Software Project Management System

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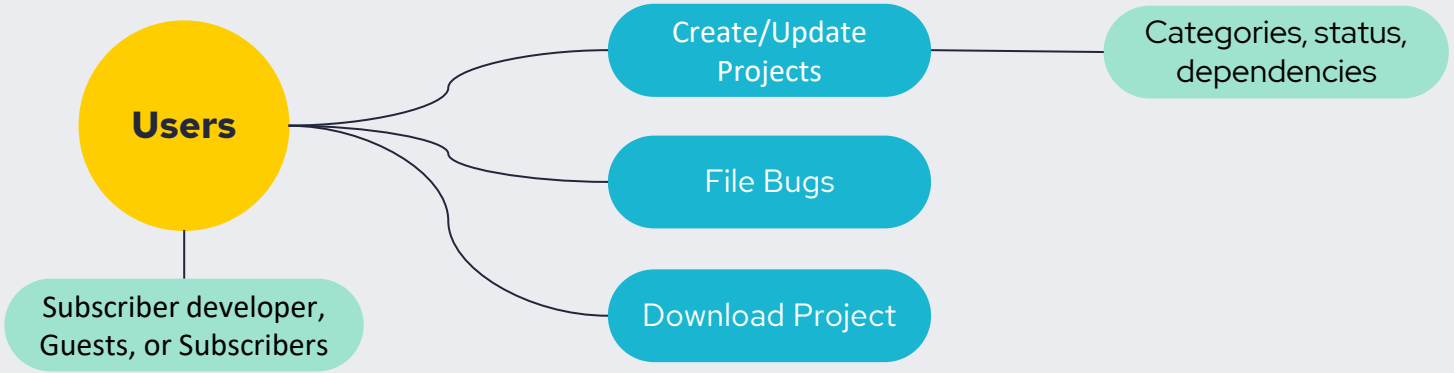
Agenda

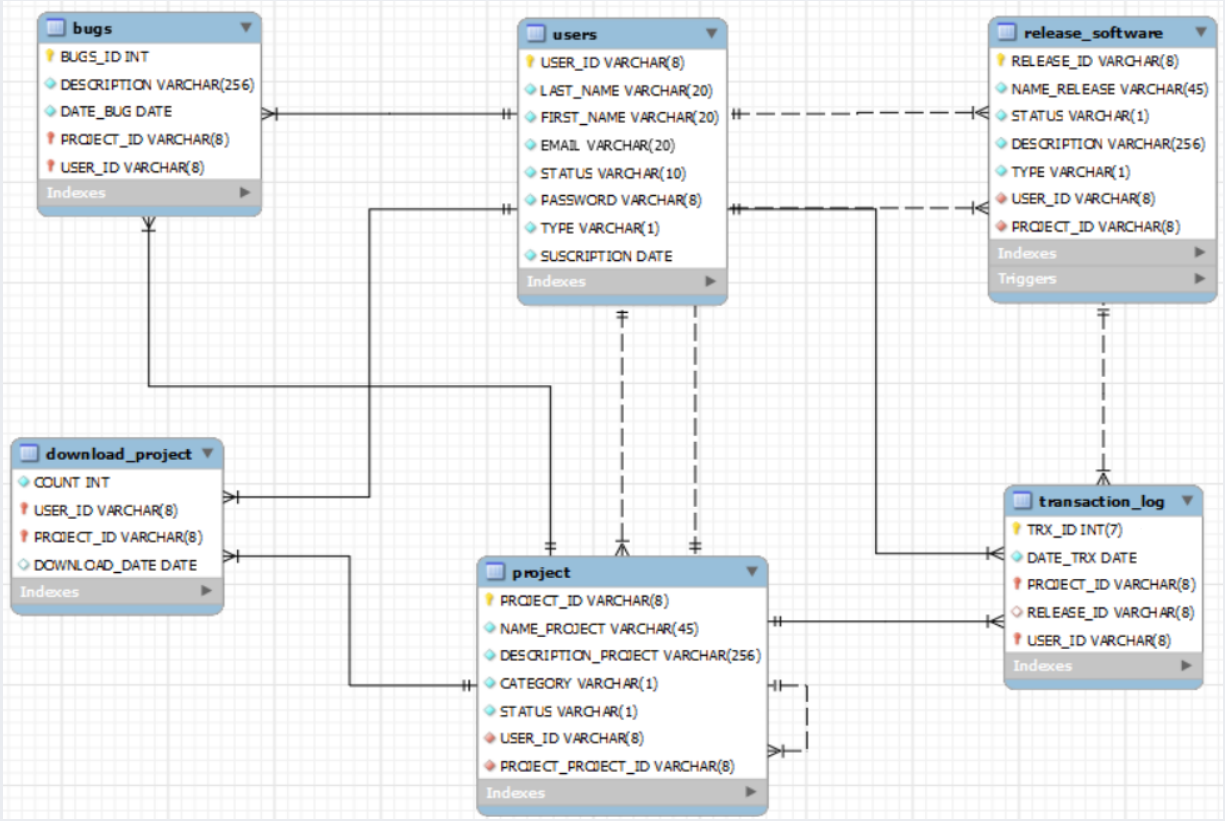
1. Project Description
2. Use Cases
3. ER Model
4. Live Demo

