项目文档

# Functional Requirement

# 1. Functional Requirements  
  
## 1.1 Email Account Creation Function   
\*\*Function ID\*\*: FR-01   
\*\*Description\*\*: Administrators can create a new email account for a user, including configuration of the email domain, password, and association with contact information.   
\*\*Input\*\*: Username, password, email domain, user ID   
\*\*Output\*\*: Created email account, associated contact record, confirmation message to the administrator   
  
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## 1.2 Email Account Management Function   
\*\*Function ID\*\*: FR-02   
\*\*Description\*\*: Administrators can update or modify an existing email account's configuration, such as password, access permissions, or recovery options.   
\*\*Input\*\*: Email account ID, updated password or permissions, user ID (if applicable)   
\*\*Output\*\*: Updated email account, synchronized email flow and recovery settings, confirmation message to the administrator   
  
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## 1.3 Email Account Deletion Function   
\*\*Function ID\*\*: FR-03   
\*\*Description\*\*: Administrators can delete an email account, removing it from email flow and recovery configurations and archiving its data according to the archive policy.   
\*\*Input\*\*: Email account ID, confirmation of deletion   
\*\*Output\*\*: Deactivated and removed email account, archived data, confirmation message to the administrator   
  
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## 1.4 Email Sending Function   
\*\*Function ID\*\*: FR-04   
\*\*Description\*\*: Administrators can send an email to one or more recipients, either individual contacts or distribution groups, with validation and routing based on email flow rules.   
\*\*Input\*\*: Sender email account ID, recipient contact or distribution group ID(s), subject, body, formatting template (if applicable)   
\*\*Output\*\*: Sent email, updated email flow record, confirmation message to the administrator   
  
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## 1.5 Email Receiving Function   
\*\*Function ID\*\*: FR-05   
\*\*Description\*\*: The system receives and processes incoming emails, storing them in the inbox or archive based on email flow and archive policy rules.   
\*\*Input\*\*: Email message from external/internal source, recipient email account ID   
\*\*Output\*\*: Stored email in inbox/archive, updated email flow record, notification to the administrator (if enabled)   
  
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## 1.6 Email Formatting Function   
\*\*Function ID\*\*: FR-06   
\*\*Description\*\*: Administrators can apply formatting to an email using a template or manual configuration, ensuring the formatting is valid and aligned with email flow rules.   
\*\*Input\*\*: Email account ID, email body, formatting rules or template   
\*\*Output\*\*: Formatted email, updated email flow record, confirmation for review   
  
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## 1.7 Email Reading Function   
\*\*Function ID\*\*: FR-07   
\*\*Description\*\*: Administrators can read emails from the inbox, with the system updating the email flow to reflect the read status.   
\*\*Input\*\*: Email account ID, email ID   
\*\*Output\*\*: Displayed email content, updated email flow status, options for reply/forward/delete   
  
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## 1.8 Email Archiving Function   
\*\*Function ID\*\*: FR-08   
\*\*Description\*\*: Administrators can archive one or more emails based on archive policy rules, removing them from the inbox and storing them in the archive module.   
\*\*Input\*\*: Email account ID, selected email ID(s), archive policy rules   
\*\*Output\*\*: Archived email(s) in storage, updated inbox, confirmation message to the administrator   
  
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## 1.9 Archived Email Search Function   
\*\*Function ID\*\*: FR-09   
\*\*Description\*\*: Administrators can search for archived emails using criteria such as sender, recipient, subject, date range, or keywords.   
\*\*Input\*\*: Search criteria (sender, recipient, subject, date range, keywords)   
\*\*Output\*\*: List of matching archived emails, options to retrieve or delete   
  
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## 1.10 Email Recovery Function   
\*\*Function ID\*\*: FR-10   
\*\*Description\*\*: Administrators can recover expired or deleted emails from the archive, restoring them to the email account's inbox or a recovery folder.   
\*\*Input\*\*: Email account ID, archived email ID(s)   
\*\*Output\*\*: Recovered email(s) in inbox or recovery folder, updated archive policy, confirmation message to the administrator   
  
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## 1.11 Contact Creation Function   
\*\*Function ID\*\*: FR-11   
\*\*Description\*\*: Administrators can create a new contact record for a user, including name, email, phone number, and address.   
\*\*Input\*\*: Name, email address, phone number, address, associated user ID   
\*\*Output\*\*: Created contact record, confirmation message to the administrator   
  
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## 1.12 Contact Management Function   
\*\*Function ID\*\*: FR-12   
\*\*Description\*\*: Administrators can update a contact's information or delete a contact, ensuring any references in distribution groups or email accounts are updated.   
\*\*Input\*\*: Contact ID, updated information or deletion confirmation   
\*\*Output\*\*: Updated or deleted contact, updated distribution groups and email accounts, confirmation message   
  
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## 1.13 Contact Reading Function   
\*\*Function ID\*\*: FR-13   
\*\*Description\*\*: Administrators can view the details of a contact, including whether it is part of any distribution groups or linked to an email account.   
\*\*Input\*\*: Contact ID   
\*\*Output\*\*: Displayed contact information, links to related email accounts or groups   
  
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## 1.14 Distribution Group Creation Function   
\*\*Function ID\*\*: FR-14   
\*\*Description\*\*: Administrators can create a new distribution group and assign contacts or email accounts as members.   
\*\*Input\*\*: Group name, description, selected contacts or email account IDs   
\*\*Output\*\*: Created distribution group with members, confirmation message   
  
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## 1.15 Distribution Group Management Function   
\*\*Function ID\*\*: FR-15   
\*\*Description\*\*: Administrators can update or delete an existing distribution group, ensuring its members and associated email configurations are synchronized.   
\*\*Input\*\*: Distribution group ID, updated information or deletion confirmation   
\*\*Output\*\*: Updated or deleted group, synchronized email flow and email account data, confirmation message   
  
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## 1.16 Calendar Event Creation Function   
\*\*Function ID\*\*: FR-16   
\*\*Description\*\*: Administrators can create a new calendar event, invite contacts or distribution groups, and send email invites via the associated email account.   
\*\*Input\*\*: Event title, description, start and end time, invited contact or group IDs   
\*\*Output\*\*: Created calendar event, sent email invites, updated email flow, confirmation message   
  
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## 1.17 Calendar Event Update Function   
\*\*Function ID\*\*: FR-17   
\*\*Description\*\*: Administrators can update an existing calendar event, including time, description, and invited participants, with optional email notifications.   
\*\*Input\*\*: Event ID, updated details, updated invited contact or group IDs   
\*\*Output\*\*: Updated calendar event, updated email flow (if invites sent), confirmation message   
  
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## 1.18 Calendar Event Deletion Function   
\*\*Function ID\*\*: FR-18   
\*\*Description\*\*: Administrators can delete a calendar event, cancel associated email invites, and update the email flow and recovery settings if needed.   
\*\*Input\*\*: Event ID, confirmation of deletion   
\*\*Output\*\*: Deleted event, updated email flow and recovery, confirmation message   
  
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## 1.19 Calendar Event Reading Function   
\*\*Function ID\*\*: FR-19   
\*\*Description\*\*: Administrators can view the details of a calendar event, including its title, time, description, and participants.   
\*\*Input\*\*: Event ID   
\*\*Output\*\*: Displayed calendar event details, options to edit or delete   
  
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## 1.20 Archive Policy Creation Function   
\*\*Function ID\*\*: FR-20   
\*\*Description\*\*: Administrators can create a new archive policy with retention periods and rules for email archiving.   
\*\*Input\*\*: Policy name, description, retention duration, start/end dates   
\*\*Output\*\*: Created archive policy, associated retention period, confirmation message   
  
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## 1.21 Archive Policy Update Function   
\*\*Function ID\*\*: FR-21   
\*\*Description\*\*: Administrators can modify an existing archive policy to change its retention rules or storage configuration.   
\*\*Input\*\*: Archive policy ID, updated retention or archive rules   
\*\*Output\*\*: Updated archive policy, recalculated email retention/deletion schedule, confirmation message   
  
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## 1.22 Archive Policy Deletion Function   
\*\*Function ID\*\*: FR-22   
\*\*Description\*\*: Administrators can delete an archive policy, ensuring that it is not in use by any email accounts or flows.   
\*\*Input\*\*: Archive policy ID, confirmation of deletion   
\*\*Output\*\*: Deleted policy, updated associated email accounts and flows, confirmation message   
  
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## 1.23 Email Flow Management Function   
\*\*Function ID\*\*: FR-23   
\*\*Description\*\*: Administrators can create, update, or delete an email flow to define routing and filtering rules for email processing.   
\*\*Input\*\*: Email flow ID or new flow details, flow rules, associated email account IDs   
\*\*Output\*\*: Updated or created email flow, synchronized with email account settings, confirmation message   
  
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## 1.24 Email Flow Capture Function   
\*\*Function ID\*\*: FR-24   
\*\*Description\*\*: The system captures the flow of emails as they are sent or received, recording details such as sender, recipient, timestamp, and status.   
\*\*Input\*\*: Email ID, flow description, timestamp   
\*\*Output\*\*: Captured and stored email flow record, confirmation of capture   
  
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## 1.25 User Management Function   
\*\*Function ID\*\*: FR-25   
\*\*Description\*\*: Administrators can create, update, or delete user records, ensuring consistency with email accounts, contacts, and archive policies.   
\*\*Input\*\*: User ID, user details (name, role, access level), associated email account or contact ID (if applicable)   
\*\*Output\*\*: Updated or created user record, synchronized related configurations, confirmation message   
  
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## 1.26 Email Ownership Assignment Function   
\*\*Function ID\*\*: FR-26   
\*\*Description\*\*: Administrators can assign ownership of an email account or calendar event to a user, ensuring the user has the appropriate access and permissions.   
\*\*Input\*\*: Email account or calendar event ID, user ID   
\*\*Output\*\*: Updated ownership, synchronized with related modules (email flow, archive policy), confirmation message   
  
