

User Documentation

Validatar 2021.2

Prepared By Validatar



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Using the Validatar Documentation

Documentation Overview

Welcome to the Validatar Documentation site where we hope you can find answers to your questions and problems and enhance your journey toward improved data quality with Validatar.

If this is your first time here let us give you a quick tour so you can make the most of the features available to you. After you read through this page we would recommend the [Validatar Quick Start Guide](#) as your next stop.

Navigation

On the left-hand side of the screen, you will find the main navigation. It is organized for you to easily find what you are looking for.

Inside of each article, you will also find helpful navigation. On the right-hand side of your screen, you will find the article's table of contents that will let you quickly and easily jump to any section in the article. Below the table of contents, you will find links to related articles in the documentation.

Search

At the top of your screen, you will find the Search bar. This will give you the fastest way to find what you are looking for across the entire site.

Knowledge Base Assistant In Validatar

You may not know it, but starting in Validatar 2021.2 this documentation is available directly inside of the Validatar interface through the Knowledge Base Assistant. It will provide you context-based access to documentation that is relevant to the page you are on in Validatar.

Types of Documentation

On this site, we have several types of documentation to help you on your Data Quality journey.



- **Getting Started With Validatar** - These articles are designed to help you ramp up as quickly as possible so you can begin using Validatar effectively to improve your organization's data quality.
- **Feature Documentation** - These articles provide comprehensive documentation about a specific feature, function, or page in Validatar.
- **How-To Articles** - These articles walk you through tasks that may have several complex steps involved.
- **Concept Guides** - These articles are designed to step back from specific features and provide guidance for how you could approach a particular problem or implement a solution related to Data Quality.
- **Release Notes** - **If you are looking to find out what is new in each version of Validatar this area will get you up to speed.**
- **EULA** - In case you have questions about our End User License Agreement we have made it easy to access [here](#).

Interactivity and Feedback

At the bottom of each article, you will find options for providing feedback on how helpful you found the article. We appreciate your feedback so we can continually improve the value this documentation is providing you.



Getting Support

Getting support for Validatar issues you are having is easy and straightforward.

Contacting Support


We have created a couple of options for you to contact us for support with Validatar.

1. Submit a Ticket via our [Customer Portal](#)
2. Send us an email at support@validatar.com

Using the Customer Portal

When using the [Customer Portal](#) to submit tickets you will be required to create an account. If this is your first time just click the [Sign Up](#) link

Log in to Validatar Customer Portal



Next

Need an account? [Sign up](#)

Once you have logged in you will have the option to select what kind of support request you have. You may submit the following types of tickets:

- Technical Support
- Licensing and Billing Questions
- Product Trial Questions
- Test Pack Related Questions
- Report a Bug
- Suggest a New Feature
- Suggest an Improvement
- Other Questions

Working with Support

There are times when you will need to work with our support team to get them information about what is happening in your Validatar environment. This may require us to review logs. If this is required a Validatar Global Admin can download recent logs from the server by navigating to [Global Settings](#) > Configuration > Logs.



Validator Configuration

SMTP

Authentication

Logs >

Scheduling

Server Configuration - Logs

 Download Logs

Logs to Download required

Enter number of days day(s)

i This process will download via the browser the most recent log files from the Validator Server so that these can be shared with support to troubleshoot errors on the server. The following items are included in the zip file:

- Server Settings and Configuration Information
- Web Server Logs
- Service Layer Logs

No Customer Sensitive Data will be included in the Settings or Log files that are downloaded.



Validatar Quick Start Guide

What is Validatar?

Validatar is a Data Quality Management and Automation platform that enables organizations to improve data quality & increase trust in data by automating the discovery, profiling, testing, and monitoring of its data assets.

Who Can Use Validatar and Why?

- Business Leaders will gain confidence that the data they are using is trustworthy.
- Data Stewards are given the tools they need to monitor and govern data assets.
- Data Developers can deliver accurate and trusted data faster using automated data testing.
- Data Consumers are given the visibility to know and trust the data assets available to them.

Common Use Cases

- Data Warehouse ETL Dev QA
- Data Governance
- Cloud Migration
- Data Quality Monitoring

10 Steps to Getting Started

Getting started in Validatar is simple but to make it even easier, we've created a list of ten tasks to complete before running your first test.

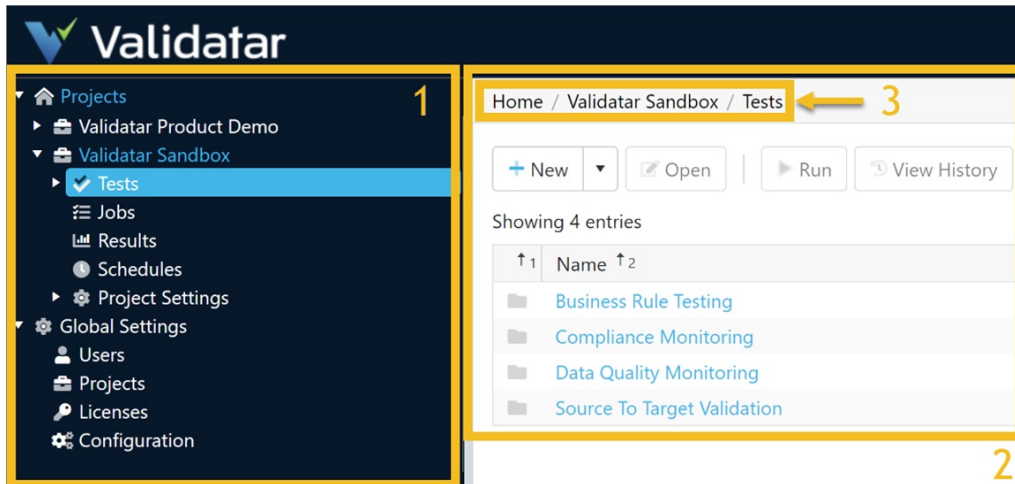
| | |
|-----|--|
| 1. | Install the Validatar application on the appropriate server. |
| 2. | Create a Global Admin user. |
| 3. | Apply License information. |
| 4. | Configure SMTP settings. |
| 5. | Add additional Validatar users. |
| 6. | Give your Validatar project a name. |
| 7. | Create a data source with both primary and profiling connections configured. |
| 8. | Ingest the data source's metadata. |
| 9. | Run a full profile on your data. Try a small table first. |
| 10. | Start running tests! |

Inside of Validatar

We have designed Validatar to be easy to navigate through and find what you are looking for.



1. The **Navigation Pane** - Browse through projects, folders, and Validator settings using the navigation pane on the left-hand side. The navigation pane is collapsible if you ever want to hide it.
2. The **Information Window** - Displays each screen of Validator. This window is where you'll configure your tests, schedule your jobs, and view your test results.
3. The **Breadcrumb** - As you navigate through Validator, keep track of the path you're following using the Breadcrumb trail. Ever want to go back up a level? Simply navigate to it using the Breadcrumb trail.





Accessing Validatar

Logging In

To login to Validatar:

1. Navigate to your instance of Validatar via the provided URL.
2. Enter your username and password.

The screenshot shows the Validatar login interface. At the top is the Validatar logo. Below it are two input fields: 'Enter username' and 'Enter password'. A blue link 'Forgot Password?' is positioned below the password field. At the bottom is a 'Sign in' button with a right-pointing arrow.

Forgot Password?

If you've forgotten your password:

- Navigate to the Login Screen and click on the **Forgot Password?** link. You will be prompted to provide your **username** or **email** and receive a link to reset your password.

If you've forgotten your username:

- Go through the reset password procedure described above using your email. This will allow you to log in and then view your username.

This screenshot shows the 'Forgot your password?' page. On the left is a smaller version of the login page with a yellow arrow pointing from the 'Forgot Password?' link to the 'Forgot your password?' page. The 'Forgot your password?' page has the heading 'Forgot your password?' and the instruction 'Click the *Email Link* button below to receive an email with a link to reset your password.' Below this is an input field labeled 'Enter your Username or Email' with a 'required' error message and a user icon. At the bottom is an 'Email Link' button.



Security and Permissions Overview

Overview

Validatar has various security permissions at the global, project, and data source levels. Users are added globally and then given the appropriate level of access to projects and data sources by either a global administrator or project administrator. Permissions and roles determine how a user interacts with different objects and pages in Validatar. Learn more about Administrator, Creator, and Viewer roles below.

Global Level Security

A user must be added under **Global Settings** before they can access any Validatar project. Each user requires a

- First Name
- Last Name
- Valid Email Address
- Username
- Password

You can also add the user's Active Directory account if you want to authenticate a Validatar job's execution outside of the tool using the Command Line Interface (CLI).

The **Enable User** checkbox should be checked if the user is active and unchecked if the user is not.

Optional Roles and Access

At the global level, a user can become a global admin, test author, and project admin.

| Role | Description |
|-----------------------------|---|
| Global Admin | A global admin has the ability to create, configure, and manage settings globally across a Validatar instance. They can add users, activate license keys, create new database engines, and much more! There is not a limit on the number of global admins a Validatar instance can have. |
| Test Author | A test author is a user who can create tests in Validatar. There is a maximum limit of users who can be test authors at one time based on the edition of Validatar that was purchased. Once that limit is reached, a user will have to lose the test author role in order for another user to gain it. Find your volume limits under your activated license key or in your Validatar Startup Guide emailed to you from the Validatar Customer Success team. |
| Project Admin Access | A project admin has the ability to configure and manage settings for individual projects in Validatar. This includes creating data sources, running data profiles, and using Validatar's Import and Export functionality to move objects between projects. Check all of the projects the user should have project admin access to in the list provided on the user's page. |

Project Level Security

Depending on the purpose of each project, you'll want to grant the appropriate users access to the project. A user must be a project admin in order to view or grant access to other users. To modify a user's access permissions, double-click on their username and check or uncheck the box related to the appropriate role.



Granting Access

To add a user to a project:

1. Navigate to **Project Settings > Users**.
2. Select **Grant Access**.
3. Select the username from the **Choose Username** dropdown.
4. Select the appropriate roles for the user.
5. Select **Save**.

Removing Access

To remove a user from a project:

1. Select the user from the list.
2. Select **Remove Access**.
3. Select **Remove** in the validation pop-up.

Note

You can immediately restore a user's access after you've removed them from a project as long as you do so before navigating away from the **User's** page. Once you navigate away, you will have to go through the full process of granting a user access to a project to re-add them.

Project Roles

The following are the list of available project roles and details of what they allow the user to do.

| Role | Description |
|-------------------------------|--|
| Create Data Sources | The user can create a data source. To manage an existing data source, the user must have the appropriate permissions at the data source level. |
| Create Jobs | The user can create jobs. |
| Create and Edit Labels | The user can create and modify labels to attach to tests, template tests, and jobs. |
| Import | The user can import objects into a project using an XML file. |
| Export | The user can export objects out of a project to an XML file. |
| Project Admin | The user has project admin access to the current project. You cannot remove your own project admin access from a project on this page. |
| Project Access | The user has read-only access to a project. In addition, the user can create and edit tests only if they are a global Test Author. |

Data Source Level Security

The data source level is the final level of security you will have to configure in Validatar. Validatar allows each data source to have its own independent set of user access and permissions to prevent users from having unintentional access to data. You can add individual users or a user group to a data source by creating a **New Rule**.

The user who creates the data source automatically becomes the **data source owner** and has all permissions enabled. You can identify the owner by being the first username on the list and the image of a crown beside their username. The owner can be changed by double-clicking on the owner's username and selecting another user from the dropdown then selecting **Save**.



Data Source Permissions

The following is the list of available permissions available to configure for a data source.

| Permission | Description |
|---|--|
| Browse Metadata & Data Profiling | The user can view the data source's data profile and metadata on the Explorer page. If the user does not have this permission, the data source will not appear on the Explorer page list. |
| View Test Results | The user can view test results where this particular data source is selected as the test or target data source. |
| Create & Edit Tests | The user can create new tests and modify existing tests. |
| Run Tests | The user can execute a test either from the test configuration page or the test homepage. |
| Run Profile Sets | The user can execute profile sets that have been created under Project Settings > Data Sources > Profile Sets . |
| Manage Connections & Schema Metadata | The user can configure and modify a primary connection, metadata connection, and profile connection. The user can also configure metadata ingestion SQL, refresh a data source's metadata, and put the metadata refresh on a schedule. |
| Manage Data Profiling | The user can create new profile sets and modify existing profile sets. The user also has permission to rename and delete profile sets and the record of their subsequent executions. |
| Manage Permissions | The user can create new rules to add users and user groups to a data source. The user can also add and remove user permissions for the data source. |



Install Guide

Overview

Installing Validatar consists of two steps:

- Download the installer at <https://licensing.teknionusa.com/downloads/Validatar>
- Complete prerequisites relating to the web server and the database server

Completing Installation

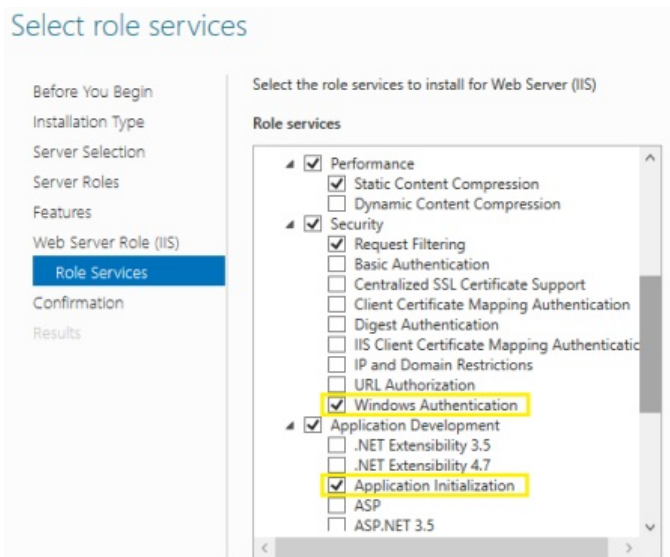
Prerequisites

1. Access Needed to Complete Install

- Admin access to the operating system to run the installer
- Admin access to the web server
- Admin access to the database Validatar will use on the back end

2. Web server with at least 4 GB memory

- The server must have Internet Information Services installed, including the following highlighted options:



- The web server must have Microsoft .NET framework 4.5.2 or higher installed: <https://www.microsoft.com/en-us/download/details.aspx?id=42643>
- The web server must have the **Hosting Bundle** installed for ASP.NET Core Runtime 3.1.x: <https://dotnet.microsoft.com/download/dotnet/3.1>
- Potentially create a DNS record for the Validatar User Interface website so that Validatar can be accessed using something other than the web server name or IP Address



3. Database server (SQL Server)

- Recommended versions
 - SQL Server 2012 Express or later
 - SQL Server 2012 or later
 - SQL Server admin credentials – used during the installation to create the Validatar database
 - Minimum security permissions for the Validatar Service Account
 - Atleast db_owner database role
 - If you want to use Windows Authentication instead of SQL Server authentication for connections created in Validatar to the databases you're testing, your IT will need to create an Active Directory service account and provide the account credentials. Validatar will then be setup to run using that service account.
4. **SMTP credentials** – used for password reset and other notification emails. If the SMTP settings are not known, check with your IT administrator or Network administrator for this information.
5. **SSL Certificate** - We encourage obtaining an SSL certificate from a certificate authority. Install the certificate on the web server to encrypt network traffic. After Validatar is installed, use IIS to assign the certificate to the Validatar site.

Installation

1. Download the installer from <https://licensing.teknionusa.com/downloads/Validatar>
2. Run the installer. If the user does not have the operating system administrator role they will need to Run as Administrator.
3. Select the components to install
4. Verify that the directory to place the components is the C drive (C:)
5. Enter Validatar metadata database location and the credentials to use for the application server
 - If the database does not already exist, a second step will be shown to enter admin credentials so that the installation can create the new database
6. Enter IIS application pool identity information – this will be the account that Validatar runs under. This must be a domain account if database connections will use Windows authentication instead of SQL Server Authentication.
7. Enter IIS website information for the User Interface and Service Component websites. The port number is up to you.
 - **Validatar - UI:** Port 80 is commonly used
 - **Validatar - Service:** Port 8081 is commonly used
8. Finish install.
9. In IIS, verify that the default site has been stopped and both the Validatar-UI and Validatar-Services sites are running.

Assigning an SSL Certificate

Complete the following steps to assign an SSL certificate to the Validatar site to ensure secure network traffic.



1. Open IIS.
2. In the **Connections** tree, expand the server then expand **Sites**.
3. Select the **Validatar-UI** site.
4. In the **Actions** pane on the right, under **Edit Site**, select **Bindings...**
5. In the **Site Bindings** window, select the **https** binding then click **Edit**.
6. In the **SSL certificate** drop-down, select your newly installed **SSL certificate**.
7. Select **OK**.

Configuration

1. For New Installations

1. In a web browser, navigate to the web application URL
2. Enter the information for the system administrator user
3. Enter the name of the initial project
4. Click the “**Complete Setup**” button
5. Login using the credentials of the administrator user you just created

2. Activate the license

1. Navigate to **Global Settings > Licenses**
2. Select “**Activate License**”
3. Read the **Validatar End-User License Agreement** and select “**I Agree**”
4. Fill out the license information form. Find your license information in the start up guide emailed to you from the **Validatar Customer Success Team**.
5. Select “**Activate**”

3. Configure SMTP

1. Navigate to **Global Settings > Configuration > SMTP**
2. Enter **SMTP** settings as needed.



Validatar ? ! Hello efrancisco! [Log off](#)

Home / Settings / Configuration / SMTP

Validator Configuration [Save](#) [Test Email](#)

SMTP

Authentication

Logs

Host required **Port** required

Use TLS? [?](#)

Use Default Credentials? [?](#)

Username **Password**

From Address required



Upgrading to New Versions

Upgrading Validatar is a super easy process! Use the following steps to complete the upgrade.

1. Backup the Validatar SQL Server metadata database.
2. In Microsoft IIS, record the prior host and port settings so that the same settings can be entered during the new install.
3. Go to C:\inetpub\ and create a copy of the Teknion Validatar folder just in case you need to roll back to the previous version.
4. Download the installer from <https://licensing.teknionusa.com/downloads/Validatar>
5. Select the components to install.
6. Verify the directory to place the components is the C drive (C:)
7. Enter Validatar metadata database location and the credentials to use for the application server.
8. Enter IIS application pool identity information – this will be the account that Validatar runs under. This must be a domain account if database connections will use Windows authentication instead of SQL Server Authentication.
9. Enter the IIS website information for the User Interface and Service Component websites that you recorded in step 2.
10. Complete the upgrade and log in to Validatar.



TVAdmin CLI Setup

The tvadmin command-line application allows jobs to be executed from an external scheduler. The domain account running the tvadmin application will be used to authenticate the user into Validatar, so the command line does not require any credentials. The following steps can be used to install tvadmin on an application server – this assumes that Validatar has already been installed on a separate web server.

Remember

The user who is launching the job must have access to the application server in order to execute the job via command line.

Configuration

1. Make sure .NET Runtime 3.1.x has been installed on the application server. It can be downloaded from here if necessary: <https://dotnet.microsoft.com/download/dotnet/3.1>. **NOTE:** On that page, scroll past the ASP.NET Core Runtime and .NET Desktop Runtime sections to the .NET Runtime section and download the appropriate .NET Runtime installer.
2. On the web server, verify that the “Teknion Validatar – Services” website has “Windows Authentication” enabled.

| Name | Status | Response Type |
|--------------------------|----------|-------------------------|
| Anonymous Authentication | Enabled | |
| ASP.NET Impersonation | Disabled | |
| Basic Authentication | Disabled | HTTP 401 Challenge |
| Forms Authentication | Disabled | HTTP 302 Login/Redirect |
| Windows Authentication | Enabled | HTTP 401 Challenge |

3. Copy the C:\inetpub\Teknion Validatar\Utilities folder from the web server and paste it to the application server.
4. On the application server, open the appsettings.json file using a text editor and update the WebApiBaseUrl property if necessary. That property should be set to the binding used for the “Teknion Validatar – Services” website on the web server and will typically look something like the following: `http://[web-server-name]:8081`
5. Ensure that the domain account that will be used for authentication has been added to a Validatar user profile.

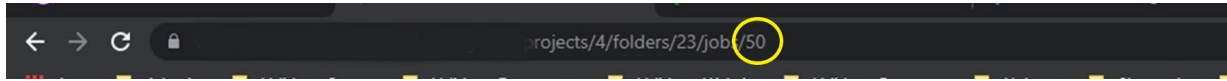
Testing The Command Line

Additional Help

Refer to the screenshot at the bottom of this section for additional assistance.



1. In Validatar, under **Global Settings > Users**, add the Windows AD or domain account to the user's profile who will execute the job if it hasn't been added already.
2. Navigate to the job you want to execute.
3. Grab the job ID which is the last number in the URL.



4. Using the application server that you want to externally run the job on, open up a command prompt.
5. Navigate to the Utilities folder that you saved in step 3 of the configuration. You may have to change directories using the `cd` command. We're using the `Z:\` drive in the example below.
6. After navigating down to the Utilities folder type `tvadmin`
7. Press Enter.
8. The Validatar commands should appear on the next two lines.
9. Next type `tvadmin -j [insert job ID]`. Be sure to include a space between `-j` and the job ID.
10. Press Enter. The job will now execute.
11. The exit code that appears refers to the result of the job.
12. Navigate back to Validatar, under Results, to be sure the job executed correctly and displayed the proper exit code in the command prompt.

```
Administrator: Command Prompt
Microsoft Windows [Version 10.0.18363.1621]
(c) 2019 Microsoft Corporation. All rights reserved.

F:\>Z:

Z:\>cd Utilities

Z:\Utilities>tvadmin
Provides commands to execute Validatar functions

-j [job_id]          Execute a job
-s [url]            Override the URL of the Validatar service web application

Exit codes when executing a job:
0 = the job executed and all tests passed
1 = unauthorized to run job
3 = the job executed with at least one test failure
4 = the job executed with at least one error
2 = the job failed

Z:\Utilities>tvadmin -j 79
```

Integrating Validatar with an External Tool

After you confirm that you're able to execute jobs via command line, you can include this into your external scheduler workflow. You can either kick off a Validatar job externally or based on the result of the Validatar job, kick off an external job.

