RHB · Academy

AUTOMATION TROUBLESHOOTING AND RULE HYGIENE

JUNE 19, 2024

John Michael Cuccia, Senior Technology Consultant
Joshua Henry, Director of Technology Support and Training

AUTOMATION TROUBLESHOOTING AND RULE HYGIENE

Learn insights gained from Slate diagnostics that may help inform automation and rule hygiene in your database.

R H B · Academy

Agenda

- ▶ Meet your neighbors

- ▶ Automation in Slate

- ▶ How Rules Work

- ▶ Creating Efficient rules and processes

- ▶ Tools to assess rule performance

- ▶ Building rules with configurable joins

MEET YOUR NEIGHBORS

R H B - Academy

AUTOMATION IN SLATE

RHB · Academy

Automation in Slate

Database performance relies on automated processes in Slate.

- ▶ Rules

- ▶ Scheduled exports

- ▶ Automated imports

- ▶ Overnight processes

RHB · Academy

Rules

Execute regular, consistent updates to records in your database.

- ▶ Status updates

- ▶ Field values

- ▶ Populations

- ▶ Checklists

- ▶ Reader bin movements

Exports and Imports

Share data with integrated systems using queries and source formats.

- ▶ Scheduled exports

- ▶ Scheduled reports

- ▶ Source formats

- ▶ Configurable API

R H B · Academy

Overnight Processes

Scheduled and automatic processes that evaluate and clean up your data.

- ▸ Origin sources

- ▸ Retention policies

- ▸ Data consolidation and cleanup

RHB · Academy

HOW RULES WORK

RHB - Academy

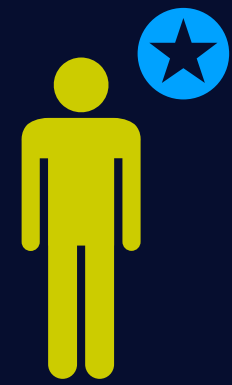# How Rules Work

Records exist in your database.

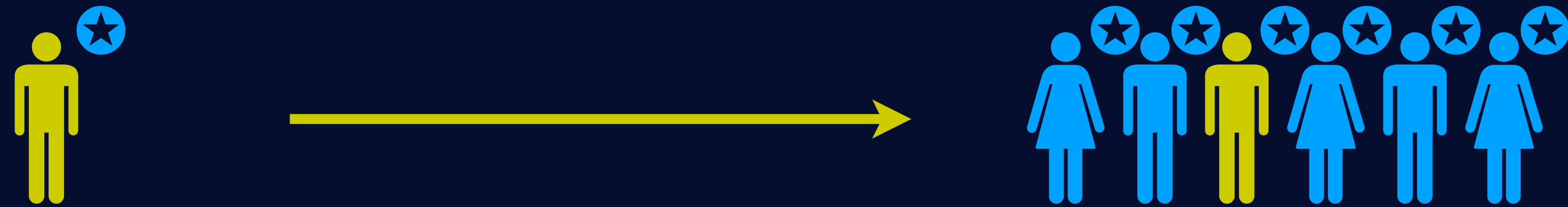# How Rules Work

Records exist in your database.

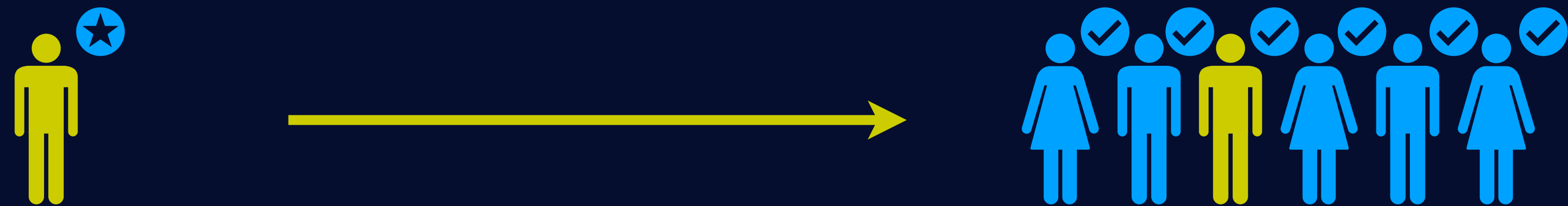# How Rules Work

An update to the record occurs.

How Rules Work

The record enters the rule update queue (deferred queue).

