in after the right edge of the validity interval.

Inside the Interval

Let us assume 2002-06-06 as the entered value. We get the following outcome:

- The original record version's end of validity will change from 2015-03-13 to 2002-06-06.
- The new record version is created with the following validity interval: 2002-06-06 (the value entered) - 2015-03-13 (taken from the original record version)

When	[State]	[Id]	[Gid]	Part Specification	Valid From	Valid To
Before		33	1	QIX-102-A	2000-01-01	2015-03-13
After	●	33	1	QIX-102-A	2000-01-01	2002-06-06
	●	34	1	QIX-201-C	2002-06-06	2015-03-13

Before the FROM Date

Let us assume 1999-01-01 as the entered value. We get the following outcome:

- The original record version does not change.
- The new record version is created with the following validity interval: 1999-01-01 (the date entered) - 2000-01-01 (the date of validity of the original version).

When	[State]	[Id]	[Gid]	Part Specification	Valid From	Valid To
Before		33	1	QIX-102-A	2000-01-01	2015-03-13
After		33	1	QIX-102-A	2000-01-01	2015-03-13
	●	34	1	QIX-201-C	1999-01-01	2000-01-01

After the TO Date

Let us assume 2015-09-01 as the entered value. We get the following outcome:

- The original record version does not change.
- The new record version is created with the following validity interval: 2015-03-13 (the end of validity of the original version) – 2015-09-01 (the date entered).

When	[State]	[Id]	[Gid]	Part Specification	Valid From	Valid To
Before		33	1	QIX-102-A	2000-01-01	2015-03-13
After		33	1	QIX-102-A	2000-01-01	2015-03-13
	●	34	1	QIX-201-C	2015-03-13	2015-09-01

5 Importing and Exporting Data in RDM

This article provides information about manual importing and exporting of files to RDM from a text file. This is an easy way to transfer data between RDM and external applications.

5.1 Importing Data

Importing data from a text file in RDM can be done in two data-viewing modes: EDIT and IMPORT. See [RDM Data Viewing Modes](#) for information on data-viewing modes.

You must have the permissions to create, edit, and delete records to import data. For more information about permissions see [Setting Permissions in RDM](#).

5.1.1 Choosing the Import Mode

If you need to quickly import new records to RDM, use the EDIT mode. If you need to update or delete records as well as add new ones, use the IMPORT mode. One more advantage of importing data in the IMPORT mode is the ability to preview the state of records before pushing the data to the EDIT mode for publishing.

5.1.2 Import Requirements

The import procedure has the following requirements:

- The table must have a defined primary key.
- the imported file must have the CSV extension.
- the file must have the same column names as seen in the database; the column order does not matter. To see database column names, go to **Columns setup** and change **In table headers display** to *column IDs* (see [Columns Setup](#) for more information).
- the default options for column separators are ";" and "Tab". If required, additional separators can be specified by selecting **Not in list**.
- the default options for line endings are **CRLF** (Windows) or **LF** (Linux). If required, additional endings can be specified by selecting **Not in list**.
- encoding can be **UTF-8**, **UTF-16**, **ISO/IEC 8859-1**, **ASCII**, **UTF-16 little-endian** or **UTF-16 big-endian**.
- dates can be specified as one of the following formats:

- Datetime US (yyyy-MM-dd HH:mm:ss)
- Date US (yyyy-MM-dd)
- Datetime EU (dd-MM-yyyy HH:mm:ss)
- Date EU (dd.MM.yyyy)
- Custom (select **Not in list** and define the format – it should follow [Java conventions](#))

If no format is selected then US Datetime will be used by default.

Only one format can be used per import. If there are multiple datetime columns in the import they need to be in the same format.

During import format US Datetime will be used by default. Even if data has been exported in this format it can be altered, for example, by Excel. Ensure values have not been converted before import, or alter the import format accordingly.

It is not necessary to manually remove null values before import, or to define a custom format to accommodate null values. For example, if your csv file contains values in the format *18.05.20 00:00:00*, specifying **Date EU** will be sufficient.

However if values do exist, e.g. for time, and the parsing pattern does not include time these, values will be lost. For example, if the data would be in the format '2020-01-01 12:13:14' and datetime pattern is 'yyyy-MM-dd', '2020-01-01' will be exported and by default '2020-01-01 00:00:00' would then be imported. Currently both java and RDM datetime format includes time by default so it is set to zero when not specified in the parsing pattern.

5.1.3 Importing Data in the EDIT Mode

Importing data in the EDIT is a fast way to get **new data** to an empty or filled table. Data are compared via the primary key. Any imported record whose primary key matches that of any existing records is marked as INVALID. To **update** or **delete** data as well as add new records, use the IMPORT mode. See [Importing and Exporting Data in RDM](#) below.

Example of an imported .csv file

```
first_name;last_name;birth_number;birth_date
John;Sanders;31101978111;1978-10-31
Hugh;Kensington;06071988112;1988-07-06
```

To import data in the EDIT mode:

1. Make sure you are in the EDIT mode and have the rights to create and modify all columns of the table to which the data is imported.
2. Click **Bulk > Import**.
3. Click **Browse** and select the prepared CSV file. Click **Import**.

If the import was successful, the imported records will appear in the table with green dots displayed at the beginning of their rows.

In case of an error, go to **System > Action History** to see the details. See [Action History](#) for more information.

5.1.4 Importing Data in the IMPORT Mode

Importing data in the IMPORT mode (as opposed to the EDIT mode) detects differences between imported and currently published records, hence you can use it in the following cases:

- Initial load (import data to an empty table)
- Full load (fully replace current data with imported)
- Incremental load (import changed and new data plus delete specially marked records)

To import data in the IMPORT mode:

1. Open a table into which you want to import data.
2. Switch to the IMPORT mode.
3. In the mode selector, click **Setup filters** and make sure **Show grouped record** is checked.

In case you want to perform an incremental load, also check **Incremental compare** and click **Apply**.

4. Click **Bulk > Import**.
5. Click **Browse** and select the prepared CSV file. Click **Import**.
6. Click **Bulk > Create Grouped Records**.
7. Click **Bulk > Merge**.

