# UCM API Management

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UCM 14.x

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Contents

Introduction

ZINFI's API Management (APIM) is a state-of-the-art feature to create consistent or utilize existing UCM API gateways for existing UCM modules.

ZINFI's API Management helps organizations create and publish APIs to external, partner, and internal developers to unlock the potential of their data and services. Businesses everywhere are looking to extend their operations as a digital platform, creating new channels, finding new customers and driving deeper engagement with existing ones. ZINFI's API Management provides the core competencies to ensure a successful API program through developer engagement, business insights, analytics, security, and protection. You can use ZINFI's API Management to take any UCM module and launch a full-fledged API program based on it.

This article provides an overview of ZINFI's API Management and provides a brief overview of the ZINFI's APIM system's main components. The article, then, gives a more detailed overview to create a basic and complicated API program as per the business process requirement. UCM API is easy to integrate with any HTTP aware applications of various technologies. Integration of the API with your application requires basic familiarity with REST web services, HTTP methods, JSON and ZINFI's UCM platform. Further the document, helps us to understand the response provided by calling of such APIs.

The UCM API Management Interface

The API Management Sub-module lets Users create, configure and profile APIs. The API Management window provides a list of the existing APIs which can be further configured/edited or deleted and options to create and configure new ones.
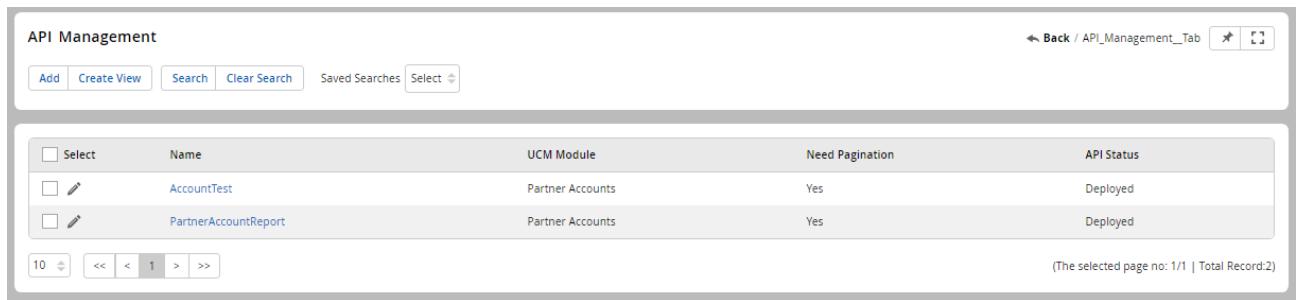
The Menu Action items lets users:

a. **Add** – Opens a new page to add a new API.

b. **Create View** – Lets you create own view with a set of columns as needed.

c. **Search** – Opens a new pop-up window where you can put search criteria to find desired records.

d. **Clear Search** – Clears the search made.

e. **Saved Searches** – Shows a list of saved searches in the search dropdown. When selected, two more options are shown:

    i. **Edit** – Provides option to update the selected search name.

    ii. **Delete** – Deletes the selected search name from the search drop-down.

The List of APIs are displayed with the following attributes:

a. **Name** – Name of the created API.

b. **UCM Module** – The Module of UCM the API operates/functions on.

c. **Need Pagination** – Defines the Pagination feature is supported by the API or not.

d. **API Status** – Defines whether the API is Deployed or Pending and yet to be deployed.

Creating an API

To Create an API, the following parameters needs to be entered:

    a. **Name** – Name of the API to be created. Description Name for the API Program needs to be provided without spaces. Ex: AccountAPI

    b. **UCM Module** – The Module of UCM the API would operate/function on.

    c. **Need Pagination** – Checked to enable the support of Pagination feature.

    d. **API Status (System Generated)** – Defines whether the API is Deployed or Pending and yet to be deployed.

