

Robust Transform Map

S e r v i c e N o w

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01.

What is Robust Transform Map

Use robust import set transformers instead of transform maps if you want to extract, transform, and load data to one or more target tables.

Difference between Robust Transform Map & Transform Map

Transform Map	Robust Transform Map
<p>Transform maps define the mapping from imported data stored in a staging table to a single target table in the Now Platform.</p> <p>Transform maps also insert data into target tables, performing both transform and processing functions.</p> <p>You can define multiple table mappings with multiple transform maps.</p>	<p>The Robust Transform Engine (RTE) and the robust import set transformer separate the transform and processing functions, providing a more flexible alternative to transform maps.</p> <p>The robust import set transformer allows you to extract data from a source table into an intermediary data structure.</p> <p>You can transform the data as desired and then load that data to one or more target tables.</p> <p>Records are processed as batches to enhance performance.</p>

02.

Create a Robust Import Set Transformer

Define how information is sent from the source table to target tables via a Robust Transform Engine (RTE).

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Robust Import Set Transformer
New record

| sys_robust_import_set_transformer [scratchpad][table fields][toggle label]

🔗

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⚙️

⋮

Submit

↑

↓

* Name | name

Application | sys_scope

Global

i

* Source table | source_table

Computer [imp_computer]

Active | active

☒

* Transformer definition | robust_transform_engine

Batch size | batch_size

Verbose | verbose

☐

Description | description

📄

</>

Properties | properties

Name

Value

Field	Description
Name	The name of the robust import set transformer.
Source table	The source table for the robust import set transformer.
Robust transform engine	Enables you to select an ETL definition or CMDB definition. For procedures to define an RTE, see Create robust transform definitions .
Description	A description of the robust import set transformer.
Properties	Custom properties which can be used in processing the data.
Application	Application scope for this record.
Active	Selected if the robust import set transformer is currently active. Deselected if the robust import set transformer is not currently active.
Batch size	The number of items in each batch being transformed.
Verbose	Enables some transform logs that show how transform operations are applied to records.

servicenow

Robust Transform Definition (sys_rte_definition)



Robust Transformer Definition

What type of Robust Transformer Definition would you like to create?

[ETL Definition](#)

[CMDB Integration Studio Application Data Source](#)

[Base RTE Definition](#)

- ☐ ETL definitions extract data from a source table, transform the data as desired, and load the data into one or more target tables. ETL definitions also support nested data structures.

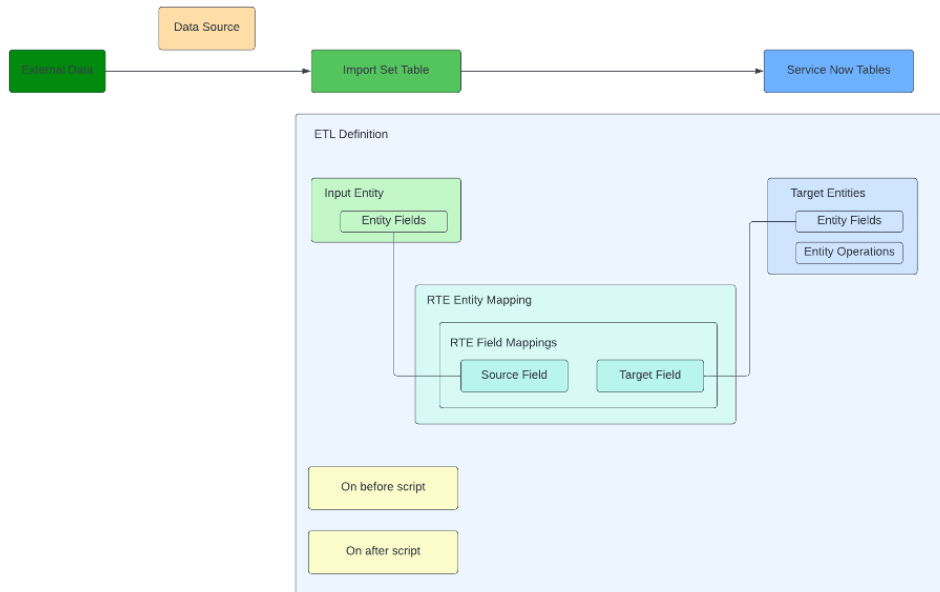
04.

Extract Transform Load (ETL) definition overview

ETL definitions extract data from a source table, transform the data as desired, and load the data into one or more target tables. ETL definitions also support nested data structures.

ETL definitions specify how to map data

Importing data starts with a data source. A data source specifies the type of data that you want to extract and its location. After the data is extracted, it's loaded into a staging, or import set, table. Then an ETL definition specifies how to map the data into one or more target tables in ServiceNow. You can create ETL definitions that map data to ServiceNow tables while still maintaining the foreign key and unique key constraints.



- ☐ ETL entities represent input data and target tables
- ☐ Input entities
- ☐ Target entities
- ☐ Robust Transform Engine (RTE) entity operations modify data
- ☐ RTE entity mappings specify field mappings
- ☐ Nested data in ETL definitions

ETL entities represent input data and target tables

ETL definitions are based on entities. Every ETL definition that you create must have entities associated with it. Entities represent input data and target tables.

Input data is the data that has been loaded into the staging table.

Target tables are the ServiceNow tables where you want your data to end up.

Mappings and operations are also based on entities, so it's helpful to create entities early, when you create the definition.

05.a

Example

An example of an ETL definition for Computer

This definition has three entities associated with it. The Import Set entity represents the input data, data loaded from an Excel file into the Computers [sn_elt_demo_computers_stage] staging table. Computer and Disk are the target entities. They represent two ServiceNow tables named Computers [sn_etl_demo_computer] and Disk [sn_etl_demo_disk]. The data from the staging table will be loaded into the two target tables.