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## 1.27 Contact Ownership Assignment Function   
\*\*Function ID\*\*: FR-27   
\*\*Description\*\*: Administrators can assign ownership of a contact to a user, ensuring the user can manage or access it.   
\*\*Input\*\*: Contact ID, user ID   
\*\*Output\*\*: Updated ownership, synchronized with distribution groups and email accounts, confirmation message   
  
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## 1.28 Archive Policy Application Function   
\*\*Function ID\*\*: FR-28   
\*\*Description\*\*: The system applies an archive policy to an email account, identifying and archiving emails that meet the policy criteria.   
\*\*Input\*\*: Archive policy ID, email account ID   
\*\*Output\*\*: Archived emails, updated inbox, confirmation of policy application   
  
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## 1.29 Email Recovery Record Deletion Function   
\*\*Function ID\*\*: FR-29   
\*\*Description\*\*: Administrators can delete an email recovery record, ensuring it is not in use for compliance or audit purposes.   
\*\*Input\*\*: Email recovery ID, confirmation of deletion   
\*\*Output\*\*: Deleted recovery record, updated email account and archive policy, confirmation message   
  
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## 1.30 Email Flow Assignment Function   
\*\*Function ID\*\*: FR-30   
\*\*Description\*\*: Administrators can add an email account to an email flow, ensuring the email flow is updated and synchronized with the account configuration.   
\*\*Input\*\*: Email account ID, email flow ID   
\*\*Output\*\*: Updated email flow, confirmation message   
  
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## 1.31 Email Sending to Distribution Group Function   
\*\*Function ID\*\*: FR-31   
\*\*Description\*\*: Administrators can send an email to a distribution group, with validation of group members and email flow rules.   
\*\*Input\*\*: Email account ID, distribution group ID, email content   
\*\*Output\*\*: Sent email to all valid members, updated email flow record, confirmation message   
  
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## 1.32 Email Flow Belonging Function   
\*\*Function ID\*\*: FR-32   
\*\*Description\*\*: An email account is associated with an email flow, ensuring that all sent and received emails are processed according to flow rules.   
\*\*Input\*\*: Email account ID, email flow ID   
\*\*Output\*\*: Email account included in the flow, updated flow configuration, confirmation message   
  
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## 1.33 Email Archiving According to Policy Function   
\*\*Function ID\*\*: FR-33   
\*\*Description\*\*: The system automatically archives emails based on archive policy rules, such as retention periods or content criteria.   
\*\*Input\*\*: Email account ID, archive policy ID   
\*\*Output\*\*: Archived emails, updated inbox, confirmation of archiving action   
  
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## 1.34 Email Recovery from Archive Function   
\*\*Function ID\*\*: FR-34   
\*\*Description\*\*: Administrators can recover an email from the archive and restore it to the email account's inbox or recovery folder.   
\*\*Input\*\*: Email account ID, archived email ID   
\*\*Output\*\*: Recovered email, updated archive policy, confirmation message   
  
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## 1.35 Distribution Group Membership Update Function   
\*\*Function ID\*\*: FR-35   
\*\*Description\*\*: Administrators can add or remove contacts or email accounts from a distribution group.   
\*\*Input\*\*: Distribution group ID, contact or email account ID(s), action (add/remove)   
\*\*Output\*\*: Updated group membership, confirmation message   
  
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## 1.36 Retention Period Definition Function   
\*\*Function ID\*\*: FR-36   
\*\*Description\*\*: Administrators can define a retention period for an archive policy, specifying the duration for which emails will be retained before archiving.   
\*\*Input\*\*: Archive policy ID, retention duration, start and end dates   
\*\*Output\*\*: Created or updated retention period, confirmation message   
  
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## 1.37 Retention Period Modification Function   
\*\*Function ID\*\*: FR-37   
\*\*Description\*\*: Administrators can modify an existing retention period to adjust the duration or conditions.   
\*\*Input\*\*: Retention period ID, new retention duration or conditions   
\*\*Output\*\*: Updated retention period, recalculated email retention/deletion schedule, confirmation message   
  
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## 1.38 Retention Period Deletion Function   
\*\*Function ID\*\*: FR-38   
\*\*Description\*\*: Administrators can delete a retention period, ensuring that it is not in use by any active archive policies.   
\*\*Input\*\*: Retention period ID, confirmation of deletion   
\*\*Output\*\*: Deleted retention period, updated archive policy, confirmation message   
  
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## 1.39 Archive Policy Application Execution Function   
\*\*Function ID\*\*: FR-39   
\*\*Description\*\*: The system executes the archive policy application, identifying and archiving emails based on the defined policy.   
\*\*Input\*\*: Email account ID, archive policy ID   
\*\*Output\*\*: Archived emails, updated inbox, updated archive policy application log, confirmation message   
  
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# External Description

# 2. External Interfaces  
  
This chapter describes the external interfaces that the system interacts with to fulfill its functional requirements. These interfaces are categorized into four sections: user interfaces, hardware interfaces, software interfaces, and communication interfaces. Each interface is clearly defined, including its role and the interaction method with the system.  
  
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## 2.1 User Interface Output  
  
The system provides a graphical user interface (GUI) for administrators to manage email accounts, contacts, distribution groups, calendar events, and archive policies. The interface allows users to input data, view results, and perform actions such as creation, modification, and deletion.  
  
### 2.1.1 Email Account Creation and Management Interface   
\*\*Description\*\*: A GUI interface where administrators can create, update, or delete email accounts. It includes fields for entering usernames, passwords, email domains, and user IDs.   
\*\*Interaction Method\*\*:   
- Input: Form submission with fields for username, password, domain, and user ID (for creation).   
- Output: Display of the created or updated email account and a confirmation message.   
  
### 2.1.2 Contact Creation and Management Interface   
\*\*Description\*\*: A GUI interface for administrators to create, update, or delete contact records. It includes fields for name, email, phone number, address, and associated user ID.   
\*\*Interaction Method\*\*:   
- Input: Form submission with contact details (name, email, phone, address, and user ID).   
- Output: Display of the created or updated contact and a confirmation message.   
  
### 2.1.3 Distribution Group Creation and Management Interface   
\*\*Description\*\*: A GUI interface for administrators to create, update, or delete distribution groups. It allows selection of contacts or email accounts to be added to the group.   
\*\*Interaction Method\*\*:   
- Input: Form submission with group name, description, and selected members.   
- Output: Display of the created or updated group with a confirmation message.   
  
### 2.1.4 Calendar Event Creation and Management Interface   
\*\*Description\*\*: A GUI interface for administrators to create, update, or delete calendar events. It includes fields for event title, description, time, and participants (contacts or groups).   
\*\*Interaction Method\*\*:   
- Input: Form submission with event details and invited participants.   
- Output: Display of the created or updated calendar event and a confirmation message.   
  
### 2.1.5 Archive Policy Creation and Management Interface   
\*\*Description\*\*: A GUI interface for administrators to define and manage archive policies. It includes fields for policy name, description, retention duration, and application rules.   
\*\*Interaction Method\*\*:   
- Input: Form submission with archive policy details.   
- Output: Display of the created or updated archive policy and a confirmation message.   
  
### 2.1.6 Email Reading Interface   
\*\*Description\*\*: A GUI interface for administrators to view the content of emails in the inbox. It also displays options for replying, forwarding, or deleting emails.   
\*\*Interaction Method\*\*:   
- Input: Selection of an email ID.   
- Output: Display of the email content and status update (e.g., "read").   
  
### 2.1.7 Archived Email Search Interface   
\*\*Description\*\*: A GUI interface for administrators to search archived emails using criteria such as sender, recipient, subject, date range, or keywords.   
\*\*Interaction Method\*\*:   
- Input: Form submission with search criteria.   
- Output: Display of a list of matching archived emails with options to retrieve or delete.   
  
### 2.1.8 Email Flow Management Interface   
\*\*Description\*\*: A GUI interface for administrators to manage email flows, including defining, updating, or deleting routing and filtering rules.   
\*\*Interaction Method\*\*:   
- Input: Form submission with flow details and rules.   
- Output: Display of the updated or created email flow and a confirmation message.   
  
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## 2.2 Hardware Interface Output  
  
The system does not directly interact with external hardware devices. Therefore, there are no hardware interfaces required for this system.  
  
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## 2.3 Software Interface Output  
  
The system interacts with various software components and external data sources to manage email and related data effectively.  
  
### 2.3.1 Email Database Interface   
\*\*Description\*\*: Interface to the email database, which stores all email account information, email content, and related metadata.   
\*\*Interaction Method\*\*:   
- Input: Queries for creating, updating, deleting, or retrieving email records.   
- Output: Email account and email records stored or retrieved in the database.   
  
### 2.3.2 Contact Database Interface   
\*\*Description\*\*: Interface to the contact database, which stores user contact information and relationships with email accounts and distribution groups.   
\*\*Interaction Method\*\*:   
- Input: Queries for creating, updating, deleting, or retrieving contact records.   
- Output: Contact records stored or retrieved in the database.   
  
### 2.3.3 Distribution Group Database Interface   
\*\*Description\*\*: Interface to the distribution group database, which stores group definitions and member associations.   
\*\*Interaction Method\*\*:   
- Input: Queries for creating, updating, deleting, or retrieving distribution groups.   
- Output: Distribution group records stored or retrieved in the database.   
  
### 2.3.4 Calendar Event Database Interface   
\*\*Description\*\*: Interface to the calendar event database, which stores event details, time, description, and invitee information.   
\*\*Interaction Method\*\*:   
- Input: Queries for creating, updating, deleting, or retrieving calendar events.   
- Output: Calendar event records stored or retrieved in the database.   
  
