Solution Architecture:

Solution architecture is a structured process that bridges the gap between **metro passenger requirements** and **digital ticketing technology**. It defines how the **Metro Ticket Generating System using ServiceNow** is designed to automate ticket booking, fare calculation, QR code generation, and validation.

Its goals are to:

• Identify the most efficient digital solution for metro ticket booking problems.

• Describe the structure, characteristics, and behavior of the ticketing system to stakeholders.

• Define system features, workflow phases, and solution requirements.

• Provide clear specifications for implementing, managing, and delivering the metro ticketing solution.

Example – Solution Architecture Diagram:

Figure 1: Architecture and data flow of the Metro Ticket Generating System

(Diagram representation: Passenger → Service Portal → Flow Designer → QR Code Generation → Notification → Metro Gate Validation)

Component Description

Component	Description
Service Catalog	Acts as the front-end entry point where passengers submit metro ticket booking requests by selecting source station, destination station, and travel details.
Service Portal	Provides a user-friendly web interface for passengers to book tickets, view booking status, and access QR-code-based digital tickets.
Flow Designer	Serves as the orchestration engine that automates fare calculation, ticket creation, QR code generation, approval logic, and notification triggers.

Component	Description
Integration Hub	Handles integration with external services such as QR code generators, email/SMS gateways, and metro gate validation systems using REST APIs.
ServiceNow Tables	Store passenger details, ticket booking records, fare rules, transaction logs, and ticket usage history.
Metro Gate QR Scanner	Validates the digital QR ticket at metro entry and exit points to allow or restrict passenger access.