5.2 Exporting Data

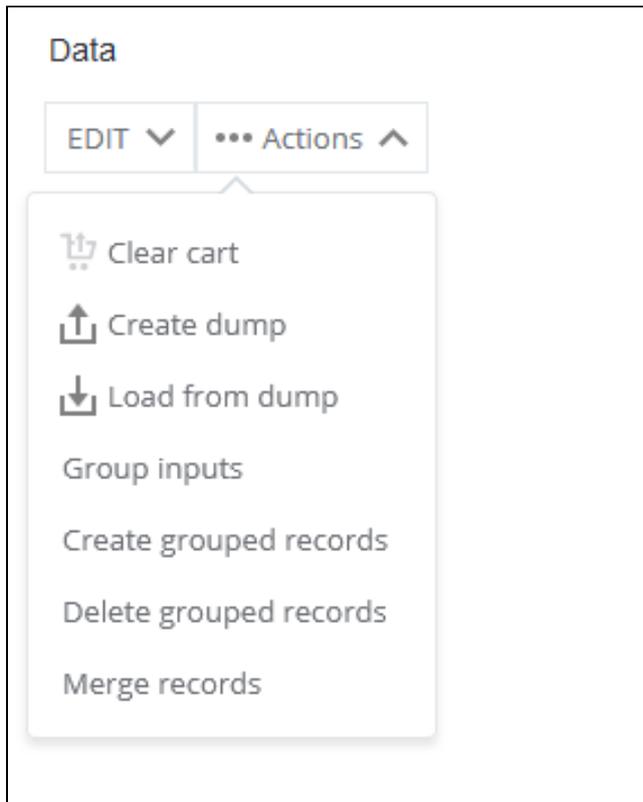
To export data from an RDM table, perform the steps below:

1. Open a table you want to export.
2. Click **Bulk > Export**.
3. In the subsequent dialog, configure the export by selecting:
 - a. the data as seen in which mode: PUBLISHED, EDIT, HISTORY or ALL_HISTORY
 - b. whether to apply the currently used filter
 - c. export type: CSV, TXT, or XLS
 - d. headers type: labels, names (as seen in the database) or no headers
4. Click **Export**. The file is now available for download.
5. In case warnings appeared after the export or the data failed to export, go to **System > Action History** to see the details. See [Action History](#) for more information.

5.3 Moving RDM Data Between Environments

In order to transfer data from one environment to another (for cases such as data migration or external system backups), the RDM Web Application provides functions to extract data from the RDM repository or import data from a different system.

This feature can be accessed by clicking **Actions**, located in the upper part of the *Data* Tab.



In the event that data did not export (or import), go to **System > Application data > Action History** to see the details. See [Action History](#) for more information.

5.3.1 Create Dump

The *Create dump* feature enables exporting published data into a TXT file.

The process for creating a data dump is the following:

1. Select **Actions > Create dump**, which will cause the *Create dump* dialog to appear
2. In the left part of the dialog select tables for export (holding **Ctrl** or/and **Shift**) or check **Use all tables**
3. In the right part, choose the data selection criterion:
 - **Snapshot date** of published data (current or historical)
 - **Tags**
 - i. In the **Select tag** field start typing, select the necessary tag and press **Enter**
 - ii. The selected tag will appear in the **Selected tags** field
 - iii. Repeat steps a-b for all desirable tags
4. Click **Export** – the selected data will be saved in a text file named `export.txt` and can be download to the local computer.

For more information on tagging data, refer to [Publishing and Rejecting Individual Records](#).

5.3.2 Load from Dump

The *Load from dump* feature enables importing data to a new environment from a previously exported TXT file created with the *Create dump* feature. Such a file has a specific structure; therefore, it cannot be prepared in any alternative way.

The process for loading data from a dump is the following:

1. Select **Actions > Load from dump**, which will cause the *Load from dump* dialog to appear.
2. Click **Select file to import...** and select the necessary file.
3. Click **Import**.
4. Wait until the import finishes and the confirmation message appears.

Now the imported data is visible only in the IMPORT data viewing mode (see [RDM Data Viewing Modes](#) for more information). To publish the imported data, switch the global data viewing mode to IMPORT and perform the following steps for each table:

1. From the toolbar, select **Bulk > Create Grouped Records**.
2. Select **Bulk > Merge**.
3. Switch to the EDIT mode.
4. Move records to publish. See [Working with Records in RDM](#).
5. Publish records. See [Publishing Changes in RDM](#).

Upon loading the data, it is recommended to check and assign appropriate user permissions. See [Setting Permissions in RDM](#) for more information.

6 Moving Records Through RDM Workflows

In the context of RDM, a workflow is a process, which starts with making changes to data and ends with publishing them. These two points are represented in RDM with two record states:

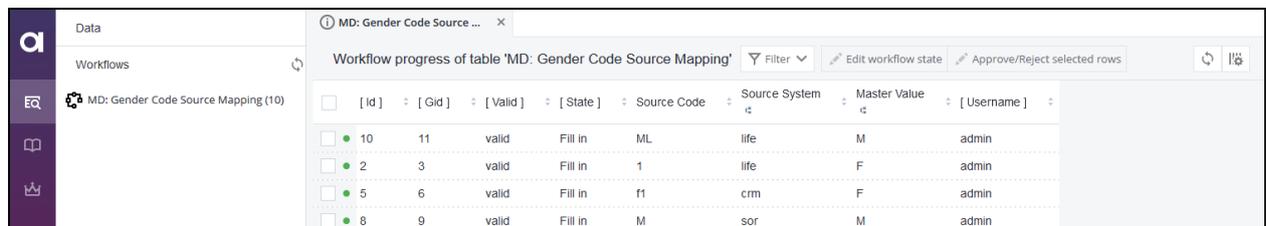
- *Edited* - a state after a record has been created, modified or deleted (not published yet).
- *Waiting for publishing* - a state after the record has been moved to publish (not published yet).

6.1 How Workflows Work

Each record goes through these two states. For further control and additional input, custom workflows can be configured by the administrator in the RDM back-end on table level per particular action (create, edit, delete). Such workflows place additional states between the basic ones mentioned above. During each state, all assigned users approve the changes made, fill in the necessary attributes, and advance the record to its next state. If you participate in the workflow, you will usually get emails notifying you of the awaited action.

The value of a workflow state for each record is saved in the [**State**] column, one of the [default columns](#) in the RDM application.

In case you participate in the confirmation process, the **Workflows** tab lists tables with records waiting for your action.



[Id]	[Gid]	[Valid]	[State]	Source Code	Source System	Master Value	[Username]
10	11	valid	Fill in	ML	life	M	admin
2	3	valid	Fill in	1	life	F	admin
5	6	valid	Fill in	f1	crm	F	admin
8	9	valid	Fill in	M	sor	M	admin

6.2 Fast Record Transition

To quickly approve or reject the record workflow, perform the following steps:

1. From the **Workflows** tab in the Navigation panel, select a table with pending records.
2. Select one or several records.
3. From the toolbar, click **Approve/Reject selected rows**.
4. Optionally, write a comment (especially in the case of rejecting the record). The comment will be available in the [State Detail](#) of the record.

5. In the confirmation dialog, click **Apply** or **Reject**.
 - a. By clicking **Apply** you approve the record and move it to the next workflow step.
 - b. By clicking **Reject**, you move the record back to the *Edited* state, where it has to be corrected before being sent to publishing again.