### 2.3.5 Archive Policy Database Interface   
\*\*Description\*\*: Interface to the archive policy database, which stores archive policy definitions, retention periods, and application logs.   
\*\*Interaction Method\*\*:   
- Input: Queries for creating, updating, deleting, or retrieving archive policies and retention periods.   
- Output: Archive policy and retention period records stored or retrieved in the database.   
  
### 2.3.6 Email Flow Database Interface   
\*\*Description\*\*: Interface to the email flow database, which stores routing and filtering rules for email processing.   
\*\*Interaction Method\*\*:   
- Input: Queries for creating, updating, deleting, or retrieving email flow records.   
- Output: Email flow records stored or retrieved in the database.   
  
### 2.3.7 Email Archiving Module Interface   
\*\*Description\*\*: Interface to the archive module, which handles the storage and retrieval of archived emails.   
\*\*Interaction Method\*\*:   
- Input: Email account ID and archive policy ID to trigger archiving.   
- Output: Archived emails stored in the archive module and inbox updated.   
  
### 2.3.8 Email Recovery Module Interface   
\*\*Description\*\*: Interface to the recovery module, which manages the retrieval of deleted or expired emails.   
\*\*Interaction Method\*\*:   
- Input: Email account ID and archived email ID(s) to request recovery.   
- Output: Recovered emails restored to the inbox or recovery folder.   
  
### 2.3.9 Email Formatting Engine Interface   
\*\*Description\*\*: Interface to the formatting engine, which applies email templates or formatting rules to emails.   
\*\*Interaction Method\*\*:   
- Input: Email body and formatting rules or template.   
- Output: Formatted email content ready for sending.   
  
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## 2.4 Communication Interface Output  
  
The system communicates with external systems and services through various communication interfaces to support sending and receiving emails, notifications, and synchronization of data.  
  
### 2.4.1 Email Sending Interface   
\*\*Description\*\*: Interface to send emails to one or more recipients, including validation and routing based on email flow rules.   
\*\*Interaction Method\*\*:   
- Input: Sender account ID, recipient contact/group ID(s), subject, body, and formatting template.   
- Output: Email sent to the specified recipients and an updated email flow record.   
  
### 2.4.2 Email Receiving Interface   
\*\*Description\*\*: Interface to receive and process incoming emails from external or internal sources.   
\*\*Interaction Method\*\*:   
- Input: Email message and recipient account ID.   
- Output: Email stored in the inbox or archive and an updated email flow record.   
  
### 2.4.3 Email Flow Capture Interface   
\*\*Description\*\*: Interface to record the flow of emails as they are sent or received, including sender, recipient, timestamp, and status.   
\*\*Interaction Method\*\*:   
- Input: Email ID, flow description, and timestamp.   
- Output: Captured email flow record stored in the database.   
  
### 2.4.4 Email Notification Interface   
\*\*Description\*\*: Interface to send confirmation or status update messages to the administrator.   
\*\*Interaction Method\*\*:   
- Input: Notification content and administrator user ID.   
- Output: Displayed or sent notification to the administrator.   
  
### 2.4.5 Email Sending to Distribution Group Interface   
\*\*Description\*\*: Interface to send an email to a distribution group, validating group membership and routing rules.   
\*\*Interaction Method\*\*:   
- Input: Email account ID, distribution group ID, and email content.   
- Output: Email sent to all valid members of the group and an updated email flow record.   
  
### 2.4.6 Email Flow Assignment Interface   
\*\*Description\*\*: Interface to assign an email account to an email flow, ensuring that the flow is updated and synchronized.   
\*\*Interaction Method\*\*:   
- Input: Email account ID and email flow ID.   
- Output: Updated email flow configuration and a confirmation message.   
  
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## Cross-Check of External Data Sources  
  
All external data sources referenced in the functional requirements have been mapped to corresponding interfaces in this section. Specifically:  
  
- \*\*Email Account\*\* → Email Database Interface   
- \*\*Contact Record\*\* → Contact Database Interface   
- \*\*Distribution Group\*\* → Distribution Group Database Interface   
- \*\*Calendar Event\*\* → Calendar Event Database Interface   
- \*\*Archive Policy\*\* → Archive Policy Database Interface   
- \*\*Email Flow\*\* → Email Flow Database Interface   
- \*\*Email Content\*\* → Email Sending and Receiving Interfaces   
- \*\*Email Formatting\*\* → Email Formatting Engine Interface   
- \*\*Email Archiving/Recovery\*\* → Email Archiving and Recovery Module Interfaces   
- \*\*Email Flow Records\*\* → Email Flow Capture Interface   
- \*\*Notifications\*\* → Email Notification Interface   
  
This ensures that every referenced data source is clearly defined and supported through the appropriate external interface.  
  
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## Summary  
  
The external interfaces described in this chapter are essential for the system to perform its core functions. They support the interaction between the system and its internal data sources, administrators, and external communication channels. Developers can use these interface definitions to design and implement the necessary components, ensuring a seamless and efficient system operation.

# Use Case

Use Case Name: Create Email Account   
Use Case ID: UC-01   
Actors: Administrator, Email Account   
Preconditions:   
1. The Administrator has logged into the system.   
2. The system has access to the Email and Calendar service.   
3. The system has access to the Contact and Distribution Group management module.   
  
Postconditions:   
1. A new Email Account is successfully created.   
2. The Email Account is associated with the user's Contact information.   
3. The Administrator receives a confirmation message for the new Email Account.   
  
Main Flow:   
1. The Administrator navigates to the Email Account creation interface.   
2. The Administrator enters the required details for the new Email Account, including username, password, and email domain.   
3. The system validates the entered information for correctness and availability.   
4. The system creates the new Email Account and links it to the user's Contact record.   
5. The system updates the Distribution Group(s) to include the new Email Account if necessary.   
6. The system sends a confirmation message to the Administrator indicating successful account creation.   
  
Alternative Flow:   
1. If the entered username is already taken, the system displays an error message and prompts the Administrator to choose a different username.   
2. If the password does not meet the security requirements, the system displays an error and asks the Administrator to enter a valid password.   
3. If the system fails to create the Email Account due to technical issues, it displays an error message and logs the failure for review.   
4. If the Administrator cancels the creation process, the system discards all entered information and returns to the previous interface.  
  
Use Case Name: Manage Email Account   
Use Case ID: UC-02   
Actors: Administrator, Email Account, Email Flow, Email Recovery   
Preconditions:   
1. The Administrator has logged into the system.   
2. The system has access to the Email Account management module.   
3. The system has access to the Email Flow and Email Recovery configurations.   
  
Postconditions:   
1. The Email Account settings are successfully updated or modified.   
2. The Email Flow and Recovery configurations reflect the changes made by the Administrator.   
3. The Administrator receives a confirmation message for the management action.   
  
Main Flow:   
1. The Administrator navigates to the Email Account management interface.   
2. The Administrator selects an existing Email Account to modify.   
3. The Administrator updates the Email Account settings, including password changes, access permissions, or recovery options.   
4. The system validates the changes for correctness and compliance with policies.   
5. The system updates the Email Account and synchronizes changes with the Email Flow and Recovery modules.   
6. The system sends a confirmation message to the Administrator indicating successful management.   
  
Alternative Flow:   
1. If the updated password does not meet the security requirements, the system displays an error and asks the Administrator to enter a valid password.   
2. If the system fails to update the Email Account due to technical issues, it displays an error message and logs the failure for review.   
3. If the Administrator cancels the management process, the system reverts all changes and returns to the previous interface.  
  
Use Case Name: Delete Email Account   
Use Case ID: UC-03   
Actors: Administrator, Email Account, Email Flow, Email Recovery, Archive Policy   
  
Preconditions:   
1. The Administrator has logged into the system.   
2. The system has access to the Email Account management module.   
3. The selected Email Account exists in the system.   
4. The system has access to the Archive Policy and Email Recovery configurations.   
  
Postconditions:   
1. The selected Email Account is successfully deleted.   
2. The Email Account is removed from any associated Email Flow and Recovery configurations.   
3. The Email Account data is archived according to the Archive Policy.   
4. The Administrator receives a confirmation message for the deletion.   
  
Main Flow:   
1. The Administrator navigates to the Email Account management interface.   
2. The Administrator selects an existing Email Account to delete.   
3. The system prompts the Administrator to confirm the deletion.   
4. The Administrator confirms the deletion.   
5. The system deactivates the Email Account and removes it from Email Flow and Recovery settings.   
6. The system archives the Email Account data in accordance with the Archive Policy.   
7. The system sends a confirmation message to the Administrator indicating successful deletion.   
  
Alternative Flow:   
1. If the Email Account is associated with active Email Flow or Recovery processes, the system displays a warning and asks the Administrator if they still want to proceed.   
2. If the deletion is canceled by the Administrator, the system retains the Email Account and returns to the management interface.   
3. If the system fails to delete the Email Account due to technical issues, it displays an error message and logs the failure for review.   
4. If the Email Account is already archived, the system informs the Administrator and offers options to remove it permanently or keep it in the archive.  
  
Use Case Name: Send Email   
Use Case ID: UC-04   
Actors: Administrator, Email Account, Email Flow, Contact, Distribution Group   
  
Preconditions:   
1. The Administrator has logged into the system.   
2. The Email Account is active and properly configured.   
3. The system has access to the Email Flow and Contact/Distribution Group information.   
  
Postconditions:   
1. The email is successfully sent to the intended recipient(s).   
2. The Email Flow is updated to reflect the sent email.   
3. The Administrator receives a confirmation message indicating the email was sent.   
  
Main Flow:   
1. The Administrator navigates to the Email interface.   
2. The Administrator selects the Email Account from which the email will be sent.   
3. The Administrator composes the email, including subject, body, and recipient(s) (individual Contact or Distribution Group).   
4. The system validates the recipient(s) and checks for any configured Email Flow rules.   
5. The system sends the email via the selected Email Account.   
6. The system updates the Email Flow with the sent email details.   
7. The system sends a confirmation message to the Administrator.   
  