Project description

Platform Purpose: Our website streamlines the creation, updating, and downloading of software projects.



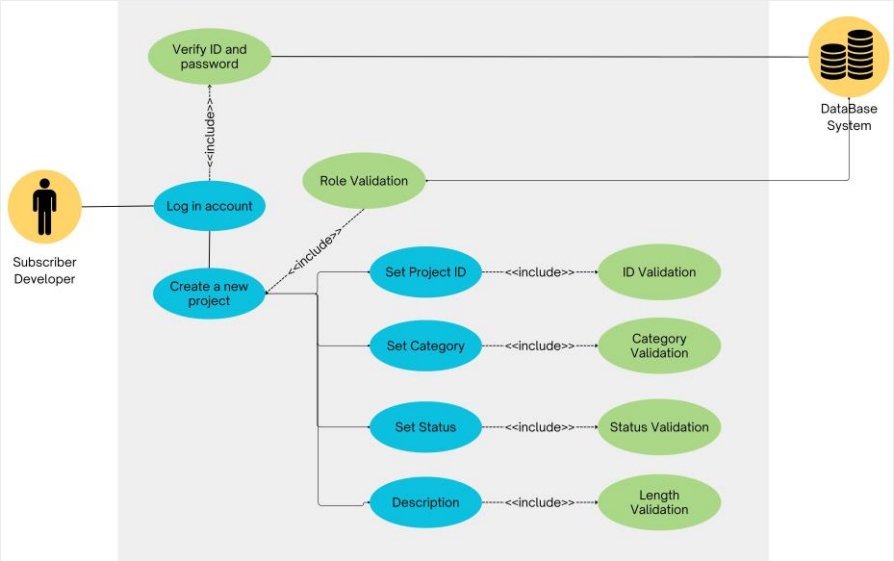
ER Model


bugs
BUGS_ID INT
DESCRIPTION VARCHAR(256)
DATE_BUG DATE
PROJECT_ID VARCHAR(8)
USER_ID VARCHAR(8)
Indexes
users
USER_ID VARCHAR(8)
LAST_NAME VARCHAR(20)
FIRST_NAME VARCHAR(20)
EMAIL VARCHAR(20)
STATUS VARCHAR(10)
PASSWORD VARCHAR(8)
TYPE VARCHAR(1)
SUSCRIPTION DATE
Indexes
release_software
RELEASE_ID VARCHAR(8)
NAME_RELEASE VARCHAR(45)
STATUS VARCHAR(1)
DESCRIPTION VARCHAR(256)
TYPE VARCHAR(1)
USER_ID VARCHAR(8)
PROJECT_ID VARCHAR(8)
Indexes
Triggers
download_project
COUNT INT
USER_ID VARCHAR(8)
PROJECT_ID VARCHAR(8)
DOWNLOAD_DATE DATE
Indexes
project