A way to do this is to create a Powershell host script to call the Validatar CLI. If you want to kick off an external job based on the result of the Validatar job, you can configure your script to release the appropriate external job based on the return code of the CLI. You may need to refer to the external tool's documentation to get the syntax for a job-release.

When building out the process, it's highly recommended to use parameters or extended properties as much as possible. That will make the process more flexible and easier to change.

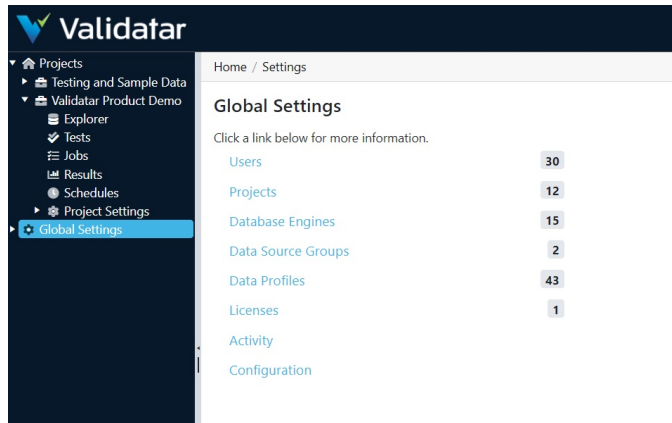




Global Settings

Overview

The **Global Settings** page reflects the same choices available within the navigation pane under the Global Settings dropdown. As the name implies, Global Settings are application-wide, whereas **Project Settings** are limited to a given project.



Included in Global Settings are:

- Projects
- Users
- Activity
- Data Source Groups
- Data Profiles
- Database Engines
- Licenses
- Configuration

Access

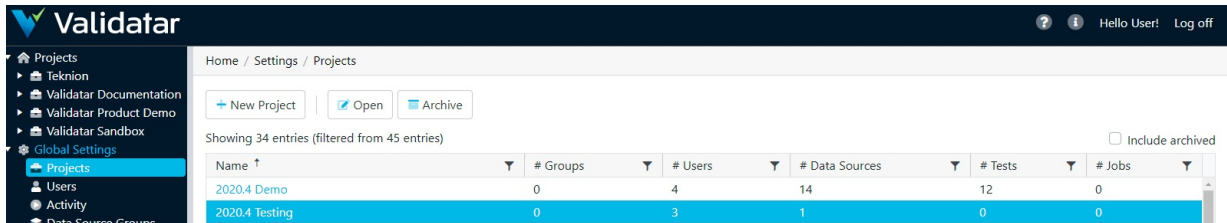
1. The Global Settings page may be directly accessed by clicking on Global Settings in the navigation pane.



Projects

Overview

Projects house tests, jobs, and project settings. The Global Settings Projects page is where you manage all of your projects in Validatar.



Action Buttons

| | |
|---------------------|--|
| New Project | Click to navigate to the New Project page. |
| Open Project | Open the currently highlighted project. |
| Archive | Validatar projects are not deleted. Rather, they are archived. Clicking the Archive button will archive the selected project. Archived projects can be restored. |

Table Headers

| | |
|----------------------|--|
| Name | The name of the project. |
| # Groups | The number of groups associated with the project. |
| # Users | The number of users associated with the project. |
| # Connections | The number of connections associated with the project. |
| # Tests | The number of tests associated with the project. |
| # Jobs | The number of jobs associated with the project. |

Access

1. Projects page is accessed under Global Settings in the navigation pane.



Users

Overview

As the name implies, the Global Settings Users page is where you can manage every Validatar user across all projects.

Displayed Information

The screenshot shows the Validatar web interface. The top navigation bar includes the Validatar logo, a user profile icon with the text 'Hello User!', and a 'Log off' button. The left sidebar contains a navigation menu with categories like Projects, Global Settings, Activity, Data Source Groups, Data Profiles, and Database Engines. The 'Global Settings' section is expanded to show 'Users'. The main content area displays a table of users with the following columns: Username, First Name, Last Name, Global Admin, Test Author, Project Admin, and Last Login. The table shows three users: 'ajones', 'anguyen', and 'bbaker'. The 'bbaker' row is highlighted in blue. Above the table are buttons for '+ New User', 'Open', and 'Archive'. A status bar above the table indicates 'Showing 45 entries (filtered from 89 entries)' and an 'Include archived' checkbox.

| Username | First Name | Last Name | Global Admin | Test Author | Project Admin | Last Login |
|-----------|------------|-----------|-------------------------------------|-------------------------------------|------------------------|------------|
| ajones | Ariel | Jones | | <input checked="" type="checkbox"/> | | 4/9/2021 |
| anguyen | Antony | Nguyen | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | 8 projects | 2/26/2021 |
| aphillips | Anthony | Phillips | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | Validatar Product Demo | |
| bbaker | Barry | Baker | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | 3 projects | 4/9/2021 |

Action Buttons

| | |
|-----------------|---|
| New User | Navigate to the Global: User Details page to create a new user. |
| Open | Open the selected user's Global: User Details page. |
| Archive | Validatar users are not deleted. Rather, they are archived. Clicking the Archive button will archive the selected user. Archived users can be restored. |

Table Headers

| | |
|------------------------------------|---|
| Include archived (checkbox) | Validatar users are not deleted, rather they are archived. Clicking the Include archived checkbox will cause those users to display. |
| Username | The username. |
| First Name | The user's first name. |
| Last Name | The user's last name. |
| Global Admin | Displays a checkmark if the user has the Global Admin role. |
| Test Author | Displays a checkmark if the user has the Test Author role. |
| Project Admin | Displays the project name where the user has the Project Admin role. If the user has Project Admin privileges for more than one project, the number of projects will display instead. |
| Last Login | The date the user last logged in. |

Access

1. Users page is accessed under Global Settings in the navigation pane.

Adding a New User

To add a new user, click the **New User** button on the User list page and enter all required user information.



Displayed Information

Save

First Name required

Last Name required

Email required

Username required

Password NOT RATED ?

Confirm Password

AD Account

Global Roles

- Global Admin
- Test Author

Project Admin Access

- Ieknion Data Warehouse
- Test Import
- Testing Sandbox
- Validatar Documentation
- Validatar Product Demo
- Validatar Sandbox
- WhereScape RED Metadata Test Pack

Enable user

| | |
|-----------------------------------|---|
| Save | Saves the new user. |
| First Name | The user's first name. |
| Last Name | The user's last name. |
| Email | The user's email address. |
| Username | The username. |
| Password; Confirm Password | <p>Validatar requires a strong password. A strong password is defined by default as one that is at least 7 characters long and contains three of the following:</p> <ul style="list-style-type: none"> • Upper-case characters (A-Z) • Lower-case characters (a-z) • Digits (0-9) <p>Note: Password settings can be changed under Global Settings > Configuration.</p> |
| AD Account | The AD textbox can be used to link Validatar with Active Directory. |
| Global Roles | <p>Includes Global Admin and Test Author.</p> <ul style="list-style-type: none"> • If Global Admin is selected, the user has access to Global Settings in the navigation pane. • Test Author privileges must be selected for a user to create any tests in Validatar. If deselected, assigning the user the Create Tests option available in Access Rules will not give the user test creation capabilities. |
| Project Admin Access | All active projects display under Project Admin Access . Selecting any project will grant the user admin access to that project. Admin access can also be granted via Project > UserDetails . |

Access

1. User Details page can be accessed by expanding **Global Settings** in the navigation pane, clicking **Users** and then selecting a user via highlighting and clicking the **Open** button or by clicking directly on the username.



Activity

Overview

The Activity page lists all the jobs and tests that are currently running. There are two Activity areas in Validatar:

- Global Activity - shows activity amongst all projects in Validatar.
- Project Activity - shows activity in the project the user is currently in.

The purpose of the Activity page is to provide a comprehensive view of all activity that has taken place within Validatar. The list can be refreshed and filtered on any of the information elements to easily find activity for a particular project, user, destination, etc.

If a test or job is hung up, you can abort the execution of the test or job from the Activity page.

The screenshot shows the Validatar web interface. The top navigation bar includes the Validatar logo, a user profile icon, and the text "Hello User! Log off". The left sidebar contains a navigation menu with items like "Projects", "Teknion", "Validatar Documentation", "Validatar Product Demo", "Explorer", "Tests", "Jobs", "Migration Jobs", "Post-Deployment Job", "Pre-Deployment Jobs", "Results", "Schedules", "Project Settings", "Data Sources", "Users", "Groups", "Activity", and "Tools". The main content area shows the breadcrumb "Home / Validatar Product Demo / Results / Test Schedule 1". Below the breadcrumb are "Abort" and "Refresh" buttons. The text "Showing 1 entry" is displayed above a table. The table has columns for Type, Name, Progress, Start Date, Destination, Run By, and Status. The single entry in the table is: Job, Test Schedule 1, 1 of 3, 4/9/2021 9:28:20 AM, Repository, Test User, Executing.

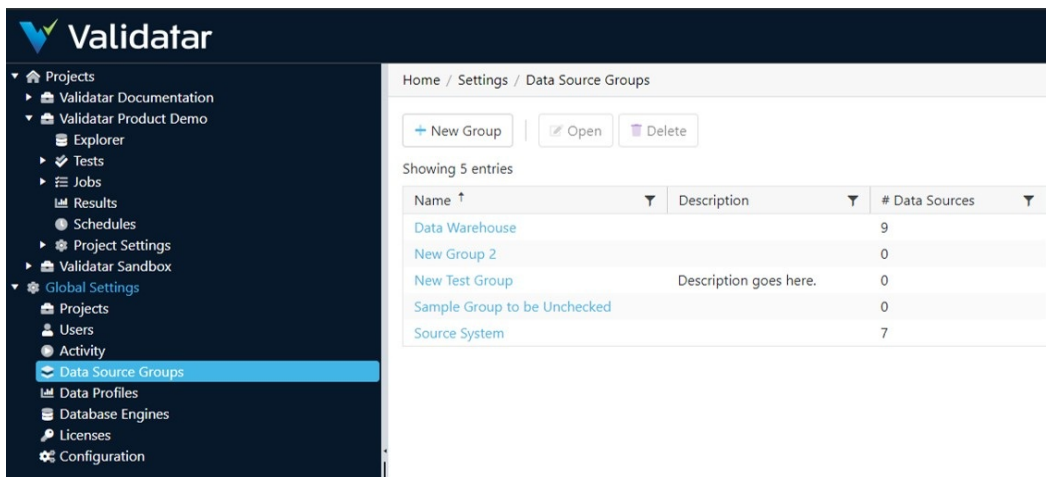
| Type | Name | Progress | Start Date | Destination | Run By | Status |
|------|-----------------|----------|---------------------|-------------|-----------|-----------|
| Job | Test Schedule 1 | 1 of 3 | 4/9/2021 9:28:20 AM | Repository | Test User | Executing |



Data Source Groups

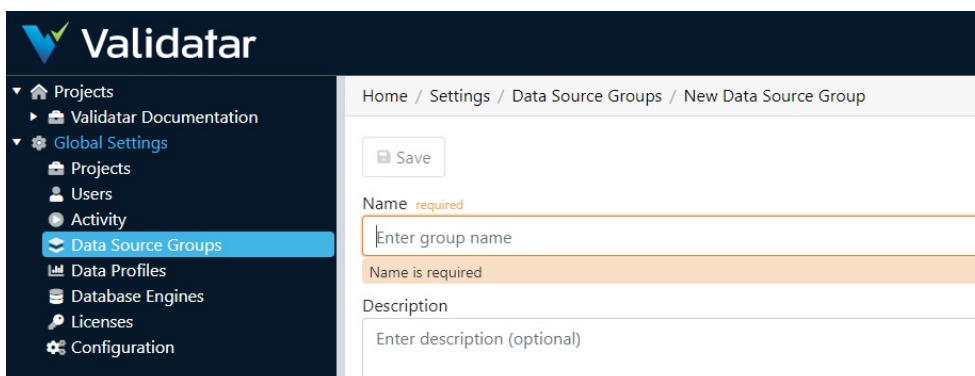
Overview

The Data Source Groups page displays the full list of data source groups available (connected) within Validatar. The list displays the Group Name, Group Description, and the Number of Data Sources within the group. Each column is sortable and filterable, which allows easier management when the list becomes long. A new group can be added by clicking the New Group button on this page. A group can also be deleted on this page by clicking on the white space of the group name, then clicking the Delete button.



Data Source Groups Configuration

When creating a new data source group, clicking on the New Group button will open a new screen. Once you enter the Name (required) and Description (optional), the Save button will become available to add this new group.



If you want to change the name or description of an existing group, click on the existing name and a new window will display, where changes can be made and saved.



Data Profiles

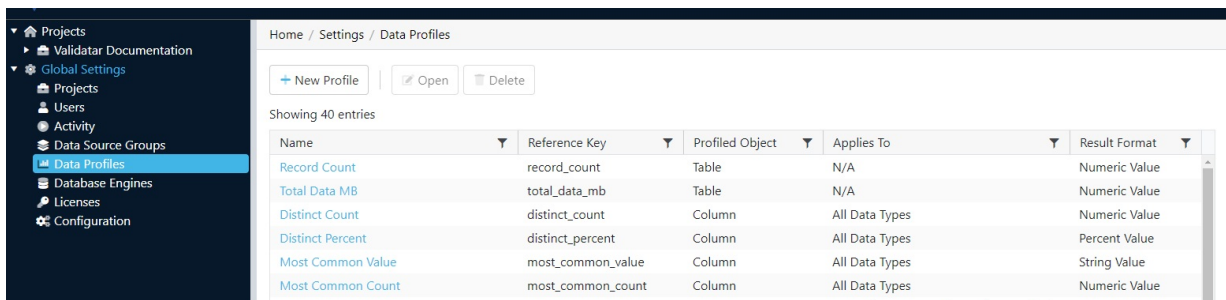
What are Data Profiles?

Data Profiles are information about existing data that help to determine the accuracy, completeness, and quality of your data. Data profiling is typically used within the broader context of ELT, monitoring, and Data Governance. When done properly, data profiling can play a significant part in data cleansing, enriching, and maintaining quality data within an organization.

Some common data profiles that are useful in many cases are:

- Record count
- Distinct value count
- Nulls
- Range of values
- Average values

Validatar contains a standard set of 40 data profiles. They are listed on the **Data Profiles** page with filterable columns. Any data profile on the list can be deleted by clicking on the white space next to the Name and then clicking the Delete button at the top of the page.



Creating a New Data Profile

To add a new profile, click on the + New Profile button at the top of the Data Profiles page. This will bring up a new page with space to enter the Name (required), Reference Key (required), Description (optional), Profiled Object (required), and Results Format (required). Once the required fields are populated, the Save button will become clickable and you can save the new profile.

Data Profile List

The complete list of the standard profiles pre-written in Validatar is:

| | | | |
|-------------------|---------------------|------------------|------------------------|
| Record Count | Lower Quartile | Null Percent | Maximum (Date) |
| Total Data MB | Upper Quartile | Blank Count | Longest Value |
| Distinct Count | Minimum (String) | Blank Percent | Shortest Value |
| Distinct Percent | Maximum (String) | Numeric Count | Distribution (String) |
| Most Common Value | Standard Deviation | Numeric Percent | Distribution (Numeric) |
| Most Common Count | Max Length | Zero Count | Top 10 Values |
| Minimum (Numeric) | Min Length | Zero Percent | Bottom 10 Values |
| Maximum (Numeric) | Mean Length | Negative Count | Binned (Numeric) |
| Mean (Numeric) | Length Distribution | Negative Percent | Year Distribution |



| | | | |
|------------------|------------|----------------|-------------------------|
| Median (Numeric) | Null Count | Minimum (Date) | Year Month Distribution |
|------------------|------------|----------------|-------------------------|

Data Profile Details

Each data profile name is clickable and when opened, displays a details page for that profile. The details include Name, Reference Key, Description, Profiled Object, and Results Format. There is also an optional Restrict Data Type checkbox and if checked, will display a list of options. Multiple options can be checked within the Data Type options list. The data profile details page can be updated and saved.



Database Engines

Overview

The Data Engines page is the place to create and manage all the various data engines that Validatar is connected to. Each data engine is listed on the main page, with the ability to add new engines through the **New Engine** button at the top of the page. The name of each engine is clickable and a detail page opens. The same detail page opens when you click the new engine button. Whether creating a new engine or editing an existing one, the detail page allows you to name or rename (required) and enter a version (optional).

| Name | Version | # Data Type Mappings | # Data Sources |
|---------------------------------|-----------|----------------------|----------------|
| Database Sample To Be Unchecked | | 0 | 0 |
| Oracle | | 0 | 0 |
| Sample Database 4 TO EXPORT | | 8 | 0 |
| Sample Database 4 TO IMPORT | | 8 | 0 |
| Sample DB 5 | | 0 | 0 |
| Snowflake | | 32 | 15 |
| SQL Server | | 33 | 95 |
| Test Engine 2 | TDSVAL468 | 1 | 0 |
| Test Engine to be Exported | | 7 | 0 |

Database Engine Settings

Unlike some of the other detail pages within the Global Settings sub-categories, this page has a left-pane list with three sub-pages of data engine settings to create or edit.

| Name | Reference | Has Condition | Prerequisites | Enabled | Status |
|--------------------|-------------------|---------------|------------------------------|---------|--------|
| Record Count | record_count | No | | Yes | Valid |
| Total Data MB | total_data_mb | No | | No | Valid |
| Distinct Count | distinct_count | No | | Yes | Valid |
| Distinct Percent | distinct_percent | No | Distinct Count, Record Count | Yes | Valid |
| Most Common Value | most_common... | No | | Yes | Valid |
| Most Common Count | most_common... | No | | Yes | Valid |
| Minimum (Numeric) | min_numeric | No | | Yes | Valid |
| Maximum (Numeric) | max_numeric | No | | Yes | Valid |
| Mean (Numeric) | mean_numeric | No | | Yes | Valid |
| Median (Numeric) | median_numeric | No | | Yes | Valid |
| Upper Quartile | upper_quartile | No | | Yes | Valid |
| Lower Quartile | lower_quartile | No | | Yes | Valid |
| Minimum (String) | min_string | No | | Yes | Valid |
| Maximum (String) | max_string | No | | Yes | Valid |
| Standard Deviation | standard_devia... | No | | Yes | Valid |
| Max Length | max_length | No | | Yes | Valid |



The **Data Types** sub-page allows the user to associate the Data Type with Mapped Type. The Mapped Type options are based on a dropdown menu of standard options, such as Boolean, Date/Time, and String. Mappings can be added and deleted on this page by using the appropriate buttons at the top of the page.

The **Metadata Ingestion** sub-page is the place for writing, storing, and managing SQL scripts for data engines. This page contains three separate tabs, Schema Script, Table Script, and Column Script. All of these scripts are required as part of the database engine information.

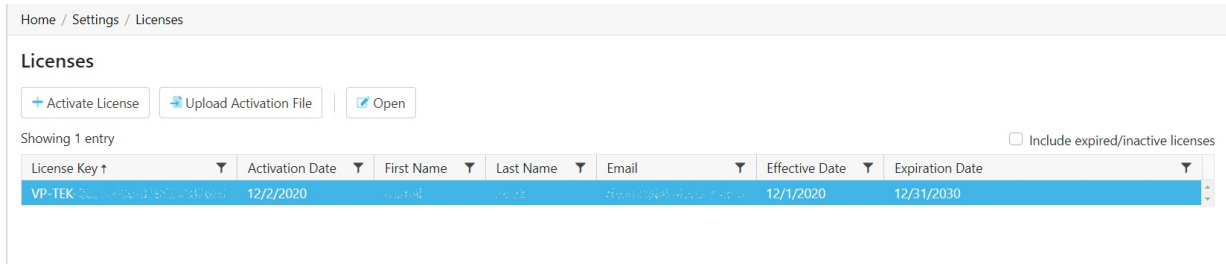
The third sub-page, **Profiling**, is to set the profile configuration. The Formula Type needs to be set to either Query or Calculation, from the dropdown menu in the Formula Type box. There is also an option to set the Grouping Key and Profile Condition. In addition, the Aggregate Formula and FROM statement (including optional WHERE clause) are defined on this page.



Licenses

Overview

A Validatar license contains information about the edition of Validatar being used, when the license expires, and the features included in the Validatar purchase.



Activating a License

To activate a license:

1. Navigate to **Global Settings > Licenses**.
2. Select **Activate License**.
3. Read the Validatar End-User License Agreement and select **"I Agree"**.
4. Fill out the license information form. Find your license information in the start-up guide emailed to you from the Validatar Customer Success Team.
5. Select **Activate**.

End-User License Agreement ("Agreement")

Last updated: August 1, 2019

Please read this End-User License Agreement ("Agreement") carefully before clicking the "I Agree" button to activate or using the Validatar ("Application").

By clicking the "I Agree" button, downloading or using the Application, you are agreeing to the terms of this Agreement.

This Agreement is a legal agreement between you (either an individual or a single entity) and your use of the Application made available to you by Teknion Data Solutions.

If you do not agree to the terms of this Agreement, do not click on the "I Agree" button and do not use the Application.

I agree to the Validatar End-User License Agreement required

Enter the following information to activate your license.

First Name required Last Name required

Activating a License without Internet

In instances where the server does not have internet connectivity, you can activate a license using the following steps:



- Generating a license request file.
- Send the license request file back to the Validatar team who will provide you with a license activation file in return.
- Upload the license activation file to Validatar.

To generate and upload a license file:

1. Complete the **Activating a License** steps listed above.
2. When you click **Activate** the following pop-up will appear:

Off-line Activation ×

The Validatar licensing server cannot be accessed.