6.3 Record Transition with Editing

Some workflow steps are designed to fill in certain attributes before approving the record for the next workflow step. This requires a different way to advance a record in the workflow.

Follow the steps below to achieve this:

1. From the **Workflows** tab in the Navigation panel, select a table with pending records.
2. Select a record.
3. From the toolbar, click **Edit workflow state**.
4. Review data in the **Row data** section.
5. Edit allowed attributes in the **Fields** section.
6. Optionally, write a comment in the **Comments** section (especially in the case of rejecting the record). The comment will be available in the [State Detail](#) of the record.
7. Click **Validate** to make sure the values entered in the **Fields** section comply with all validations.
8. Click **Apply** to approve the record and move it to the next workflow step.

7 Publishing Changes in RDM

Publishing changes made to reference data is the final step of an edit lifecycle. Upon publishing, all users with the viewing permission for the given table are able to view new or updated records and can no longer see deleted records. Records can also be rejected, which returns them to the *Edit* workflow state. Depending on your situation, publishing can be done in one of these ways:

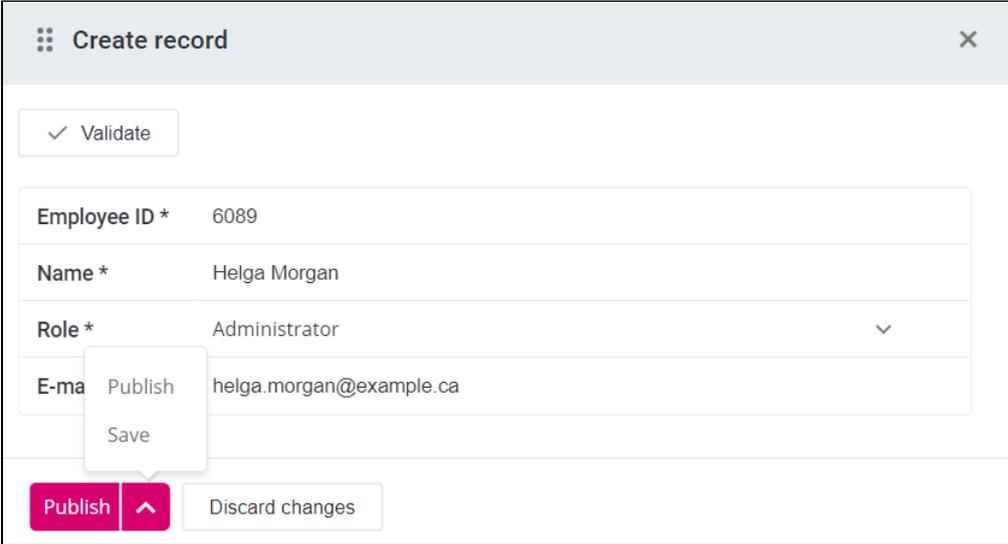
- From the create and edit dialog.
- From the **Publish** tab.

You must have a **Publish** permission to publish records of a given table.

7.1 Publishing from Create and Edit Dialog

You can publish changes immediately after creating or editing a record. In this case, **Move to publish** and **Publish** actions are performed automatically and the record is moved directly to the Published state.

To publish changes from the create or edit dialog, select **Publish** or choose **Publish** from the actions menu.



The screenshot shows a 'Create record' dialog box with a close button (X) in the top right corner. At the top left, there is a 'Validate' button with a checkmark icon. Below this, there are four form fields: 'Employee ID *' with the value '6089', 'Name *' with the value 'Helga Morgan', 'Role *' with the value 'Administrator' and a dropdown arrow, and 'E-mail' with the value 'helga.morgan@example.ca'. A 'Publish' button is highlighted in pink, and a dropdown menu is open over it, showing 'Publish' and 'Save' options. At the bottom of the dialog, there are two buttons: a pink 'Publish' button with an upward arrow icon, and a 'Discard changes' button.

This functionality is particularly useful for smaller teams with no dedicated roles for approving changes.

The option is displayed if you have the Publish permission for the given entity.

If the Publish action results in an error, you are likely missing publishing permissions for one of related entities or a custom workflow is defined for one of related entities and the entity cannot be moved directly to the published state. Typically, this occurs if you are propagating changes recursively (option Edit recursively).

To fix this, check the workflow and move the entities through additional states as needed, then publish them manually.

7.2 The Publish Tab

All record changes that were sent for approval and are in Waiting for publishing state are listed in the **Publish** tab in the Navigation Panel, presented in the screenshot below.

The screenshot displays the 'Publish' tab interface. It features a navigation panel on the left with tabs for 'Data', 'Workflows', and 'Publish'. The 'Publish' tab is selected, showing a list of tables with their change counts and actions. Annotations with arrows point to specific elements:

- Show all records or only those in the cart:** Points to the 'All' and 'In cart' buttons.
- The number of created, deleted and edited records:** Points to the '10 change(s) (+1 -1 ~8)' text.
- Publish or reject changes in all tables:** Points to the 'publish all | reject all' buttons.
- Click on the table to open it in the Viewing Panel:** Points to the '503: Person' table row.
- Publish or reject all changes in one table:** Points to the 'publish all | reject all' buttons for the '503: Person' table.

7.3 Publishing Scope

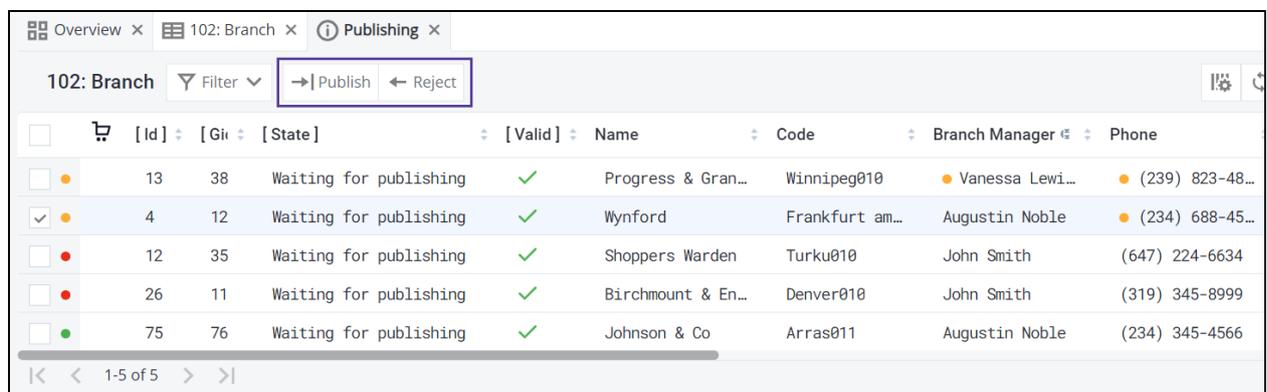
Publishing and rejecting records can be done on a different scale:

- All tables in the reference data repository under < **ALL TABLES** > (on the figure above)
- Table by table (on the figure above)
- Individual records in a selected table (described below)

7.4 Publishing and Rejecting Individual Records

After selecting a table from the Navigation Panel in the **Publish** tab, a **Publishing** tab opens in the Viewing Panel.

