# Functional Requirement

# 1. Functional Requirements  
  
## 1.1 Asset Registration Function   
\*\*Function ID\*\*: FR-01   
\*\*Description\*\*: Administrators can register new assets in the system by providing detailed information about the asset.   
\*\*Input\*\*: Asset details including name, description, category, acquisition date, location, and status.   
\*\*Output\*\*: A new asset record stored in the Database with the provided information.  
  
## 1.2 Asset Lifecycle Management Function   
\*\*Function ID\*\*: FR-02   
\*\*Description\*\*: Administrators can update the lifecycle status of an asset, which includes stages such as Acquisition, Deployment, Maintenance, and Retirement.   
\*\*Input\*\*: Selected asset and new lifecycle stage.   
\*\*Output\*\*: Updated asset lifecycle data stored in the Database.  
  
## 1.3 Asset Information Modification Function   
\*\*Function ID\*\*: FR-03   
\*\*Description\*\*: Administrators can modify the information of an existing asset, including name, location, status, and other relevant fields.   
\*\*Input\*\*: Selected asset and updated information.   
\*\*Output\*\*: Modified asset record stored in the Database.  
  
## 1.4 Asset Record Deletion Function   
\*\*Function ID\*\*: FR-04   
\*\*Description\*\*: Administrators can delete an asset record from the system after confirmation.   
\*\*Input\*\*: Selected asset and confirmation of deletion.   
\*\*Output\*\*: Deleted asset record removed from the Database.  
  
## 1.5 Asset Detail View Function   
\*\*Function ID\*\*: FR-05   
\*\*Description\*\*: Administrators can view detailed information of a specific asset, including its name, description, category, acquisition date, location, and status.   
\*\*Input\*\*: Selected asset.   
\*\*Output\*\*: Display of asset details to the Administrator.  
  
## 1.6 Asset Request Management Function   
\*\*Function ID\*\*: FR-06   
\*\*Description\*\*: Administrators can approve or reject asset requests submitted by users, which includes specifying the request type, reason, and status.   
\*\*Input\*\*: Asset request details including requestor, asset involved, request type, and reason.   
\*\*Output\*\*: Updated asset request status stored in the Database.  
  
## 1.7 Asset Usage Management Function   
\*\*Function ID\*\*: FR-07   
\*\*Description\*\*: Administrators can manage asset usage records by adding, modifying, or deleting entries that include usage type, date, duration, and notes.   
\*\*Input\*\*: Selected asset and usage details (type, date, duration, etc.).   
\*\*Output\*\*: Updated asset usage data stored in the Database.  
  
## 1.8 Asset History Retrieval Function   
\*\*Function ID\*\*: FR-08   
\*\*Description\*\*: Administrators can view the history of lifecycle events for a selected asset, including event type, date, and details.   
\*\*Input\*\*: Selected asset.   
\*\*Output\*\*: Display of asset history data retrieved from the Database.  
  
## 1.9 Asset Usage Trend Analysis Function   
\*\*Function ID\*\*: FR-09   
\*\*Description\*\*: Administrators can analyze the usage trends of assets based on filters such as asset category, date range, and usage patterns.   
\*\*Input\*\*: Analysis criteria including asset category, date range, and trend type.   
\*\*Output\*\*: Asset usage trend analysis report generated and stored in the system.  
  
## 1.10 Report Generation Function   
\*\*Function ID\*\*: FR-10   
\*\*Description\*\*: Administrators can generate reports based on asset lifecycle and usage data, and choose to send them via email or download them.   
\*\*Input\*\*: Report type and filters (e.g., date range, asset category).   
\*\*Output\*\*: Generated report file (e.g., PDF, Excel) and stored report data in the Database.  
  
## 1.11 Permission Assignment Function   
\*\*Function ID\*\*: FR-11   
\*\*Description\*\*: Administrators can assign or modify permissions for assets to specific users or user groups.   
\*\*Input\*\*: Selected asset and permission details (e.g., user ID, permission level).   
\*\*Output\*\*: Updated asset permission data stored in the Database.  
  