Validatar licenses can be activated off-line by generating a license request file, which can be:

- uploaded to <https://licensing.teknionusa.com/validatar/activate>, or
- emailed to support@validatar.com

With either option, you will receive a license activation file that can then be uploaded on the Licenses page to activate your license.

Would you like to generate a license request file for off-line activation?

Generate File Cancel

3. Click the **Generate File** button to start the offline activation process.
 - This will create and download a file named Validatar-license-request-yyyyMMdd-hhnnss.json (with the date/time components in the filename replaced) and the page will change to the following:

Home / Settings / Licenses / Activate

License: Activate

🔒 Activate

The license request file was generated successfully. This file should now be:

- uploaded to <https://licensing.teknionusa.com/validatar/activate>, or
- emailed to support@validatar.com

- The generated JSON file contains the user information entered on the screen as well as a computed signature that guarantees the file was correctly generated from the client's instance of Validatar and was not modified after the file was created.

4. Upload the request file.

- If you choose to upload the file via the activation link, you will see the following page:

TEKNION

Activate License

Upload the license request file that was generated from your installation of Validatar.

Select files... Drop files here to upload

- Select the request file that was downloaded from Validatar.
- If you choose to send the Validatar team the request file directly, we will complete **Step 4** for you and send you the **activation file**.



5. Navigate to the **Licenses** page and click **Upload Activation File** that shows the following pop-up:

Upload Activation File×

Choose the Validatar license file.

Select file...Drop files here to upload

Cancel

6. Select the activation file that was either downloaded to your computer or sent to you by the Validatar team.
7. You should then get a message that says "The license file was activated successfully".

Common Errors

When uploading the generated request file, you may receive one of the following errors:

- "The uploaded file contained an invalid key."
- "The uploaded file was not a valid license request."
- "The uploaded file did not contain a valid signature."
- "The license key in the uploaded file has already been activated."
- "The uploaded license request was not processed successfully."

When uploading the activation file, you may receive a message that says "The uploaded license file was not valid."

In both cases, contact the Validatar team for further support.

License Details

The **License Details** page displays specifics about a given license.

00000-12345

| | | | |
|---|---|---|--|
| First Name <input type="text"/> | Last Name <input type="text"/> | Email <input type="text" value="@teknionusa.com"/> | |
| Activation Date <input type="text" value="8/26/2020"/> | Effective Date <input type="text" value="9/1/2017"/> | Expiration Date <input type="text" value="9/1/2030"/> | Version Restriction <input type="text" value="0.1 - 2021.0"/> |
| Included Features <input type="text" value="Jobs"/> <input type="text" value="Command Line"/> | | Volume Limits <input style="width: 100px;" type="text" value="# of users"/> <input type="text" value="20"/> | |



- **Version Restriction** - The versions for which this license is applicable.
- **Included Features** - Included features may change depending on the release and license.
 - **Jobs**: Jobs and related features are included; for example, since jobs are available, this instance of Validatar supports scheduling.
 - **Command Line**: Command line access is available.
 - **Template Tests**: Users can create multiple dynamic tests at once using the Template Test functionality.
 - **Custom Profiles**: Users can create custom profiles to go along with the 40 standard profiles Validatar ships with.
- **Volume Limits**: The number of users that can be enabled at one time.

Access

1. Find all license keys by navigating to **Global Settings > Licenses** in the navigation pane.



Configuration

Overview

The Configuration page provides access to Validatar configuration details. These details are organized into five sections, SMTP, Authentication, Logs, Scheduling, and Default Values.

Simple Mail Transfer Protocol (SMTP)

Simple Mail Transfer Protocol (SMTP) is a communication protocol used for email transmission.

Home / Settings / Configuration / SMTP

Validatar Configuration

- SMTP**
- Authentication
- Logs
- Scheduling
- Default Values

Server Configuration - SMTP

|

Host required Port required

Use TLS? ? Use Default Credentials ?

Username Password

From Address required

| | |
|--------------------------------|---|
| Save | Save any changes made to the SMTP configuration settings. |
| Send Test Email | Sends a test email to your user's email address to verify SMTP settings. |
| Host | The server name for the SMTP server. |
| Port | The port that the mail server expects communications to come through. The port should typically be set to one of the following values: <ul style="list-style-type: none">• 25: clear text SMTP port• 587: encrypted SMTP using TLS |
| User TLS? | Check this option to encrypt SMTP traffic using the Transport Layer Security (TLS) protocol. |
| Use Default Credentials | Check this option to authenticate using the service account Validatar runs under instead of entering specific credentials. |
| Username (optional) | SMTP username |
| Password (optional) | Changes SMTP password |
| From Address | The displayed sender's address from Validatar. |

Authentication

The Authentication section contains settings related to profile security, such as automatic logouts and account passwords.



Validator Configuration

- SMTP
- Authentication**
- Logs
- Scheduling
- Default Values

Server Configuration - Authentication

User Session

Session Duration required

minute(s)

Account Security & Recovery

Login Attempts Before Lockout required

Account Lockout Duration required

minute(s)

Password Reset Window required

day(s)

Password Complexity

Minimum Password Length required

Required Character Groups required

| | |
|--|--|
| User Session | Session Duration - Determines how long, in minutes, a user can remain idle in Validator before they are automatically logged out. |
| Account Security & Recovery | <ul style="list-style-type: none">• Login Attempts Before Lockout — The number of incorrect password attempts allowed before locking a user account.• Account Lockout Duration — How long, in minutes, an account is locked after the maximum number of failed login attempts is reached.• Password Reset Window — The length of time, in days, a user has to click the Password Reset email link before it expires. |
| Password Complexity | <ul style="list-style-type: none">• Minimum Password Length — The minimum character length of all passwords.• Required Character Groups— The minimum number of character groups that are required for an acceptable password. Character groups are necessary to enforce password complexity.<ul style="list-style-type: none">○ If Required Character Groups is set to 1, then only upper-case characters are required.○ If Required Character Groups is set to 2, then upper-case and lower-case characters are required.○ If Required Character Groups is set to 3, then upper-case characters, lower-case characters, and digits are required.○ If Required Character Groups is set to 4, then upper-case characters, lower-case characters, digits, and punctuation characters are required. |



Logs

The **Logs** section allows the user to download recent log files that can be shared with support to troubleshoot errors on the server. Enter how far back (in days) you want the log file to go in the text box, then select **Download Logs**.

The following items are included in the zip file:

- Server Settings and Configuration Information
- Web Server Logs
- Service Layer Logs

No customer-sensitive data will be included in the settings or log files that are downloaded.

The screenshot shows the 'Server Configuration - Logs' page. On the left is a navigation menu with 'Validatar Configuration' and sub-items: SMTP, Authentication, Logs (selected), Scheduling, and Default Values. The main content area has a 'Download Logs' button, a 'Logs to Download' input field with the value '3' and a 'day(s)' unit, and a 'required' label. A large informational box contains the following text: 'This process will download via the browser the most recent log files from the Validatar Server so that these can be shared with support to troubleshoot errors on the server. The following items are included in the zip file: Server Settings and Configuration Information, Web Server Logs, Service Layer Logs. No Customer Sensitive Data will be included in the Settings or Log files that are downloaded.'

Scheduling

The **Scheduling** section allows the user to choose to ignore past or skipped schedules when the Validatar site is restarted in IIS (Internet Information Services) and to schedule a daily result purge. The result purge clears the Validatar database of test results but keeps the history of test executions.

The screenshot shows the 'Server Configuration - Scheduling' page. On the left is a navigation menu with 'Validatar Configuration' and sub-items: SMTP, Authentication, Logs, Scheduling (selected), and Default Values. The main content area has a 'Save' button, a 'Restart Behavior' section with the question 'Ignore past/skipped schedules on Validatar restart?' and radio buttons for 'No' (selected) and 'Yes', and a 'Result Purge Schedule' section with the question 'Schedule daily background execution result purge process' and radio buttons for 'No' and 'Yes, at' (selected), followed by a time input field set to '11:00 AM' and a dropdown arrow.



Default Values

The **Default Values** section allows for test and profile set configuration settings to be selected on a server level. This allows every new test and profile set created to be standardized. You can override the results or profile set configuration on the individual object if necessary.

Home / Settings / Configuration / Default Values

Validator Configuration

- SMTP
- Authentication
- Logs
- Scheduling
- Default Values** >

Server Configuration - Default Values

[Save](#)

Test Configuration

| Configuration Setting | Default Value |
|--|---|
| Value Success Criteria <i>Single-Value, Multi-Value, Profile</i> | <input checked="" type="radio"/> Numeric Tolerance <input type="radio"/> Percent Tolerance |
| Value Success Tolerance <i>Single-Value, Multi-Value, Profile</i> | <input type="text" value="0"/> |
| Overall Success Criteria <i>Multi-Value</i> | <input checked="" type="radio"/> Max Failure <input type="radio"/> Percent Failure |
| Overall Success Tolerance <i>Multi-Value</i> | <input type="text" value="0"/> |
| Only Keep Failures <i>Multi-Value</i> | <input checked="" type="radio"/> No <input type="radio"/> Yes |
| Abort Processing After Failures <i>Multi-Value</i> | <input checked="" type="radio"/> No <input type="radio"/> Yes, after <input type="text" value="1000"/> failures |
| Abort Processing After Rows <i>Multi-Value</i> | <input checked="" type="radio"/> No <input type="radio"/> Yes, after <input type="text" value="1000"/> rows |
| Scripts Include Order By <i>Multi-Value</i> | <input checked="" type="radio"/> No <input type="radio"/> Yes |
| Purge Results After Days <i>All</i> | <input checked="" type="radio"/> No <input type="radio"/> Yes, after <input type="text" value="180"/> days |

Profile Set Configuration

| Configuration Setting | Default Value |
|--------------------------|--|
| Max Concurrent Queries | <input type="text" value="4"/> |
| Max Profiles Per Query | <input type="text" value="500"/> |
| Purge Results After Days | <input checked="" type="radio"/> No <input type="radio"/> Yes, after <input type="text" value="180"/> days |

Test Configuration Note

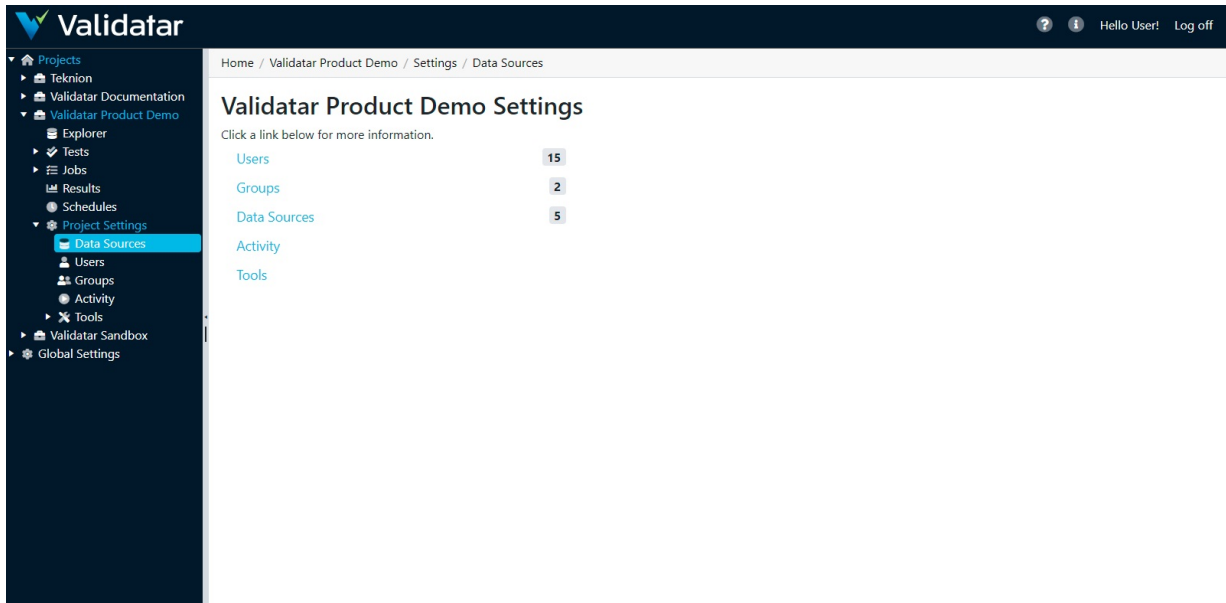
The italicized text under the Configuration Setting is the Test Data Type applicable to the chosen setting.



Project Settings

Overview

The **Project Settings** page reflects the same choices available within the navigation pane under the Project Settings dropdown; that is, access to settings for Data Sources, Users, Groups, Activity, and Tools. As the name implies, Project Settings are limited to a given project, whereas **Global Settings** are application-wide.



Included in Project Settings are:

- Users
- Groups
- Data Sources
- Activity
- Tools
 - Labels
 - Import
 - Export

For information on Project Data Sources, see the Data Sources section.

Access

1. The Project Settings page may be directly accessed by expanding a project and clicking on Project Settings in the navigation pane.



Users

Overview

The **Project Settings Users** page lists Validatar users with access to the selected project.

Home / Validatar Product Demo / Settings / Users

Project User Permissions

[+ Grant Access](#) [Remove Access](#)

| Create Roles | Import/Export Roles | Project Roles |
|--|--|---|
| <ul style="list-style-type: none"> Create Data Sources Create Jobs Create and Edit Labels | <ul style="list-style-type: none"> Import Export | <ul style="list-style-type: none"> Project Admin Project Access |

Showing 3 entries

| Username ↑ | Test Author | Create | | | Import/Export | | Project | |
|------------|-------------------------------------|-------------------------------------|-------------------------------------|--------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|
| | | | | | | | | |
| anguyen | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |
| dbaldwin | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |
| efrancisco | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |

Granting Access

The **Grant User Access** page provides a list of users that do not have access to the project. The process for granting a user project access is as follows:

1. Within **Project Settings**, click **Users** and then click **Grant Access**.
2. Type the user's name to select them from the dropdown list.
3. Add the permissions by checking the appropriate boxes for each role.

Removing Access

1. Select the user from the list.
2. Click **Remove Access**.

You can restore a user's access immediately after removing it by clicking the **Restore Access** button. If you navigate away from the page, you will have to click the **Grant Access** button to re-add the user.

Roles

| Create Roles | Import/Export Roles | Project Roles |
|---|--|--|
| <ul style="list-style-type: none"> Create Data Sources - the user can create a new data source in the project. Create Jobs - the user can create a new job in the project. Create and Edit Labels - the user can manage labels in the project. | <ul style="list-style-type: none"> Import - the user can import an XML file of Validatar objects into the project. Export - the user can export Validatar objects out of a project to an XML file. | <ul style="list-style-type: none"> Import - the user can import an XML file of Validatar objects into the project. Export - the user can export Validatar objects out of a project to an XML file. |





Groups

Users may be organized into groups. These groups are used in conjunction with Access Rules to designate user permissions; that is, data source and access role permissions. See the Access Rules section to learn more.

Groups List

The Groups list page displays access to all the groups that have been defined in a project.

Displayed Information

The Groups List page is organized as follows:

- **Action Buttons** — See below
- **Name**
- **# Users** — The number of users in the group.
- **Last Modified** — The date of the last change to the group.
- **Modified By** — The username of the person who made the last group change.

| Name ↑ | # Users | Last Modified | Modified By |
|---|---------|---------------|--------------|
| New Example Group | 2 | 3/24/2021 | Example User |
| Validatar Documentation Group | 2 | 7/10/2020 | Example User |

The displayed information can be sorted by clicking on column headers or filtered by clicking on the filter icons also located on the column headers.

Action Buttons

The Group List action buttons are pictured above and defined below.

| | |
|------------------|--|
| New Group | Click to navigate to the Group Configuration page. |
| Open | Open the selected group's Group Configuration page. Note that clicking directly on a username within the information window will also open the user's profile. |

Access

1. The Groups list page can be accessed by expanding a project, expanding Project Settings, and clicking Groups.

Group Configuration

The Groups Configuration page provides an interface to choose which users are associated with a given group.



Displayed Information

The Groups Configuration page is organized as follows:

- **Save**
- **Group Name**
- **Users Crosstab** — The **Users Crosstab** lists all users with project access.
- **Users Checkboxes** — Select a checkbox to add the corresponding user to the group.
- **Name** — Name of users associated with the project.
- **Group is enabled** — Enable/Disable group

Home / Validator Documentation / Settings / Groups / New Example Group

Group is enabled

Name required

New Example Group

| Users | | Showing 2 entries 2 entries selected | |
|--|-------------|--------------------------------------|--------------|
| <input checked="" type="checkbox"/> +1 | Username ↑2 | | Name ↑3 |
| <input checked="" type="checkbox"/> | jsmith | | John Smith |
| <input checked="" type="checkbox"/> | User | | Example User |

Access

1. The Groups Configuration page can be accessed by expanding a project, expanding Project Settings, clicking Groups, and opening an existing group or creating a new group.



Import

Overview

The Import feature allows an XML file that contains the contents of a project to be imported into another project. Importing is a three-step process:

- Step 1: Select a file
- Step 2: Map the data sources and choose the target import folder
- Step 3: Review the changes

Import: Step 1

Select an XML file containing exported Validatar objects. Invalid file types and XML files incorrectly structured will not be accepted. To ensure you have the correct file to import, export objects from Validatar first for reference.

Home / WWDVC Hands-On / Settings / Tools / Import

Import - Step 1 of 3

Choose a file containing exported Validatar information.

Select file...

Drop files here to upload

Import: Step 2

Mapping Data Sources

If a data source in the project you're importing into has the same name and connection string as a data source found in the imported XML file, the data sources will automatically be mapped to each other. This default mapping can be changed if necessary.

For data sources where an identical name and connection string is not found, you will have to choose the respective data source.



Import - Step 2 of 3

"Hands On Export.xml" was uploaded successfully. To complete the import:

- Map each source data source below to the corresponding target data source
- Choose the target folder to import tests into
- Choose the target folder to import jobs into
- Click the Review Changes button below to review the changes that will be made to the project

| Data Sources Included in File <small>required</small> | |
|---|--------------------|
| Adventure Works | Adventure Works |
| Data Vault | Data Vault |
| WhereScape Repository | Choose Data Source |

Choosing the Target Folder

All the tests and jobs included in the file will appear on the left pane. Choose a single folder on the test and job levels to import every object included in the file. After the selection is made, click **Review Changes**.

The screenshot displays the 'Import' configuration interface. On the left, there are two panes: 'Tests Included in File' and 'Jobs Included in File'. The 'Tests Included in File' pane shows a tree structure with 'Demo Tests' (containing 7 sub-items) and 'Materialized Tests' (containing 'Load Counts', 'Null Checks', and 'Source Counts'). The 'Jobs Included in File' pane shows a 'Jobs' folder containing 'Demo Job'. On the right, there are two panes: 'Project Test Folders - Choose Import Target required' and 'Project Job Folders - Choose Import Target required'. The 'Project Test Folders' pane shows a tree structure with 'Demo Tests' (containing 'Materialized Tests' which further contains 'Load Counts', 'Null Checks', and 'Source Counts'). The 'Project Job Folders' pane shows a 'Jobs' folder. At the bottom left, there is a 'Review Changes' button, and at the bottom right, there is a 'Restart' button.

Import: Step 3

The final step of the import is to review the objects that will be added to the project. Each object is highlighted based on whether the object currently exists in the project or will be added.










- **Identical** - The object already exists in the current project. This requires the user to either overwrite or rename the object.
- **Add** - The object does not exist in the current project and will be added.
- **Overwrite** - If the object already exists, replace it with the new object by overwriting it.
- **Rename** - If the object already exists, duplicate the object and rename it.



To toggle between overwrite and rename, click the icon next to the object.

















Home / WWDVC Hands-On / Settings / Tools / Import

Import - Step 3 of 3

The following trees show the objects from the import file merged with the existing objects in the project. You can switch between the Overwrite and Rename actions on individual objects in the tree by clicking the  or  icon to the right of the object. You can also click a link in the "Update All Objects" section to affect all relevant objects in the trees.

Legend:  None  Identical  Add  Overwrite  Rename

Update All Objects:  Overwrite  Rename

Tests:  0  7  0  0
Jobs:  0  1  0  0
Custom Profiles:  0  1  0  0
Profile Sets:  0  0  0  2

Tests Merged With Project



- ▼ Demo Tests
 - 1. OrderQty Sum Match
 - 2. OrderQty SUM by ProductID
 - 3. Customer Email Address Null Check
 - 5. CustomerID Count - RV vs Source
 - 4. String Fields with Null Values
 - 6. Hub Count - RVault vs Source - With Mapping File
 - 7. Compare Load Table Record Counts - With Lineage Query
- ▼ Materialized Tests
 - Load Counts
 - Null Checks
 - Source Counts

Jobs Merged With Project

- ▼ Demo Job

Data Sources Merged With Project

- ▼ Adventure Works
 - Profile Sets
 - Quick Profiles
- ▼ Data Vault
 - Custom Profiles
 - New Records - Yesterday
 - Profile Sets
 - Quick Profiles

Finalizing the Import

Once you review all changes to be made to the project, select **Import**. Navigate back to the Tests and Jobs area to confirm the import was successful.

Access

1. Navigate to **Tools** found under **Project Settings**.
2. Select **Import**.



Export

Overview

The export feature allows selected tests, template tests, profile sets, and jobs in a particular project to be exported to an XML file. The XML file can then be used to import the contents into another project.

A user may want to export Validatar objects to:

- Create a backup of a Validatar project
- Make mass changes to the contents of a test or job
- Duplicate tests or jobs for use in a different development environment (e.g. Running the same set of tests configured against the DEV environment to the TEST environment).

There are two ways to export Validatar objects

- via Folder path selection
- via Label selection (requires the project to have at least one locked label)

Exporting via Folder Path Selection

Exporting via folder path selection allows you to select available objects based on their hierarchical location in Validatar. Expand and collapse tests, jobs, and folders to show or hide certain objects.