PROJECT_ID VARCHAR(8)
NAME_PROJECT VARCHAR(45)
DESCRIPTION_PROJECT VARCHAR(256)
CATEGORY VARCHAR(1)
STATUS VARCHAR(1)
USER_ID VARCHAR(8)
PROJECT_PROJECT_ID VARCHAR(8)
Indexes
transaction_log
TRX_ID INT(7)
DATE_TRX DATE
PROJECT_ID VARCHAR(8)
RELEASE_ID VARCHAR(8)
USER_ID VARCHAR(8)
Indexes

Use Cases

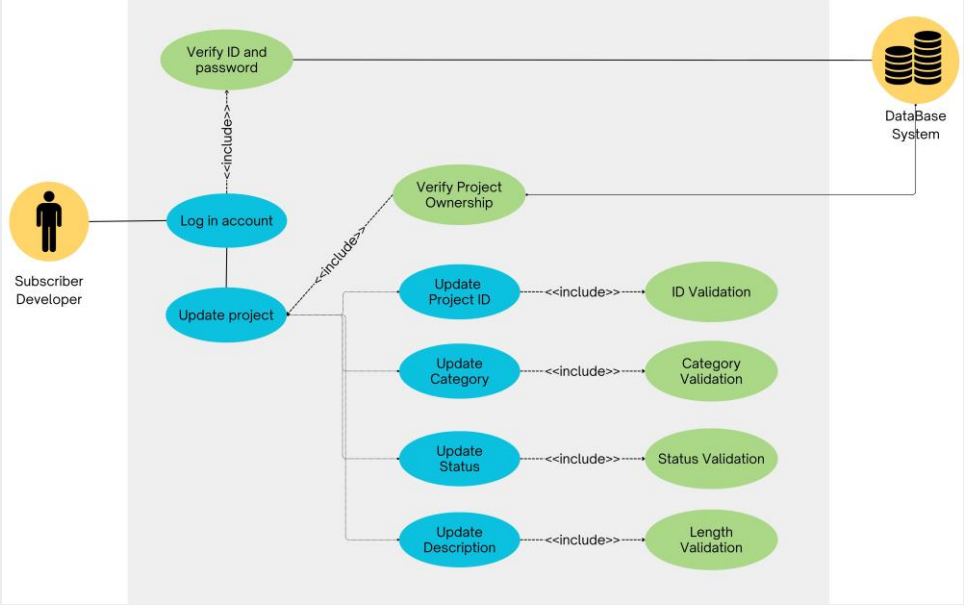
Use Case 01 – Create a new software project

As a subscriber developer (the only one allowed to create projects) I want to create a new software project on the website. This involves assigning a unique project ID, choosing one or more categories from A, B, C, and D, setting its status to either D (Development) or P (Production), and providing a brief description (up to 256 characters) for the project.