How Rules Work
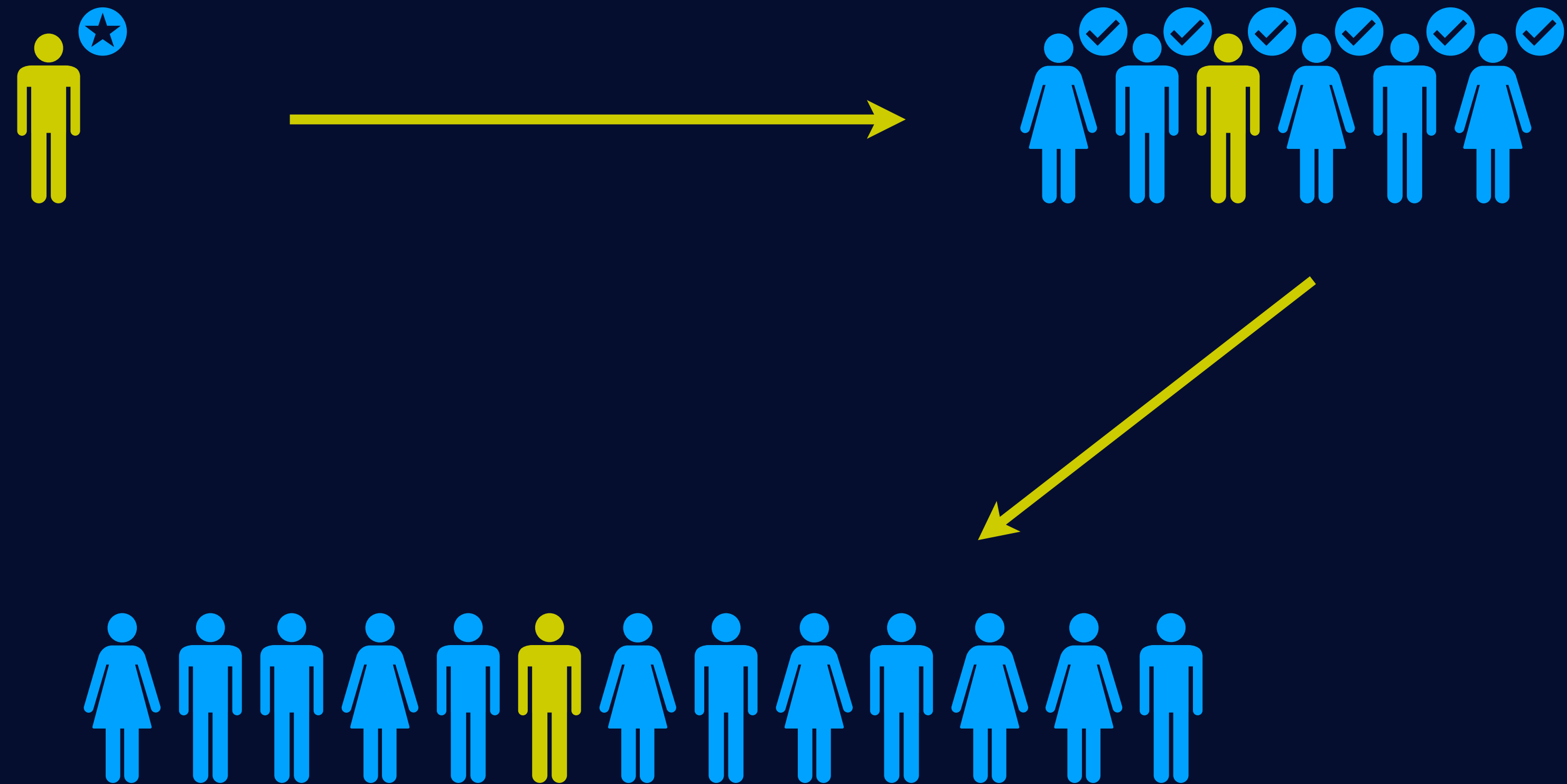
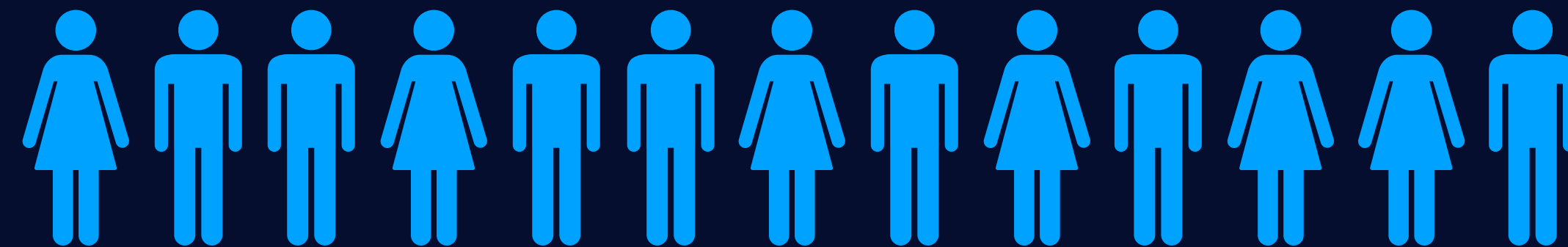Rule execution occurs every 20-30 minutes in your database, on average.