## 1.12 User Permission Management Function   
\*\*Function ID\*\*: FR-12   
\*\*Description\*\*: Administrators can manage user access rights, including granting or revoking permissions for specific assets or features.   
\*\*Input\*\*: Selected user and permission details (e.g., asset ID, role, access level).   
\*\*Output\*\*: Updated user permission data stored in the Database.  
  
## 1.13 Email Notification Function   
\*\*Function ID\*\*: FR-13   
\*\*Description\*\*: The system can send email notifications to users and stakeholders for various asset-related events such as lifecycle transitions, request approvals, and report deliveries.   
\*\*Input\*\*: Notification details including recipient email addresses, subject, and message body.   
\*\*Output\*\*: Email notification sent to the specified recipients via the Email System.  
  
## 1.14 Database Integration Function   
\*\*Function ID\*\*: FR-14   
\*\*Description\*\*: The system can integrate with and synchronize data to a configured database.   
\*\*Input\*\*: Database connection settings and data to be synchronized.   
\*\*Output\*\*: Integration status and synchronized data stored in the Database.  
  
## 1.15 Audit Activity Function   
\*\*Function ID\*\*: FR-15   
\*\*Description\*\*: Administrators can audit asset activities such as modifications, access, and status changes, and generate audit reports.   
\*\*Input\*\*: Selected asset(s) for audit and filters (e.g., date range, activity type).   
\*\*Output\*\*: Audit report file (e.g., PDF, Excel) and stored audit data in the Database.  
  
## 1.16 Asset History Management Function   
\*\*Function ID\*\*: FR-16   
\*\*Description\*\*: Administrators can manage asset history records, including editing entries, exporting the history data, or applying filters.   
\*\*Input\*\*: Selected asset and management action (e.g., edit, export, filter).   
\*\*Output\*\*: Updated or exported asset history data stored in the Database or available for download.  
  
## 1.17 Asset Usage Trend Management Function   
\*\*Function ID\*\*: FR-17   
\*\*Description\*\*: Administrators can manage asset usage trend data, including viewing trend visualizations, exporting data, or setting analysis parameters.   
\*\*Input\*\*: Selected asset(s), trend analysis parameters, or export request.   
\*\*Output\*\*: Updated asset usage trend data stored in the Database or exported file for download.  
  
## 1.18 User Management Function   
\*\*Function ID\*\*: FR-18   
\*\*Description\*\*: Administrators can manage user accounts, including creating, modifying, or deleting user records and associated permissions.   
\*\*Input\*\*: User details (e.g., name, email, role) and management action (e.g., create, modify, delete).   
\*\*Output\*\*: Updated user data stored in the Database or notification emails sent to the affected user via the Email System.  
  
## 1.19 Asset Report and Analysis Management Function   
\*\*Function ID\*\*: FR-19   
\*\*Description\*\*: Administrators can manage report and analysis settings, including updating analysis parameters, reviewing analysis results, and exporting data.   
\*\*Input\*\*: Selected report, analysis parameters, or export request.   
\*\*Output\*\*: Updated report analysis data stored in the Database or exported file for download.  
  
## 1.20 Asset Lifecycle Stage Management Function   
\*\*Function ID\*\*: FR-20   
\*\*Description\*\*: Administrators can manage asset lifecycle stages by adding, modifying, or removing lifecycle events for an asset.   
\*\*Input\*\*: Selected asset and lifecycle stage details (e.g., stage name, transition date).   
\*\*Output\*\*: Updated asset lifecycle stage data stored in the Database.  
  
## 1.21 User Login and Access Function   
\*\*Function ID\*\*: FR-21   
\*\*Description\*\*: Users and Administrators can log in to the system using their credentials, and the system will verify their access rights and roles.   
\*\*Input\*\*: User credentials (e.g., email and password).   
\*\*Output\*\*: Verification of user identity and role, and granting access to the system.  
  
## 1.22 Access Logging Function   
\*\*Function ID\*\*: FR-22   
\*\*Description\*\*: The system logs all access and management activities performed by users and Administrators for auditing and traceability.   
\*\*Input\*\*: User or Administrator action (e.g., view asset, modify permission, generate report).   
\*\*Output\*\*: Record of the action stored in the system logs.