The main action buttons are **Publish** and **Reject**. Other buttons are **Filters** and **Columns setup** for convenient data viewing. For information on these features, see [Filters](#) and [Columns Setup](#).



	[Id]	[Gid]	[State]	[Valid]	Name	Code	Branch Manager	Phone
<input type="checkbox"/>	13	38	Waiting for publishing	✓	Progress & Gran...	Winnipeg010	Vanessa Lewi...	(239) 823-48...
<input checked="" type="checkbox"/>	4	12	Waiting for publishing	✓	Wynford	Frankfurt am...	Augustin Noble	(234) 688-45...
<input type="checkbox"/>	12	35	Waiting for publishing	✓	Shoppers Warden	Turku010	John Smith	(647) 224-6634
<input type="checkbox"/>	26	11	Waiting for publishing	✓	Birchmount & En...	Denver010	John Smith	(319) 345-8999
<input type="checkbox"/>	75	76	Waiting for publishing	✓	Johnson & Co	Arras011	Augustin Noble	(234) 345-4566

To publish individual records:

1. Select the desired table in the Navigation Panel – the record(s) available for publishing appear in the Viewing Panel.
2. Select the records.
3. Click **Publish**.
4. (Optional) Add tags, which can be used for filtering records in the ALL_HISTORY mode.
5. Confirm.

Now the record is visible in the *Published* mode.

In case the data has not published, see the *Action History* link in the *System* tab of the Navigation Panel, where a log is saved.

To reject individual records:

1. Select the desired table in the Navigation Panel – the record(s) available for publishing appear in the Viewing Panel.
2. Select the records.

3. Click **Reject**.

The record is now has the state [**State**] value equal to *Edited*.

7.4.1 Records Participated in Bulk Operation

When performing publish or reject actions in RDM, you might face the following message: "Records participated in bulk operation. Should I apply action on whole bulk operation?"

This means that the record on which you are trying to perform publish or reject operation has been edited/deleted recursively, affecting child records. Therefore, RDM is asking whether you want to perform the current action on the affected child records as well, i.e. recursively. Logic suggest that in most cases you need to click yes. Recursive editing and deleting is described, correspondingly, in [Editing Records](#) and [Deleting Records](#).

8 Monitoring RDM Synchronization

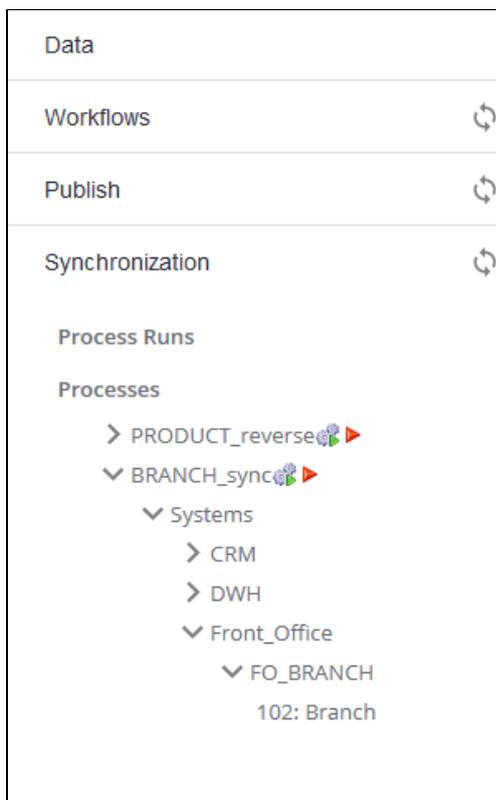
Synchronization Monitoring is automatically enabled when you configure and deploy synchronization with external databases in RDM. For more information see [Configuring RDM Synchronization with External Databases](#).

Synchronization serves to propagate published data from the reference data repository to other company source systems or the data warehouse and optionally back to RDM.

8.1 Synchronization Tab

You can monitor synchronization execution in the **Synchronization** tab of the Navigation Panel via two main nodes:

- **Process Runs.** Each instance displays one occurrence of a synchronization process.
- **Processes.** Lists all defined processes. A process may synchronize a single table or the whole source system, depending on the initial setting in the RDM application.



8.1.1 Synchronization Indicators

Two different indicators exist for process success.

The first indicator shows a state of synchronization processes, displayed by the following color-coded triangles that express whether a process has been initiated:

- ▶ **Red triangle** - the system is not synchronized: new records have been published in RDM since last synchronization.
- ▶ **Green triangle** - the system is synchronized: no new records have been published in RDM since last synchronization.

The second indicator is applied to processes which have been already initiated and describes the result of the running (or finished) process:

-  Task has finished successfully.
-  Task is currently running and has not finished yet.
-  Task finished with an error. Error details are listed with the process details.

In the **Processes** node, the icons indicate process states as they are updated each time the process was run, therefore the indicators reflect the latest state only.

In the **Process Runs** link, the icons display the state and result of every specific initiation of a given process.

Each entry in the *Process Runs* link in the Navigation Panel represents an instance of a synchronization process of the same name. Process Runs are listed in chronological order, displaying the latest instances at the top of the Process Runs list.

8.2 Browsing Process Runs Details

To view the details of all process runs, click the **Process Runs** node.

A new tab opens in the Viewing Panel displaying a table that lists all process runs ever performed with the following fields:

- **Name** - process name.
- **Start** - date and time of process initiation.
- **Finish** - date and time process termination.
- **Error** - lists any errors that occurred during the synchronization process.

- **Username** - name of the user who initiated the process.
- **Id** - process instance id.

Double-clicking the **Processes** node instead opens the same table showing information about the latest process runs for each synchronization process.

Synchronization detail ×						
↻ Refresh						
	Name	Start	Finish	Error	Username	Id
	BRANCH_sync	Jul 30, 2018, 10:35:39 AM	Jul 30, 2018, 10:35:41 AM		alice	4
	PRODUCT_reverse	Jul 30, 2018, 10:35:00 AM	Jul 30, 2018, 10:35:02 AM		alice	3
	BRANCH_sync	Jul 30, 2018, 10:33:36 AM	Jul 30, 2018, 10:33:38 AM		alice	2
	BRANCH_sync	Jul 30, 2018, 10:31:55 AM			admin	1

RDM Process Runs Details

8.3 Viewing Unsynchronized Records

For processes that are marked as unsynchronized  , it is possible to see the data changes which have not been propagated to the external system yet.