Alternative Flow:   
1. If the recipient is not valid or does not exist, the system displays an error message and prompts the Administrator to correct the recipient information.   
2. If the Email Flow rules block the email from being sent, the system displays a warning and asks the Administrator to confirm or adjust the flow settings.   
3. If the system fails to send the email due to technical issues, it displays an error message and logs the failure for review.   
4. If the Administrator cancels the sending process, the system discards the composed email and returns to the previous interface.  
  
Use Case Name: Receive Email   
Use Case ID: UC-05   
Actors: Email Account, Email Flow, Administrator   
  
Preconditions:   
1. The Email Account is active and properly configured.   
2. The system has access to the Email Flow module.   
3. The Administrator has access to the system for monitoring or managing received emails.   
  
Postconditions:   
1. The email is successfully received and stored in the Email Account's inbox.   
2. The Email Flow is updated to reflect the received email.   
3. The Administrator is notified of the received email if configured.   
  
Main Flow:   
1. An email is sent to the Email Account from an external or internal source.   
2. The system checks the Email Flow rules to determine if the email should be processed or filtered.   
3. The system stores the email in the Email Account's inbox.   
4. The system updates the Email Flow with the received email details.   
5. If configured, the system sends a notification to the Administrator about the received email.   
6. The Administrator can view the received email through the Email Account interface.   
  
Alternative Flow:   
1. If the email violates Email Flow rules (e.g., spam or unauthorized sender), the system blocks the email and logs the action.   
2. If the system fails to receive the email due to technical issues, it displays an error message and logs the failure for review.   
3. If the email is successfully received but exceeds retention period, the system archives it according to the Archive Policy.   
4. If the Administrator disables notifications, no alert is sent for the received email.  
  
Use Case Name: Format Email   
Use Case ID: UC-06   
Actors: Administrator, Email Account, Email Flow   
  
Preconditions:   
1. The Administrator has logged into the system.   
2. The Email Account is active and properly configured.   
3. The system has access to the Email Flow and formatting templates.   
  
Postconditions:   
1. The email is formatted according to the specified template or rules.   
2. The formatted email is ready for sending or review.   
3. The Email Flow is updated to reflect the formatting action.   
  
Main Flow:   
1. The Administrator navigates to the Email composition or editing interface.   
2. The Administrator selects the Email Account associated with the email.   
3. The Administrator chooses a formatting template or manually adjusts the email format (e.g., subject line, body structure, signature).   
4. The system applies the formatting and validates it against the Email Flow rules.   
5. The system updates the Email Flow to reflect the formatting changes.   
6. The system displays the formatted email to the Administrator for review or sending.   
  
Alternative Flow:   
1. If the selected formatting template is incompatible with the Email Account, the system displays an error and suggests an appropriate template.   
2. If the formatting violates the Email Flow rules, the system warns the Administrator and allows adjustments before proceeding.   
3. If the system fails to apply formatting due to technical issues, it displays an error message and logs the failure for review.   
4. If the Administrator cancels the formatting process, the system reverts to the previous version of the email and returns to the management interface.  
  
Use Case Name: Read Email   
Use Case ID: UC-07   
Actors: Administrator, Email Account, Email Flow   
  
Preconditions:   
1. The Administrator has logged into the system.   
2. The Email Account is active and contains one or more emails in the inbox.   
3. The system has access to the Email Flow module.   
  
Postconditions:   
1. The selected email is displayed to the Administrator.   
2. The Email Flow is updated to reflect the read status of the email.   
3. The Administrator receives visual or notification confirmation that the email has been accessed.   
  
Main Flow:   
1. The Administrator navigates to the Email Account inbox interface.   
2. The Administrator selects an email from the list of received emails.   
3. The system retrieves the selected email and displays it to the Administrator.   
4. The system updates the Email Flow to mark the email as read.   
5. The system provides options for the Administrator to reply, forward, or delete the email.   
  
Alternative Flow:   
1. If the selected email is not accessible due to technical issues, the system displays an error message and logs the issue for review.   
2. If the email has been archived, the system prompts the Administrator to retrieve it from the archive or provides access to the archived email interface.   
3. If the Administrator chooses to mark the email as unread, the system updates the Email Flow accordingly.   
4. If the Administrator cancels the read process, the system returns to the inbox interface without changing the email status.  
  
Use Case Name: Archive Email   
Use Case ID: UC-08   
Actors: Administrator, Email Account, Archive Policy, Archived Email   
  
Preconditions:   
1. The Administrator has logged into the system.   
2. The Email Account is active and has one or more emails to archive.   
3. The system has access to the Archive Policy configuration.   
4. The system has access to the Archived Email storage module.   
  
Postconditions:   
1. The selected email(s) are archived according to the Archive Policy.   
2. The archived email(s) are no longer visible in the Email Account's inbox.   
3. The archived email(s) are stored in the appropriate archive location.   
4. The Administrator receives a confirmation message for the archiving action.   
  
Main Flow:   
1. The Administrator navigates to the Email Account inbox interface.   
2. The Administrator selects one or more emails to archive.   
3. The system checks the Archive Policy to determine the appropriate archiving action.   
4. The system moves the selected email(s) to the Archived Email storage module.   
5. The system updates the Email Account inbox to remove the archived email(s).   
6. The system sends a confirmation message to the Administrator indicating the email(s) have been archived.   
  
Alternative Flow:   
1. If the selected email(s) are already archived, the system informs the Administrator and offers to delete or restore them.   
2. If the Archive Policy is not configured or is invalid, the system displays an error message and prompts the Administrator to configure or correct the policy.   
3. If the system fails to archive the email(s) due to technical issues, it displays an error message and logs the failure for review.   
4. If the Administrator cancels the archiving process, the system retains the email(s) in the inbox and returns to the previous interface.  
  
Use Case Name: Search Archived Email   
Use Case ID: UC-09   
Actors: Administrator, Email Account, Archive Policy, Archived Email   
  
Preconditions:   
1. The Administrator has logged into the system.   
2. The Email Account is active and has previously archived one or more emails.   
3. The system has access to the Archive Policy and the Archived Email storage module.   
  
Postconditions:   
1. The Administrator is presented with the results of the search based on the specified criteria.   
2. The search results include the relevant Archived Email(s) for review or retrieval.   
3. The system maintains the integrity of the Archive Policy and storage configuration.   
  
Main Flow:   
1. The Administrator navigates to the Archived Email search interface.   
2. The Administrator specifies search criteria such as sender, recipient, subject, date range, or keywords.   
3. The system processes the search request and queries the Archive Policy and Archived Email storage.   
4. The system retrieves and displays the matching archived email(s) to the Administrator.   
5. The Administrator reviews the results and can choose to retrieve or delete any selected email(s).   
  
Alternative Flow:   
1. If no archived emails match the search criteria, the system displays a message indicating no results were found.   
2. If the Archive Policy prevents access to certain archived emails, the system informs the Administrator and restricts the search accordingly.   
3. If the system fails to retrieve the archived emails due to technical issues, it displays an error message and logs the failure for review.   
4. If the Administrator cancels the search, the system returns to the previous interface without performing any action.  
  
Use Case Name: Manage Contact   
Use Case ID: UC-10   
Actors: Administrator, Contact, Distribution Group, Email Account   
  
Preconditions:   
1. The Administrator has logged into the system.   
2. The system has access to the Contact management module.   
3. The system has access to the Distribution Group and Email Account configurations.   
  
Postconditions:   
1. The Contact information is successfully created, updated, or deleted.   
2. The Distribution Group is updated to reflect any changes to the Contact.   
3. The Email Account is associated with the Contact if necessary.   
4. The Administrator receives a confirmation message for the management action.   
  
Main Flow:   
1. The Administrator navigates to the Contact management interface.   
2. The Administrator selects an option to create, update, or delete a Contact.   
3. If creating a Contact, the Administrator enters the necessary details such as name, email, phone, and address.   
4. If updating a Contact, the Administrator selects an existing Contact and modifies the relevant information.   
5. If deleting a Contact, the Administrator selects an existing Contact and confirms the deletion.   
6. The system validates the Contact information for completeness and correctness.   
7. The system updates the Contact record and synchronizes changes with the Distribution Group and Email Account modules.   
8. The system sends a confirmation message to the Administrator indicating the action was completed successfully.   
  
Alternative Flow:   
1. If the entered email for the Contact is already in use or invalid, the system displays an error message and prompts the Administrator to enter a valid email.   
2. If the system fails to save or update the Contact due to technical issues, it displays an error message and logs the failure for review.   
3. If the Contact is part of an active Distribution Group and the Administrator attempts to delete it, the system displays a warning and asks if the deletion should proceed.   
4. If the Administrator cancels the process at any point, the system reverts all changes and returns to the previous interface.  
  
Use Case Name: Delete Contact   
Use Case ID: UC-11   
Actors: Administrator, Contact, Distribution Group, Email Account   
  
Preconditions:   
1. The Administrator has logged into the system.   
2. The system has access to the Contact management module.   
3. The selected Contact exists in the system.   
4. The system has access to the Distribution Group and Email Account configurations.   
  
Postconditions:   
1. The selected Contact is successfully deleted.   
2. The Contact is removed from any associated Distribution Groups.   
3. Any Email Account linked to the Contact is disassociated or updated.   
4. The Administrator receives a confirmation message for the deletion.   
  
Main Flow:   
1. The Administrator navigates to the Contact management interface.   
2. The Administrator selects an existing Contact to delete.   
3. The system prompts the Administrator to confirm the deletion.   
4. The Administrator confirms the deletion.   
5. The system checks if the Contact is part of any Distribution Groups or linked to an Email Account.   
6. The system removes the Contact from the Distribution Group(s) and disassociates it from the Email Account if necessary.   
7. The system deletes the Contact record from the database.   
8. The system sends a confirmation message to the Administrator indicating the Contact has been deleted.   
  