Home / WWDVC Hands-On / Settings / Tools / Export

Export

Available Objects for Export

- WWDVC Hands-On
 - Tests
 - Demo Tests
 - 1. OrderQty Sum Match
 - 2. OrderQty SUM by ProductID
 - 3. Customer Email Address Null Check
 - 4. String Fields with Null Values
 - 5. CustomerID Count - RV vs Source
 - 6. Hub Count - RVault vs Source - With Mapping File include file
 - 7. Compare Load Table Record Counts - With Lineage Query
 - Materialized Tests 3 references
 - Missing Business Keys
 - Record Count Comparison
 - Record Count Profile
 - Jobs
 - Demo Job

Selection Options

The tree to the left contains every test and job in the project. All checked objects will be included in the exported file.

When an item is checked/unchecked:
 Also check/uncheck descendants
 Also check/uncheck ancestors

When a job is checked/unchecked:
 Also check/uncheck dependent objects

When a template test is checked:
 Automatically include meta-object file

2 selected test folders
7 selected tests

[Previous](#) [Continue](#)

Selection Options



Every object that is checked on the Available Objects for Export list will be included in the exported XML file. You can configure how the object selection should work using the section called **Selection Options**.

When an item is checked and unchecked choose to:

- **Check and uncheck descendants.** This allows all the children objects inside of folders to be selected or deselected for export.
- **Check and uncheck ancestors.** This allows all the parent objects of the item to be selected or deselected for export.

When a job is checked and unchecked choose to:

- **Check and uncheck dependent objects.** This allows the objects within a job to be selected or deselected for export. Learn more about dependent job configuration in the next section.

When a template test is checked choose to:

- **Automatically include the meta-object file.** Checking this option ensures the import file is included with the template test if the template test is driven by an import file.

Job Configuration

When **Also check/uncheck dependent objects for a job** is selected, each job that is selected in the folder tree will have a configuration icon appear next to the job name so the user can choose which dependent objects of the job should be included in the export. Selecting the configuration icon opens the following window.

If you choose to remove an item from the item list one of two things may happen when it's time to import the file:

- If an item name with the same hierarchy of the removed item name is found in the target project, the job step will be linked to that item.
- If an item name is not found, the job step will be removed from the job upon import.

Learn more about the last export step in the Finalizing the Export section below.

Exporting via Label Selection

Exporting via label selection allows you to select all objects related to locked labels associated with tests, template tests, or jobs. Only locked labels will show up on the export list and multiple labels can be selected for export at once.

To view the configuration of the locked label, select the external view icon to the right of the label name.



Export

| Available Objects for Export | | | | |
|---|---------|--------|-------------|--|
| Label Name | # Tests | # Jobs | Date Locked | |
| <input checked="" type="checkbox"/> 05-25-21 Deployment | 1 | 0 | 6/24/2021 | |
| <input checked="" type="checkbox"/> 04-21-21 Deployment | 1 | 0 | 6/24/2021 | |
| <input checked="" type="checkbox"/> 03-23-21 Deployment | 2 | 1 | 6/24/2021 | |
| <input type="checkbox"/> 01-26-21 Deployment | 2 | 1 | 6/24/2021 | |
| <input type="checkbox"/> 02-23-21 Deployment | 1 | 1 | 6/24/2021 | |

Selection Options

Include meta-object files for template tests

3 selected tests
1 selected job

One or more objects were referenced by multiple labels and will only be included once in the export. Multiple selections of the same test or template test will result in only the latest selected version being used.

[< Previous](#) [Continue >](#)

Selection Options

The selection options include an aggregate of how many tests and jobs will be included in the export as the labels are selected on the available objects pane.

If a test, template test, or job is referenced by multiple selected labels, the object will only be included in the export once. If multiple versions of the same test or template test are selected, only the latest selected version will be used.

When checked, the **Include meta-object files for template tests** option includes the import file that drives the respective template test.

Finalizing the Export

The final step of the export includes adding a name and description (optional) to the exported XML file. You will also see a folder tree of all of the objects that will be included in the export file. This includes tests, folders, template tests, jobs, profile sets, and data sources.

Upon export, the file will be automatically downloaded and can be found in your Downloads folder. The destination of the export file cannot be changed.

Export

Objects to Export

- ▼ Tests
 - ▼ Demo Tests
 - 1. OrderQty Sum Match
 - 2. OrderQty SUM by ProductID
 - 3. Customer Email Address Null Check
 - 5. CustomerID Count - RV vs Source
 - 4. String Fields with Null Values
 - 6. Hub Count - RVault vs Source - With Mapping File
 - 7. Compare Load Table Record Counts - With Lineage Query
 - Materialized Tests
 - ▼ Data Sources
 - Adventure Works
 - Data Vault
 - WhereScape RED Repository

Name required

Sample Export

Description

Enter description (optional)

NOTE: The name entered above will be used as the XML filename.

Encrypt exported file

Choose the feature(s) that will be required at import time.

Command Line Custom Profiles Jobs Template Tests

[< Previous](#) [Export to File](#)

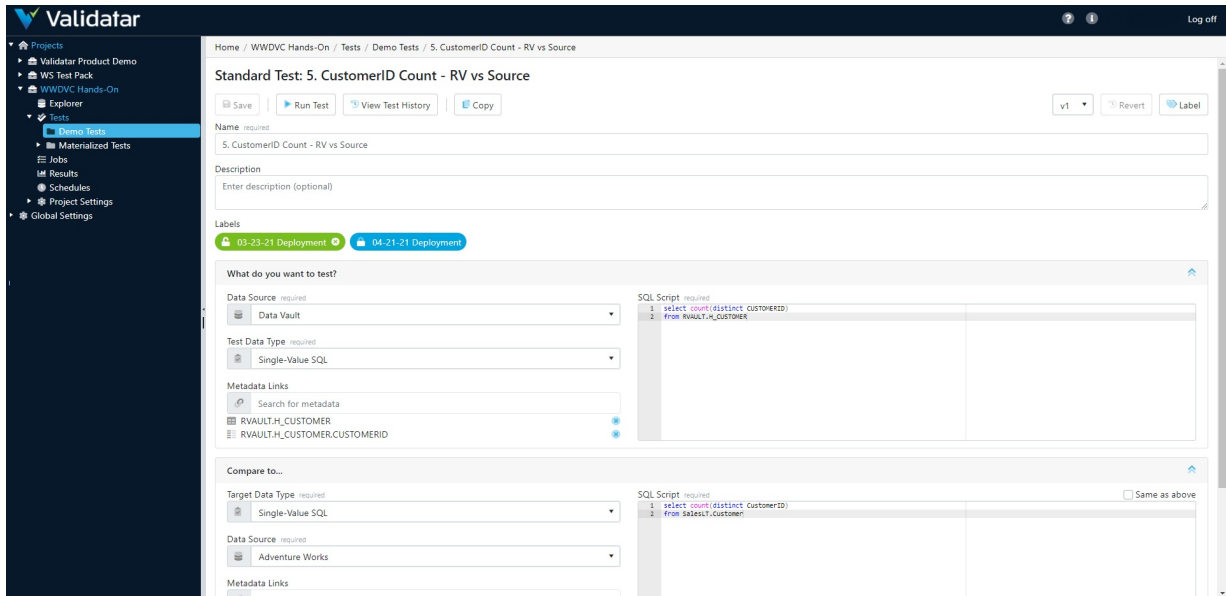




Labels Overview

Overview

Labels are a way to group Validatar objects. As items in your development environment change, new deployments happen, and test cases must be updated, labels can be used to identify objects that are a part of the same deployment.



When to Use Labels

There are many reasons why you would choose to use labels. The main two being:

1. The ability to identify a version of a set of tests.
 - o Let's say you have a sprint release where a large number of changes will be delivered. Creating a label for each sprint will allow you to go back in time to refer to every test, template test, and job involved in that sprint.
 - o To distinguish your labels, your label name might include versioning information such as the version number, delivery date, the development ticket number.
2. The ability to move a set of tests from one Validatar environment to another.
 - o The simplest example here is if you've finished testing in your Validatar QA environment and you're ready to deploy your code to Production, having a label for that deployment makes it easier to move the QA tests you've completed to your Validatar Production environment to be executed.

Export Note

When exporting Validatar objects by label selection, you can not exclude any objects during the import. Be sure to include only what you plan to import in your XML document.



Label Management

Permissions

To manage labels, a user must have the **Create and Edit Labels** role found in Project User Permissions. Other users can view the label details in read-only mode by having Project Access permissions.

On the Label list screen you can:

- Create a new label
- Modify an existing unlocked label
- Lock or Unlock a label
- Archive or Restore a label

Creating a Label

Creating a new label is easy:

1. Select **New Label**.
2. Enter the label name and optional description and additional notes.
3. Click **Save**.

Validatar

Home / WWDVC Hands-On / Settings / Tools / Labels

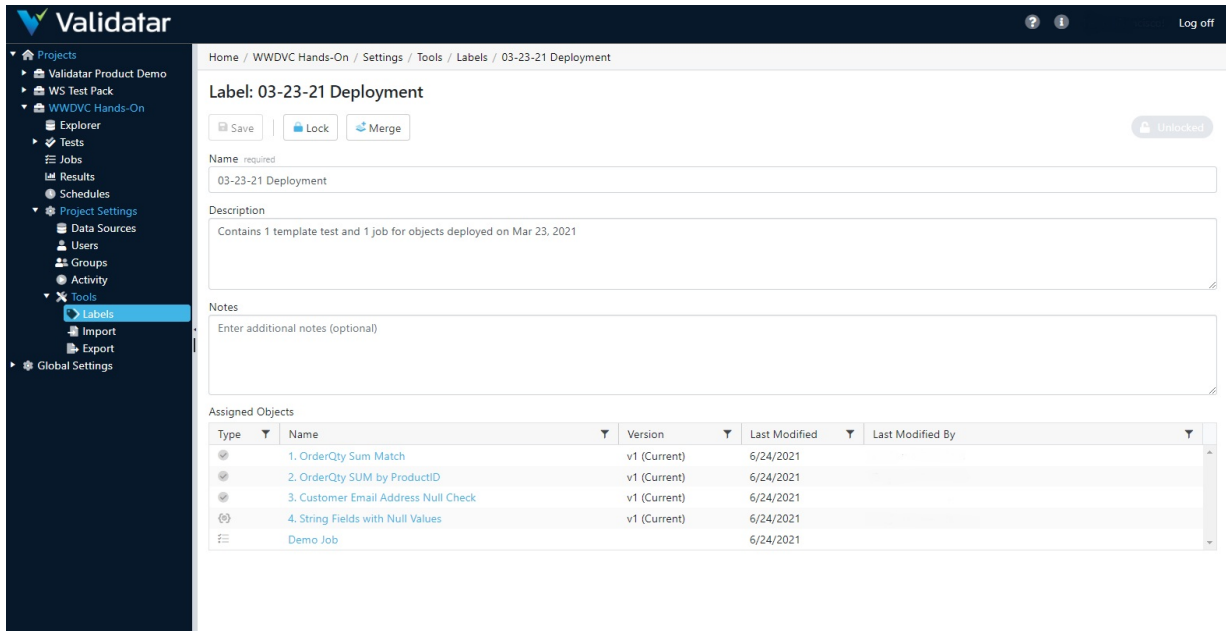
WWDVC Hands-On: Labels

+ New Label | Open Label | Unlock | Archive

Showing 5 entries Include archived

| Label Name | Description | Date Created | Last Modified | Date Locked | Status |
|---------------------|---|--------------|---------------|-------------|----------|
| 01-26-21 Deployment | Contains 2 tests and 1 job for objects deployed on Jan 26, 2021 | 6/24/2021 | 6/25/2021 | 6/25/2021 | Locked |
| 02-23-21 Deployment | Contains 2 tests and 1 job for objects deployed on Feb 23, 2021 | 6/24/2021 | 6/25/2021 | 6/25/2021 | Locked |
| 03-23-21 Deployment | Contains 1 template test and 1 job for objects deployed on Mar 23, 2021 | 6/24/2021 | 6/25/2021 | 6/25/2021 | Locked |
| 04-21-21 Deployment | Contains 1 test for objects deployed on April 21, 2021 | 6/24/2021 | 6/25/2021 | | Unlocked |
| 05-25-21 Deployment | Contains 1 template test for objects deployed on May 25, 2021 | 6/24/2021 | 6/25/2021 | | Unlocked |

Once a label is created and is assigned to objects, you can view all the associated objects on the label details page.



Unlocked vs. Locked Labels

New labels are automatically unlocked meaning they can be modified and assigned to Validatar objects such as tests, templates, jobs, and profile sets. Locked labels cannot be modified. If a label is locked after it is assigned to an object, the association to the object will remain and cannot be removed unless the label is again unlocked.

There are two ways to lock or unlock a label:

- By selecting the label and clicking the **Unlock** or **Lock** button on the label list screen.
- By opening a label and clicking the **Unlock** or **Lock** button.

The current status of a label is shown on the label list screen and in the top-right corner of the label's detail page.

Archiving a Label

You can archive labels that you no longer want to use by selecting the **Archive** button on the label list screen. Archived labels can be viewed by checking the **Include archived** checkbox in the top-right hand corner of the screen.

To restore an archived label, select the label and click the **Restore** button.

Merging Unlocked Labels

You can copy the contents and object assignments of one or more unlocked labels to a single label by merging the labels.



Merge Labels

×

Select merge options:

Archive selected labels Merge Descriptions Merge Notes Log merge data to Notes

Search for unlocked labels...

Label Name ↑

04-21-21 Deployment

05-25-21 Deployment

 Merge

To merge labels:

1. Create a new label or select an existing label that will be the current label.
2. On the label detail screen select **Merge**.
3. Search for and select the label(s) you want to copy the label contents of to the current label.
4. Select **Merge**.

You can merge labels that have the same objects assigned to them (e.g. both labels are associated with the same test). If you try to merge in a label that contains a different version of the object than the current label, the latest version of the object will be referenced.



Using Labels

Adding Labels to an Object

No matter if you're adding a label to a standard test, template test, or job, there's a label button in the upper-right corner of the configuration screen that will open a pop-up window to add the label(s).

Select an Unlocked Label ×

Associated Labels

01-26-21 Deployment

| Label Name ↑ |
|---------------------|
| 02-23-21 Deployment |
| 03-23-21 Deployment |
| 04-21-21 Deployment |
| 05-25-21 Deployment |

Label Test

Once you click the Label button, the project's unlocked labels will appear in a list. Next, you can choose to add one or more labels to that object by selecting the row. Any label already associated with the object will be pinned at the top of the window and not appear in the list. After selecting the relevant labels, click the **Label Test** button.

After adding a label, a **Labels** area will appear under the Description box and list the associated labels. Click on a label to view the label details.



Standard Test: 2. OrderQty SUM by ProductID

| | |

Name required

2. OrderQty SUM by ProductID

Description

Enter description (optional)

Labels

What do you want to test?

| | | |
|--|--|--|
| Data Source <small>required</small> | <input type="button" value="Data Vault"/> | SQL Script <small>required</small> |
| Test Data Type <small>required</small> | <input type="button" value="Multi-Value SQL"/> | <pre>1 select H_PRODUCT 2 from RVAULT.S_S/ 3 join RVAULT.L_S/ 4 join RVAULT.H_PI 5 GROUP BY H_PROD</pre> |

All unlocked labels are highlighted in green. If a label is locked after being added to an object, the label highlight becomes blue.

Removing Labels

To remove a label from the object, navigate to the object detail page and click the x on the label. Note that only unlocked labels can be removed.

Learn about exporting Validatar objects by a label on the [Export](#) page.



Explorer Overview

Overview

The Explorer area is where you can dive into the profile of each of your data sources. You'll be able to see an overview of your metadata as well as drill into column-level profiles. You can easily see test coverage and identify any gaps in testing. You can also search for objects of interest and see their data quality.

Displayed Information

The screenshot shows the Validator Explorer interface for the 'Teknion' project. The table displays the following data:

| Data Source | Group | Metadata Updated | Schemas | Tables | Columns | Tests | % Tables with Tests | % Columns with Tests |
|----------------|----------------|----------------------|---------|--------|---------|-------|---------------------|----------------------|
| Data Warehouse | Data Warehouse | 4/1/2021 12:00:00 AM | 3 | 487 | 9,106 | 10 | 0% | 0% |
| Hubspot | Source System | 4/1/2021 12:00:00 AM | 1 | 54 | 1,132 | 43 | 16% | 1% |
| Jira | Source System | 4/1/2021 12:00:00 AM | 1 | 103 | 581 | 0 | 0% | 0% |
| Mavenlink | Source System | 4/1/2021 12:00:00 AM | 1 | 37 | 484 | 0 | 0% | 0% |
| Validator Repo | | 1/7/2021 12:00:00 AM | 1 | 99 | 1,107 | 0 | 0% | 0% |

The interface includes a sidebar with navigation options like 'Projects', 'Teknion', 'Explorer', 'Tests', 'Jobs', 'Results', 'Schedules', 'Project Settings', 'Validator Documentation', 'Validator Product Demo', 'Validator Sandbox', and 'Global Settings'. The top right shows 'Hello User!' and 'Log off'.

Table Headers

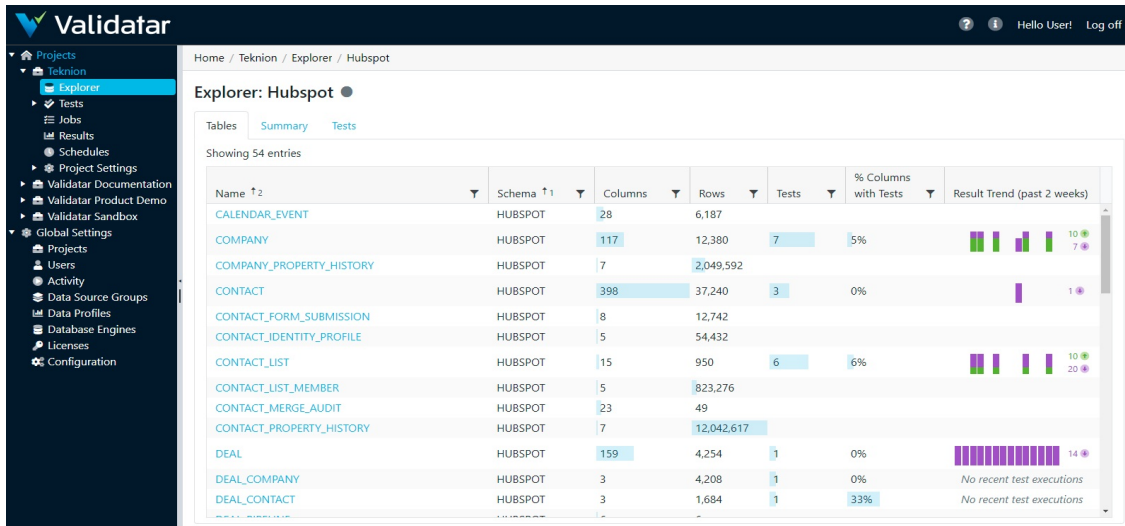
| | |
|----------------------|--|
| Data Source | The data source name. |
| Group | The data source group. |
| Metadata Updated | The date and time the metadata was last refreshed. |
| Schemas | The count of schemas in the data source |
| Tables | The count of tables and views in the data source. |
| Columns | The count of columns in a data source. |
| Tests | The number of tests that has a metadata link to that the data source. |
| % Tables with Tests | The coverage of tables in the data source that have a test associated with it. |
| % Columns with Tests | The coverage of coverage in the data source that have a test associated with it. |



Navigating the Explorer

Overview

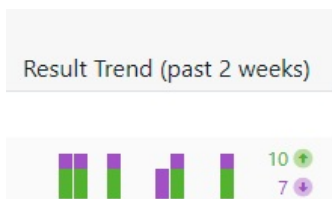
Viewing the profile of your data source is simple! Once you've selected your data source you can drill down until you reach the level of detail you want.



- **Data Source level:** An overview of the number of schemas, tables, and columns in your data source as well as a look into Validatar's test coverage of the data source. The greater the test coverage, the more accurate and acceptable your data quality is.
- **Table level:** The table view shows a list of all of the tables and views in a data source as well as an overview of the metadata connected to each table. The Result Trend column shows how many tests linked to that table have passed, failed, or executed with an error within the past two weeks. Learn more about the Result Trend below.
- **Column level:** The column list shows all the same data as the table list. Click on the column name to view the full profile details.

Result Trend

The result trend column shows a graphical representation of how many tests related to a table or a column has passed, failed, or executed with an error in the past two weeks. Viewing the trend of results lets you know how consistent your data quality is. Hover over the graphic to view test results for each day.



- Green bars represent passed tests. Purple bars represent failed tests. Orange bars represent tests executed with an error.
- High deviation may indicate data that's constantly changing or being updated.
- Low deviation may indicate data that's consistent and has not been changed.



The result trend lets you know how consistent your data is but whether the result is passed or failed is another important aspect. As testing continues over time, you should see more passed test results. If you do not, it's good to revisit your written test and check that any changes to your database or source system have been implemented. Consistently failed tests may indicate that necessary changes to either the database or data structure have not been implemented in a timely manner.

