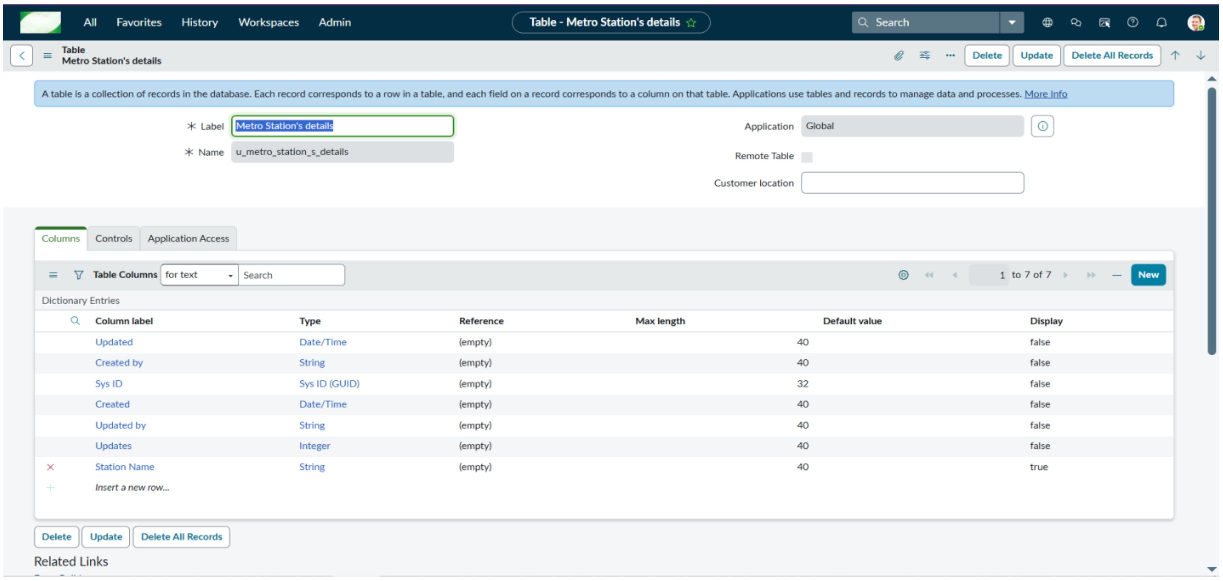
Data Architecture

Purpose of Data Architecture

- This document explains the data design and table structure used in the **Metro Ticket Booking and Smart Card Management System** developed on the ServiceNow platform.
- The data architecture is designed to ensure that all ticket bookings and smart card recharge transactions are stored in a well-organized, secure, and auditable manner, enabling smooth automation, reporting, and user activity tracking.

Overview of Custom Data Tables

- To efficiently manage metro ticket and smart card-related data, a **custom table named Metro Database** has been created in ServiceNow.
- This table serves as the **primary data repository** for storing all metro ticket booking details, smart card information, and recharge transactions submitted through the Service Catalog.



A table is a collection of records in the database. Each record corresponds to a row in a table, and each field on a record corresponds to a column on that table. Applications use tables and records to manage data and processes. More Info

* Label: Metro Station's details

* Name: u_metro_station_s_details

Application: Global

Remote Table: □

Customer location:

Dictionary Entries

	Column label	Type	Reference	Max length	Default value	Display
	Updated	Date/Time	(empty)	40		false
	Created by	String	(empty)	40		false
	Sys ID	Sys ID (GUID)	(empty)	32		false
	Created	Date/Time	(empty)	40		false
	Updated by	String	(empty)	40		false
	Updates	Integer	(empty)	40		false
×	Station Name	String	(empty)	40		true
+	*Insert a new row...*					

Table Information

Attribute	Value
Table Label	Metro Database
Table Name	u_metro_database
Application Scope	Global
Purpose	Stores structured data related to metro ticket booking and smart card recharge requests

Custom Table: u_metro_database

- The **u_metro_database** table captures all critical information related to metro services, including passenger details, smart card data, recharge or fare amount, and payment information.
- This table is automatically populated using **Flow Designer automation** whenever a metro ticket booking or recharge request is submitted, eliminating the need for manual data entry.

Field Characteristics

Reference Fields

- **User Details** → References the *User (sys_user)* table to identify the requester

Choice Fields

- **Mode of Payment** → Configured as a choice field to maintain consistent payment options such as UPI, Credit Card, Debit Card, and Net Banking

System Fields

- Sys ID

- Created
- Created By
- Updated

These fields are system-generated and remain read-only to maintain data integrity and support auditing.