Alternative Flow:   
1. If the Contact is part of an active Distribution Group, the system displays a warning and asks the Administrator if they still want to proceed.   
2. If the Administrator cancels the deletion, the system retains the Contact and returns to the management interface.   
3. If the system fails to delete the Contact due to technical issues, it displays an error message and logs the failure for review.   
4. If the Email Account is linked to the Contact, the system prompts the Administrator to update or remove the link before proceeding.  
  
Use Case Name: Read Contact   
Use Case ID: UC-12   
Actors: Administrator, Contact, Distribution Group, Email Account   
  
Preconditions:   
1. The Administrator has logged into the system.   
2. The system has access to the Contact management module.   
3. The selected Contact exists in the system.   
4. The system has access to the Distribution Group and Email Account configurations.   
  
Postconditions:   
1. The Administrator is presented with the details of the selected Contact.   
2. The system ensures the Contact information is up to date and accurate.   
3. The Administrator may choose to modify the Contact or use the information in other processes.   
  
Main Flow:   
1. The Administrator navigates to the Contact management interface.   
2. The Administrator selects a Contact from the list to view.   
3. The system retrieves the Contact details, including name, email, phone, and address.   
4. The system displays the Contact information to the Administrator.   
5. The system shows if the Contact is part of any Distribution Groups or linked to an Email Account.   
6. The Administrator can choose to return to the Contact list or proceed with editing or other actions.   
  
Alternative Flow:   
1. If the selected Contact does not exist or has been deleted, the system displays an error and returns to the Contact list.   
2. If the system fails to retrieve the Contact due to technical issues, it displays an error message and logs the failure for review.   
3. If the Administrator chooses to edit the Contact while viewing, the system redirects to the Contact editing interface.   
4. If the Administrator cancels the process, the system returns to the Contact list without further action.  
  
Use Case Name: Update Contact   
Use Case ID: UC-13   
Actors: Administrator, Contact, Distribution Group, Email Account   
Preconditions:   
1. The Administrator has logged into the system.   
2. The system has access to the Contact management module.   
3. The selected Contact exists in the system.   
4. The system has access to the Distribution Group and Email Account configurations.   
  
Postconditions:   
1. The selected Contact information is successfully updated.   
2. The Distribution Group(s) are updated to reflect any changes in the Contact's details.   
3. The Email Account linked to the Contact is updated if necessary.   
4. The Administrator receives a confirmation message for the update.   
  
Main Flow:   
1. The Administrator navigates to the Contact management interface.   
2. The Administrator selects an existing Contact to update.   
3. The Administrator modifies the Contact's information, such as name, email, phone, or address.   
4. The system validates the updated information for completeness and correctness.   
5. The system updates the Contact record and synchronizes changes with the Distribution Group and Email Account modules.   
6. The system sends a confirmation message to the Administrator indicating the update was successful.   
  
Alternative Flow:   
1. If the updated email is already in use or invalid, the system displays an error message and prompts the Administrator to enter a valid email.   
2. If the system fails to update the Contact due to technical issues, it displays an error message and logs the failure for review.   
3. If the Contact is part of an active Distribution Group and the email or name is modified, the system updates the group accordingly.   
4. If the Administrator cancels the update process, the system reverts all changes and returns to the previous interface.  
  
Use Case Name: Create Distribution Group   
Use Case ID: UC-14   
Actors: Administrator, Contact, Email Account, Distribution Group   
  
Preconditions:   
1. The Administrator has logged into the system.   
2. The system has access to the Distribution Group management module.   
3. The system has access to the Contact and Email Account information.   
4. The Administrator has permission to manage Distribution Groups.   
  
Postconditions:   
1. A new Distribution Group is successfully created.   
2. The Distribution Group includes the selected Contacts and/or Email Accounts.   
3. The Administrator receives a confirmation message for the new Distribution Group.   
  
Main Flow:   
1. The Administrator navigates to the Distribution Group creation interface.   
2. The Administrator enters the name and description for the new Distribution Group.   
3. The Administrator selects one or more Contacts or Email Accounts to include in the group.   
4. The system validates the selected members for validity and availability.   
5. The system creates the new Distribution Group and adds the selected members.   
6. The system sends a confirmation message to the Administrator indicating successful group creation.   
  
Alternative Flow:   
1. If the entered Distribution Group name is already in use, the system displays an error and prompts the Administrator to choose a different name.   
2. If the selected member is invalid or cannot be added, the system displays an error and suggests valid members.   
3. If the system fails to create the Distribution Group due to technical issues, it displays an error message and logs the failure for review.   
4. If the Administrator cancels the creation process, the system discards all entered information and returns to the previous interface.  
  
Use Case Name: Manage Distribution Group   
Use Case ID: UC-15   
Actors: Administrator, Distribution Group, Contact, Email Account   
  
Preconditions:   
1. The Administrator has logged into the system.   
2. The system has access to the Distribution Group management module.   
3. The system has access to the Contact and Email Account information.   
4. The selected Distribution Group exists in the system if updating or deleting.   
  
Postconditions:   
1. The Distribution Group is successfully created, updated, or deleted.   
2. The Distribution Group contains the appropriate Contacts and/or Email Accounts.   
3. The system updates related Email Account configurations if necessary.   
4. The Administrator receives a confirmation message for the management action.   
  
Main Flow:   
1. The Administrator navigates to the Distribution Group management interface.   
2. The Administrator selects an option to create, update, or delete a Distribution Group.   
3. If creating a group, the Administrator enters the name and description, then selects one or more Contacts or Email Accounts to include.   
4. If updating a group, the Administrator selects an existing Distribution Group and modifies its name, description, or member list.   
5. If deleting a group, the Administrator selects an existing Distribution Group and confirms the deletion.   
6. The system validates the input and checks for conflicts (e.g., duplicate name, invalid members).   
7. The system updates the Distribution Group and synchronizes it with related Email Accounts or Contacts.   
8. The system sends a confirmation message to the Administrator indicating the action was successful.   
  
Alternative Flow:   
1. If the entered Distribution Group name is already in use, the system displays an error and asks the Administrator to choose a different name.   
2. If the selected member is invalid or not available, the system displays an error and suggests valid members.   
3. If the Administrator attempts to delete a Distribution Group that is being used by an active Email Flow, the system warns them and asks if they want to proceed.   
4. If the system fails to manage the Distribution Group due to technical issues, it displays an error message and logs the failure for review.   
5. If the Administrator cancels the process at any step, the system reverts all changes and returns to the previous interface.  
  
Use Case Name: Delete Distribution Group   
Use Case ID: UC-16   
Actors: Administrator, Distribution Group, Contact, Email Account   
  
Preconditions:   
1. The Administrator has logged into the system.   
2. The system has access to the Distribution Group management module.   
3. The selected Distribution Group exists in the system.   
4. The system has access to the Contact and Email Account configurations.   
  
Postconditions:   
1. The selected Distribution Group is successfully deleted.   
2. The group members are removed from the group but remain in the system.   
3. Any Email Account or Email Flow referencing the group is updated or notified accordingly.   
4. The Administrator receives a confirmation message for the deletion.   
  
Main Flow:   
1. The Administrator navigates to the Distribution Group management interface.   
2. The Administrator selects an existing Distribution Group to delete.   
3. The system prompts the Administrator to confirm the deletion.   
4. The Administrator confirms the deletion.   
5. The system removes the selected Distribution Group from the database.   
6. The system updates any related Email Account or Email Flow configurations to reflect the deletion.   
7. The system sends a confirmation message to the Administrator indicating the group has been deleted.   
  
Alternative Flow:   
1. If the selected Distribution Group is referenced in an active Email Flow, the system displays a warning and asks the Administrator if they still want to proceed.   
2. If the Administrator cancels the deletion, the system retains the Distribution Group and returns to the management interface.   
3. If the system fails to delete the Distribution Group due to technical issues, it displays an error message and logs the failure for review.   
4. If the selected Distribution Group does not exist, the system displays an error message and returns to the management interface.  
  
Use Case Name: Schedule Calendar Event   
Use Case ID: UC-17   
Actors: Administrator, Calendar, Email Account, Contact, Distribution Group   
  
Preconditions:   
1. The Administrator has logged into the system.   
2. The system has access to the Calendar module.   
3. The system has access to the Email Account, Contact, and Distribution Group configurations.   
4. The system has access to the Email Flow and Archive Policy settings.   
  
Postconditions:   
1. A new Calendar Event is successfully created.   
2. The Calendar Event is associated with relevant Contacts or Distribution Groups.   
3. The system sends out any configured notifications or invites via the Email Account.   
4. The Email Flow is updated to reflect the event-related emails.   
5. The Administrator receives a confirmation message for the event creation.   
  
Main Flow:   
1. The Administrator navigates to the Calendar interface.   
2. The Administrator selects an option to create a new event and provides details such as title, date, time, and description.   
3. The Administrator chooses one or more Contacts or Distribution Groups to invite.   
4. The system validates the event details and checks the availability of the selected participants.   
5. The system generates event invites and sends them via the associated Email Account.   
6. The system updates the Email Flow to reflect the sent invites.   
7. The system creates the Calendar Event and associates it with the selected participants.   
8. The system sends a confirmation message to the Administrator indicating the event has been scheduled.   
  
Alternative Flow:   
1. If the selected date and time conflict with existing events, the system displays a warning and prompts the Administrator to adjust the schedule.   
2. If a selected Contact or Distribution Group is invalid or does not exist, the system displays an error and asks the Administrator to correct the selection.   
3. If the system fails to send the email invites due to technical issues, it displays an error message and logs the failure for review.   
4. If the Administrator cancels the event creation, the system discards all entered information and returns to the previous interface.  
  