Note

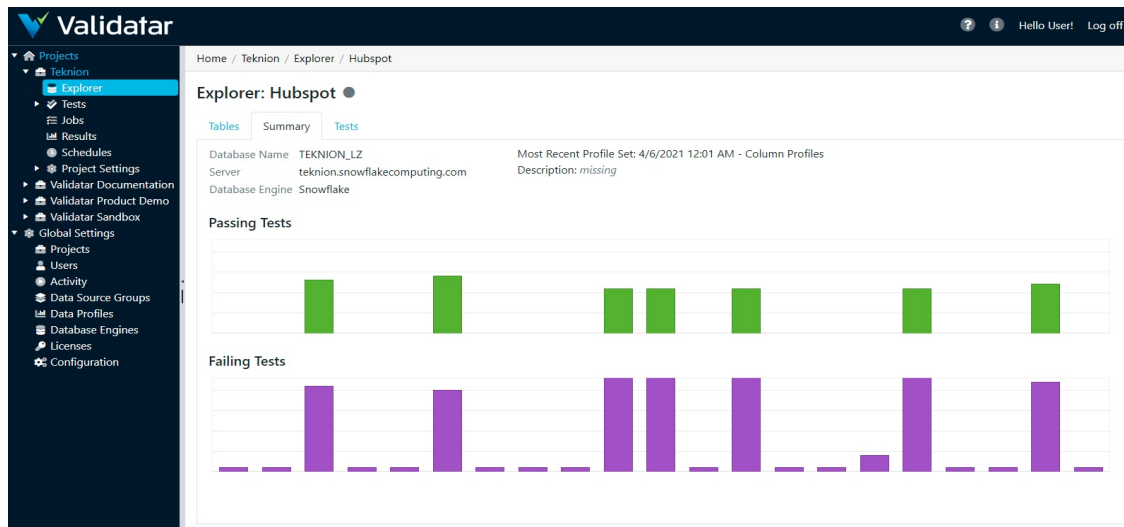
The result trend does not reflect test executions that have been run to the screen. All results are pulled from what has been saved to the test repository.

Summary

There is a Summary tab at both the data source and column level. At the data source level, you can see the result trend over the last two weeks of the number of passed and failed tests across the data source. To get the most accurate summary, make sure that all of your tests have a table linked to them.

At the column level, the view is the same except the result trend is shown amongst all columns in the table. Ensure that the column is linked to each of your test cases to see the most accurate result trend.

Hover over each bar to view the number of passed and failed tests on each day.



Tests

The Tests tab is also at both the data source and column level. This area shows a list of all tests that have either a table or column metadata link related to a data source. Clicking on the test name takes you directly to the test's configuration screen. You can also see where the test is located within Validatar as well as the pass or fail result trend over the last two weeks.



Validatar ? i Hello User! [Log off](#)

Home / Teknion / Explorer / Hubspot

Explorer: Hubspot

Tables Summary Tests

Showing 44 entries

| Test Name | Test Location | # Jobs | Last Run | Last Result | Result Trend (past 2 weeks) |
|--|---------------------------------|--------|---------------------|-------------|-----------------------------|
| Comparison Test - Source to Target | Demo Tests | 1 | 4/1/2021 1:56:10 PM | Failed | 1 |
| Comparison Test Multiple Columns - Source to Target | Demo Tests | 1 | 4/1/2021 1:56:30 PM | Failed | 1 |
| Data Monitoring Test | Tests | | | | No recent test executions |
| Monitor Contact Creation | Tests | | | | No recent test executions |
| Multi-Value SQL | Test Type Scenarios | | | | No recent test executions |
| new Test | Demo Tests | | 4/1/2021 2:48:28 PM | Failed | 1 |
| Profile Result to Numeric Range 1: Success | Profile Result to Numeric Range | 1 | 4/5/2021 3:01:25 PM | Passed | 5 |
| Profile Result to Numeric Range 2: Failure | Profile Result to Numeric Range | 1 | 4/5/2021 3:01:25 PM | Failed | 5 |
| Profile Result to Numeric Value 2: Numeric tolerance (Success) | Profile Result to Numeric Value | 1 | 4/5/2021 3:01:25 PM | Failed | 5 |
| Profile Result to Numeric Value 3: Percent tolerance (Success) | Profile Result to Numeric Value | 1 | 4/5/2021 3:01:25 PM | Passed | 5 |
| Profile Result to Previous Profile Result 1: No | Profile Result to Previous | | 4/5/2021 | | 5 |



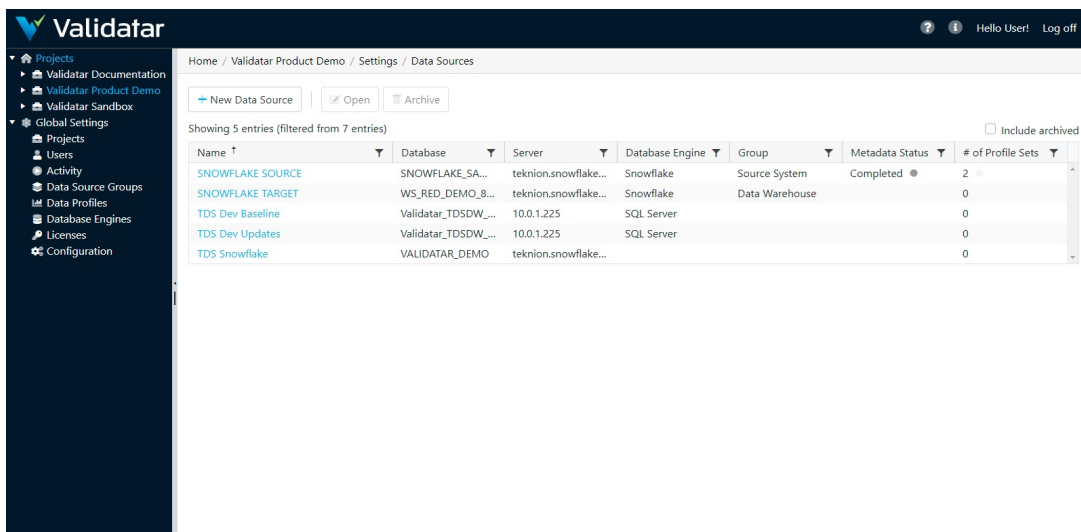
What Is a Data Source?

Overview

A data source is what you use to run Validatar tests and profiles against. A data source consists of:

- A primary database connection
- A metadata connection
- A data profiling connection
- Profile sets and executions
- Data Source permissions

Displayed Information



Action Buttons

| | |
|-------------------------|--|
| New Data Source | Opens a new data source configuration page |
| Open | Opens an existing data source configuration page |
| Archive | Archives a data source |
| Restore | Restores a deleted data source |
| Include archived | Shows any archived data sources when checked |

Table Headers

| | |
|--------------------------|---|
| Name | The data source name |
| Database | The primary connection's database name |
| Server | The primary connection's server name |
| Database Engine | The primary connection's related database engine |
| Group | The data source group the primary connection belongs to |
| Metadata Status | Shows if metadata has been ingested for this data source |
| # of Profile Sets | Shows the number of profile sets created under this data source |

Access



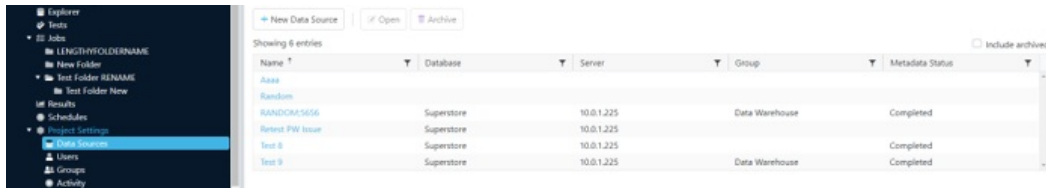
1. A user must have Project Admin rights
2. In the navigation pane, expand Project Settings
3. Click Data Sources



Data Source Settings

The Data Source Configuration Page

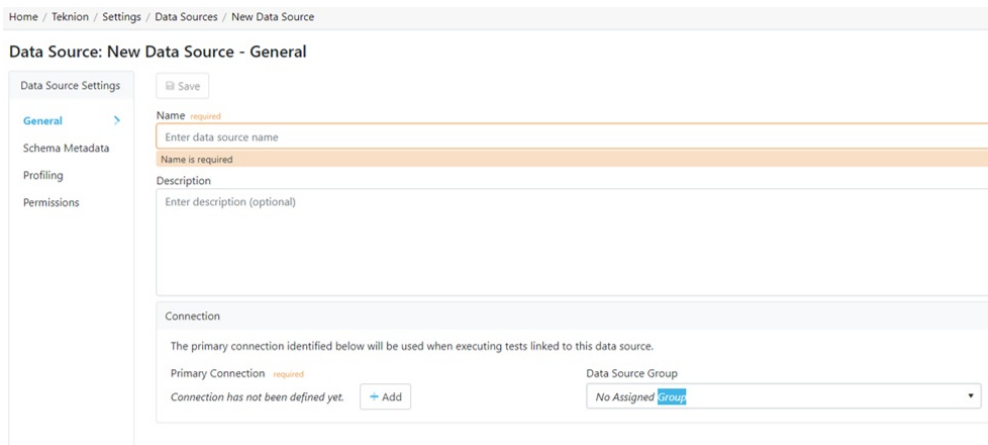
Provided the license limit for the number of Data Sources has not been reached, new Data Sources can be created from the Data Sources List page under the Project Settings of any given project. Simply select the **New Data Source** button on the toolbar.



This will open the **Data Source Configuration** page, which is divided into four sections, as indicated by the Data Source Settings menu on the left.

These sections are as follows:

| Name | Description |
|------------------------|---|
| General | Basic Data Source information, including name and Primary Connection. |
| Schema Metadata | Used to Configure Metadata Ingestion SQL and set Refresh Schedules. Can also be used to establish a Metadata Connection for the Data Source separate from the Primary Connection. |
| Profiling | Used to configure and run Profile Sets on specified tables or columns within the Data Source. |
| Permissions | Used to specify what features related to the Data Source that individual users can view, create, and manage. |



View the related articles to get information on the Schema Metadata, Profiling, and Permissions sections of data source settings.

Data Source Settings: General



When either creating a new Data Source or opening an existing one, the Data Source Configuration page displays the General section by default. For new Data Sources, the General section must be filled out and saved before the others can be accessed.

In addition to giving the Data Source a name and optional description, the user must set a Primary Connection for the Data Source before the page can be saved. To do so, click on the Add button in the connection field, which will open a popup window.

Note

Once connection information has been entered, the Add button will be renamed as Edit.

Within the popup window, use the Connection Type dropdown to select a connection type (such as SQL Server or ODBC) for the Data Source's Primary Connection. If desired, the connection can be assigned one of the Database Engines configured under Global Settings, as well as given a description. Next, enter the Connection String for the connection being established, as well as the appropriate password if one exists.

Once the required fields are filled out, the Create Connection button will become active. Selecting it will close the popup and allow the Data Source to be saved. However, it is recommended to use the Test Connection button on the left first in order to verify whether the connection information was entered correctly.

Lastly, the Connection field of the General section contains an optional dropdown that allows the Data Source being created to be assigned to an existing data source group.



Metadata Ingestion

Overview

To perform profile testing and ensure complete data testing coverage, Validatar has the ability to store a data source's metadata. We call this metadata ingestion.

Here's a few steps to complete in order to ensure your metadata is ingested and used as you would like:

1. Configure the ingestion SQL
2. Set up the metadata connection
3. Refresh the metadata
4. Set a metadata refresh schedule
5. Profile your data source
6. Link each test written in Validatar to it's metadata on the test configuration page

Displayed Information

| Object | Count |
|---------|-------|
| Schemas | 7 |
| Tables | 87 |
| Views | 0 |
| Columns | 1112 |

| Date Started | Date Completed | Source | Status | Schemas / Tables / Columns |
|----------------------|----------------------|--------|-----------|----------------------------|
| 3/11/2021 2:44:04 PM | 3/11/2021 2:44:11 PM | Manual | Completed | 0 / 0 / 0 |
| 12/8/2020 5:52:19 PM | 12/8/2020 5:52:25 PM | Manual | Completed | 0 / 0 / 0 |
| 12/8/2020 5:52:14 PM | 12/8/2020 5:52:20 PM | Manual | Completed | 0 / 0 / 0 |
| 8/26/2020 2:28:57 PM | 8/26/2020 2:29:02 PM | Manual | Completed | 7 / 87 / 1112 |
| 8/26/2020 2:25:32 PM | 8/26/2020 2:25:35 PM | Manual | Completed | 0 / 0 / 0 |

| | |
|----------------------------|--|
| Metadata Connection | The database connection used that contains the metadata intended for Validatar's ingestion. Check Same as primary if this connection is the same as the primary connection. |
| Refresh Schedule | This box shows the metadata refresh schedule once one has been set. |
| Metadata Statistics | This box shows the count of schemas, tables, views, and columns that are in a data source as of the latest ingestion time. |
| Ingestion History | This box shows the history of metadata ingestions. Each record includes <ul style="list-style-type: none"> • Date Started • Date Completed • Source: Can be manual or scheduled • Status • Schemas/Tables/Columns: The count of schemas, tables, and columns. |

Action Buttons



| | |
|--------------------------------|---|
| Save | Saves the Schema Metadata. |
| Configure Ingestion SQL | Opens a configuration pop up to view and edit the metadata ingestion SQL scripts. |
| Refresh Now | Immediately refreshes the metadata manually. |
| Set Refresh Schedule | Opens a schedule configuration pop up used to configure, enable, and disable a metadata refresh schedule. |

Access

1. Click on a data source name on the Data Source page in Project Settings.
2. Click on Schema Metadata

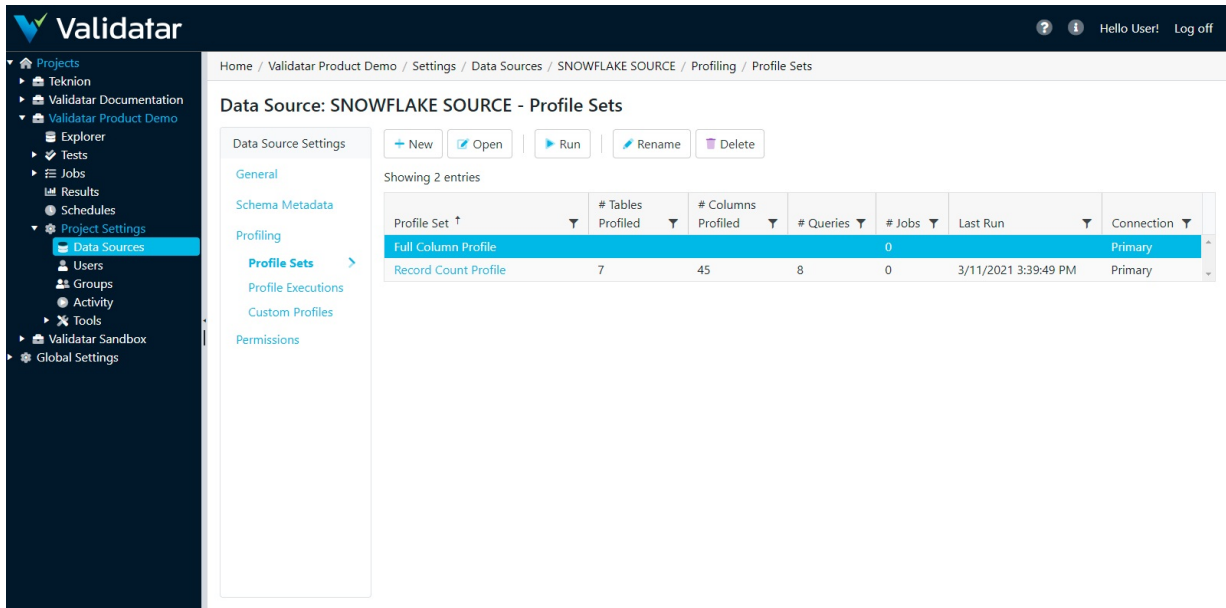


Profile Sets

Overview

A profile set is a collection of data profiles that are run together to provide specific information about a data source.

Displayed Information



Action Buttons

| | |
|----------------|---|
| New | Creates a new profile set. |
| Open | Opens an existing profile set. |
| Run | Allows you to run a profile set. |
| Rename | Renames a profile set. |
| Delete | Deletes a profile set. |
| Restore | Restores a deleted profile set. After you've deleted a profile set, you cannot restore it once you navigate away from the Profile Set screen. |

Table Headers

| | |
|---------------------------|--|
| Profile Set | The name of the profile set. |
| # Tables Profiled | The number of tables that the set profiles. |
| # Columns Profiled | The number of columns that the set profiles. |
| # Queries | The number of queries that will be executed when you run the profile set. |
| # Jobs | The number of jobs that include the profile set as a job step. |
| Last Run | The time and date of the last profile set execution. |
| Connection | Displays whether the profile set uses the primary connection or a specific profile connection. |

Access



1. Click on a data source name on the Data Source page in Project Settings.
2. Click on Profile Sets.



Configuring a Profile Set

Overview

The Profile Set configuration screen is separated into three tabs:

1. Profile Selection
2. Object Selection
3. Profile Set Configuration

Profile Selection

The profile selection tab is where you select the data profile you want to include in a profile set out of a list of data profiles available for that respective data source to use. The list of available data profiles depends on which profiles are enabled for the respective database engine. See more in Global Settings – Database Engines.

Displayed Information

The screenshot shows the Validatar web interface. The breadcrumb trail is: Home / Validatar Product Demo / Settings / Data Sources / SNOWFLAKE SOURCE / Profiling / Profile Sets / Full Column Profile. The interface is divided into several sections:

- Data Source Settings:** Includes 'Save', 'Run', and 'Copy' buttons.
- General:** 'Name' field contains 'Full Column Profile'.
- Description:** A text area with the placeholder 'Enter description (optional)'.
- Profile Set Statistics:** A table showing: Profiles (37), Tables (8), Columns (61), Profile Results (1089), Max Queries (399).
- Profile Selection Tab:**
 - Default Profile Sets:** A dropdown menu currently set to 'Custom'. Below it is a list of prerequisites: Record Count, Distinct Count, Distinct Percent, Minimum (Numeric), Maximum (Numeric), Max Length, Null Count, Blank Count, Numeric Count, Zero Count, Negative Count.
 - Select Profiles:** A table with 39 entries, 37 of which are selected. The table has columns: Profile, Object, Applies To, Result Format, and Source.

| Profile | Object | Applies To | Result Format | Source | |
|-------------------------------------|-------------------|------------|---|---------------|-----------|
| <input checked="" type="checkbox"/> | Record Count | Table | N/A | Numeric Value | DB Engine |
| <input checked="" type="checkbox"/> | Distinct Count | Column | All Data Types | Numeric Value | DB Engine |
| <input checked="" type="checkbox"/> | Distinct Percent | Column | All Data Types | Percent Value | DB Engine |
| <input checked="" type="checkbox"/> | Most Common Value | Column | All Data Types | String Value | DB Engine |
| <input checked="" type="checkbox"/> | Most Common Count | Column | All Data Types | Numeric Value | DB Engine |
| <input checked="" type="checkbox"/> | Minimum (Numeric) | Column | Approximate Numeric, Boolean/Logical, Exact Numeric | Numeric Value | DB Engine |
| <input checked="" type="checkbox"/> | Maximum (Numeric) | Column | Approximate Numeric, Boolean/Logical, Exact Numeric | Numeric Value | DB Engine |

| | |
|-----------------------------|--|
| Default Profile Sets | <p>Validatar ships with three pre-configured profile sets:</p> <ul style="list-style-type: none"> • Table Profile: Selects all profiles that are run on a table level. E.g., table record count • Full Column Profile: Selects all profiles that are run on a column level. E.g., distinct count or null count • Basic Column Profile: Selects a smaller number of column-level profiles to run. |
| Custom Profile Set | To customize a profile set, check any box to the left of the profile name to add it to the set. |



| | |
|----------------------|--|
| Prerequisites | Prerequisites appear when you have added a profile to the profile set and that profile is dependent on another profile to be run first. For example, if you want to run a Distinct Count profile you must include the Record Count profile in the profile set. To know what the distinct count is, you must have the total record count for that table. Any missing prerequisites are highlighted in orange and can be added by simply selecting the <i>add plus sign screenshot</i> button. |
|----------------------|--|

Object Selection

Displayed Information

Profile Selection
Object Selection
Profile Set Configuration

+ Add Filter
Preview Objects

| | Field | Operator | Criteria |
|--|--------------------|-----------|----------|
| | Table Record Count | Less Than | 100000 |
| | Schema Name | Ends With | 100 |

Note
Add filters on your profile sets to limit the number of objects that will be profiled. View the Profile Set Statistics box as you add filters so you can see how extensive running the profile set will be on your database.

Filter Options

| Field | Operator | Criteria |
|--------------------|--------------------|----------------------|
| Schema Name | String Filters | Any string input |
| Table Name | String Filters | Any string input |
| Table Record Count | Numeric Filters | Any numeric input |
| Table Type | Equals, Not Equals | Table or View |
| Column Name | String Filters | Any string input |
| Column Data Type | String Filters | Any string input |
| Column Mapped Type | Equals, Not Equals | Validatar data types |
| Column Nullable | Equals, Not Equals | Yes or No |
| Column Identity | Equals, Not Equals | Yes or No |
| Column Primary Key | Equals, Not Equals | Yes or No |
| Column Max Length | Numeric Filters | Any numeric input |

Action Buttons

| | |
|------------------------|---|
| Add Filter | Add an object filter on the data profile set. |
| Preview Objects | Preview the objects that will be run on the data profile set. |

Table Headers



| | |
|-----------------|---|
| Field | The type of object filter. |
| Operator | The comparison operator used for the object filter. |
| Criteria | The criteria must be met by an object to be included in the filter. |

Profile Set Configuration

The profile set configuration tab contains advanced configuration settings that affect how a profile set is executed.