   e. **API Services** – Associated API Services, which are auto-generated by the System.
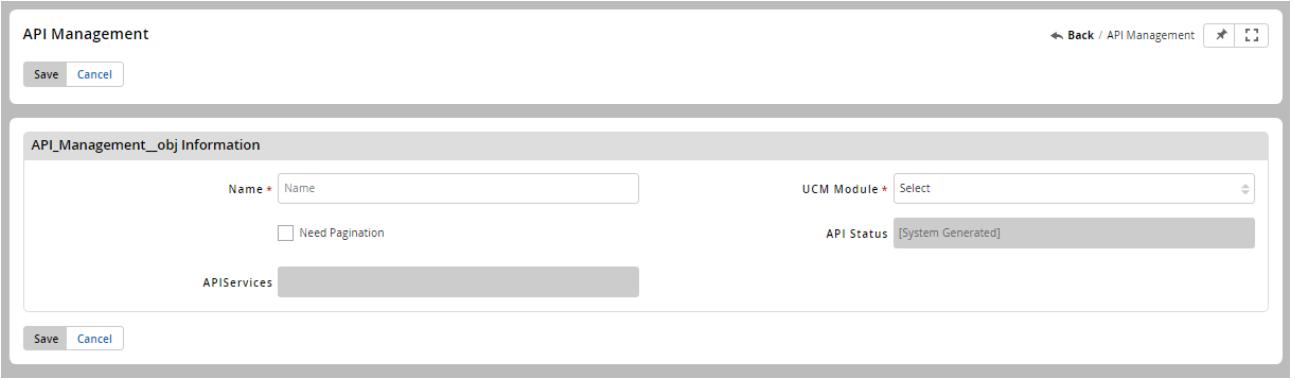
Once we enter the values, and Save the API, and re-open in Edit Mode, the following details are displayed:
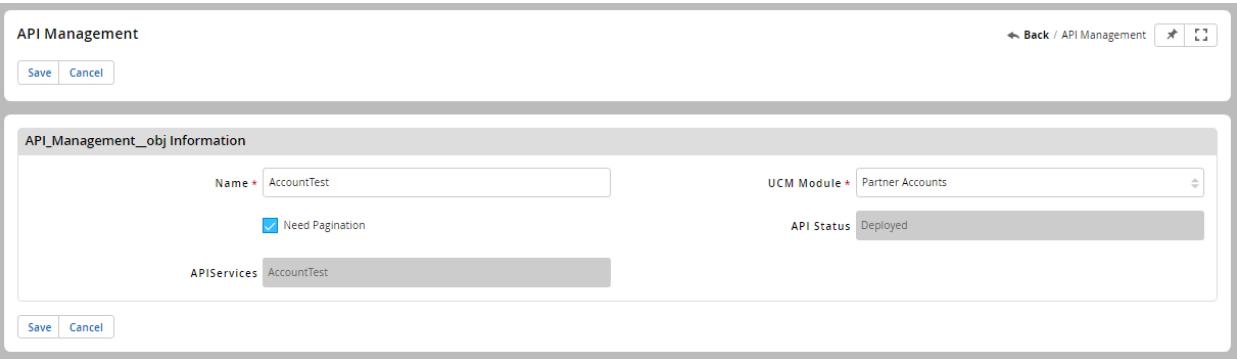
Configuring the API

To Configure a created API, the API Name is clicked:
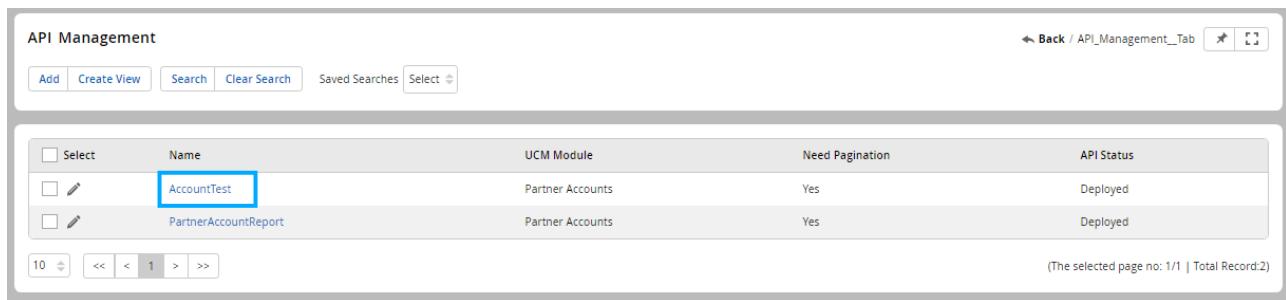
At the Edit API Mode, we need to click the Configure Action Button to Configure the API:

The Configure Window lets us extensively configure the API by enabling us to configure the following elements of the API through a drag drop and clickable interface:

- **API Details –** API Summary displays the Name of the API, associated UCM Module and Path Parameters.