How Rules Work

After the rules run, records wait for their next update to re-enter the rule queue.

How Rules Work

The cycle is not continuous.

How Rules Work

To be placed back into the rule update queue, a record must be updated again.
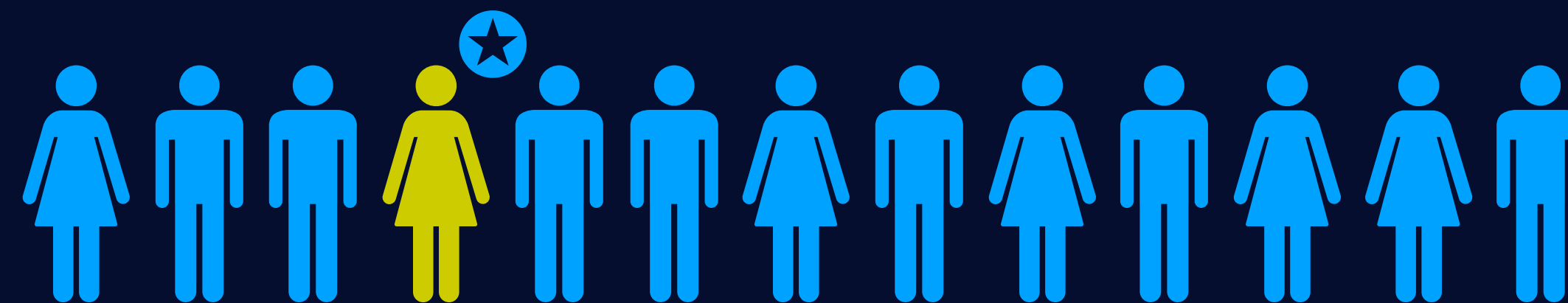
DISCUSSION

What does or does not qualify as an update to a record?

Rule Conditions

Understanding the conditions that impact rule configuration.

▸ Queues and Triggers - Upon update/deferred, overnight, upon application/form submission

▸ First and second passes - Some rule types are dependent on others

(checklist > application status > bin movement)

▸ Rules run in parallel - Don't daisy-chain your rules!

▸ Checklist rules only run on applications in an active period

▸ Rules may not repeat the same action (interactions, project tasks, checklist forms)

R H B · Academy

CREATING EFFICIENT RULES AND PROCESSES

RHB - Academy

Filter in the Affirmative

Search for the data you want rather than trying to eliminate the data you don't.

- ▶ Use IN operators - avoid NOT IN operators and NOT statements

- ▶ Avoid OR statements - find attributes common to all records you want or consider writing a separate query or rule

- ▶ Use "Exists" in subqueries over "Not Exists" where possible

- ▶ Check your joins - base joins v. subquery joins

R H B · Academy

Build Right From the Start

Create automation that is sustainable to receive the results you want.

- ▶ Use configurable joins

- ▶ Check that all rules in an exclusivity group are on the same base

- ▶ Ad-hoc v. cumulative source formats

- ▶ Flooding the rule update queue

- ▶ Be careful when making processes reliant on one another

RHB · Academy

Plan, Scale and Assess

Just because you can "set it and forget it" doesn't mean you should.

- ▶ Use automation because it is essential, not because it is available

- ▶ Grow processes to fit your database

- ▶ Evaluate if automation is working successfully in your database and in your process

R H B · Academy

ASSESS DATABASE PERFORMANCE

RHB - Academy

Assessment Tools

Slate offers numerous tools to view how well your database is performing and identify any problems.