Displayed Information

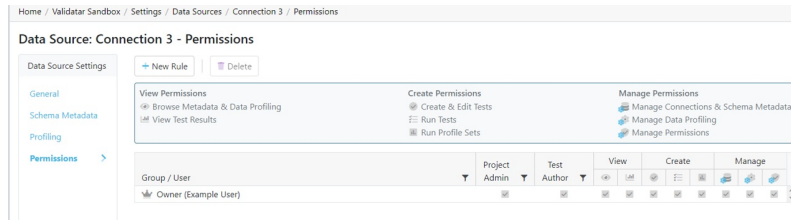
| | |
|-------------------------------|--|
| Profile Connection | Select from the dropdown whether to use the primary connection or the specified profile connection. |
| Max Concurrent Queries | Determines the maximum number of SQL queries that will be run concurrently when the profile set is executed. The value can range from 0 to 20. |
| Max Profiles Per Query | Specifies the number of separate profiles that can be grouped together into one query for a given object. A higher value reduces the total number of queries that are generated when this profile set is executed. |



Permissions

Overview

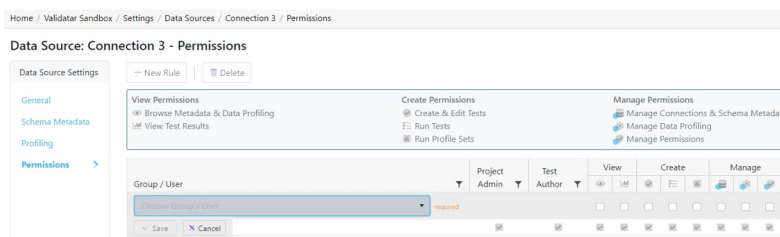
The Permissions section of the Data Source Configuration page consists of a grid listing each user with access to the Data Source, along with the Data Source permissions that he or she has been granted.



Types of Access

When a Data Source is first created, only the user who created it has access to it. This user is automatically given the role of being the Data Source Owner, ensuring that all permissions are always active. A Data Source can only have one owner at a time, though ownership can be changed by double-clicking on the owner's row in the grid and selecting a new name from the dropdown menu.

Permission rules for other users can be set by the owner via the New Rule button on the toolbar, which will add a row to the grid and allow a name and individual permissions to be set and saved.



To set individual permissions for a certain user, simply check or uncheck the corresponding boxes on the appropriate row in the grid. Note that this can only be done by users who themselves have the Manage Permissions enabled.

The Data Source permissions are identified by a legend above the grid and are as follows:

| Category | Permission |
|----------|----------------------------------|
| View | Browse Metadata & Data Profiling |
| View | View Test Results |
| Create | Create & Edit Tests |



| Category | Permission |
|-----------------|--------------------------------------|
| Create | Run Tests |
| Create | Run Profile Sets |
| Manage | Manage Connections & Schema Metadata |
| Manage | Manage Data Profiling |
| Manage | Manage Permissions |

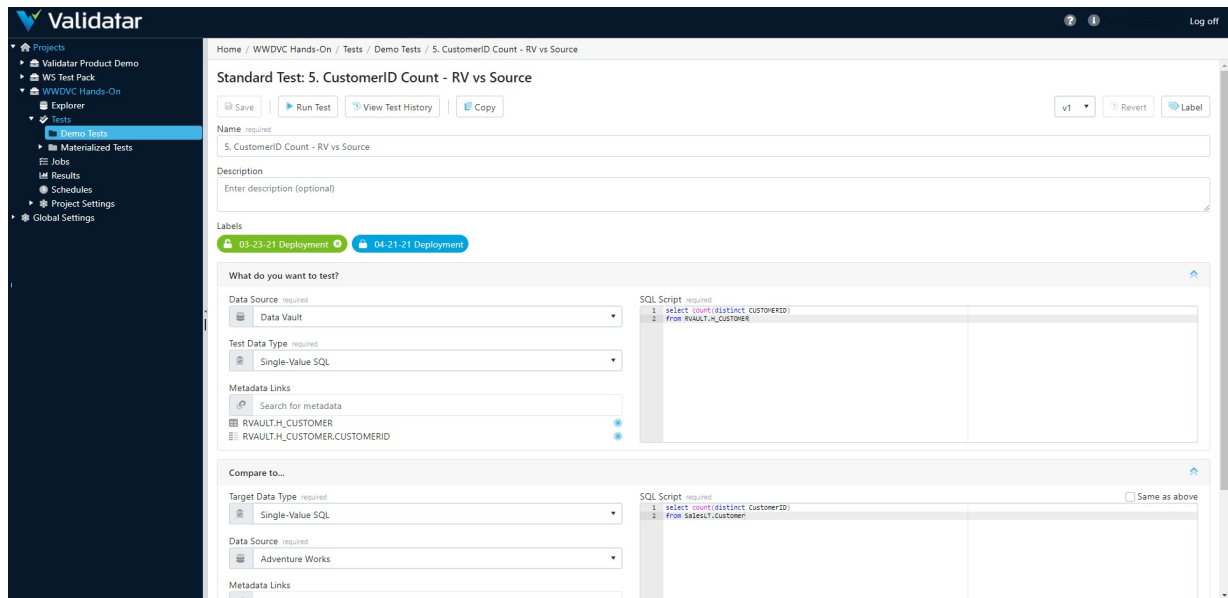
Users without certain permissions will be unable to perform the tasks associated with them within the context of the data source.



Configuring a Test

Overview

Configuring a Validator test is simple. Here's what you need to know:



There are two types of test creation methods in Validator:

- Standard Tests
- Template Tests

In this article, you'll learn about creating a standard test that is ideal for ad-hoc, one-time use cases. View the related articles to learn more about Template Tests.

When to Use a Standard Test

Here are a few examples of when you would choose to create a standard test.

- For ad hoc test scenarios
- Business rules only apply to one or a few tables
- All object names are known and/or won't change

Data Sources

To select a data source, a user must have Create & Edit Tests permissions enabled in Data Source Permissions. You will only see the list of Data Sources you have access to.

Test Data Types

A test data type is exactly as it sounds: you are choosing the type of data you want to test. The options are:



| | | | | | |
|--|--|--------|------|--|--|
| Single Value SQL | <p>Write a SQL statement that returns a single numeric value. For example,</p> <table border="1" data-bbox="406 179 1394 309"> <tr> <td data-bbox="406 179 1300 212">PL/SQL</td> <td data-bbox="1300 179 1394 212">Copy</td> </tr> <tr> <td colspan="2" data-bbox="406 212 1394 309"> <pre>select count(*) from dbo.Customers;</pre> </td> </tr> </table> | PL/SQL | Copy | <pre>select count(*) from dbo.Customers;</pre> | |
| PL/SQL | Copy | | | | |
| <pre>select count(*) from dbo.Customers;</pre> | | | | | |
| Multi Value SQL | <p>Write a SQL statement that returns two columns, a key and a numeric value. A multi value SQL script usually includes a Group By clause.</p> <table border="1" data-bbox="406 459 1394 627"> <tr> <td data-bbox="406 459 1300 492">PL/SQL</td> <td data-bbox="1300 459 1394 492">Copy</td> </tr> <tr> <td colspan="2" data-bbox="406 492 1394 627"> <pre>select CustomerID, count(*) from dbo.Customers group by CustomerID;</pre> </td> </tr> </table> | PL/SQL | Copy | <pre>select CustomerID, count(*) from dbo.Customers group by CustomerID;</pre> | |
| PL/SQL | Copy | | | | |
| <pre>select CustomerID, count(*) from dbo.Customers group by CustomerID;</pre> | | | | | |
| Profile Result | <p>If you've executed a profile set against a table or column, you can use that profile result in a Validatar test. You have to link the appropriate table or column to the test using the Metadata Links section before you can select a profile result.</p> <p>If <i>Create a link to the metadata that contains profile data</i> remains after you've linked table or column, go to Profile Set Executions and verify that a profile was run against the appropriate table or column.</p> | | | | |

Target Data Type

Target Data Type is where you choose the type of data you want to compare the previously selected data to. The options include Single Value SQL, Multi Value SQL, and Profile Result as well as a few new options:

| | |
|--------------------------------|--|
| Numeric Value | Compare your data to a single numeric value without having to write a SQL statement. You would choose this option when you expect a specific number in your data and you don't plan on it changing. |
| Numeric Range | See if your data lies between a range of numbers. The range is inclusive. |
| Previous Profile Result | <p>Compare your data to a previous profile result. You have to link the appropriate table or column to the test using the Metadata Links section before you can select a previous profile result.</p> <p>You can compare to either the average, minimum, or maximum of previous results for a selective amount of days, weeks, or executions.</p> <p>If <i>Create a link to the metadata that contains profile data</i> remains after you've linked table or column, go to Profile Set Executions and verify that a profile was run against the appropriate table or column.</p> |

The available options in the Target Data Type field depend on what is selected in the Test Data Type above.

| Test Data Type | Available Target Data Types |
|------------------|---|
| Single Value SQL | Single Value SQL, Profile Result, Previous Profile Result, Numeric Value, Numeric Range |
| Multi Value SQL | Multi Value SQL, Single Value SQL, Numeric Value, Numeric Range |
| Profile Result | Single Value SQL, Profile Result, Previous Profile Result, Numeric Value, Numeric Range |



Metadata Links

Metadata Links allows profile results that have been run against a table or column to be used in a Validatar test. By monitoring your data profile over time, you can easily identify and correct deviations. You can also see all the tests that are related to a Data Source in the Explorer area as long as the test has a metadata link in place. You can link your metadata to the test regardless of what test or target data type you choose. Start typing the name of a table or column to search for the object and select it. You can add multiple metadata links to a test.

Metadata Links

region

Include Tables Include Columns

Showing 20 entries

- TPCH_SF1.NATION.N_REGIONKEY
- TPCH_SF1.REGION
- TPCH_SF1.REGION.R_COMMENT
- TPCH_SF1.REGION.R_NAME
- TPCH_SF1.REGION.R_REGIONKEY
- TPCH_SF10.NATION.N_REGIONKEY
- TPCH_SF10.REGION
- TPCH_SF10.REGION.R_COMMENT

Result Evaluation

The Result Evaluation section is used to tell Validatar what it should consider as a failed test. You can also select options to increase execution efficiency when running the test. The contents of the result evaluation section depend on the combination of test and target data types selected in the previous sections.

Result Evaluation

Value Success Criteria ?

Numeric Tolerance

Percent Tolerance

Overall Success Criteria ?

Max Failure

Percent Failure

Only keep failures Abort processing after failures Scripts include order by

| | |
|--|---|
| Value Success Criteria | Compares the two pieces of data from the test together and calculates the difference. If the difference is greater than the absolute value of the tolerance in place, the comparison fails. You can choose either to use a numeric tolerance or percent tolerance. Numeric and percent tolerance entries must be greater than or equal to 0, with no more than 19 digits before the decimal and 8 digits after the decimal. |
| Overall Success Criteria | Appears when a Multi Value SQL is selected as a data type. Since multi value SQL results return multiple records that have been compared, the overall success criteria option allows the user to decide how many failed records actually means that the entire test should fail. |
| Only keep failures | Check this option if you only want to see the failed records returned. |
| Abort processing after x failures | Check this option if you want to abort the processing of the test if a certain amount of failures have occurred. Enter the threshold in the input text box. |
| Scripts include order by | Check this option for Single Value and Multi Value SQL data types if the script includes an order by clause. This lets Validatar know that it does not have to sort your data, optimizing execution time. |

Access

1. Click on Tests in the navigation pane or from the project home page.
2. Select the New button.





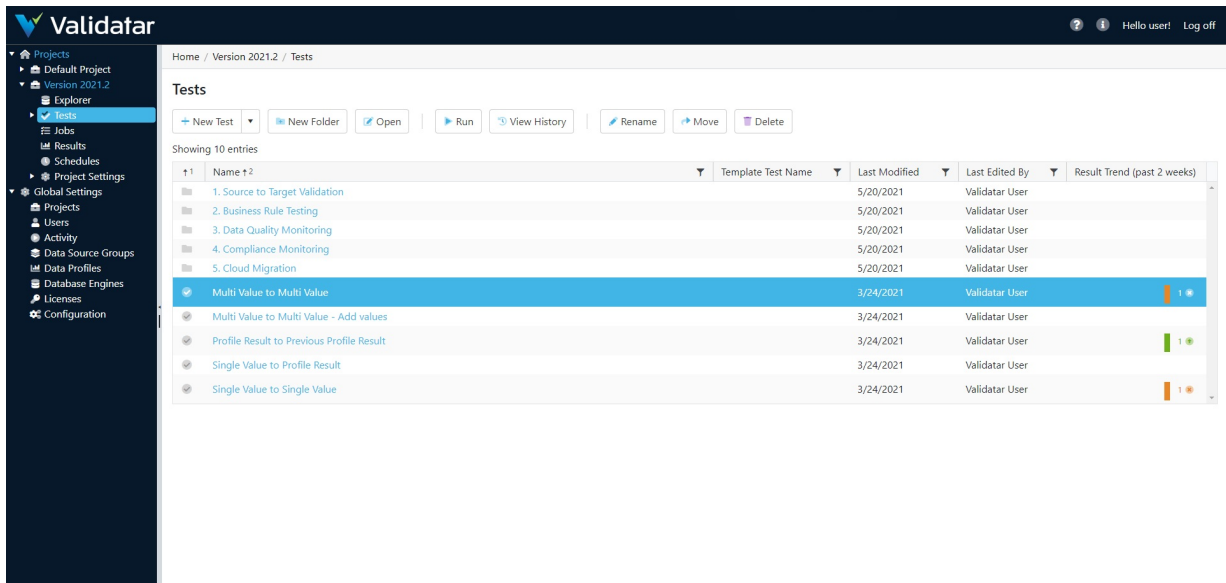
Test Repository

Overview

The Test Repository page provides access to all tests and access to various actions described below.

Each Project has its own Test repository. Tests in the test repository are organized in an easy-to-use folder structure that allows teams to organize their tests in whatever structure best fits their needs.

Displayed Information



Action Buttons

| | |
|---------------------|---|
| New | Click on the dropdown to create a new standard test or new template test. |
| New Folder | Creates a new folder in the current view. There is no hierarchical limit. As many folders and sub-folders can be created as desired. |
| Open | Open the Test Configuration page for an existing test. |
| Run | Run a test. See information about the Run Test page. |
| View History | Navigate to a page displaying the historical pass/fail results for a selected test. See information about the View Test History page. |
| Rename | Rename a selected test or folder. |
| Move | Move one or more selected tests or folders to another folder. |
| Delete | Delete one or more selected tests or folders. |

Table Headers

| | |
|---------------------------|---|
| Test/Test Folder | Test/Test Folders are represented by icons in the first column as shown in the screenshot below. |
| Name | The name of the test or test folder. |
| Template Test Name | The parent template the child test was created from. Click the template test name to edit the template. |
| Last Modified | Last modified date. |



| | |
|------------------------------------|--|
| | |
| Last Edited By | The user who made the last edit. |
| Result Trend (past 2 weeks) | The result trend column shows a graphical representation of how many tests related to a table or a column has passed, failed, or executed with an error in the past two weeks. |

Access

1. On the navigation pane in the appropriate project, click **Tests**.



Template Tests

Overview

The common challenge of data quality testing is efficiently testing a large volume of data. QA testers tend to thoroughly test critical objects and processes while leaving less critical objects untouched. To help increase test coverage, Validatar can create multiple tests at one time by creating a test from a template. Just choose your target object type and how you want to select the database objects to populate the template.

When to Use a Template Test

When you run into some of these scenarios, try generating tests from a template to cut down on test creation time:

- You have to validate that a common business rule transformation has occurred across multiple tables.
- You have an Excel file with a list of known objects you want to test against.
- Your test cases requires the use of dynamic SQL script configuration because objects may be deleted or updated.
- You've spent over 20 hours creating test scripts and want to cut down on test creation time.

How to Get Started

There are a few concepts to familiarize yourself with before you can start creating tests from a template. These concepts include:

- Understanding metadata references
- Learning about child tests and how to materialize them
- Learning how to import metadata and test requirements via a flat file

View some of the related articles to get started.

Access

To access Template Tests,

1. On the **Test Repository** page, select the New Test dropdown.
2. Select **New Template Test**.

Permissions Note

A user must have Create & Edit Test permissions to create a Template Test.



Configuring a Template Test

Overview

Configuring a template test is made up of six easy steps:

1. Select the target object type and metadata object selection and definition.
2. Build out the test.
3. Define how each child test is to be named and in which folder they should be saved.
4. Configure the metadata object selection.
5. Materialize the child tests.
6. Run the test.

To configure a template test, you must first select a target object type. The target object type defines how the Template Test will generate each child test. A child test is a standard test that was created, or materialized, from a template instead of by the typical new test creation process.

| Target Object Type | Definition |
|--------------------|---|
| Table | For table-level comparisons. This test generates one child test per table. For example, each child test compares the record counts of two tables to each other. |
| Column | For column-level comparisons. This test generates one child test per column. For example, each child test compares the max value of two columns to each other. |

The second option you'll have to configure is how you want Validatar to select the metadata objects that will populate the template when it's time to materialize the child tests.

| Object Selection Options | Definition |
|--------------------------|---|
| Metadata Driven | This option uses the metadata that Validatar has ingested from the data source and allows the user to exclude any unwanted objects. |
| Metadata Query | This option allows a user to write a SQL query that will pull the intended metadata from the data source. |
| Import File | This option allows a flat file that has each object and its intended test definition settings to be imported into the template. |

Learn more about each of the object selection options in later sections.

Test Definition

The Test Definition tab is similar to the standard test configuration page. Test Variables and References are sections that have been added and they help to make template tests dynamic.

Test Variables

Test Variables are custom references you can make to your data source. Each variable requires a reference key, variable type, and default value.

| | |
|--|--|
| | |
|--|--|



| | |
|----------------------|--|
| Reference Key | The name Validatar will use to refer to the object. |
| Variable Type | The type of object you're referencing. Options are: <ul style="list-style-type: none"> • Schema • Table • Column • Numeric • Boolean • Other |
| Default Value | The default value Validatar will input in this variable's place. This is optional. |

References

Use reference tags for metadata objects and profile objects to dynamically plug desired objects in throughout your template without having to hard code anything!

The available reference tags are determined by which target object type is selected for the template and what test variables have been created.

| Chosen Target Object Type | Available Metadata References | Available Profile References |
|---------------------------|---|---|
| Table | <ul style="list-style-type: none"> • {{meta.database_name}} • {{meta.schema_name}} • {{meta.table_name}} | <ul style="list-style-type: none"> • {{profile.record_count}} • {{profile.total_data_mb}} |
| Column | <ul style="list-style-type: none"> • {{meta.database_name}} • {{meta.schema_name}} • {{meta.table_name}} • {{meta.column_name}} • {{meta.column_data_type}} • {{meta.column_mapped_type}} • {{meta.column_string_max_length}} • {{meta.column_is_nullable}} • {{meta.numeric_precision}} • {{meta.numeric_scale}} | <ul style="list-style-type: none"> • {{profile.record_count}} • {{profile.total_data_mb}} • {{profile.stddev_large}} • {{profile.distinct_count}}, {{profile.distinct_percent}} • {{profile.most_common_count}} • {{profile.min_numeric}}, {{profile.max_numeric}}, {{profile.mean_numeric}}, {{profile.median_numeric}} • {{profile.lower_quartile}}, {{profile.upper_quartile}} • {{profile.standard_deviation}} • {{profile.max_length}}, {{profile.min_length}}, {{profile.mean_length}} • {{profile.null_count}}, {{profile.null_percent}} • {{profile.blank_count}}, {{profile.blank_percent}} • {{profile.numeric_count}}, {{profile.numeric_percent}} • {{profile.zero_count}}, {{profile.zero_percent}} • {{profile.negative_count}}, {{profile.negative_percent}} |

How to Use References



Anywhere you want to place a metadata object or data profile in your template, you can use a reference tag. The reference tag acts as a placeholder that detects and swaps out the reference for the intended object name. For example, if you want Validatar to grab a fully qualified table name, you would type:

| | |
|--|------|
| PL/SQL | Copy |
| <code>{{meta.database_name}}.{{meta.schema_name}}.{{meta.table_name}}</code> | |

After materialization, the standard tests may replace the reference tags with something like:

| | |
|------------------|------|
| PL/SQL | Copy |
| CRM.dbo.Customer | |

To use references, enclose the metadata object or data profile in double curly braces `{{ }}`.

Reference Note

Reference tags are case-sensitive. Verify that each reference tag uses all lowercase characters before saving.

View how metadata references are used in the SQL queries, Metadata Links, and Child Test Name field in the picture below.

Test Definitions Tab

The screenshot displays the 'Test Definitions Tab' interface, which is divided into two main sections: 'What do you want to test?' and 'Compare to...'. Each section contains configuration options and a corresponding SQL script editor.

What do you want to test?

- Data Source:** Data Vault
- Test Data Type:** Single-Value SQL
- Metadata Links:** Enter metadata reference. A list below shows `{{meta.schema_name}}.{{meta.table_name}}`.
- SQL Script:**

```
1 select count(distinct {{meta.column_name}})
2 from {{meta.schema_name}}.{{meta.table_name}}
```

Compare to...

- Target Data Type:** Single-Value SQL
- Data Source:** Adventure Works (with a 'From File' checkbox).
- Metadata Links:** Enter metadata reference. A list below shows `{{var.source_schema_name}}.{{var.source_t...`.
- SQL Script:**

```
1 select count(distinct {{var.source_column_name}})
2 from {{var.source_schema_name}}.{{var.source_table_name}}
```



Child Test Configuration Tab

Test Definition File Selection **Child Test Configuration**

Child Test Name required

Child Test Description

Folder Location for Save

Parent Folder required

Relative Path

Results Evaluation

The Results evaluation section is quite similar to the result evaluation section in a standard test. The evaluation options configured in the template will apply to all child tests when they are materialized but can be changed later.

The available result evaluation options depend on the Test Data Types that were selected in the sections above. Learn more about these options on [Configuring a Test](#).

Metadata Selection

Using filters

By default, if the Metadata Driven object selection is selected, all objects in the data source will be used to populate the child tests. For a more focused set of objects, you can add filters to the metadata selections.