The screenshot shows the 'ETL Definition' interface for a definition named 'Computer'. The top section contains form fields for 'Name' (Computer), 'Description', 'Copy empty fields' (checked), 'Execute on before script', and 'Execute on after script'. The 'Application' is set to 'ETL Demo' and 'Active' is checked. Below the form are 'Update' and 'Delete' buttons. The middle section has two tabs: 'ETL Entities (3)' (selected) and 'RTE Entity Mappings (2)'. Below the tabs is a search bar and a table of entities. The table has columns: Name, Path, Run business rules, Synchronize Inserts, and Table. It lists three entities: 'Computer', 'Disk', and 'Import Set'. The bottom of the interface shows a pagination bar indicating '1 to 3 of 3'.

Name	Path	Run business rules	Synchronize Inserts	Table
Computer	computer	true	false	Computer [sn_etl_demo_computer]
Disk	disk	true	false	Disk [sn_etl_demo_disk]
Import Set		true	false	Computers [sn_elt_demo_computers_stage]

Input entities

Input entities represent the extracted data that was loaded into the staging table. Input entities have ETL entity fields to represent the import set table columns or, for a single column mode, JSON keys. You can create your own entity fields or use the Generate fields link to generate them automatically.

The following image shows the Import Set entity from the Computer ETL definition. The Import Set entity represents the input data loaded from an Excel file into the Computers [sn_elt_demo_computers_stage] staging table. The Import Set entity has an entity field for each column in the staging table.

ETL Entity Import Set

* Name

Import Set

Table

Computers [sn_elt_demo_computers_s...

Path

Synchronize Inserts

☐

Run business rules

☒

Application

ETL Demo

* Definition

Computer

Update

Delete

Update

Delete

Related Links

[Generate fields](#)

ETL Entity fields (7)

RTE Entity Operations

Name

Search

Actions on selected rows...

New

Entity = Import Set

<input type="checkbox"/>	Name	Field/Path	Coalesce	Coercion action
<input type="checkbox"/>	Computer ID	u_computer_id	false	create
<input type="checkbox"/>	Computer Type	u_computer_type	false	create
<input type="checkbox"/>	Computer Version	u_computer_version	false	create
<input type="checkbox"/>	Disk Capacity	u_disk_capacity	false	create
<input type="checkbox"/>	Disk Serial No	u_disk_serial_no	false	create
<input type="checkbox"/>	Manufactured Date	u_manufactured_date	false	create
<input type="checkbox"/>	OS	u_os	false	create

1 to 7 of 7

Target entities

Target Entities represent the target tables in ServiceNow. The following image shows the Disk target entity from the Computer ETL definition. Disk represents the sn_etl_demo_disk target table. It has entity fields to represent table columns and temporary values to apply operations.

Each entity field has a name, a reference or path field, a coalesce field, and a coercion action.

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ETL Entity Disk

UpdateDelete

* NameDisk

ApplicationETL Demo

TableDisk [sn_etl_demo_disk]

* DefinitionComputer

Pathdisk

Synchronize Inserts

Run business rules

UpdateDelete

Related Links

Generate fields

ETL Entity fields (4)

RTE Entity Operations (1)

Name

Search

Actions on selected rows...

New

Entity = Disk

	Name	Field/Path	Coalesce	Coercion action
<input type="checkbox"/>	Capacity	capacity	false	create
<input type="checkbox"/>	Computer ID	computer.id	false	create
<input type="checkbox"/>	Manufactured Date	manufactured_date	false	create
<input type="checkbox"/>	Serial No	serial_no	true	create

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1 to 4 of 4

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Robust Transform Engine (RTE) entity operations modify data

Entity operations modify input data before storing it in a target table. The following image shows an example of a concatenation operation. In the ETL definition for Computer, the imported data contains both a type and a version. However, the target table requires a value that is a combination of the type and version. So the Computer entity uses a concatenation operation to concatenate type and version. Entity operations can only be performed on entity fields, so in this example, two temp fields are created to copy the import set values.

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RTE Entity Concatenation Operation

Create model

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⚙️

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Update

Delete

↑

↓

* Name

Create model

* Source Fields

🔒

Type, Version

* Target Field

Model

🔍

ℹ️

Operation Group

Optional Joining String

-

* Order

100

Is Conditional

☐

Application

ETL Demo

ℹ️

* Operation Type

Concatenation

🔍

ℹ️

* Entity

Computer

🔍

ℹ️

* Definition

Computer

🔍

ℹ️

Update

Delete

RTE entity mappings specify field mappings

After creating the input and target entities with their entity fields and operations, create an RTE entity mapping for each target entity. RTE entity mappings specify how fields in the input entity are mapped to fields in the target entities. In the ETL definition for Computer, there are two RTE entity mappings. One, shown in the following image, maps input data to the Computer entity fields. The other maps input data to the Disk entity fields.

RTE Entity Mapping

Import Set to Computer

Update

Delete

Name

Import Set to Computer

* Source Entity

Import Set

* Target Entity

Computer

* Order

100

Is Conditional

Application

ETL Demo

* Definition

Computer

Ignore

Update

Delete

RTE Field Mappings

Order

Search

Actions on selected rows...

New

Entity Mapping = Import Set to Computer

	Source Field	Target Field	Order
<input type="checkbox"/>	OS	OS	100
<input type="checkbox"/>	Computer ID	ID	100
<input type="checkbox"/>	Computer Version	Version	100
<input type="checkbox"/>	Computer Type	Type	100

1 to 4 of 4

THANK YOU

Success Always Belongs For Those Who Are Prepared