- ▶ Job Activity Monitor

- ▶ Database Activity Monitor

- ▶ Rule Health

- ▶ Check Rules

- ▶ Rule Log

- ▶ Error Log

- ▶ ~~Resource Auditor~~

Job Activity Monitor

Type	Name	Status	Window	Started	Stopped	Elapsed (sec)
Export	FYE_Export_TestScores	success	overnight	05/22/2024 03:28:30 AM	05/22/2024 03:28:31 AM	1
Export	FYE_Export_Relations	success	overnight	05/22/2024 03:28:09 AM	05/22/2024 03:28:30 AM	21
Export	FYE_Export_Decisions	success	overnight	05/22/2024 03:28:02 AM	05/22/2024 03:28:09 AM	7
Export	MARINA_BASE_TBL_RELATION	success	overnight	05/22/2024 03:26:20 AM	05/22/2024 03:28:02 AM	102
Export	MARINA_BASE_TBL_APPLICATION_ATTRIBUTES	success	overnight	05/22/2024 03:26:06 AM	05/22/2024 03:26:20 AM	14
Export	MARINA_BASE_TBL_ACTIVITY	success	overnight	05/22/2024 03:19:39 AM	05/22/2024 03:26:06 AM	387
Export	MARINA_BASE_TBL_PERSON_TEST_SCORES	success	overnight	05/22/2024 03:17:14 AM	05/22/2024 03:19:39 AM	145
Export	FYE_Export_Application	success	overnight	05/22/2024 03:17:04 AM	05/22/2024 03:17:14 AM	10
Export	MARINA_BASE_TBL_DIGITAL_CONTACT	success	overnight	05/22/2024 03:16:56 AM	05/22/2024 03:17:04 AM	8
Export	MARINA_BASE_TBL_APPLICATION_DECISIONS	success	overnight	05/22/2024 03:10:42 AM	05/22/2024 03:16:56 AM	374
Export	MARINA_BASE_TBL_ADDRESS	success	overnight	05/22/2024 03:09:56 AM	05/22/2024 03:10:42 AM	46
Export	List of OPEN Data Integration Errors	success	overnight	05/22/2024 03:09:55 AM	05/22/2024 03:09:56 AM	1
Export	MARINA_BASE_TBL_SCHOOL	success	overnight	05/22/2024 03:08:53 AM	05/22/2024 03:09:55 AM	62
Export	MARINA_BASE_TBL_LOOKUP_VALUES	success	overnight	05/22/2024 03:08:52 AM	05/22/2024 03:08:53 AM	1
Export	MARINA_BASE_TBL_PERSON	success	overnight	05/22/2024 03:04:10 AM	05/22/2024 03:08:52 AM	282
Export	MARINA_BASE_TBL_ETHNICITY	success	overnight	05/22/2024 02:52:47 AM	05/22/2024 03:04:10 AM	683
Export	MARINA_BASE_TBL_APPLICATION	success	overnight	05/22/2024 02:10:42 AM	05/22/2024 02:52:47 AM	2525
Export	FYE_Export_Person	success	overnight	05/22/2024 02:09:32 AM	05/22/2024 02:10:42 AM	70
Export	FYE_Export_TestScores	success	overnight	05/21/2024 03:38:24 AM	05/21/2024 03:38:26 AM	2
Export	FYE_Export_Relations	success	overnight	05/21/2024 03:38:23 AM	05/21/2024 03:38:24 AM	1

Type

All Types

Export

Transfer

Report

Status

Any Status

Success

Late

Failure

Pending

Delivery Windows

All Windows

Overnight

Morning

Midday

Afternoon

Evening

On Demand

Rules Health

Rules run frequently throughout the day. Non-overnight queues with an age of more than 60 minutes, especially where the numbers are not decreasing, may indicate a potential issue with one or more of your rules. Large retroactive refreshes will execute over a longer period of time to minimize database locking and may take several hours.

If your rules are failing, you may check the Rule Log to view any errors.

Rules are currently processed in batches of 100,000 records at a time. Depending upon the quantity and complexity of rules, if a rule batch is able to execute every 30 minutes, as an example, a total of 500,000 records queued for a pass 1 may take up to 5 hours to complete both passes.

Queue	Pass 1	Max Age	Pass 2	Total
Person	12	3 min	11,354	11,366
Application	0		1	1
Inbox	0		0	0
Person (overnight)	17,745	3 hr	0	17,745
Application (overnight)	415	3 hr	0	415
College Influencers	0		0	0
Organization Contacts	0		0	0
Organizations	0		0	0
Prin FacStaff	0		0	0
School Announcements	0		0	0
Tuition and Fees by Year	0		0	0
Total Records Queued (non-overnight)	**12**		**11,355**	**11,367**

Check Rules

As the rules below are tested in preview mode, the estimated total populations and filter evaluation durations will be calculated. If "ERR" is displayed, that rule likely has a functional issue that may prevent its execution as well as the execution of other rules. If a rule has a filter evaluation duration of more than 30 seconds, it should be evaluated for its efficiency. The Duration calculates only the filter evaluation times, so rules that use SQL code to determine a value (e.g. Replace Values from Custom SQL or Replace Values from Formula) could have a higher duration than what is listed.