Use Case Name: Update Calendar Event   
Use Case ID: UC-18   
Actors: Administrator, Calendar, Email Account, Contact, Distribution Group   
Preconditions:   
1. The Administrator has logged into the system.   
2. The system has access to the Calendar module.   
3. The selected Calendar Event exists in the system.   
4. The system has access to the Email Account, Contact, and Distribution Group configurations.   
5. The system has access to the Email Flow and Archive Policy settings if email notifications are involved.   
  
Postconditions:   
1. The selected Calendar Event is successfully updated with new details.   
2. The updated event is associated with the correct Contacts or Distribution Groups.   
3. If configured, the system sends out updated invites or notifications via the Email Account.   
4. The Email Flow is updated to reflect the event-related emails if any are sent.   
5. The Administrator receives a confirmation message for the event update.   
  
Main Flow:   
1. The Administrator navigates to the Calendar interface.   
2. The Administrator selects an existing Calendar Event to update.   
3. The Administrator modifies the event details, such as title, date, time, or description.   
4. The Administrator updates the list of invited Contacts or Distribution Groups if needed.   
5. The system validates the updated event details and checks for conflicts or availability.   
6. If the event invites have changed, the system generates and sends updated invites via the associated Email Account.   
7. The system updates the Email Flow to reflect any sent invites.   
8. The system saves the updated Calendar Event and sends a confirmation message to the Administrator.   
  
Alternative Flow:   
1. If the updated date and time conflict with existing events, the system displays a warning and prompts the Administrator to adjust the schedule.   
2. If a selected Contact or Distribution Group is invalid or not available, the system displays an error and asks the Administrator to correct the selection.   
3. If the system fails to send the updated email invites due to technical issues, it displays an error message and logs the failure for review.   
4. If the Administrator cancels the update process, the system reverts all changes and returns to the previous interface.  
  
Use Case Name: Delete Calendar Event   
Use Case ID: UC-19   
Actors: Administrator, Calendar, Email Account, Contact, Distribution Group   
Preconditions:   
1. The Administrator has logged into the system.   
2. The system has access to the Calendar module.   
3. The selected Calendar Event exists in the system.   
4. The system has access to the Email Account, Contact, and Distribution Group configurations.   
5. The system has access to the Email Flow and Archive Policy settings if email notifications are involved.   
  
Postconditions:   
1. The selected Calendar Event is successfully deleted.   
2. If the event had associated invites, they are canceled or removed from the Email Flow.   
3. Any related Email Account configurations are updated to remove references to the deleted event.   
4. The Administrator receives a confirmation message for the deletion.   
  
Main Flow:   
1. The Administrator navigates to the Calendar interface.   
2. The Administrator selects an existing Calendar Event to delete.   
3. The system prompts the Administrator to confirm the deletion.   
4. The Administrator confirms the deletion.   
5. The system checks if the event has associated invites or notifications.   
6. The system cancels the invites and updates the Email Flow accordingly.   
7. The system removes the Calendar Event from the database.   
8. The system sends a confirmation message to the Administrator indicating the event has been deleted.   
  
Alternative Flow:   
1. If the event is referenced in an active Email Flow or has associated archived data, the system displays a warning and asks the Administrator if they still want to proceed.   
2. If the Administrator cancels the deletion, the system retains the Calendar Event and returns to the management interface.   
3. If the system fails to delete the Calendar Event due to technical issues, it displays an error message and logs the failure for review.   
4. If the Administrator selects an event that no longer exists, the system displays an error and returns to the Calendar interface.  
  
Use Case Name: Read Calendar Event   
Use Case ID: UC-20   
Actors: Administrator, Calendar, Contact, Distribution Group   
  
Preconditions:   
1. The Administrator has logged into the system.   
2. The system has access to the Calendar module.   
3. The selected Calendar Event exists in the system.   
4. The system has access to the Contact and Distribution Group configurations if needed.   
  
Postconditions:   
1. The Administrator is presented with the details of the selected Calendar Event.   
2. The system confirms the event details are accurate and up to date.   
3. The Administrator can choose to modify or delete the event or use the information in other processes.   
  
Main Flow:   
1. The Administrator navigates to the Calendar interface.   
2. The Administrator selects a Calendar Event from the event list to view.   
3. The system retrieves the event details, including title, date, time, description, and participants.   
4. The system displays the event information to the Administrator.   
5. The Administrator can choose to return to the event list or proceed with further actions like editing or deleting.   
  
Alternative Flow:   
1. If the selected Calendar Event does not exist or has been deleted, the system displays an error and returns to the event list.   
2. If the system fails to retrieve the event due to technical issues, it displays an error message and logs the failure for review.   
3. If the Administrator chooses to edit the event while viewing, the system redirects to the event editing interface.   
4. If the Administrator cancels the process, the system returns to the event list without further action.  
  
Use Case Name: Manage Archive Policy   
Use Case ID: UC-21   
Actors: Administrator, Archive Policy, Email Account, Archived Email   
  
Preconditions:   
1. The Administrator has logged into the system.   
2. The system has access to the Archive Policy configuration module.   
3. The system has access to the Email Account and Archived Email storage.   
  
Postconditions:   
1. The Archive Policy is successfully created, updated, or deleted.   
2. The Email Account configurations reflect the updated Archive Policy.   
3. The Archived Email storage is managed in accordance with the new or modified Archive Policy.   
4. The Administrator receives a confirmation message for the policy change.   
  
Main Flow:   
1. The Administrator navigates to the Archive Policy management interface.   
2. The Administrator selects an option to create, update, or delete an Archive Policy.   
3. If creating or updating, the Administrator defines the policy rules, such as retention period, archive location, and conditions for archiving.   
4. The system validates the policy rules for completeness and feasibility.   
5. The system saves or updates the Archive Policy and applies it to relevant Email Accounts.   
6. The system sends a confirmation message to the Administrator indicating the Archive Policy has been successfully managed.   
  
Alternative Flow:   
1. If the defined retention period is invalid or conflicts with existing policies, the system displays an error and asks the Administrator to correct the input.   
2. If the Archive Policy is referenced by active Email Accounts or emails, the system warns the Administrator and asks if they still want to proceed with deletion or modification.   
3. If the system fails to apply the Archive Policy due to technical issues, it displays an error message and logs the failure for review.   
4. If the Administrator cancels the process, the system reverts all changes and returns to the previous interface.  
  
Use Case Name: Apply Archive Policy   
Use Case ID: UC-22   
Actors: Administrator, Archive Policy, Email Account, Archived Email, Retention Period   
  
Preconditions:   
1. The Administrator has logged into the system.   
2. The system has access to the Archive Policy configuration module.   
3. The selected Email Account exists and contains emails to be archived.   
4. The system has access to the Email Account and Archived Email storage.   
5. The Archive Policy has been configured with a valid Retention Period.   
  
Postconditions:   
1. The Archive Policy is applied to the selected Email Account.   
2. Emails in the Email Account that meet the policy criteria are archived.   
3. The archived emails are no longer visible in the inbox but are accessible in the Archive module.   
4. The system logs the application of the Archive Policy and sends a confirmation to the Administrator.   
  
Main Flow:   
1. The Administrator navigates to the Email Account management interface.   
2. The Administrator selects an Email Account to apply the Archive Policy.   
3. The Administrator chooses an Archive Policy from the available policies.   
4. The system checks the Archive Policy rules and the Retention Period.   
5. The system identifies the emails in the selected Email Account that meet the policy conditions.   
6. The system archives the identified emails to the Archived Email storage.   
7. The system updates the Email Account inbox to remove the archived emails.   
8. The system sends a confirmation message to the Administrator indicating the Archive Policy has been applied successfully.   
  
Alternative Flow:   
1. If the selected Archive Policy is invalid or not configured, the system displays an error and prompts the Administrator to select a valid policy.   
2. If no emails in the Email Account meet the Archive Policy criteria, the system informs the Administrator and offers to apply a different policy or schedule a future run.   
3. If the system fails to archive the emails due to technical issues, it displays an error message and logs the failure for review.   
4. If the Administrator cancels the application process, the system returns to the previous interface without archiving any emails.  
  
Use Case Name: Recover Expired Email   
Use Case ID: UC-23   
Actors: Administrator, Email Account, Email Recovery, Archive Policy, Archived Email   
  
Preconditions:   
1. The Administrator has logged into the system.   
2. The Email Account in question has expired and may be archived.   
3. The system has access to the Email Recovery module.   
4. The system has access to the Archive Policy and Archived Email storage.   
  
Postconditions:   
1. The expired email is successfully recovered and restored to the Email Account's inbox or designated folder.   
2. The Email Recovery module reflects the recovery action.   
3. The system updates the Archive Policy to ensure the email is no longer subject to automatic deletion.   
4. The Administrator receives a confirmation message for the recovery.   
  
Main Flow:   
1. The Administrator navigates to the Email Recovery interface.   
2. The Administrator selects an expired Email Account to search for recoverable emails.   
3. The system queries the Archive Policy and Archived Email storage to find expired emails associated with the account.   
4. The system displays a list of recoverable emails to the Administrator.   
5. The Administrator selects one or more emails to recover.   
6. The system restores the selected emails to the Email Account's inbox or a recovery folder.   
7. The system updates the Archive Policy to exclude the recovered emails from future archival or deletion.   
8. The system sends a confirmation message to the Administrator indicating successful recovery.   
  
Alternative Flow:   
1. If no expired emails are found for the selected Email Account, the system displays a message indicating no recoverable emails exist.   
2. If the selected email has already been permanently deleted, the system informs the Administrator and offers options for data recovery or restoration from backups.   
3. If the system fails to recover the email due to technical issues, it displays an error message and logs the failure for review.   
4. If the Administrator cancels the recovery process, the system returns to the previous interface without restoring any emails.  
  
Use Case Name: Manage Email Flow   
Use Case ID: UC-24   
Actors: Administrator, Email Flow, Email Account, Contact, Distribution Group   
  
Preconditions:   
1. The Administrator has logged into the system.   
2. The system has access to the Email Flow configuration module.   
3. The system has access to the Email Account, Contact, and Distribution Group data.   
4. The selected Email Flow exists in the system if updating or deleting.   
  