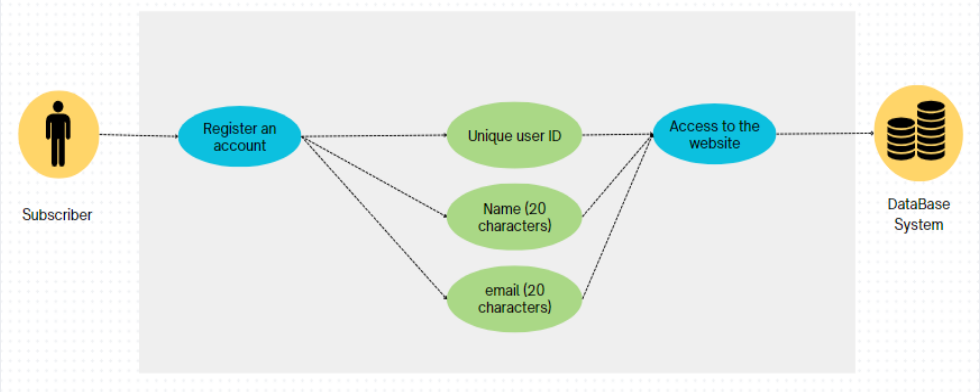
Use Case 02 – Update software project

As a subscriber developer, I want to make an update on a project. Each update for a project must be created by a single developer, the one who originally created the project.



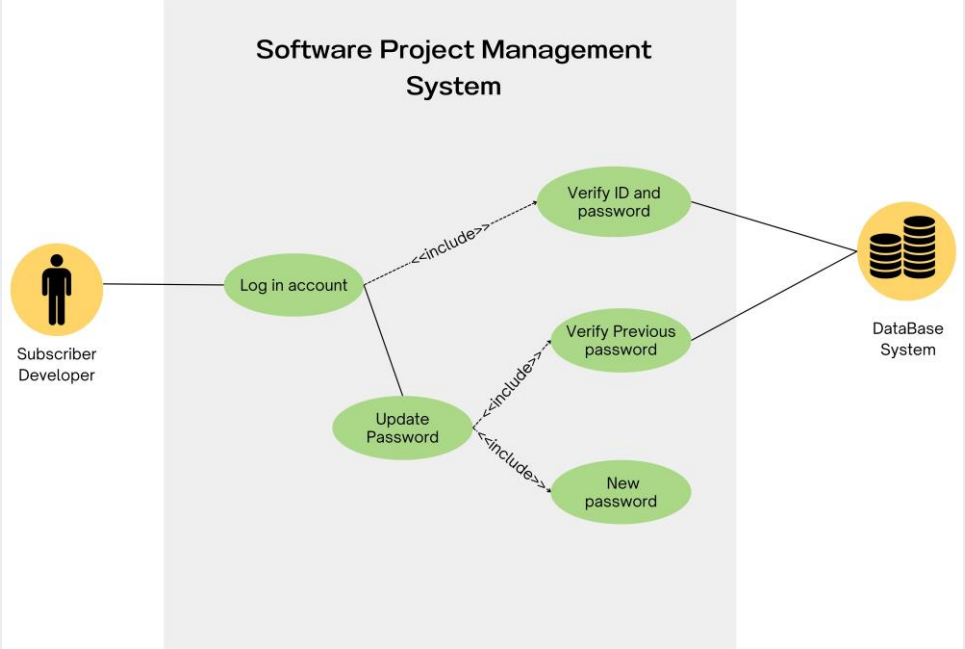
Use Case 03 – Register an account

As a subscriber, I want to register an account with a unique user ID, a name (up to 20 characters), and an email address (up to 20 characters) to gain access to the website.



Use Case 04 – Update password

As a subscriber, I want to update my password.