  API Host and Base URL is defined through the following fields. ZINFI UCM REST APIs have a base URL to which the endpoint paths are appended viz. ucmapi/api/services/. The base URL is defined by schemes, host and basePath on the root level of the API specification defined through the External-name (Ex. ExtermailID), which is followed by Path Parameters defined through Path_Param1, Path_param2 and Path_param3. Admins would have the priviledge to create at the most three Path parameters (Path_Param1, Path_Param2, and Path_Param3). All API paths are relative to this base URL.

- **The Query Builder –** Lets users auto-build the query by selecting the Attributes and the Related Objects from the Right pane.

  The Attributes defines the attributes of the Primary Object respective to the Primary UCM Module that the API is respective to, viz. Partner Accounts. The Primary Object would be the source object to define the Secondary Object/Related Object (which would be related to the

Primary Object). The relations between the Primary (Attributes) and Related Objects are defined through the remaining section.

Object Relations

To understand the feature lets take the example of Accounts as the Primary Object and Contacts as the Secondary Object/Related Object.
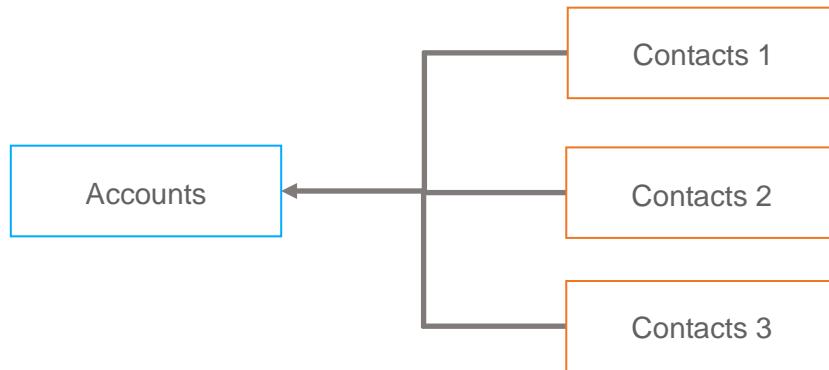
Multiple Contacts are related to a single specific Account. Therefore, the relation between the Primary Object and the Secondary Object can be defined through the following operations which can be selected from the user interface.

The Primary Object is auto-selected based on the field selection and designated as A.

The Secondary Objects are designated B and can be selected through the drop down provided to select any one of the secondary objects related to the Primary Object, in the example case, we select Contacts.

Relation Selection

- Each "A" record must at least one related "B" record – Defines that the primary object record must have at least one related secondary object record, and object records are returned where primary object record(s) have at least one related secondary object record(s). The cardinality between the objects is defined through the following venn diagram.
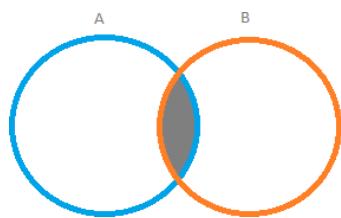
- "A" records may or may not have related "B" records – Defines that the primary object record may or may not have related secondary objects. All object records respective to primary object record(s) would be returned along with the related secondary object record(s), if any. The cardinality between the objects is defined through the following venn diagram.
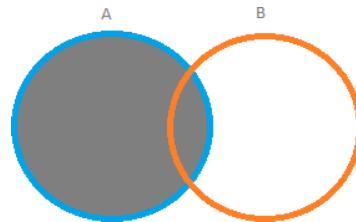
The UCM API - Query Builder Interface

With the Objects and Relations setup, we provide an advanced interface to build the query through a selective window approach from the right panel. The panels are defined as follows:

- **The Object and Attributes Panel (right panel)**

    Contains the Primary Object and the respective Secondary/Related Object along with their respective attributes to be selected at the Query Builder.
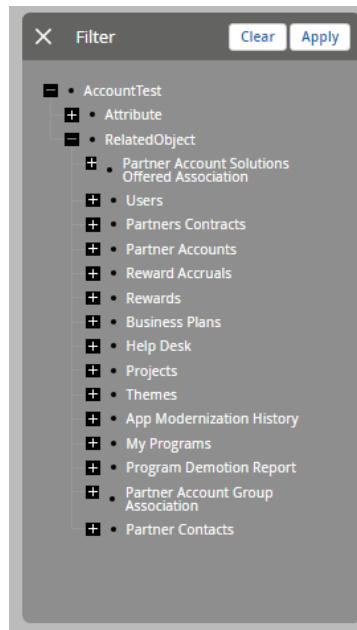
- **SQL Query Viewer and Editor**

    The panel provides the interface where we can build the query by selecting the object attributes and edit it further. The HTTP method for the API Query is defined as per the selected HTTP method field definition selected.