Postconditions:   
1. The Email Flow is successfully created, updated, or deleted.   
2. The Email Flow is associated with the correct Email Account, Contact(s), and/or Distribution Group(s).   
3. The system updates related modules to reflect changes in the Email Flow.   
4. The Administrator receives a confirmation message for the management action.   
  
Main Flow:   
1. The Administrator navigates to the Email Flow management interface.   
2. The Administrator selects an option to create, update, or delete an Email Flow.   
3. If creating or updating, the Administrator defines the flow rules, such as routing, filtering, or forwarding conditions.   
4. The Administrator selects the Email Account(s) and/or Distribution Group(s) to associate with the flow.   
5. The system validates the flow configuration for correctness and conflicts.   
6. The system saves or updates the Email Flow and synchronizes it with the associated Email Account and group settings.   
7. The system sends a confirmation message to the Administrator indicating the Email Flow has been successfully managed.   
  
Alternative Flow:   
1. If the selected Email Account or Distribution Group is invalid or not available, the system displays an error and suggests valid options.   
2. If the Email Flow configuration conflicts with existing policies or flows, the system warns the Administrator and allows adjustments.   
3. If the system fails to save or update the Email Flow due to technical issues, it displays an error message and logs the failure for review.   
4. If the Administrator cancels the process, the system reverts all changes and returns to the previous interface.  
  
Use Case Name: Set Retention Period   
Use Case ID: UC-25   
Actors: Administrator, Archive Policy, Email Account, Retention Period   
  
Preconditions:   
1. The Administrator has logged into the system.   
2. The system has access to the Archive Policy configuration module.   
3. The selected Email Account exists and is associated with an Archive Policy.   
4. The system has access to the Retention Period settings.   
  
Postconditions:   
1. The Retention Period for the selected Email Account is successfully set or modified.   
2. The Archive Policy for the Email Account is updated to reflect the new Retention Period.   
3. The system schedules the archiving or deletion of emails based on the updated Retention Period.   
4. The Administrator receives a confirmation message for the Retention Period update.   
  
Main Flow:   
1. The Administrator navigates to the Archive Policy management interface.   
2. The Administrator selects an Email Account to set or modify the Retention Period.   
3. The Administrator specifies the Retention Period (e.g., 30 days, 6 months, 1 year).   
4. The system validates the Retention Period for correctness and feasibility.   
5. The system updates the Archive Policy for the selected Email Account to reflect the new Retention Period.   
6. The system schedules the automatic archiving or deletion of emails according to the updated policy.   
7. The system sends a confirmation message to the Administrator indicating the Retention Period has been set or updated.   
  
Alternative Flow:   
1. If the Retention Period is invalid or conflicts with existing policies, the system displays an error and prompts the Administrator to enter a valid period.   
2. If the selected Email Account is not linked to an Archive Policy, the system displays a warning and asks the Administrator if they want to create a new policy for the account.   
3. If the system fails to update the Archive Policy due to technical issues, it displays an error message and logs the failure for review.   
4. If the Administrator cancels the process, the system reverts all changes and returns to the previous interface.  
  
Use Case Name: Modify Retention Period   
Use Case ID: UC-26   
Actors: Administrator, Archive Policy, Email Account, Retention Period   
  
Preconditions:   
1. The Administrator has logged into the system.   
2. The system has access to the Archive Policy configuration module.   
3. The selected Email Account exists and is associated with an Archive Policy.   
4. The system has access to the Retention Period settings.   
  
Postconditions:   
1. The Retention Period for the selected Email Account is successfully modified.   
2. The Archive Policy for the Email Account is updated to reflect the new Retention Period.   
3. The system adjusts the archiving or deletion schedule of emails based on the updated Retention Period.   
4. The Administrator receives a confirmation message for the Retention Period modification.   
  
Main Flow:   
1. The Administrator navigates to the Archive Policy management interface.   
2. The Administrator selects an Email Account whose Retention Period needs to be modified.   
3. The Administrator modifies the existing Retention Period settings.   
4. The system validates the new Retention Period for correctness and feasibility.   
5. The system updates the Archive Policy for the selected Email Account.   
6. The system recalculates the archiving/deletion schedule based on the new Retention Period.   
7. The system sends a confirmation message to the Administrator indicating the Retention Period has been modified.   
  
Alternative Flow:   
1. If the new Retention Period is invalid or conflicts with system requirements, the system displays an error and asks the Administrator to correct the input.   
2. If the selected Email Account does not have an Archive Policy, the system displays a message and offers to create one before proceeding.   
3. If the system fails to update the Archive Policy due to technical issues, it displays an error message and logs the failure for review.   
4. If the Administrator cancels the modification process, the system reverts to the previous Retention Period and returns to the previous interface.  
  
Use Case Name: Delete Retention Period   
Use Case ID: UC-27   
Actors: Administrator, Archive Policy, Email Account, Retention Period   
  
Preconditions:   
1. The Administrator has logged into the system.   
2. The system has access to the Archive Policy configuration module.   
3. The selected Email Account is associated with a Retention Period.   
4. The system has access to the Retention Period settings and Email Account configurations.   
  
Postconditions:   
1. The Retention Period for the selected Email Account is successfully deleted.   
2. The Archive Policy for the Email Account is updated to remove the Retention Period.   
3. The system adjusts the archiving or deletion schedule of emails based on the updated Archive Policy.   
4. The Administrator receives a confirmation message for the Retention Period deletion.   
  
Main Flow:   
1. The Administrator navigates to the Archive Policy management interface.   
2. The Administrator selects an Email Account whose Retention Period is to be deleted.   
3. The Administrator chooses the option to delete the Retention Period associated with the account.   
4. The system verifies the existence of a Retention Period for the selected Email Account.   
5. The system prompts the Administrator to confirm the deletion of the Retention Period.   
6. The Administrator confirms the deletion.   
7. The system removes the Retention Period from the Archive Policy linked to the Email Account.   
8. The system updates the Email Account’s configuration to reflect the deletion.   
9. The system sends a confirmation message to the Administrator indicating the Retention Period has been deleted.   
  
Alternative Flow:   
1. If the selected Email Account does not have an active Retention Period, the system displays an error and returns to the Archive Policy interface.   
2. If the Retention Period is referenced by other policies or scheduled tasks, the system warns the Administrator and asks if they still want to proceed.   
3. If the system fails to delete the Retention Period due to technical issues, it displays an error message and logs the failure for review.   
4. If the Administrator cancels the deletion process, the system retains the current Retention Period and returns to the previous interface.  
  
Use Case Name: Own Email Account   
Use Case ID: UC-28   
Actors: Administrator, User, Email Account   
  
Preconditions:   
1. The Administrator has logged into the system.   
2. The system has access to the Email Account management module.   
3. The selected Email Account exists in the system.   
4. The system has access to the User management module.   
5. The User to be assigned ownership has a valid profile in the system.   
  
Postconditions:   
1. The ownership of the selected Email Account is successfully assigned to the User.   
2. The User is now associated with the Email Account and can access or manage it if permissions allow.   
3. The system updates related modules (e.g., Email Flow, Archive Policy) to reflect the ownership change.   
4. The Administrator receives a confirmation message for the ownership assignment.   
  
Main Flow:   
1. The Administrator navigates to the Email Account management interface.   
2. The Administrator selects an existing Email Account for which ownership needs to be assigned.   
3. The Administrator chooses a User from the system's user directory to assign ownership.   
4. The system validates the selected User's existence and permissions.   
5. The system updates the ownership information of the Email Account to the selected User.   
6. The system synchronizes changes with related modules, such as Email Flow and Archive Policy.   
7. The system sends a confirmation message to the Administrator indicating the ownership has been successfully assigned.   
  
Alternative Flow:   
1. If the selected User does not exist or is invalid, the system displays an error and prompts the Administrator to select a valid User.   
2. If the Email Account is already owned by the selected User, the system displays a message and offers to confirm or cancel the action.   
3. If the system fails to assign ownership due to technical issues, it displays an error message and logs the failure for review.   
4. If the Administrator cancels the ownership assignment, the system reverts the Email Account ownership to its previous state and returns to the management interface.  
  
Use Case Name: Send/Receive Email   
Use Case ID: UC-29   
Actors: Administrator, Email Account, Email Flow, Contact, Distribution Group, Email Recovery   
  
Preconditions:   
1. The Administrator has logged into the system.   
2. The Email Account is active and properly configured for sending and receiving emails.   
3. The system has access to the Email Flow module for managing routing and filtering rules.   
4. The system has access to the Contact and Distribution Group information for recipient validation.   
5. The system has access to the Email Recovery module to handle failed or undelivered emails.   
  
Postconditions:   
1. Emails are successfully sent from the system and received by intended recipients.   
2. Received emails are processed and stored in the appropriate location (inbox or archive).   
3. The Email Flow is updated to reflect both sent and received emails.   
4. Any failed or undelivered emails are logged and managed through the Email Recovery module.   
5. The Administrator receives confirmation messages for both sending and receiving actions.   
  
Main Flow:   
1. The Administrator navigates to the Email interface for sending or receiving emails.   
2. The Administrator selects the Email Account to be used for sending an email or monitoring incoming emails.   
3. For sending, the Administrator composes the email, specifying recipients (Contact or Distribution Group), subject, and content.   
4. The system validates the recipients and checks the Email Flow rules for any restrictions or routing instructions.   
5. The system sends the email through the selected Email Account.   
6. The system updates the Email Flow with the details of the sent email.   
7. For receiving, the system continuously monitors the Email Account for incoming emails.   
8. When an email is received, the system applies the Email Flow rules to determine if it should be stored, filtered, or archived.   
9. The system logs the received email in the Email Account's inbox or archive, based on the policy.   
10. The system sends confirmation messages to the Administrator for both the sent and received emails.   
  