To do that, expand the **Processes** node to the last level containing RDM tables and click on one of the tables.

A new tab opens in the Viewing Panel displaying a table that lists all unsynchronized records.

Data

Workflows

Publish

Synchronization

Process Runs

Processes

- > PRODUCT_reverse
- ▼ BRANCH_sync
- ▼ Systems
- > CRM
- > DWH
- ▼ Front_Office
- ▼ FO_BRANCH
- 102: Branch

i Synchronization detail ×

Time	Table	User	Operation type	Details
2020 Nov 6 11:00:28	102: Branch	admin	Edit	Show deta
2020 Oct 8 19:38:37	102: Branch	admin	Creation	Show deta
2020 Oct 8 19:38:37	102: Branch	admin	Creation	Show deta
2020 Oct 8 19:38:37	102: Branch	admin	Creation	Show deta
2020 Oct 8 19:38:37	102: Branch	admin	Creation	Show deta
2020 Oct 8 19:38:37	102: Branch	admin	Creation	Show deta
2020 Oct 8 19:38:37	102: Branch	admin	Creation	Show deta
2020 Oct 8 19:38:37	102: Branch	admin	Creation	Show deta
2020 Oct 8 19:38:37	102: Branch	admin	Creation	Show deta
2020 Oct 8 19:38:37	102: Branch	admin	Creation	Show deta

9 RDM Change Log

The *Change Log* tab in the Navigation Panel serves to track all **published** changes made to the reference data.

1. Define a filter:
 - **From** - starting date of changes.
 - **End** - ending date of changes.
 - **Table** - limit results to one table or leave *<any>* to display results for all tables.
 - **User** - limit results to one user or leave *<any>* to display results for all users.
 - **Type** - select the action type or leave *<any>* to display results for all actions:
 - Creation
 - Edit
 - Deletion
2. Click **View** – a new tab opens in the Viewing Panel displaying a table that lists all published changes in accordance with the defined filter.

Data		Changelog X				
Workflows						
Publish						
Synchronization						
Change Log						
From:	<input type="text"/>					
To:	<input type="text"/>					
Table:	<any> ▼					
User:	<any> ▼					
Type:	<any> ▼					
<input type="button" value="Clear filter"/> <input type="button" value="View >>"/>						
		Time	Table	User	Operation type	Details
		2021 Jan 27 17:32:17	602: Rep Assig	admin	Edit	Show deta
		2021 Jan 27 17:32:17	503: Person	admin	Edit	Show deta
		2021 Jan 27 17:32:17	503: Person	admin	Edit	Show deta
		2021 Jan 27 17:32:17	200: Product	admin	Edit	Show deta
		2021 Jan 27 17:32:17	200: Product	admin	Edit	Show deta
		2021 Jan 27 17:32:17	200: Product	admin	Edit	Show deta
		2021 Jan 27 17:32:17	200: Product	admin	Edit	Show deta
		2021 Jan 27 17:32:17	102: Branch	admin	Creation	Show deta
		2021 Jan 27 17:32:17	102: Branch	admin	Edit	Show deta
		2021 Jan 27 17:32:17	102: Branch	admin	Deletion	Show deta
		2020 Nov 6 11:00:28	102: Branch	admin	Edit	Show deta
		2020 Oct 8 19:38:37	102: Branch	admin	Creation	Show deta
		2020 Oct 8 19:38:37	102: Branch	admin	Creation	Show deta

3. Click the **Show details** link of any entry to see the details of the change that was published.

Change Log Entry Details ×

Field name	Changed	Old value	New value
name		Shoppers Warden	Shoppers Warden
code		Markham010	Markham010
branch_manager		John Smith	John Smith
phone		(647) 224-6634	(647) 224-6634
city		Markham	Markham
address		7069 Warden Avenue	7069 Warden Avenue
valid_from		Jan 1, 1980, 5:00:00 AM	Jan 1, 1980, 5:00:00 AM
valid_to	●	Dec 31, 2025, 5:00:00 AM	May 1, 2017, 12:00:00 AM
product_group		CC;CL;HBL;CM;IBS	CC;CL;HBL;CM;IBS
dwh_column		False	False
load_from			

|< < 1-12 of 12 > >|

Close

Change Log Entry Details

10 Tracking Data and System Errors in RDM

10.1 System Tab

The *System* tab covers the RDM Web Application matters relating to error management and operation history and is divided into two section with the following structure:

- **Application data.** Data-related information.
 - **Problems.** Lists tables having problems with referential data integrity.
 - **Action History.** Lists actions, like publishing, import, and export.
- **System entries.** System information.
 - **Error Log.** Lists system-related errors, like a lost connection,.
 - **Long ops.** Provides a detailed list of system operations.

Data	
Workflows	
Publish	
Synchronization	
Change Log	
System	
Application data	
▼ Problems	
 102: Branch	
Action History	
System entries	
Error Log	
Long ops	

10.2 Problems

All issues connected to referential integrity of data are displayed in the **Problems** node in the Navigation Panel. Problems are grouped by table name, and all tables having problems connected to data are displayed by clicking the expand/collapse icon next to the **Problems** node.

1. Expand **Problems** and click one of the tables listed – the **Problems** tab opens listing all invalid records in the selected table.
2. Click one of the entries to see problems in the panel below.

The screenshot shows the 'Problems' tab for the '102: Branch' table. The main panel displays a table of rows with columns: Name, Code, Branch Manager, Phone, City, Address, Valid From, Valid To, Product Groups, and Include In. Below this, a 'Problem details' section shows two warning messages: 'Unique key 'pk_branch' violated.' for the 'Code' column.

Name	Code	Branch Manager	Phone	City	Address	Valid From	Valid To	Product Groups	Include In
Eglinton & Wai Kotka010		Augustin Noble	(226) 345-678: Kotka		1940 Eglinton Av	1980 Jan 1 06:00:00	2025 Dec 31 06:00:00	PI, RM, TF	true
Eglinton & Wai Kotka010		Augustin Noble	(226) 345-678: Kotka		1940 Eglinton Av	1980 Jan 1 06:00:00	2025 Dec 31 06:00:00	PI, RM, TF	true
Eglinton & Wai Kotka010		Augustin Noble	(226) 345-678: Kotka		1940 Eglinton Av	1980 Jan 1 06:00:00	2025 Dec 31 06:00:00	PI, RM, TF	true

Severity	Table	Column	Message
Warning	102: Branch		Unique key 'pk_branch' violated.
Warning	102: Branch	Code	Unique key 'pk_branch' violated.

