# Functional Requirement

1. Functional Requirements  
  
1.1 Asset Registration Function   
 Function ID: FR-01   
 Description: Administrators can register new assets by entering asset details through a system form. The system validates the input and writes the asset data to the Database System.   
 Input: Asset details including name, category, description, purchase date, location, and owner ID.   
 Output: A new asset record stored in the Database System, and a confirmation message sent to the Administrator.  
  
1.2 Asset Deletion Function   
 Function ID: FR-02   
 Description: Administrators can delete an existing asset after selecting it from the asset list and confirming the deletion. The system ensures no dependencies exist before deletion and updates the Database System accordingly.   
 Input: Selected asset ID and confirmation of deletion.   
 Output: The asset record is removed from the Database System, and a confirmation message is sent to the Administrator.  
  
1.3 View Asset Information Function   
 Function ID: FR-03   
 Description: Administrators can view detailed information of a specific asset by selecting it from the asset list or entering an asset identifier.   
 Input: Asset identifier or selected asset ID.   
 Output: Displayed asset information retrieved from the Database System.  
  
1.4 Modify Asset Details Function   
 Function ID: FR-04   
 Description: Administrators can modify the details of an existing asset after selecting it from the asset list and confirming the changes.   
 Input: Selected asset ID and updated details (e.g., name, location, status).   
 Output: Updated asset record stored in the Database System, and a confirmation message sent to the Administrator.  
  
1.5 Record Asset Usage Function   
 Function ID: FR-05   
 Description: Administrators can record asset usage by selecting an asset and entering usage details such as start and end time, user, and activity type.   
 Input: Selected asset ID and usage details (e.g., use type, use date, use duration).   
 Output: A new usage record stored in the Database System, and the asset's status or usage history is updated.  
  
1.6 Update Asset Usage Status Function   
 Function ID: FR-06   
 Description: Administrators can update the status of an asset's usage (e.g., In Use, Available, Maintenance).   
 Input: Selected asset ID and new usage status.   
 Output: Updated usage status of the asset stored in the Database System, and a confirmation message sent to the Administrator.  
  
1.7 Generate Usage Report Function   
 Function ID: FR-07   
 Description: Administrators can generate a usage report based on specified filters (e.g., time range, asset type, user). The system transmits the data to the Report Analysis System, which generates the report in a requested format.   
 Input: Filters for report generation (e.g., start date, end date, asset type).   
 Output: Generated usage report in the requested format (e.g., PDF, Excel), stored in the system and optionally sent via email.  
  
1.8 View Usage Reports Function   
 Function ID: FR-08   
 Description: Administrators can view existing usage reports or generate new ones with specified filters.   
 Input: Filters for report retrieval (e.g., report ID, time range, asset type) or request to generate a new report.   
 Output: Displayed usage report data retrieved from the Database System, with options to view, download, or send via email.  
  
1.9 Analyze Asset Reports Function   
 Function ID: FR-09   
 Description: Administrators can analyze existing asset usage reports to derive insights such as usage trends, asset efficiency, and recommendations.   
 Input: Selected report ID or request to generate a new report for analysis.   
 Output: Analysis results (e.g., insights, recommendations) stored in the Database System and displayed to the Administrator.  
  
1.10 Export Report Data Function   
 Function ID: FR-10   
 Description: Administrators can export report data in a chosen format (e.g., CSV, Excel, PDF) and optionally send it via email.   
 Input: Selected report ID and export format (e.g., CSV, Excel, PDF).   
 Output: Exported report file available for download or sent via email, and a confirmation message sent to the Administrator.  
  
1.11 Assign Permissions Function   
 Function ID: FR-11   
 Description: Administrators can assign permissions to users or roles by selecting the target and specifying the access level and restrictions.   
 Input: Target user or role ID and permission level or access rights.   
 Output: Permission allocation record stored in the Database System, and an email notification sent to the affected user or group.  
  
1.12 Modify Permission Settings Function   
 Function ID: FR-12   
 Description: Administrators can modify existing permission settings for a user or role, such as changing access levels or restrictions.   
 Input: Target user or role ID and updated permission level or access rights.   
 Output: Updated permission allocation record stored in the Database System, and an email notification sent to the affected user or group.  
  
1.13 Revoke Permissions Function   
 Function ID: FR-13   
 Description: Administrators can revoke permissions assigned to a user or role.   
 Input: Target user or role ID and permission level or access rights to revoke.   
 Output: Permission revocation record stored in the Database System, and an email notification sent to the affected user or group.  
  
1.14 Send Email Notifications Function   
 Function ID: FR-14   
 Description: Administrators can send custom email notifications to users or groups.   
 Input: Recipient email address, subject, and message content.   
 Output: Email notification sent via the Email System, and a confirmation message sent to the Administrator.  
  
1.15 Receive Email Alerts Function   
 Function ID: FR-15   
 Description: The system automatically sends email alerts to the Administrator when predefined events occur (e.g., asset status change, report generation).   
 Input: Event type and details (e.g., asset ID, report ID).   
 Output: Email alert sent to the Administrator via the Email System, and a log of the email delivery stored in the Database System.  
  
1.16 Connect to Database Function   
 Function ID: FR-16   
 Description: The system allows the Administrator to connect to the Database System using valid connection credentials.   
 Input: Database connection details (e.g., host, username, password, database name).   
 Output: Confirmation of a successful database connection, and a log of the connection event stored in the system.  
  
1.17 Update Database Records Function   
 Function ID: FR-17   
 Description: Administrators can update existing database records for assets, usage records, or permissions.   
 Input: Selected record ID and updated data (e.g., asset name, usage details, permission level).   
 Output: Updated record stored in the Database System, and a confirmation message sent to the Administrator.  
  
1.18 View Asset Audit Logs Function   
 Function ID: FR-18   
 Description: Administrators can view audit logs for asset usage to track events such as asset registration, modification, or deletion.   
 Input: Asset ID or selected asset identifier.   
 Output: Audit log data retrieved from the Database System and displayed to the Administrator in an organized format.  
  
1.19 Manage Usage Log Function   
 Function ID: FR-19   
 Description: Administrators can create, modify, or delete usage log records.   
 Input: Selected log ID and action (create, modify, delete) along with relevant details (e.g., asset ID, user ID, event type).   
 Output: Updated or deleted usage log stored in the Database System, and a confirmation message sent to the Administrator.  
  
1.20 Manage Asset Usage Function   
 Function ID: FR-20   
 Description: Administrators can manage asset usage records by adding, modifying, or deleting them.   
 Input: Selected asset ID and usage record action (add, modify, delete) along with relevant details (e.g., user, activity, start and end time).   
 Output: Updated or deleted usage record stored in the Database System, and a confirmation message sent to the Administrator.  
  
1.21 Manage Report Analysis Function   
 Function ID: FR-21   
 Description: Administrators can manage report analysis configurations, including creating, modifying, or deleting them.   
 Input: Selected report analysis ID and action (create, modify, delete) along with analysis parameters (e.g., report type, frequency, filters, recipients).   
 Output: Updated or deleted report analysis configuration stored in the Database System, and a confirmation message sent to the Administrator.  
  
1.22 View Permission Allocation Function   
 Function ID: FR-22   
 Description: Administrators can view the current permission allocation details for a specific user or role.   
 Input: Selected user or role ID.   
 Output: Permission allocation data retrieved from the Database System and displayed to the Administrator in a clear format.