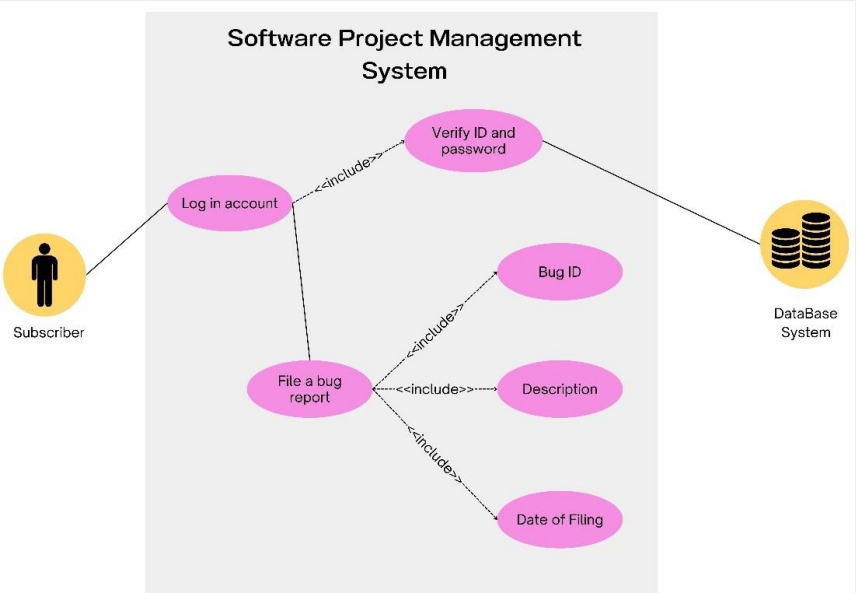


Use Case 05 – Create and update patch for my project

As a subscriber developer, I want to create an update patch for my project, providing a unique update ID (8 characters long), a name (up to 20 characters), a status (P or U), a description (up to 256 characters), and assigning a type (1, 2, or 3).

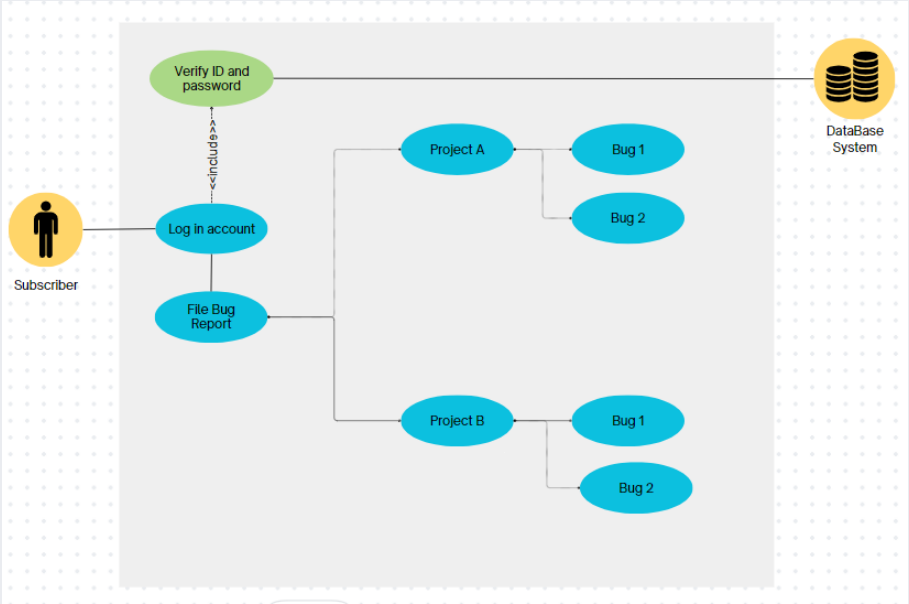
Use Case 06 – Bug Reporting

As a subscriber, I want to file a bug report for a specific project, providing a unique bug ID, a description (up to 256 characters), and recording the date of filing (cannot be empty).