10.3 Action History

Action History contains information about data publishing, import, and export, successful or failed.

1. Double-click **Action History** – a table listing actions performed in the current session opens.
2. Click one of the entries to see problems in the panel below.

Date	Finish	Operation	Result	Error description
2021 Jan 27 17:52:30	2021 Jan 27 17:52:30	Confirm rows.	Error	
2021 Jan 27 17:32:17	2021 Jan 27 17:32:17	Confirm rows.	OK	

Severity	Table	Column	Message
Error	102: Branch		Unique key 'pk_branch' violated.
Error	102: Branch	code	Unique key 'pk_branch' violated.
Error	102: Branch		Unique key 'pk_branch' violated.
Error	102: Branch	code	Unique key 'pk_branch' violated.

Viewing Action History

10.4 Error Log

By viewing the error log, you can obtain more information and pinpoint the problems encountered with reference data operations. Clicking on **Error Log** displays a list of all errors containing the following attributes:

- **Date** - information about the date and time of when an error occurred.
- **Source** - Internal name of the method.
- **Message** - error message describing circumstances of the given error.
- **Details** - information necessary to debug the error.

Both Message and Details values are opened in a separate dialog by double-clicking on the row representing the specific error.

Full details about a particular error are accessed by clicking on a row in the Error Log. Subsequently, a *Details* dialog appears as shown in the following figure. The error details are typically used for determining the cause of the error or for error reporting.

10.5 Long Ops

Long Ops stands for "long-running operations," which are operations of extended duration that typically require larger data sets. These operations may include dump functions, publication operations, query executions, etc. You can view long-running operations in RDM by clicking **Long ops** node of the **System** tab.

Upon clicking the **Long ops** link, a list of all long operations appears, including their details:

- **Start** - date and time of when the operation started.
- **Finish** - date and time of when the operation terminated.
- **Description** - information about the operation type.
- **Status** - result of the long operation (OK/Error/Fatally Failed).
- **Messages** - potential error message about the operation.
- **Progress** - shows the progress of the given operation. Upon finish displays the number of records affected.

The operations are sorted chronologically, with the latest operations at the top of the list.

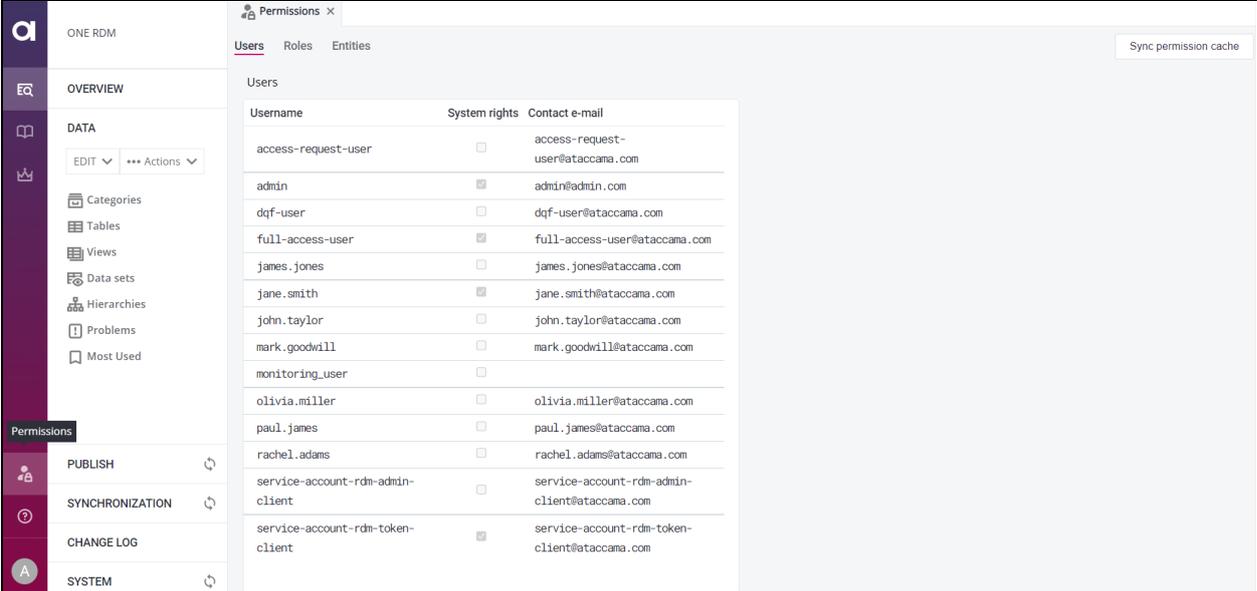
11 Setting Permissions in RDM

Permissions in RDM define what data-editing actions users have and are defined on the table and column basis. See [Assigning Permissions to Roles](#) for more information below. Permissions are defined not only for tables, but also views and data sets (see [RDM Data Tab Overview](#)).

Permissions can be edited only by users with system permissions (set up on the RDM backend).

11.1 Permissions Configuration Screen

To access permissions, open the **Permissions** tab in the left-hand toolbar.

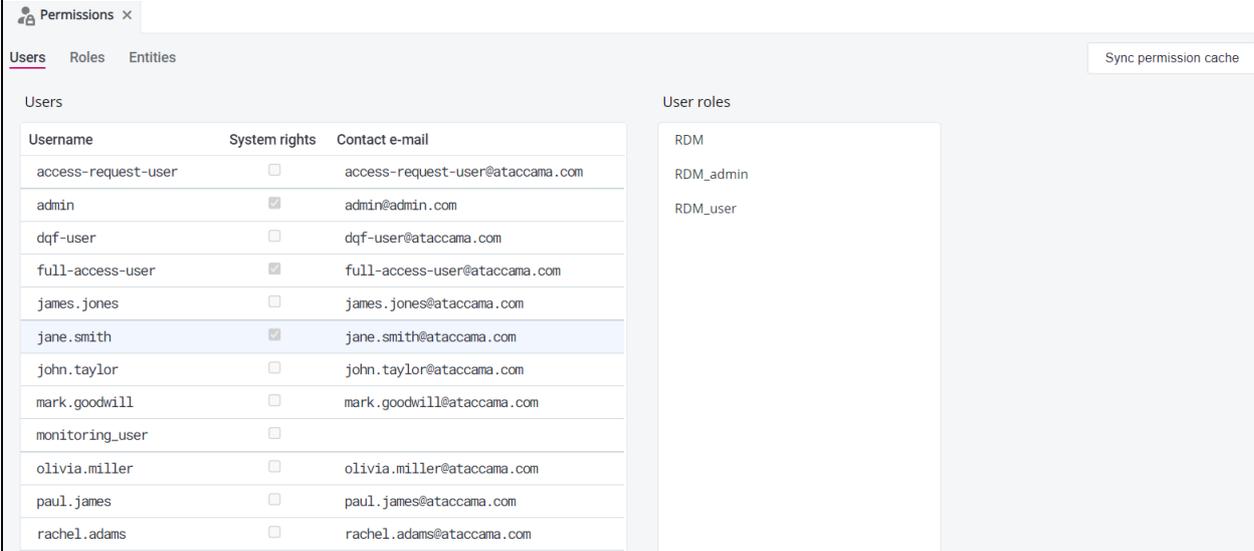


The screenshot shows the RDM interface with the 'Permissions' tab selected in the left-hand toolbar. The main content area displays the 'Users' tab, which contains a table of users with columns for Username, System rights, and Contact e-mail. The 'System rights' column has checkboxes, some of which are checked. A 'Sync permission cache' button is visible in the top right corner of the main content area.