Test Definition **Metadata Selection** Child Test Configuration

| | Field | Operator | Criteria | |
|-------------------------------------|--------------------|----------|----------|----------------------------------|
| <input checked="" type="checkbox"/> | Column Mapped Type | Equals | String | <input type="button" value="x"/> |
| <input checked="" type="checkbox"/> | Column Nullable | Equals | Yes | <input type="button" value="x"/> |

Filter Options

| Field | Operator | Criteria |
|--------------------|--------------------|----------------------|
| Schema Name | String Filters | Any string input |
| Table Name | String Filters | Any string input |
| Table Record Count | Numeric Filters | Any numeric input |
| Table Type | Equals, Not Equals | Table or View |
| Column Name | String Filters | Any string input |
| Column Data Type | String Filters | Any string input |
| Column Mapped Type | Equals, Not Equals | Validatar data types |
| Column Nullable | Equals, Not Equals | Yes or No |



| Field | Operator | Criteria |
|--------------------|--------------------|-------------------|
| Column Identity | Equals, Not Equals | Yes or No |
| Column Primary Key | Equals, Not Equals | Yes or No |
| Column Max Length | Numeric Filters | Any numeric input |

Metadata Query

Using a metadata query is a second way to decide which objects will populate the template. This option allows you to pull metadata directly from the data source using a SQL script with the proper table joins or filter, if necessary. After you select your data sources on the Test Definition tab, you can select which data source you want to pull metadata from on the Metadata Query tab.

The Metadata Query must return certain columns based on what references were used on the Test Definition tab. You will see which columns are required under **Required Metadata Columns**. They do not have to be returned in the order they are listed but they must be named correctly.

To ensure the proper column aliases are used, copy a template of the accepted SQL query by clicking the **Copy Template Query** button on the right-hand side of the screen.

To ensure that the correct metadata is included click the **Preview and Validate Metadata Query**.

View what a metadata query object selection may look like in the image below.

The screenshot shows the 'Metadata Query' configuration screen. At the top, there are three tabs: 'Test Definition', 'Metadata Query', and 'Child Test Configuration'. Below the tabs, there is a 'Data Source' dropdown menu set to 'Adventure Works'. To the right of this is a 'Copy Template Query' button. Below the dropdown is a 'Metadata Query' text area containing the following SQL query:

```
1 select
2   'loading' as "meta.schema_name",
3   lt_table_name as "meta.table_name",
4   lt_source_schema as "var.source_schema_name",
5   lt_source_table as "var.source_table_name"
6 from ws_load_tab
7 join ws_dbc_connect on lt_connect_key = dc_obj_key
8 where dc_name = 'DEMOLT2019'
9
10
```

To the right of the text area is a callout box with an information icon and the following text:

The **Metadata Query** must return the following columns based on the Template Test definition. They do not have to be returned in this order but must be named correctly.

Required Metadata Columns:

- meta.schema_name
- meta.table_name
- var.source_schema_name
- var.source_table_name

File Selection

The third way to choose which objects will populate the template is via importing a flat file.

The table contains a record for each object in the database that is to be used to replace the reference tags in the template. Each record represents one child test that will be created during materialization, therefore each record also includes results evaluation criteria that should be used for each test.

Below is a sample import file for a column-level template test.



| meta.schema_name\meta.table_name | meta.column_name | Value Success Criteria | Value Success Tolerance | Only Keep Failures | Abort Processing After Failures | Scripts Include Order By |
|----------------------------------|----------------------|------------------------|-------------------------|--------------------|---------------------------------|--------------------------|
| RVAULT | H_ADDRESS | ADDRESSID | Numeric Tolerance | 0 Yes | | 1000 Yes |
| RVAULT | H_CUSTOMER | CUSTOMERID | Percent Tolerance | 0.5 Yes | | 1000 Yes |
| RVAULT | H_PRODUCT | PRODUCTID | Numeric Tolerance | 0 Yes | | 1000 Yes |
| RVAULT | H_PRODUCTCATEGORY | PRODUCTCATEGORYID | Numeric Tolerance | 0 No | | 1000 Yes |
| RVAULT | H_PRODUCTDESCRIPTION | PRODUCTDESCRIPTIONID | Numeric Tolerance | 0 Yes | | 1000 Yes |
| RVAULT | H_PRODUCTMODEL | PRODUCTMODELID | Numeric Tolerance | 0 Yes | | 1000 Yes |
| RVAULT | H_SALESORDERHEADER | SALESORDERID | Numeric Tolerance | 0 Yes | | 1000 No |
| | | | | | | |
| | | | | | | |

Generating an Import File

To get the proper column headers in the import file the file should be generated from Validatar. The column headers depend on which reference tags are used in either the SQL script text box or Metadata Links box, or any field that has *Import From File* checked on the Test Definition tab. The file also includes any references used on the Child Test Configuration tab.

Generate Import File x

Select a method to generate the import file.

Headers Only
 Previous Version
 Pre-Populate Metadata

Download File
Cancel

There are 3 options when choosing to generate the import file:

| | |
|-----------------------|--|
| Headers Only | This option downloads a blank Excel file with column headers only. |
| Previous Version | This option lists the previous files that were imported into the Template test. This file includes column headers as well as metadata and results evaluation content from the previous file. |
| Pre-Populate Metadata | Coming soon. |

Uploading an Import File

Once the import file has been configured to include the appropriate metadata objects and test settings, it's time to upload the file. Just select the **Upload Import File** button on the File Selection tab to do so.

If column headers are references that aren't being used anywhere on the Test Definition or Child Test Configuration tabs

View Version History

Another option for templates that have been saved with different versions of the import file is viewing the version history. Learn who has previously imported a file and when it was uploaded.

Child Test Configuration

Child tests are simply standard tests that have been created from a template. The Child Test Configuration tab lets Validatar know how you want to name each child test and where they should be saved in the test repository.



Similar to the Test Definition tab, you can use metadata reference tags in the Name and Description fields. Just type out the reference you want to use and when the child tests are materialized, the appropriate object will be plugged in its place.

Folder Location for Save

Parent Folder

The parent folder is the parent directory for where all of the child tests will be saved. The parent folder can be chosen from a tree of existing folders using the folder dropdown.

Relative Path

The relative path is the path of folders that will be created where each child test will be nested when the test is materialized. This field is optional.

Use text or reference tags separated by a backslash (\) to create the relative path of folders.

For an example of how to use the Child Test Configuration tab, view the image below.

The screenshot shows a web interface with three tabs: "Test Definition", "Metadata Selection", and "Child Test Configuration". The "Child Test Configuration" tab is active. It contains the following fields:

- Child Test Name** (required): A text input field containing the string "String Column Null Check for {{meta.schema_name}}.{{meta.table_name}}.{{meta.column_name}}".
- Child Test Description**: A text input field containing the placeholder text "Enter description (optional)".
- Folder Location for Save**: A sub-section containing:
 - Parent Folder** (required): A dropdown menu with "Materialized Tests" selected.
 - Relative Path**: A text input field containing the path "\Null Checks".



Materializing Child Tests

Overview

Materializing child tests creates one test per table or column, depending on the selected target object type, for each metadata object that's been selected. Think of materialization as the creation of each test that will run for your designed test scenario. Each time your template is modified, it is recommended to re-materialize child tests to reflect the updated changes. For example, if you modify the metadata object filters to reflect tables that were deleted from your database, re-materialize the child tests so that the old tables won't be included in the scope of the test anymore. You may also want to re-materialize tests before any jobs using those child tests are run.

When tests are materialized each child test will be saved by the name and location that was established on the Child Tests Configuration Tab.

First-Time Materialization

Before you can materialize a test, the template must be saved. The first time a test is materialized, you will see a statistics box with the number of tests to be created as well as the folder location information.

Materialize Child Tests

Folder Location for Save

Parent Folder

Metadata Driven Testing

Relative Path

Statistics

Tests to be created 12

Materialize Cancel

Once the materialization is complete, a message will read that the materialization has been completed successfully.

Materialization Progress

Child test materialization has completed successfully

Subsequent Materializations

After initial materialization, as the template test or child tests are edited the Test Summary box on the template screen will update with statistics that reflect any changes.

Once you choose to materialize the child tests again, the pop-up will include configuration options for previously materialized tests.



- Delete all child tests for objects no longer selected in metadata
- Delete empty child folders
- Update all unmodified child tests - updates all previously materialized child tests to the current template version if they haven't been modified since creation.
- Overwrite all modified child tests - overwrites all previously materialized child tests to the current template version if they have been modified since creation.

Any changes to the Child Test Configuration tab are also reflected on the pop-up screen.

Materialize Child Tests ×

Folder Location for Save

Parent Folder

Metadata Driven Testing

Relative Path

| Statistics | |
|---------------------|----|
| Tests to be created | 74 |
| Tests to be deleted | 12 |
| Modified tests | 0 |
| Unmodified tests | 0 |

For Previously Materialized Tests:

- Delete all child tests for objects no longer selected in metadata
- Delete empty child folders
- Update all unmodified child tests ?
- Overwrite all modified child tests ?

Materialize Cancel

Deleting Child Tests

To delete all child tests that were created from the template, use the Delete Child Tests button. To delete only the objects that are no longer selected in the metadata, use the Materialize Child Tests button and then select that configuration option.

Delete Materialized Tests ×

You are about to delete 12 tests that were created from this template test.

Note: Deleting tests does not delete test execution history.

Are you sure you want to delete these 12 tests?

Delete All 12 Tests Cancel



Executing Child Tests

Overview

After materialization, you can think of child tests as a standard Validatar test that was created from a template. Because of this, child tests can be run from the template test configuration screen, the test repository after materialization, or as part of a job just like a standard test.

From the Template Test Screen

1. When running child tests from the template test screen there are a few configuration options to choose from. You can either choose to run a single child test, which is recommended to validate that your test was created and runs as expected, or you can run all child tests at once. If you choose to run a single child test you have the option to choose which test runs.
2. Next, choose where to send the test results. Similar to a standard test, results can be sent to the screen for one-time viewership or be saved in the test repository. Note that if you choose to run all child tests instead of a single child test, you can only send results to the test repository.

Advanced Configuration

There is also an option to configure how many tests will run in parallel. This option allows multiple tests to run simultaneously which helps with optimization. The default setting is 10.

Run Test: Metadata Driven Testing - Column

What would you like to run?

Single Child Test

All 3 Child Tests

Send Results To

Screen

Results from multiple tests cannot be sent to the screen

Test Repository

Advanced Configuration

How many tests would you like to run in parallel? required

10

Run Close

If the template has been modified since the last time child tests were materialized, you will be prompted to materialize child tests before you run the tests.

From the Test Repository

Template tests can also be run from the test repository screen by selecting the template test record and clicking the Run button on the toolbar. This process will display the same Run Test pop-up configuration window that appears on the template test screen.



Home / Permissions Testing / Tests / Validate Import File Test / Metadata Driven Testing

Tests

+ New Test | New Folder | Open | Run | View History | Rename | Move | Delete

Showing 4 entries

| 1 1 | Name 1 2 | Template Test Name | Last Modified | Last Edited By | Result Trend (past 2 weeks) |
|-----|--|----------------------------------|---------------|----------------|-----------------------------|
| | Metadata Driven Testing - Column | Metadata Driven Testing - Column | 5/20/2021 | Sample User | |
| | REGION_R_COMMENT Distinct and Null Compare (1) | Metadata Driven Testing - Column | 5/20/2021 | Sample User | |
| | REGION_R_NAME Distinct and Null Compare (1) | Metadata Driven Testing - Column | 5/20/2021 | Sample User | |
| | REGION_R_REGIONKEY Distinct and Null Compare (1) | Metadata Driven Testing - Column | 5/20/2021 | Sample User | |

Not only can you run all child tests from the template itself, but you can also run each test as a standard test. Select the appropriate test standard test, which is identified by the checkmark icon next to it, and either select the Run button on the toolbar or drill into the test interface and run the test from there.

Within a Job

Another option to execute child tests is to add the template test or multiple child tests to a job. Adding the template test itself ensures that no child test is accidentally excluded from the job resulting in total test coverage for your metadata objects.



1. Just select the template test on the left-hand side and move it over to the Job Steps on the right.

2. Once the template is added to the job step list, select the materialize icon to the right of the template name to choose if you want to materialize the child tests before execution. If you do, you will be given a list of materialization settings to choose from.

3. Update the configuration, save the job, then navigate back to the Job Repository screen to run the job or add a schedule to the job for it to run automatically.

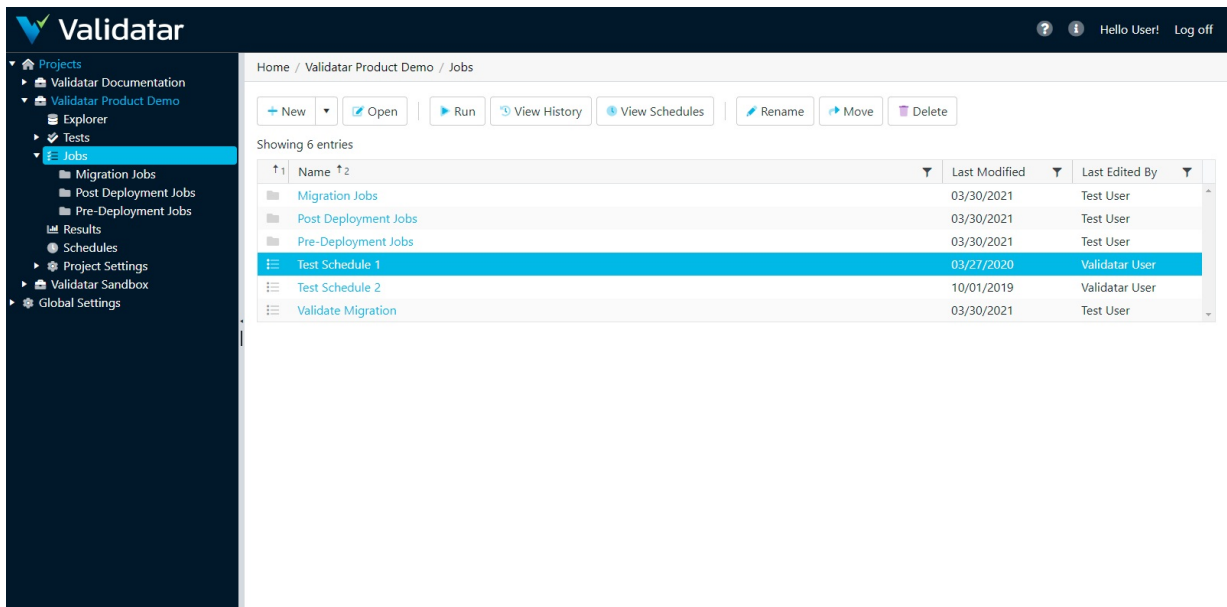


Job Repository

Overview

The Job Repository contains all of the jobs that have been created in a Project.

Displayed Information



Displayed information can be sorted by clicking on column headers or filtered by clicking on the filter icons also located on the column headers.

Action Buttons

| | |
|-----------------------|---|
| New | Click on the dropdown to create a new job or job folder. There is no hierarchical limit. As many folders and sub-folders can be created as desired. |
| Open | Opens the Job Configuration page for an existing job. |
| Run | Runs the selected job. |
| View History | Navigates to a page displaying the historical pass/fail results for a selected job. More on Job History page. |
| View Schedules | Navigates to a page displaying schedule(s) assigned to a job. More on Schedules page. |
| Rename | Renames a selected job. |
| Move | Move one or more selected jobs. |
| Delete | Delete one ore more selected jobs. |

Table Headers

| | |
|---------------------------|--|
| Job/Job Folder | Job and Job Folders are represented by icons in the first column as shown in the screenshot below. |
| Name | The name of the job or job folder. |
| Last Modified Date | The date the job or job folder was last modified. |
| Last Edited By | The user who last modified the job or job folder. |



Access

1. Click the dropdown associated with a given project.
2. Click Jobs.
3. Select the desired job.



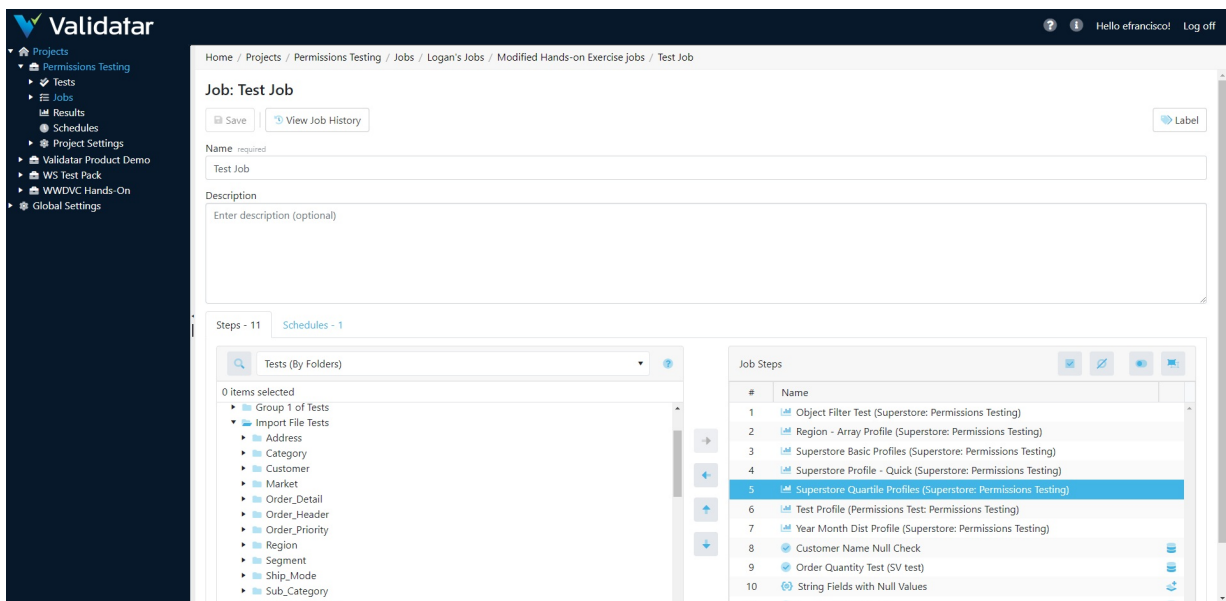
Configuring a Job

Overview

Jobs provide your data testing and profiling efforts the opportunity to tell a more complete story of what's happening in your environment. By executing tests and profiles together, your test coverage increases which improves the measure of your data quality.

Displayed Information

The Job Configuration page provides an interface for choosing the objects to be included in a job, when to run the job, and defining email notifications to send upon job completion.

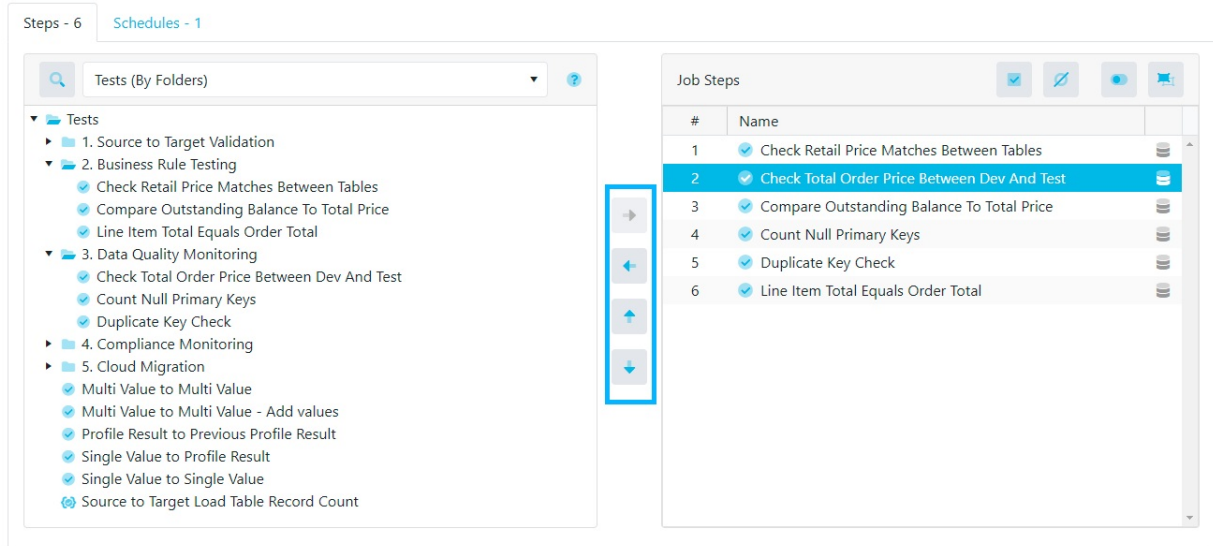


Action Buttons

| | |
|---------------------|--|
| Save | Saves the job. |
| View History | Navigates to the Job History page which displays historical pass/fail results for the job. |

Job Steps

The Steps section of the Job Configuration page consists of a list of available tests and jobs on the left-hand portion of the screen and a list of selected job steps on the right-hand portion of the screen tagged as Job Steps.



There are four types of objects that can be added to a job:

1. Standard Tests
2. Template Tests
3. Jobs
4. Profile Sets

Available objects can be found using the Tests (By Folders) dropdown or by toggling to the search view using the search icon to the left of the dropdown.

Job Step Buttons

| | |
|--|---|
| <p>Arrow buttons (highlighted in above image)</p> | <p>Allow a user to :</p> <ul style="list-style-type: none"> ● Add an object to a job ● Remove an object from a job ● Move an object up on the job step list ● Move an object down the job step list <p>Note: Adding the same object to the Job Step list produces a warning icon about the duplicate job step.</p> |
| Select All | Selects all items on the job steps list. |
| Deselect All | Deselects all items on the job steps list. |
| Disable Job Step | Disables the selected job step from executing when running the job. |
| Group / Ungroup Job Steps | Group job steps together to run them in parallel. Ungroup job steps to run them sequentially. Grouped steps share the same step number. Ctrl + click on multiple tests within Job Steps and then click on the Group button to create a group of tests. |

Job Configuration Note

Clicking the database icon in Job Steps allows the user to choose source and target connections that differ from the default for standard tests. If a different connection is chosen, the database icon will turn blue. Similarly for runtime configuration of Template Tests, clicking the materialize icon allows the user to enable child test materialization before running the job. If this option is enabled, the materialize icon will turn blue.