Mandatory Fields

- Smart Card Number
- Smart Card Name
- Recharge Amount
- Mode of Payment
- User Details

Mandatory fields ensure that all essential transaction data is captured correctly.

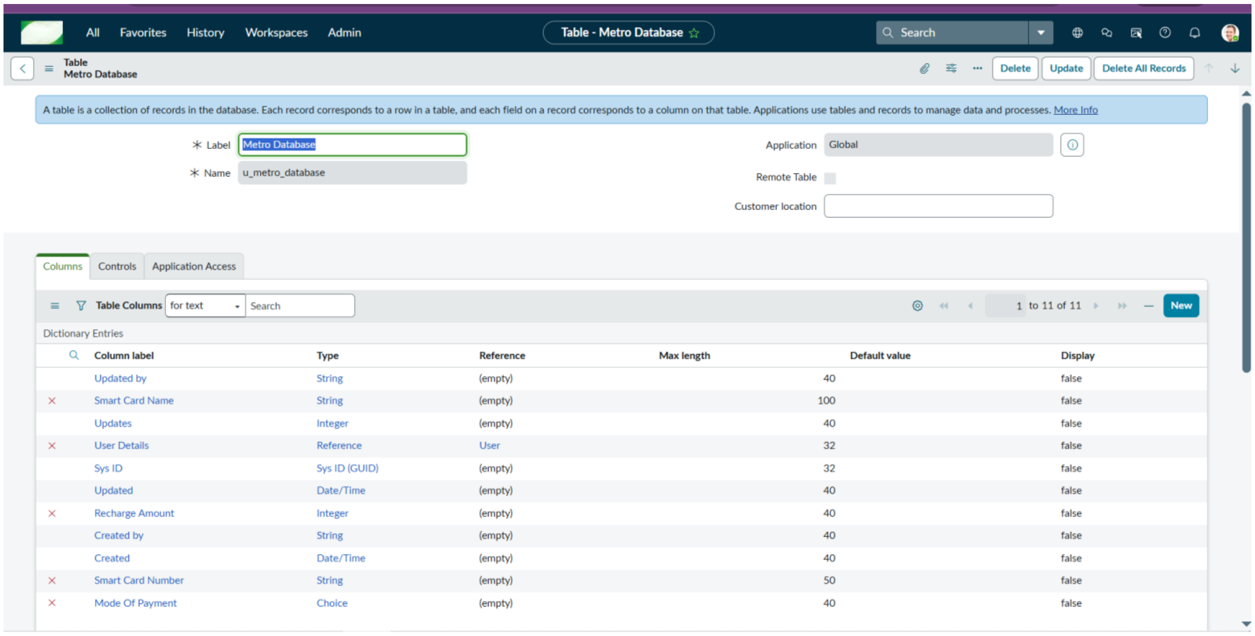
Table Relationships

The **u_metro_database** table is integrated with existing ServiceNow tables to maintain data consistency and security.

- **User Table (sys_user)**
  - Used to associate metro bookings and recharge transactions with registered users

These relationships enable:

- Secure user identification
- Role-based access management
- Accurate tracking of booking and recharge history



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✱ Label	Metro Database
✱ Name	u_metro_database
Application	Global
Remote Table	□
Customer location	

Dictionary Entries

	Column label	Type	Reference	Max length	Default value	Display
	Updated by	String	(empty)	40		false
×	Smart Card Name	String	(empty)	100		false
	Updates	Integer	(empty)	40		false
×	User Details	Reference	User	32		false
	Sys ID	Sys ID (GUID)	(empty)	32		false
	Updated	Date/Time	(empty)	40		false
×	Recharge Amount	Integer	(empty)	40		false
	Created by	String	(empty)	40		false
	Created	Date/Time	(empty)	40		false
×	Smart Card Number	String	(empty)	50		false
×	Mode Of Payment	Choice	(empty)	40		false

Figure 1: Metro Database (u_metro_database) table structure in ServiceNow

Data Flow Overview

1. A user submits a **Metro Ticket Booking** or **Smart Card Recharge** request through the Service Catalog.
2. Relevant catalog variables such as Smart Card Number, Recharge Amount, and Payment Mode are captured.
3. Flow Designer processes the request and maps the data to the **u_metro_database** table.
4. A new record is created automatically upon successful submission.
5. Final transaction details are stored for reporting, monitoring, and future reference.

Conclusion

The data architecture of the Metro Ticket Booking System is designed to be **structured, scalable, and audit-ready**.
By leveraging a custom database table integrated with ServiceNow’s native User table, the system ensures efficient automation, reliable transaction tracking, and compliance with service management standards. This architecture forms a strong foundation for future enhancements and high-volume metro ticketing operations.