Username	System rights	Contact e-mail
access-request-user	<input type="checkbox"/>	access-request-user@ataccama.com
admin	<input checked="" type="checkbox"/>	admin@admin.com
dqf-user	<input type="checkbox"/>	dqf-user@ataccama.com
full-access-user	<input checked="" type="checkbox"/>	full-access-user@ataccama.com
james.jones	<input type="checkbox"/>	james.jones@ataccama.com
jane.smith	<input checked="" type="checkbox"/>	jane.smith@ataccama.com
john.taylor	<input type="checkbox"/>	john.taylor@ataccama.com
mark.goodwill	<input type="checkbox"/>	mark.goodwill@ataccama.com
monitoring_user	<input type="checkbox"/>	
olivia.miller	<input type="checkbox"/>	olivia.miller@ataccama.com
paul.james	<input type="checkbox"/>	paul.james@ataccama.com
rachel.adams	<input type="checkbox"/>	rachel.adams@ataccama.com
service-account-rdm-admin-client	<input type="checkbox"/>	service-account-rdm-admin-client@ataccama.com
service-account-rdm-token-client	<input checked="" type="checkbox"/>	service-account-rdm-token-client@ataccama.com

Permissions configuration dialog has three tabs: **Users**, **Roles**, and **Entities**.

Permissions will open with the **Users** tab by default, providing an overview of currently configured users. If the **System rights** column is ticked, it means the user sees the **Permissions** link. Click any user to see what roles they have.



The screenshot shows the 'Permissions' tab in the RDM web application. It features a navigation bar with 'Users', 'Roles', and 'Entities' tabs, and a 'Sync permission cache' button. The main content area is divided into two sections: 'Users' and 'User roles'.

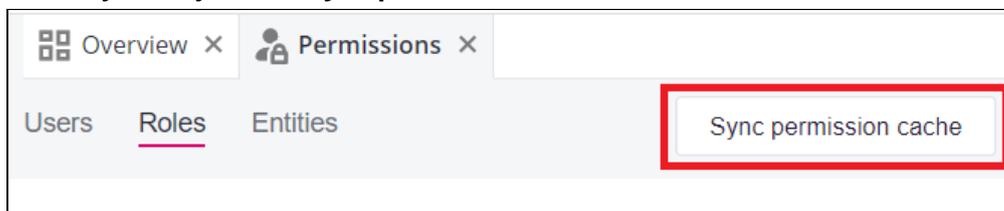
Username	System rights	Contact e-mail
access-request-user	<input type="checkbox"/>	access-request-user@ataccama.com
admin	<input checked="" type="checkbox"/>	admin@admin.com
dqf-user	<input type="checkbox"/>	dqf-user@ataccama.com
full-access-user	<input checked="" type="checkbox"/>	full-access-user@ataccama.com
james.jones	<input type="checkbox"/>	james.jones@ataccama.com
jane.smith	<input checked="" type="checkbox"/>	jane.smith@ataccama.com
john.taylor	<input type="checkbox"/>	john.taylor@ataccama.com
mark.goodwill	<input type="checkbox"/>	mark.goodwill@ataccama.com
monitoring_user	<input type="checkbox"/>	
olivia.miller	<input type="checkbox"/>	olivia.miller@ataccama.com
paul.james	<input type="checkbox"/>	paul.james@ataccama.com
rachel.adams	<input type="checkbox"/>	rachel.adams@ataccama.com

The 'User roles' section lists the following roles: RDM, RDM_admin, and RDM_user.

11.1.1 Synchronizing User and Role Mapping

Users and roles are synchronized with Keycloak as follows:

- Automatically, on user login.
- Manually, after you click **Sync permissions cache** on the **Permissions** tab.



- Periodically, following the schedule defined using the property `ataccama.one.rdm.user-synchronization-schedule` in `application.properties`. See [RDM Application Properties](#).

It is not possible to add users directly in the RDM web application. The users in RDM correspond to the users configured in Keycloak. For more information, see [Mapping Roles and Users](#).

11.2 Assigning Roles to Users and Managing Roles

Permissions in RDM are managed per role, not per specific user; therefore, for a user to have a specific set of privileges she should belong to a specific role.

Role assignment and management is handled in Keycloak. See [Mapping Roles and Users](#).

11.3 Assigning Permissions to Roles

Permissions in RDM can be configured in two places: the **Roles** tab and the **Entities** tab. The difference between the two tabs is that in **Roles** permissions are assigned **per role for any selected table** while in **Entities**, permissions are configured **per table for any selected role**. Both can be found useful based on the current need: for example, in the first case, configuring permissions for a newly added role, while in the second case, configuring permissions for a newly added table.

The interface for the **Roles** tab is presented below.

The screenshot displays the 'Permissions' interface with the 'Roles' tab selected. The interface is divided into three main sections: 'RDM', 'Role users', and 'Rights to entities'.

RDM: A list of roles including 'RDM_admin' and 'RDM_user'.

Role users: A list of users assigned to the selected role, including 'admin', 'full-access-user', 'jane.smith', and 'service-account-rdm-token-client'.

Rights to entities: A table showing permissions for various entities. The table has columns for 'Entity name', 'Type', 'View', 'Create', 'Modify', 'Delete', and 'Publish'. The '204: Product Eligibility' entity is highlighted.