Job History

Overview

The Job History page displays an overview of results from past job runs and provides links to the individual test results within each job run. Viewing job history is a great way to see how your data quality changes over time.

Displayed Information

Validatar

Home / Validatar Product Demo / Jobs / Test Schedule 1 / History

Job History: Test Schedule 1

View Tests

Showing 28 entries

| Run Date | Status | Result | Runtime Context | Run By | Duration |
|-----------------------|-----------|---------|-----------------|-----------|----------|
| 10/7/2019 10:00:02 AM | Completed | 0 tests | Test Schedule 1 | Scheduler | 00:00:09 |
| 10/6/2019 10:00:02 PM | Completed | 0 tests | Test Schedule 1 | Scheduler | 00:00:08 |
| 10/6/2019 6:00:02 PM | Completed | 0 tests | Test Schedule 1 | Scheduler | 00:00:07 |
| 10/6/2019 2:00:02 PM | Completed | 0 tests | Test Schedule 1 | Scheduler | 00:00:07 |
| 10/6/2019 10:00:02 AM | Completed | 0 tests | Test Schedule 1 | Scheduler | 00:00:06 |
| 10/5/2019 10:00:02 PM | Completed | 0 tests | Test Schedule 1 | Scheduler | 00:00:07 |
| 10/5/2019 6:00:02 PM | Completed | 0 tests | Test Schedule 1 | Scheduler | 00:00:06 |
| 10/5/2019 2:00:02 PM | Completed | 0 tests | Test Schedule 1 | Scheduler | 00:00:06 |
| 10/5/2019 10:00:03 AM | Completed | 0 tests | Test Schedule 1 | Scheduler | 00:00:08 |
| 10/4/2019 10:00:02 PM | Completed | 0 tests | Test Schedule 1 | Scheduler | 00:00:08 |
| 10/4/2019 6:00:02 PM | Completed | 0 tests | Test Schedule 1 | Scheduler | 00:00:08 |
| 10/4/2019 2:00:02 PM | Completed | 0 tests | Test Schedule 1 | Scheduler | 00:00:07 |
| 10/4/2019 10:00:02 AM | Completed | 0 tests | Test Schedule 1 | Scheduler | 00:00:22 |
| 10/3/2019 10:00:02 PM | Completed | 0 tests | Test Schedule 1 | Scheduler | 00:00:06 |
| 10/3/2019 6:00:02 PM | Completed | 0 tests | Test Schedule 1 | Scheduler | 00:00:10 |
| 10/3/2019 2:00:02 PM | Completed | 0 tests | Test Schedule 1 | Scheduler | 00:00:07 |
| 10/3/2019 10:00:02 AM | Completed | 0 tests | Test Schedule 1 | Scheduler | 00:00:11 |

Action Buttons

| | |
|-------------------|--|
| View Tests | Click the View Tests button to navigate to the Job Result page and view detailed results for tests associated with a job. Note that clicking on the Run Date will also navigate to the Job Results page. |
|-------------------|--|

Table Headers

| | |
|------------------------|--|
| Run Date | The date and time the the job was executed. |
| Status | Status options: <ul style="list-style-type: none"> Completed Running Aborting Aborted Abandoned |
| Result | Details whether the job passed or failed. If the job contains profile sets only, the result will read <i>0 tests</i> . |
| Runtime Context | Detail the context the job was run under. |
| Run By | The user who ran the job. |
| Duration | How length of the job execution. |



Note

Learn more about table header filters [here](#).

Access

The Job History page can be accessed at the individual job level or via the Job Repository page. Both access methods are detailed below.

1. In the navigation pane, click the dropdown associated with a given project.
2. Click Jobs.
3. To open a job via the Job Repository page:
 - Highlight the desired job.
 - Click View History located at the top of the Job Repository page.
4. To open job history at the individual job level:
 - Click the link associated with the desired job in the information window.
 - In the resulting page, click the View Job History button.



Scheduling a Job

Overview

Scheduling a Job allows users to receive the results of their test and profile executions without having to be inside of Validatar. This feature is ideal for sending reports to higher level managers, informing data warehouse developers of issues as they arise, and providing peace of mind that your data is constantly being monitored.

The Job Schedule Configuration screen allows the user to define job scheduling and email notification.

A job schedule can be configured in many ways. Some examples include:

- A daily configuration that recurs every day at 5:00 AM after source system data has been updated.
- A weekly configuration that recurs every Monday to monitor changes in the data warehouse.
- A monthly configuration that recurs on the 2nd Friday of each month in preparation for sending status updates to higher level managers.

Displayed Information

Edit Job Schedule ×

Execute job Monthly Schedule is enabled

Frequency Pattern

Day of every month(s)

The of every month(s)

Duration

Start date: required

End date:

Daily Frequency

Occurs once at

Occurs every Minutes starting at and ending at

Send Email Notification

Send email when: required

any test fails

any test errors

the job doesn't complete

all tests pass

Email Recipients required

Email Subject

When scheduling a job, email notifications can be configured with the following options:

- Choose to send an email when a job is completed with a failure or error, when the job doesn't complete at all, or when a job is completed successfully with no failures or errors.
- Enter recipients emails using a comma or semi-colon delimited list.
- Provide an email subject line.



Note

It's easy to overlook whether a schedule is enabled or disabled. Verify that the schedule is enabled if you intend for it to run.

Access

Existing Job Schedules can be accessed by clicking Schedules within the navigation pane. New Job Schedules can be created via the following steps:

1. Click the dropdown associated with a given project.
2. In the navigation pane click Jobs.
3. Click on the desired job.
4. Click the Schedules tab.
5. Click New.



Creating a Data Source

This article is a step-by-step guide that will teach you how to create a new data source.

Instructions

1. Click on the Project that you are working with
2. Click on Project Settings/Data Sources
3. Click on the “New Data Source” button
4. Enter a name and description for the new data source
5. Click the “Edit” box in the Connection section of the page
6. Choose the Connection Type and Database Engine from the dropdown boxes
7. Enter the connection string
 - Sample SQL Server connection string: Server=;Database=;User Id=;Password=[[PASSWORD]];
 - Sample Snowflake connection string: Driver=SnowflakeDSIIDriver; Server=; Warehouse=; Database=; Uid=; Pwd=[[PASSWORD]]
 - Sample Oracle connection string: DSN=dsn_name; UID=username; PWD=[[PASSWORD]]
8. Enter the password
9. Click the “Create Connection” button
10. Click the “Save” button



Creating a New User Account

This article is a step-by-step guide that will teach you how to create a new user account.

Instructions

1. Navigate to Global Settings/Users
2. Click on the “New User” button
3. Fill out the required fields (First Name, Last Name, Email, Username, Password)
4. Click the checkboxes on the right if this user is a Global Admin, Test Author, or needs admin access to a specific project
5. Click the “Save Button”

Note

After a new user is created, they still need the appropriate access to projects and data sources before they are able to begin working.



Granting Users Project Access

This article is a step-by-step guide that will teach you how to grant a user access to a project and assign appropriate roles.

Prerequisite Required

User must be created at the global level

Instructions

1. Click on the Project to which you want to grant the user access
2. Click on Project Settings/Users
3. Click the “Grant Access” button
4. Click on the “+” next to the user's name
5. Click the checkboxes next to the appropriate roles for this user
6. Click the “Save” button



Creating a New User Group

This article is a step-by-step guide that will teach you how to create a new user group.

Instructions

1. Click on the Project for which you wish to create a user group
2. Click on Project Settings/Groups
3. Click the “New Group” button
4. Enter the group name
5. Click the checkbox to assign any existing users to this group
6. Click the “Save” button



Assigning a User to an Existing Group

This article is a step-by-step guide that will teach you how to assign a user to a user group.

Prerequisite Required

A user group must have already been created

Instructions

1. Click on the Project that you are working with
2. Click on Project Settings/Groups
3. Click on the name of the user group
4. Click the checkbox to assign the user to the group
5. Click the "Save" button



Assigning Data Source Permissions to a User Group

This article is a step-by-step guide that will teach you how to assign data source permissions to a user group.

Prerequisites Required

You must have an existing data source and user group prior to walking through the steps listed below.

Instructions

1. Click on the Project that you are working with
2. Click on Project Settings/Data Sources
3. Click on the name of the data source
4. Click on the “Permissions” tab
5. Click on the “New Rule” button
6. Select the user group from the dropdown box
7. Check the checkbox for the permissions you wish to assign to the group
8. Click the “Save” button



Assigning Data Source Permissions to a User

This article is a step-by-step guide that will teach you how to assign data source permissions to a user group

Prerequisites Required

You must have an existing data source and user prior to walking through the steps listed below.

Instructions

1. Click on the Project that you are working with
2. Click on Project Settings/Data Sources
3. Click on the name of the data source
4. Click on the "Permissions" tab
5. Click on the "New Rule" button
6. Select the user from the dropdown box
7. Check the checkbox for the permissions you wish to assign to the user
8. Click the "Save" button



Validatar EULA

End-User License Agreement ("Agreement")

Last updated: August 1, 2019

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Teknion Data Solutions may, in its sole discretion, at any time and for any or no reason, suspend or terminate this Agreement with or without prior notice.



This Agreement will terminate immediately, without prior notice from Teknion Data Solutions, in the event that you fail to comply with any provision of this Agreement. You may also terminate this Agreement by deleting all copies of the Application.

Upon termination of this Agreement, you shall cease all use of the Application and delete all copies of the Application from your server, computer(s) and/or mobile devices.

Termination of this Agreement will not limit any of Teknion Data Solutions' rights or remedies at law or in equity in case of breach by you (during the term of this Agreement) of any of your obligations under the present Agreement.

Indemnification

You agree to indemnify and hold Teknion Data Solutions and its parents, subsidiaries, affiliates, officers, employees, agents, partners and licensors (if any) harmless from any claim or demand, including reasonable attorneys' fees, due to or arising out of your: (a) use of the Application; (b) violation of this Agreement or any law or regulation; or (c) violation of any right of a third party.

No Warranties

The Application is provided to you "AS IS" and "AS AVAILABLE" and with all faults and defects without warranty of any kind. To the maximum extent permitted under applicable law, Teknion Data Solutions, on its own behalf and on behalf of its affiliates and its and their respective licensors and service providers, expressly disclaims all warranties, whether express, implied, statutory or otherwise, with respect to the Application, including all implied warranties of merchantability, fitness for a particular purpose, title and non-infringement, and warranties that may arise out of course of dealing, course of performance, usage or trade practice. Without limitation to the foregoing, Teknion Data Solutions provides no warranty or undertaking, and makes no representation of any kind that the Application will meet your requirements, achieve any intended results, be compatible or work with any other software, applications, systems or services, operate without interruption, meet any performance or reliability standards or be error free or that any errors or defects can or will be corrected.

Without limiting the foregoing, neither Teknion Data Solutions nor any Teknion Data Solutions' provider makes any representation or warranty of any kind, express or implied: (i) as to the operation or availability of the Application, or the information, content, and materials or products included thereon; (ii) that the Application will be uninterrupted or error-free; (iii) as to the accuracy, reliability, or currency of any information or content provided through the Application; or (iv) that the Application, its servers, the content, or e-mails sent from or on behalf of Teknion Data Solutions are free of viruses, scripts, trojan horses, worms, malware, timebombs or other harmful components.

Some jurisdictions do not allow the exclusion of or limitations on implied warranties or the limitations on the applicable statutory rights of a consumer, so some or all of the above exclusions and limitations may not apply to you.

Limitation of Liability

Notwithstanding any damages that you might incur, the entire liability of Teknion Data Solutions and any of its suppliers under any provision of this Agreement and your exclusive remedy for all of the foregoing shall be limited to the amount actually paid by you for the Application.



To the maximum extent permitted by applicable law, in no event shall Teknion Data Solutions or its suppliers be liable for any special, incidental, indirect, or consequential damages whatsoever (including, but not limited to, damages for loss of profits, for loss of data or other information, for business interruption, for personal injury, for loss of privacy arising out of or in any way related to the use of or inability to use the Application, third-party software and/or third-party hardware used with the Application, or otherwise in connection with any provision of this Agreement), even if Teknion Data Solutions or any supplier has been advised of the possibility of such damages and even if the remedy fails of its essential purpose.

Some states/jurisdictions do not allow the exclusion or limitation of incidental or consequential damages, so the above limitation or exclusion may not apply to you.

Severability

If any provision of this Agreement is held to be unenforceable or invalid, such provision will be changed and interpreted to accomplish the objectives of such provision to the greatest extent possible under applicable law and the remaining provisions will continue in full force and effect.

Waiver

Except as provided herein, the failure to exercise a right or to require performance of an obligation under this Agreement shall not effect a party's ability to exercise such right or require such performance at any time thereafter nor shall be the waiver of a breach constitute waiver of any subsequent breach.

For U.S. Government End Users

The Application and related documentation are "Commercial Items", as that term is defined under 48 C.F.R. §2.101, consisting of "Commercial Computer Software" and "Commercial Computer Software Documentation", as such terms are used under 48 C.F.R. §12.212 or 48 C.F.R. §227.7202, as applicable. In accordance with 48 C.F.R. §12.212 or 48 C.F.R. §227.7202-1 through 227.7202-4, as applicable, the Commercial Computer Software and Commercial Computer Software Documentation are being licensed to U.S. Government end users (a) only as Commercial Items and (b) with only those rights as are granted to all other end users pursuant to the terms and conditions herein.

Export Compliance

You may not export or re-export the Application except as authorized by United States law and the laws of the jurisdiction in which the Application was obtained.

In particular, but without limitation, the Application may not be exported or re-exported (a) into or to a nation or a resident of any U.S. embargoed countries or (b) to anyone on the U.S. Treasury Department's list of Specially Designated Nationals or the U.S. Department of Commerce Denied Person's List or Entity List.

By installing or using any component of the Application, you represent and warrant that you are not located in, under control of, or a national or resident of any such country or on any such list.

Amendments to this Agreement



Teknion Data Solutions reserves the right, at its sole discretion, to modify or replace this Agreement at any time. If a revision is material we will provide at least 30 days' notice prior to any new terms taking effect. What constitutes a material change will be determined at our sole discretion.

By continuing to access or use our Application after any revisions become effective, you agree to be bound by the revised terms. If you do not agree to the new terms, you are no longer authorized to use the Application.

Governing Law

The laws of Texas, United States, excluding its conflicts of law rules, shall govern this Agreement and your use of the Application. Your use of the Application may also be subject to other local, state, national, or international laws.

This Agreement shall not be governed by the United Nations Convention on Contracts for the International Sale of Good.

Contact Information

If you have any questions about this Agreement, please contact us at www.teknionusa.com/about-teknion/contact.

Entire Agreement

The Agreement constitutes the entire agreement between you and Teknion Data Solutions regarding your use of the Application and supersedes all prior and contemporaneous written or oral agreements between you and Teknion Data Solutions.

You may be subject to additional terms and conditions that apply when you use or purchase other Teknion Data Solutions' services, which Teknion Data Solutions will provide to you at the time of such use or purchase.



Previous Versions

Download Now!

Not on the latest version of Validatar but still need assistance? Download the documentation for previous Validatar versions below!

| Version | PDF |
|----------------|------------------------------------|
| 2020.4, 2021.1 | Click here for PDF |
| 2021.2 | Click here for PDF |



2021.2.1 Release Notes

Validatar has a new release! From major updates to minor bug fixes, we're constantly working to improve your Validatar experience so you can continue to build trust in your data. Learn about what's new below.

Release Date

Validatar 2021.2.1 was released on June 25, 2021.

To sign up for our email notifications about releases you can register [here](#).

What's New in Version 2021.2.1

- We're introducing the ability to create and add **Labels** to Validatar objects. Do you need to keep track of which tests and jobs belong to a particular development build? Labels will help you group those objects and import them into another Validatar instance.
- We've added the ability to set **default configuration options** for tests and profile sets. Would you rather all newly created tests return failed results only? Have a global admin set the default under **Global Settings > Configuration > Default Values**.
- You can now **purge results** from the Validatar database on a server and individual test level. Set a purge schedule to keep your environment clean.

Highlighted Improvements

- We've added a Summary box to the Template Test configuration screen which shows stats about new and previously created child tests.
- Load times for the Data Source list in the Explorer have improved.
- You can now multi-select objects to add or remove them from a job by holding down the Ctrl key instead of a single select.
- You can now see who created and last modified a test, along with timestamps, at the bottom of every test.
- You can find the option to purge individual test results in the Result Configuration section of the test. To schedule a purge on the server level, a global admin can navigate to **Global Settings > Configuration > Scheduling**.
- For users whose Validatar server does not have internet connectivity, we've added an offline license activation mechanism inside of the tool.
- Hover over the metadata data link name on the test configuration page to see the full object name. This is especially helpful when you link multiple metadata objects that have the same schema and table name prefix.
- When reverting to a previous version of a Validatar object, you now have to confirm before the revert is complete.
- We've enhanced the test version dropdown to include more distinguishable information about the previous version.
- Validatar now disables scheduled tasks that are set to occur after a license expires.
- Minor improvements to the navigation pane when test folders are deleted.



Highlighted Bug Fixes

- We corrected a bug that left open the REST API endpoint to create a global admin after the initial Validatar install.
- We've fixed a bug where import files containing multiple profile sets caused an error during the import.
- When copying a test, some of the required result configuration fields would become null effectively invalidating the copied test. This issue has been fixed.
- For the following test scenarios, the test showed as passed when the test had an error. This issue has been fixed.
 - Execution errors
 - A SQL script with invalid SQL
 - Processing errors
 - A single-value SQL script that returns more than one row
 - A single-value SQL script that returns more than one column
 - A multi-value SQL script that doesn't return two columns
- We've corrected a bug where the Archive button was broken visually but still functioned correctly.



2021.2 Release Notes

Validatar has a new release! From major updates to minor bug fixes, we're constantly working to improve your Validatar experience so you can continue to build trust in your data. Learn about what's new below.

Release Date

Validatar 2021.2 was released on May 17, 2021.

To sign up for our email notifications about releases you can register [here](#).

What's New in Version 2021.2

- We're introducing Template Tests in our latest release! Tired of making a copy of a test for each target object? Now you can dynamically create multiple tests at one time using a template. The template will use object reference tags to automatically populate the test configuration options including SQL scripts.
- You can now get Validatar help and view documentation without having to leave Validatar using the help icon right next to your username!
- You can now view test version history on the test details page. Want to return to a previous version? Use the test version dropdown to select a previous version and click Revert!

Highlighted Improvements

- You can now add available objects to a Job by search in addition to using the folder tree. Just click the search icon to toggle to the search view.
- The results page has been enhanced to support viewing Template Test run executions.
- The Import and Export tools have been enhanced to support Template Tests.
- The Test Repository page has been updated to show if a standard test was created from a template.
- Minor UI improvements.

Highlighted Bug Fixes

- We corrected a bug for improper sorting on the Results detail page.
- The Aborted % in the step status column on the Profile Executions page is now showing an accurate percentage.
- Fixed a bug where single value tests incorrectly displayed result evaluation options that didn't apply to that test data type.



2021.1 Release Notes

Validatar has a new release! From major updates to minor bug fixes, we're constantly working to improve your Validatar experience so you can continue to build trust in your data. Learn about what's new below.

Release Date

Validatar 2021.1 was released on March 30, 2021.

To sign up for our email notifications about releases you can register [here](#).

What's New in Version 2021.1

- There's a new Scheduling area in **Global Settings > Configuration** that gives the option to ignore previous or skipped schedules when the Validatar server is restarted.

Highlighted Improvements

- The Validatar installer has been improved to reduce the number of manual steps to upgrade to a newer version.
- We've improved the Profile Execution pages to provide a clearer representation of profile set execution progress.
- We've added titles more consistently across the tool to provide clarity on what page you're currently viewing.
- We've updated the password reset email to look more distinctive and recognized as coming from Validatar.

Highlighted Bug Fixes

- The **Create database manually** option in the Validatar installer did not allow users to continue with the installation process so that bug has been corrected.



2020.4.1 Release Notes

Validatar has a new release! From major updates to minor bug fixes, we're constantly working to improve your Validatar experience so you can continue to build trust in your data. Learn about what's new below.

What's New in Version 2020.4.1

- **Data Source Custom Profiles** – Users can now create custom profiles that are specific to a data source.
- **Log File Access** – We have made it easier to work with support when you have an issue by giving Global Admins a page to download recent log files from the Validatar Server in Global Setting.
- **SMTP Test Email** – It is now easier to make sure your SMTP settings are working with the ability to send a test email directly from the SMTP configuration screen.

Highlighted Improvements

- Sending results to the test repository will immediately take you to the test result page, eliminating the need for additional navigation to view a result.
- On the Results list, you can now select the Name of a test or job to be taken back to its configuration page.
- You can now see if a user is Global Admin or Test Author on the Global Settings Users list instead of having to drill-down into user details.
- We've improved the experience of granting users project-level permissions by updating the Users page to include an interactive permissions matrix.
- We've improved the way that users recognize profile definition dependencies on the Profile list under Global Database Engine settings.
- We've enhanced the object selection filter for Profile Sets to include table record count.
- We've improved the Profile Set Execution page in Data Source settings to allow for a better experience navigating execution errors.

Highlighted Bug Fixes



- Corrected an issue where email notifications settings weren't saved upon exiting the schedule configuration pop up window.
- The schedules tab on the Job configuration page now shows an accurate schedule count.
- Corrected a text field description bug that didn't allow a new line of text to be entered in a Description box.
- Corrected an issue where the Schedules table did not show an accurate Next Run date and time.
- Fixed a bug that incorrectly indicates a user is not a Test Author when that user is added to the Data Source Permissions list when they are in fact an eligible Test Author.
- Fixed a bug that prevented profile results in the Explorer section from displaying correctly.
- Fixed a bug that prevented the tree navigation from expanding and collapsing nodes correctly.
- Corrected an issue where the Profile Set name did not appear on the Job Result page.
- Fixed a bug that allowed you to refresh a data source's metadata without saving any changes on the page first.
- Fixed minor UI bugs.