If your rules are currently failing, you may check the Rule Log to view any errors.

Name	Type	Exclusivity Group	Base	Status	Type	Count	Duration
Update Niche Tag for Reader	Tag		Application	Active		0	0.7
Decided - Released Decision	Application Status	Application Status	Applications	Active		79,354	1.2
Decided - Confirmed Decision	Application Status	Application Status	Applications	Active		21	0.2
Awaiting Submission	Application Status	Application Status	Applications	Active		8,965	1.0
Awaiting Materials - Custom Checklist Items	Application Status	Application Status	Applications	Active		24,354	16.1
Awaiting Confirmation	Application Status	Application Status	Applications	Active		0	0.2
Awaiting Decision	Application Status	Application Status	Applications	Active		89,418	0.9
Withdraw from Bins	Bin		Applications	Active		3,837	0.2
Move to Non-Nursing Pre-Read GPA Calc	Bin	Athletic Pre-Read	Prospects (includin...	Active		11	0.8
Move to Nursing Pre-Read GPA Calc	Bin	Athletic Pre-Read	Prospects (includin...	Active		2	22.4
Move to Domestic Final Decision Needed	Bin	Final Review	Applications	Active		9	32.0
Move to Intl Final Decision Needed	Bin	Final Review	Applications	Active		0	0.3
Move to Released Decision - Conditional Admit	Bin	Released Decision	Applications	Active		40	0.3
Move to Released Decision - Admit	Bin	Released Decision	Applications	Active		1,273	0.3
Move to Released Decision - Deny	Bin	Released Decision	Applications	Active		128	0.1
Returning Student Subsequent Appeal - Move...	Bin	Returning Appeal	Applications	Active		1	0.1

Database

Search Database...

Pinned

To pin a feature or tool, access the feature or tool and then pin the item in your recent item list under the Database menu.

Applications

Application Editor
Application Logic
Application Periods
Application Rounds

Auditing

Access Logs
Cleanup / Scrub Address Records
Database Activity Monitor
Deletion Log
Error Logs
Field Search
GUID Search
Job Activity Monitor
Resource Auditor
Retention Policies
System Dashboard
Test & Other Environments
Unused Resources
Retention Policies (deprecated)

Automations

Origin Groups
Origin Sources
Populations
Rules
Translation Codes

Branding

Branding Editor
Ping

INDICATORS OF AUTOMATION TROUBLE

Warning Signs

The following are common indicators of automation trouble in your database.

- ▶ High max age in Rule Health (over 60 minutes)

- ▶ Messages not being forwarded to Inbox

- ▶ Late processing times and failed jobs in Job Activity Monitor

- ▶ Frequent timeout errors and difficult navigating through application

R H B · Academy

DISCUSSION

What should you do when you identify a potential problem with rules or other automated processes?

▸ Check the Rule Log

▸ Run Check Rules

▸ Review filters on scheduled queries

▸ Post in the community forums/Slate Slack for help

RHB · Academy

DISCUSSION

What does it mean if rule errors do not indicate a specific rule?

- ▸ Rules are failing in the aggregate

- ▸ Can occur sporadically or consistently

- ▸ Run check rules and review rules using formula actions

BUILDING RULES WITH CONFIGURABLE JOINS

RHB - Academy

Building Rules with Configurable Joins

Why should you use configurable joins to build your rules?

- ▸ More efficient filters and formulas

- ▸ More accurate results

- ▸ More sustainable performance

ACTIVITY

Build common rules using configurable joins.

- ▶ Person status rules

- ▶ Application status rules

- ▶ Index/Header rules

- ▶ Staff assignment rules

RHB · Academy

LET'S GO TO SLATE

RHB · Academy

Building Rules with Configurable Joins

When should you use configurable joins to build your rules?

- ▸ Creation of a new rule

- ▸ Updates to existing rules

- ▸ Changes or updates to existing processes

RHB · Academy

Strategies for Successful Automation

▶ Build sustainably and judiciously

▶ Test and monitor performance

▶ Read and review updates from Technolutions

▶ Update and improve processes over time

▶ **Use configurable joins!**

RHB · Academy

QUESTIONS

RHB · Academy

THANK YOU!

R H B - Academy