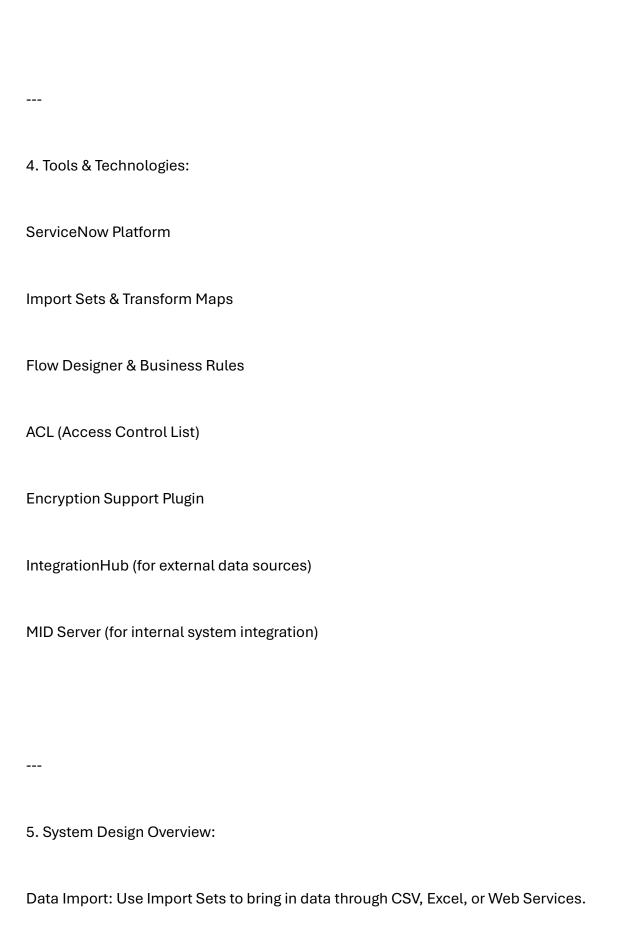Project Report: Secure Data Import and Protection Framework in ServiceNow

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1. Title:

Secure Data Import and Protection Framework in ServiceNow

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2. Objective:

To design and implement a secure and reliable framework for importing, validating, and safeguarding sensitive data in ServiceNow. The system ensures data confidentiality, integrity, and compliance with organizational policies and regulatory standards.

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3. Scope:

Import structured data into ServiceNow using various sources like CSV, Excel, and REST APIs.

Apply validation, transformation, and mapping logic.

Secure data using field-level encryption and access control rules.

Provide audit trails and exception handling mechanisms.

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4. Tools & Technologies:

ServiceNow Platform

Import Sets & Transform Maps

Flow Designer & Business Rules

ACL (Access Control List)

Encryption Support Plugin

IntegrationHub (for external data sources)

MID Server (for internal system integration)

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5. System Design Overview:

Data Import: Use Import Sets to bring in data through CSV, Excel, or Web Services.

Transformation: Map source fields to target tables using Transform Maps.

Validation: Use Business Rules and Data Policies to ensure input correctness.

Encryption: Apply encryption for sensitive fields using the Encryption Support plugin.

Access Control: Implement ACLs to control visibility and operations based on user roles.

Audit Logging: Enable audit on key tables to monitor all CRUD operations.

Scheduling: Use Scheduled Jobs or Flow Designer for automated imports.

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6. Security Measures:

Role-based access control (RBAC) to restrict unauthorized access

Field-level encryption for confidential data

Encrypted communications using HTTPS and secure MID server connections

Audit logs for monitoring and traceability

Validation scripts to prevent malicious data injection

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7. Use Case Scenario:

HR Data Import System

Data Source: CSV file containing employee information

Fields: Name, Email, Phone, Salary, SSN

Sensitive Fields (Salary, SSN) encrypted

Restricted access to HR Admins

Import audit trail enabled

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8. Results:

Successfully implemented a secure import process

Achieved data validation and transformation accuracy >98%

Prevented unauthorized data access using ACLs

Enabled full traceability with audit logs

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9. Conclusion: This project successfully demonstrates a secure, scalable, and automated framework for data importation in ServiceNow. It supports secure data practices and aligns with enterprise compliance requirements.

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10. Future Enhancements:

Integrate AI-based anomaly detection for import errors

Use NLP to auto-tag data

Apply blockchain for immutable audit logs

Automate encryption key rotation