

# Project Documentation

## Healthcare management System on Salesforce

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### Phase 8: Data Management & Deployment

#### 1. Introduction

In this phase, we manage **data import, export, backup, and deployment** between environments. Hospitals handle **sensitive medical and patient data**, so data management must be secure, accurate, and compliant.

Deployment ensures that all **customizations, Apex code, and configurations** move smoothly from **Sandbox** → **UAT** → **Production**.

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#### 2. Preparation

Before starting data management and deployment, we must:

- Finalize **data templates** for Patients, Doctors, Appointments, and Health Records.

- Clean sample data to remove duplicates and ensure correct formats.

- Set up **Sandbox environments** for development and testing.

- Define deployment strategy (Change Sets, SFDX, or Packages).

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#### 3. Data Management Components

##### A. Data Import Wizard

Purpose: Import small, simple datasets.

**Use Cases:**

- Import initial Patient\_\_c and Doctor\_\_c records.

- Import Department\_\_c details.

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##### B. Data Loader

Purpose: Handle **bulk data imports/exports** (50,000+ records).

**Use Cases:**

Import historical Appointment\_\_c records from hospital legacy system.

Import HealthRecord\_\_c data including past prescriptions and reports.

Bulk export Patient\_\_c records for hospital analytics.

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### C. Duplicate Rules

Purpose: Maintain **clean and unique data**.

#### Use Cases:

Prevent duplicate patient creation based on Email or Phone.

Ensure unique Doctor records based on License Number.

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### D. Data Export & Backup

Purpose: Ensure **data security and recovery**.

#### Use Cases:

Weekly backup of Patient\_\_c and Appointment\_\_c records.

Monthly backup of HealthRecord\_\_c data for compliance.

Export doctor schedules for offline hospital use.

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## 4. Deployment Components

### A. Change Sets

Purpose: Move configurations between Sandbox and Production.

#### Use Cases:

Deploy Validation Rules, Workflows, and Flows from Dev Sandbox to UAT.

Deploy Custom Objects (Patient, Doctor, Appointment, HealthRecord).

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### B. Unmanaged vs Managed Packages

Purpose: Package metadata for reuse or deployment.

#### Use Cases:

Create **Unmanaged Package** for internal hospital deployment.

Create **Managed Package** if system will be offered to multiple hospitals.

### C. ANT Migration Tool

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Purpose: Command-line deployment of metadata.

#### Use Cases:

Deploy Apex Triggers, Classes, and LWC components in bulk.

Automate deployments during development sprints.

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### D. VS Code & SFDX

Purpose: Modern development & deployment workflow.

#### Use Cases:

Use **Source Control (GitHub/Bitbucket)** with SFDX for version tracking.

Deploy from **Scratch Org** → **Sandbox** → **Production** using SFDX commands.

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## 5. Benefits of Data Management & Deployment

Ensures **clean and consistent hospital data**.

Provides **secure backups** to protect sensitive patient information.

Streamlines **deployment process** with minimal downtime.

Reduces risk of data corruption during migrations.

Supports **scalability and compliance** with healthcare standards.

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#### Phase 8 Deliverable:

Imported Patient, Doctor, Appointment, and HealthRecord data.

Configured Duplicate Rules and Backup strategy.

Deployed metadata using Change Sets, SFDX, or ANT Migration.

Established version control for Apex & LWC code.

This prepares the system for **Phase 9: Reporting, Dashboards & Security Review**.