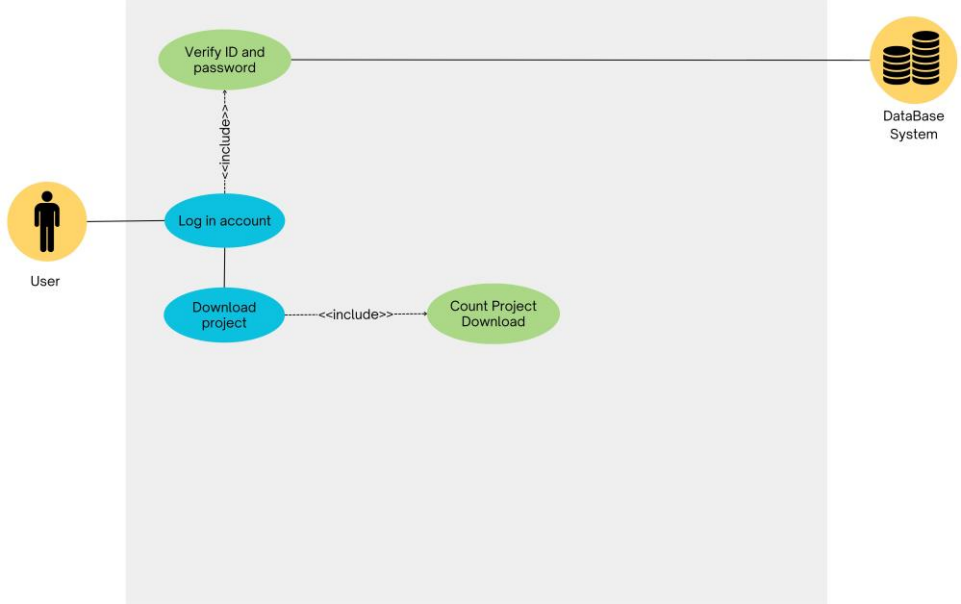
Use Case 07 – Bug IDs

Bug reports must have unique IDs and descriptions and be distinct within each project. Each report focuses on one project and one bug, submitted by one subscriber.



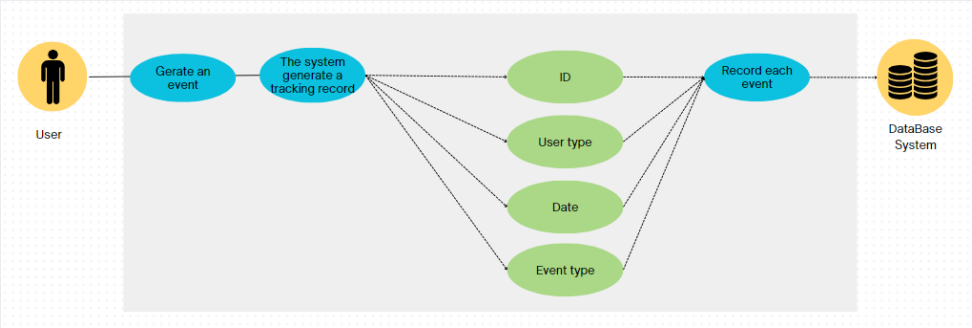
Use Case 08 – Tracking user downloads

As a user (guest user, subscriber, or subscriber developer), I want to download a software project from the platform. The system should record the number of downloads per user per project.



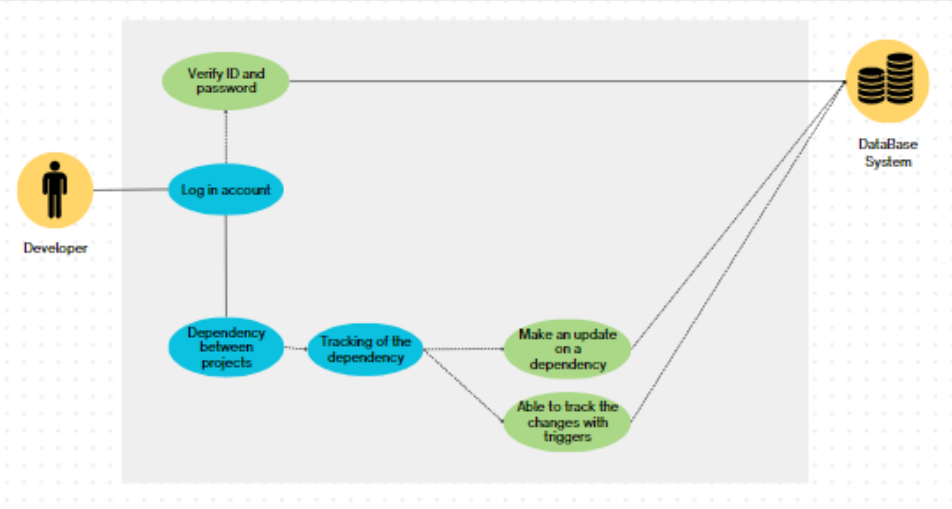
Use Case 09 – Generate a tracking record

The system generates a tracking record for each new event created by any user, including ID, user type, date, and event type.