- **Complex Query Builder**

  Future implementations to provide design of complex query builder wherein; based on the objects and the relations selected, the Path_Params generated through such relation can be selected to design the Query, and the resultant complex API can be saved for future processing abilities.

Filter	Type	Object	Field	Operator	Parameter	Query	
And	Select	Select	Select	Select	Path Parameter1		Add

Logic Name	Entity Name	Field Name	Operator Name	Parameter Name	Action
and	AccountTest	Area_of_Focus	Contains	P1	Delete

The following Elements are available to design the complex Query Builder:

a. **Filter Logic** – AND and OR Logic to define the Program Logic for the Query Execution.

b. **Type** – Defines the Object Type – Primary, Related or Lookup.

c. **Object** – The UCM Object that would be processed by the Query.

d. **Field** – The Field of the Object, which would be addressed by the specific Query Logic.

e. **Operator** – Defines Operations viz. Contains, Equals, etc.

f. **Parameter** – Defines the Parameter which would be conditionally checked by the Query Logic.

g. **Query** – Overriding edit mode for the Logical Complex Query built.

Once the Complex query is built through the selection process defined above, we click Add Button to add the complex query to the API. The Complex Query is displayed as:

Logic Name	Entity Name	Field Name	Operator Name	Parameter Name	Action
and	AccountTest	Area_of_Focus	Contains	P1	Delete

We Validate the Query for the API by clicking the validate Action Button.

On Clicking Submit, the UCM API is created, deployed and ready to retrieve selected records based on the SQL Query designed.

Testing the API

To Test the API we can utilize any Open Source API Management Tools, viz. Postman.

We will test the AccountTest API defined in the example above, to check the response by setting up the following at Postman:

- Setup API Method – GET
- URL - https://dev.zinfi.net/concierge/ucmapi/api/services/*AccountTest*/SC7?pagenumber=2&size=20
  - The API Name needs to be replaced with the API Name highlighted in Bold in the above URL. In our example we are utilizing the AccountTest API.
- Header
  - Key – Authorization
  - Value – Bearer Token Value needs to be updated as received by Generating the Access Token API.
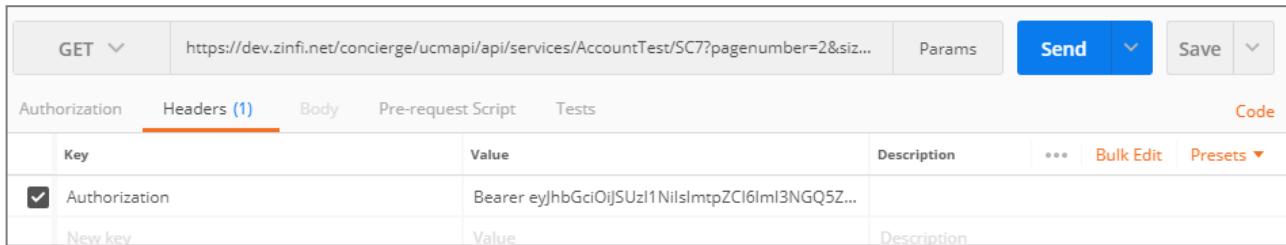
GET ∨	https://dev.zinfi.net/concierge/ucmapi/api/services/AccountTest/SC7?pagenumber=2&siz...	Params	**Send** ∨	Save ∨

Authorization   **Headers (1)**   Body   Pre-request Script   Tests   Code

	Key	Value	Description	•••	Bulk Edit	Presets ▼
☑	Authorization	Bearer eyJhbGciOiJSUzI1NilsImtpZCI6ImI3NGQ5Z...				
	New key	Value	Description			

Once set, we can click Send, to check the response generated as follows:

Note: The response generated is the resultant record set (JSON Format) produced by the execution of the AccountTest API which internally executes the SQL Query designed using the Query Builder.

```
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        {
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            "Business_Type": "SC",
            "Area_of_Focus": "SC7",
            "DATE_MODIFIED": "2020-08-24T02:13:04.197",
            "rnk": 1,
            "Users": [
                {
```

```
            "FIRST_NAME": "asdfsdf",
            "LAST_NAME": "asdfasdf",
            "Email_Address": "test2487@yopmail.com",
            "Id": "C002557E-3355-4C68-9FD0-2719A4032699"
        }
    ],
    "Id": "5EEC8879-67A4-4A43-A21B-928545E5702B"
},
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        }
    ],
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    "Users": [
        {
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            "LAST_NAME": "ghjgj",
            "Email_Address": "test2485@yopmail.com",
```

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            "Id": "5DEB4C7F-06E4-4135-951E-C5A99377C4D9"
        }
    ],
    "Id": "FDABFD92-4A1E-4468-B168-55729BBC1E44"
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    ],
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    "rnk": 1,
    "Users": [
        {

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            "LAST_NAME": "werwer",
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        }
    ],
```

```
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         }
       ],
       "Id": "DE6223B7-C62B-4A1C-83A2-B361F2E624D4"
    },
    {
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       "Area_of_Focus": "SC7",
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       "Users": [
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            "LAST_NAME": "Lname",
            "Email_Address": "test2482@yopmail.com",
            "Id": "C3B19A09-5F32-44D1-BA23-9F45277C0A20"
         }
       ],
       "Id": "E3B64233-910C-488A-AFC3-D8E47A1399D4"
    },
    {
```

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"rnk": 1,
"Users": [
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    }
],
"Id": "91C8C191-A5EC-4118-8928-D6FF89A98DED"
},
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    "DATE_MODIFIED": "2020-08-23T03:20:01.09",
    "rnk": 1,
    "Users": [
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            "LAST_NAME": "test",
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        }
    ],
    "Id": "86753210-640B-4890-8141-8A385306C43F"
},
{
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    "Area_of_Focus": "SC7",
```

```
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        "rnk": 1,
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                "LAST_NAME": "Test222",
                "Email_Address": "zinfi238@yopmail.com",
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            }
        ],
        "Id": "954A93A1-E816-429E-A1F8-B555E3D408BF"
    },
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        "rnk": 1,
        "Users": [
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                "LAST_NAME": "adsfdsf",
                "Email_Address": "test23081@yopmail.com",
                "Id": "2348CB8D-37C4-456A-83E5-C0C6BE84A635"
            }
        ],
        "Id": "BDBE21C7-6D18-49E2-AC0A-DAA70F51DE00"
    },
    {
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        "Business_Type": "SC",
        "Area_of_Focus": "SC7",
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        "Users": [
```

```
        {
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            "LAST_NAME": "testtest",
            "Email_Address": "test228_2@yopmail.com",
            "Id": "0FD2755C-4AD3-44A7-80F0-B4AC768CE410"
        }
      ],
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    },
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      "Users": [
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            "Email_Address": "test228_1@yopmail.com",
            "Id": "1144EE40-0D7A-4CA6-B704-2FA2E2C242DE"
        }
      ],
      "Id": "0ADB7362-A3B0-4216-B87E-AF3F0E921767"
    },
    {
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      "Users": [
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            "FIRST_NAME": "1111",
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```

```json
            "Email_Address": "test228@yopmail.com",
            "Id": "A5F1B4C5-4B8F-4B2F-A13E-81CE9C70F6B3"
        }
    ],
    "Id": "E29072B5-5027-4C72-ABCB-FCB7C1BAB244"
},
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    "Business_Type": "SC",
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    "DATE_MODIFIED": "2020-08-13T03:53:00.037",
    "rnk": 1,
    "Users": [
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            "LAST_NAME": "LName",
            "Email_Address": "test138scsc7@yopmail.com",
            "Id": "9FE4684C-5D1C-43F6-9265-FB91E7683388"
        }
    ],
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    "rnk": 1,
    "Users": [
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            "LAST_NAME": "sec",
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        }
```

```json
      ],
      "Id": "9E794527-70AD-416D-B598-8E326CC42687"
    },
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        }
      ],
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    },
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      "rnk": 1,
      "Id": "5C8FB1D7-DCD7-4072-B7A4-32B7C63E689A"
    },
```

```
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        "rnk": 1,
        "Users": [
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                "LAST_NAME": "ertert",
                "Email_Address": "test8620@yopmail.com",
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            }
        ],
        "Id": "0810C638-AB6E-4D7E-9204-1A334C78F6FF"
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],
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    "totalElements": 2,
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}
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