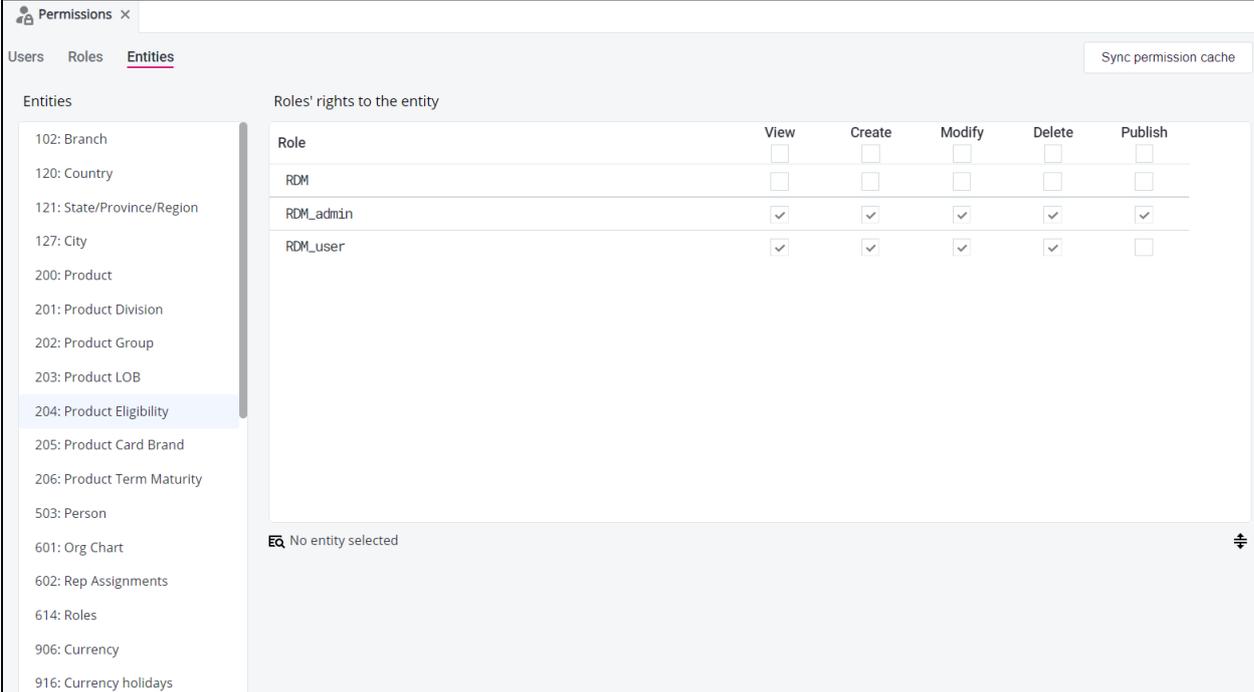
Entity name	Type	View	Create	Modify	Delete	Publish
127: City	table	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
200: Product	table	<input checked="" type="checkbox"/>				
201: Product Division	table	<input checked="" type="checkbox"/>				
202: Product Group	table	<input checked="" type="checkbox"/>				
203: Product LOB	table	<input checked="" type="checkbox"/>				
204: Product Eligibility	table	<input checked="" type="checkbox"/>				
205: Product Card Brand	table	<input checked="" type="checkbox"/>				
206: Product Term Maturity	table	<input checked="" type="checkbox"/>				

Below the table, there is a section for 'Permissions to entity '204: Product Eligibility''. It includes a 'Columns' table with 'View' and 'Modify' checkboxes for each column:

Column name	View	Modify
Abbreviation	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
GUID	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Long Name	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Preferred Name	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Product Eligibility Code	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Short Name	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

There are also three filter sections: 'View rows filter', 'Edit rows filter', and 'Publish rows filter', each with a text input field.

The **Entities** tab looks as follows:



The screenshot shows the 'Permissions' tab in the RDM application. The 'Entities' list on the left includes: 102: Branch, 120: Country, 121: State/Province/Region, 127: City, 200: Product, 201: Product Division, 202: Product Group, 203: Product LOB, 204: Product Eligibility (highlighted), 205: Product Card Brand, 206: Product Term Maturity, 503: Person, 601: Org Chart, 602: Rep Assignments, 614: Roles, 906: Currency, and 916: Currency holidays. The 'Roles' rights to the entity table is shown below, with columns for View, Create, Modify, Delete, and Publish. The roles listed are RDM, RDM_admin, and RDM_user.

Role	View	Create	Modify	Delete	Publish
RDM	<input type="checkbox"/>				
RDM_admin	<input checked="" type="checkbox"/>				
RDM_user	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

At the bottom of the table, it says 'No entity selected'.

In case you are using Keycloak with Fixed Permissions, once you edit permissions in RDM, this custom configuration is applied instead of the roles defined in the configuration model.

11.3.1 Understanding RDM Permissions

Each role can be fully configured with five possible permissions for each table, which can be set up on the **table level** and the **column level**.

The permissions on the table level are:

- **View.** Can see the table in the navigation panel*.
- **Create.** The **Create** button is available in the *Features Bar* of the opened table and *Record detail* dialog**.
- **Modify.** The **Edit** button is available in the *Features Bar* of the opened table and *Record detail* dialog**.
- **Delete.** Can delete records in the selected table.
- **Publish.** Can publish records of the selected table. The table will appear in the *Publish* node of the Navigation Panel.

* If no columns are selected with the View permissions, the user will only see the default columns. For information on default columns, see [Getting Started with RDM](#), section Default Columns.

** Users with the selected role will be able to access the *Create detail/Edit detail* dialog, but the available fields will depend on the **Modify** permissions defined for each specific column.

The permissions on the column level are:

- **View.**
 - a. Can see a given column in the table
 - b. Can see a given column in the lookup search/combo box when creating/editing a child record
 - c. Can see a child record when using the **Show children** feature from the *Features Bar* of the opened table and *Records detail*.
- **Modify.** Can modify this attribute in the *Create detail/Edit detail* dialog.

Given the descriptions of permissions on the table and column level above, when setting permissions for a given table, consider its parent and child tables and set the permissions on table and column level for the related tables accordingly. Related tables can be viewed in the **Relationships** tab of the **Table description** dialog. For more information, see [Viewing Data in RDM](#), section Viewing Table Details.

11.3.2 Row Filters

By default, row filters are uneditable. Permissions for admins can be turned on during configuration if required.

If permissions have been enabled for admins, besides setting which tables and attributes are visible or editable, it is also possible to set what kind of data they will be able to see, edit, and publish. The row filter restrictions are:

- **View rows filter.** The condition limits the visibility of rows for the selected table and role
- **Edit rows filter.** The condition limits editing of rows for the selected table and role
- **Publish rows filter.** The condition limits publishing of rows for the selected table and role

As opposed to expert conditions of data-viewing filters, view, edit, and publish row filters require using database column names, not their labels. Database column names can be found in the **Columns** tab of table details (*Name* column).

Set conditions that restrict the count of rows from the child table to a subset of the table.

Each user can view restrictions applicable to her in the **Row restrictions** tab of the Table detail dialog (see [Viewing Data in RDM](#), section Viewing Table Details).