Use Case 10 – Tracking of dependencies

Some projects may depend on other projects, and it requires to make an update on the dependency to keep track of them and be able to track the changes with triggers.



Tables

Table: Users

Column Name	Data Type	Key	Required	Default Value
USER_ID	VARCHAR(8)	Primary Key	Yes	None
LAST_NAME	VARCHAR(20)	No	Yes	None
FIRST_NAME	VARCHAR(20)	No	Yes	None
EMAIL	VARCHAR(20)	No	Yes	None
PASSWORD	VARCHAR(8)	No	Yes	None
TYPE	VARCHAR(1)	No	Yes	‘S’ (Subscriber) ‘D’ (Developer) ‘G’ (Guest)
SUSCRIPTION	DATE	No	Yes	None

Table: Project

Column Name	Data Type	Key	Required	Default Value
PROJECT_ID	VARCHAR(8)	Primary Key	Yes	
NAME_PROJECT	VARCHAR(45)	No	Yes	
DESCRIPTION_PROJECT	VARCHAR(256)	No	Yes	
CATEGORY	VARCHAR(1)	No	Yes	‘A’, ‘B’, ‘C’ or ‘D’
STATUS	VARCHAR(1)	No	Yes	‘D’ or ‘P’
USER_ID	VARCHAR(8)	Foreign Key	Yes	
PROJECT_PROJECT_ID	VARCHAR(8)	Foreign Key	Yes	

Table: Bugs

Column Name	Data Type	Key	Required	Default Value
BUGS_ID	INT	Primary Key	Yes	
DESCRIPTION	VARCHAR(256)	No	Yes	
DATE_BUG	DATE	No	Yes	
PROJECT_ID	VARCHAR(8)	Primary Key Foreign Key	Yes	
USER_ID	VARCHAR(8)	Primary Key Foreign Key	Yes	

Table: Download_Project

Column Name	Data Type	Key	Required	Default Value
USER_ID	VARCHAR(8)	Primary Key Foreign Key	Yes	
PROJECT_ID	VARCHAR(8)	Primary Key Foreign Key	Yes	
COUNT	INT	No	Yes	
DOWNLOAD_DATE	DATE	No	Yes	

Table: Release_subject

Column Name	Data Type	Key	Required	Default Value
TRX_ID	VARCHAR(6)	Primary Key	Yes	
DATE_TRX	DATE	No	Yes	
USER_TRX	VARCHAR(8)	No	Yes	
ACTION_TRX	VARCHAR(20)	No	Yes	
PROJECT_ID	VARCHAR(8)	Primary Key Foreign Key	Yes	
RELEASE_ID	VARCHAR(8)	Foreign Key	Yes	
USER_ID	VARCHAR(8)	Primary Key Foreign Key	Yes	

Table: Transaction_log

Column Name	Data Type	Key	Required	Default Value
TRX_ID	VARCHAR(6)	Primary Key	Yes	
USER_ID	VARCHAR(8)	Primary Key Foreign Key	Yes	
PROJECT_ID	VARCHAR(8)	Primary Key Foreign Key	Yes	
RELEASE_ID	VARCHAR(8)	Foreign Key	Yes	
DATE_TRX	DATE	No	Yes	
USER_TRX	VARCHAR(8)	No	Yes	
ACTION_TRX	VARCHAR(20)	No	Yes	

Thank you