Alternative Flow:   
1. If the system fails to send an email due to invalid recipients, network issues, or Email Flow restrictions, it logs the failure and prompts the Administrator to adjust the email or resolve the issue.   
2. If an incoming email is blocked by Email Flow rules (e.g., spam or unauthorized sender), the system logs the action and may send a notification to the Administrator for review.   
3. If the received email exceeds the retention period, the system automatically archives it according to the Archive Policy.   
4. If the received email fails to be delivered or processed due to technical issues, the system triggers the Email Recovery module to handle the email and notifies the Administrator.   
5. If the Administrator cancels the sending process, the system discards the email and returns to the previous interface.   
6. If the system encounters an error in receiving emails, it displays an error message and logs the issue for further investigation.  
  
Use Case Name: Contain Contact   
Use Case ID: UC-30   
Actors: Administrator, Contact, Distribution Group, Email Account   
  
Preconditions:   
1. The Administrator has logged into the system.   
2. The system has access to the Contact management module.   
3. The selected Distribution Group exists in the system.   
4. The system has access to the Email Account configurations for reference.   
5. The Contact to be added is already created in the system.   
  
Postconditions:   
1. The specified Contact is successfully added to the selected Distribution Group.   
2. The Distribution Group is updated to include the Contact in its member list.   
3. The Email Account configurations are updated to reflect the inclusion of the Contact in the group if necessary.   
4. The Administrator receives a confirmation message for the addition of the Contact.   
  
Main Flow:   
1. The Administrator navigates to the Distribution Group management interface.   
2. The Administrator selects an existing Distribution Group to modify.   
3. The Administrator chooses the option to add a Contact to the group.   
4. The Administrator selects a valid Contact from the system's Contact list.   
5. The system validates the Contact's availability and ensures it is not already a member of the group.   
6. The system updates the Distribution Group to include the selected Contact.   
7. The system synchronizes the change with related Email Account configurations if applicable.   
8. The system sends a confirmation message to the Administrator indicating the Contact has been added successfully.   
  
Alternative Flow:   
1. If the selected Contact is already a member of the Distribution Group, the system displays a message and offers to cancel or proceed (e.g., for redundancy check).   
2. If the selected Contact does not exist or is invalid, the system displays an error and prompts the Administrator to choose a valid Contact.   
3. If the system fails to update the Distribution Group due to technical issues, it displays an error message and logs the failure for review.   
4. If the Administrator cancels the addition process, the system reverts the changes and returns to the Distribution Group management interface.  
  
Use Case Name: Send to Distribution Group   
Use Case ID: UC-31   
Actors: Administrator, Email Account, Email Flow, Distribution Group, Contact   
  
Preconditions:   
1. The Administrator has logged into the system.   
2. The Email Account is active and properly configured.   
3. The system has access to the Distribution Group and its member list.   
4. The selected Distribution Group exists in the system.   
5. The system has access to the Email Flow module for routing and filtering rules.   
  
Postconditions:   
1. The email is successfully sent to all members of the Distribution Group.   
2. The Email Flow is updated to reflect the sent email.   
3. The email is delivered to the Email Accounts of the Contact members in the Distribution Group.   
4. The Administrator receives a confirmation message indicating the email was successfully sent to the Distribution Group.   
  
Main Flow:   
1. The Administrator navigates to the Email interface.   
2. The Administrator selects the Email Account from which the email will be sent.   
3. The Administrator composes the email, including subject, body, and recipient(s).   
4. The Administrator selects a Distribution Group as the recipient.   
5. The system verifies the existence of the selected Distribution Group and retrieves its member list.   
6. The system validates the Distribution Group members to ensure they are valid and active.   
7. The system applies any configured Email Flow rules to the email before sending.   
8. The system sends the email to all members of the Distribution Group via their associated Email Accounts.   
9. The system updates the Email Flow to record the sent email and its recipients.   
10. The system sends a confirmation message to the Administrator indicating the email was successfully sent to the Distribution Group.   
  
Alternative Flow:   
1. If the selected Distribution Group does not exist or is invalid, the system displays an error message and prompts the Administrator to select a valid group.   
2. If one or more members of the Distribution Group have invalid or inactive Email Accounts, the system logs the issue and sends the email to valid recipients only.   
3. If the Email Flow rules block the email from being sent to the Distribution Group, the system displays a warning and asks the Administrator to confirm or adjust the flow settings.   
4. If the system fails to send the email to any or all members of the Distribution Group due to technical issues, it displays an error message, logs the failure, and offers to retry or cancel the process.   
5. If the Administrator cancels the sending process, the system discards the composed email and returns to the previous interface.  
  
Use Case Name: Belong to Email Flow   
Use Case ID: UC-32   
Actors: Email Account, Email Flow, Administrator   
  
Preconditions:   
1. The Administrator has logged into the system.   
2. The Email Flow is configured and active in the system.   
3. The Email Account exists and is associated with the system.   
4. The system has access to the Email Flow configuration module.   
5. The system has access to the Email Account management module.   
  
Postconditions:   
1. The Email Account is successfully added to the Email Flow.   
2. The Email Flow is updated to include the Email Account in the designated flow path.   
3. Emails sent or received are processed according to the updated Email Flow rules.   
4. The Administrator receives a confirmation message for the addition.   
  
Main Flow:   
1. The Administrator navigates to the Email Flow management interface.   
2. The Administrator selects an existing Email Flow for modification.   
3. The Administrator chooses the option to add an Email Account to the flow.   
4. The Administrator selects a valid Email Account from the system's account list.   
5. The system validates the Email Account's existence and checks for conflicts in the flow.   
6. The system updates the Email Flow configuration to include the selected Email Account.   
7. The system synchronizes the changes with the Email Flow and Email Account modules.   
8. The system sends a confirmation message to the Administrator indicating the Email Account has been successfully added to the Email Flow.   
  
Alternative Flow:   
1. If the selected Email Account is already part of the Email Flow, the system displays a message and offers to cancel or proceed (e.g., for redundancy check).   
2. If the selected Email Account is invalid or does not exist, the system displays an error and prompts the Administrator to choose a valid Email Account.   
3. If the system fails to update the Email Flow due to technical issues, it displays an error message and logs the failure for review.   
4. If the Administrator cancels the addition process, the system reverts the changes and returns to the Email Flow management interface.  
  
Use Case Name: Archive Email   
Use Case ID: UC-08   
Actors: Administrator, Email Account, Archive Policy, Archived Email   
  
Preconditions:   
1. The Administrator has logged into the system.   
2. The Email Account is active and contains one or more emails to archive.   
3. The system has access to the Archive Policy configuration.   
4. The system has access to the Archived Email storage module.   
  
Postconditions:   
1. The selected email(s) are archived according to the Archive Policy.   
2. The archived email(s) are no longer visible in the Email Account's inbox.   
3. The archived email(s) are stored in the appropriate archive location.   
4. The Administrator receives a confirmation message for the archiving action.   
  
Main Flow:   
1. The Administrator navigates to the Email Account inbox interface.   
2. The Administrator selects one or more emails to archive.   
3. The system checks the Archive Policy to determine the appropriate archiving action.   
4. The system moves the selected email(s) to the Archived Email storage module.   
5. The system updates the Email Account inbox to remove the archived email(s).   
6. The system sends a confirmation message to the Administrator indicating the email(s) have been archived.   
  
Alternative Flow:   
1. If the selected email(s) are already archived, the system informs the Administrator and offers to delete or restore them.   
2. If the Archive Policy is not configured or is invalid, the system displays an error message and prompts the Administrator to configure or correct the policy.   
3. If the system fails to archive the email(s) due to technical issues, it displays an error message and logs the failure for review.   
4. If the Administrator cancels the archiving process, the system retains the email(s) in the inbox and returns to the previous interface.  
  
Use Case Name: Recover Email   
Use Case ID: UC-33   
Actors: Administrator, Email Account, Email Recovery, Archive Policy, Archived Email   
  
Preconditions:   
1. The Administrator has logged into the system.   
2. The Email Account in question has been previously associated with an email that was archived or deleted.   
3. The system has access to the Email Recovery module.   
4. The system has access to the Archive Policy and Archived Email storage.   
5. The system has access to the Email Account and its inbox configuration.   
  
Postconditions:   
1. The selected email is successfully recovered and restored to the Email Account's inbox or a designated recovery folder.   
2. The Email Recovery module is updated to reflect the recovery action.   
3. The Archive Policy is adjusted (if necessary) to ensure the recovered email is not re-archived unless configured.   
4. The Administrator receives a confirmation message for the recovery action.   
  
Main Flow:   
1. The Administrator navigates to the Email Recovery interface.   
2. The Administrator selects the Email Account from which the email should be recovered.   
3. The system queries the Archive Policy and Archived Email storage to identify recoverable emails for the selected account.   
4. The system displays a list of available archived emails to the Administrator.   
5. The Administrator selects one or more emails to recover.   
6. The system restores the selected emails to the Email Account's inbox or a recovery folder.   
7. The system updates the Email Recovery log with the details of the recovery action.   
8. The system adjusts the Archive Policy for the recovered emails if needed.   
9. The system sends a confirmation message to the Administrator indicating the recovery was successful.   
  
Alternative Flow:   
1. If no recoverable emails are found for the selected Email Account, the system displays a message indicating no emails are available for recovery.   
2. If the selected email has already been permanently deleted and is not in the archive, the system informs the Administrator and offers to check backup sources or other recovery options.   
3. If the system fails to recover the email due to technical issues, it displays an error message and logs the failure for review.   
4. If the Administrator cancels the recovery process, the system returns to the previous interface without restoring any emails.  
  
Use Case Name: Own Contact   
Use Case ID: UC-34   
Actors: Administrator, User, Contact   
  
Preconditions:   
1. The Administrator has logged into the system.   
2. The system has access to the Contact management module.   
3. The selected Contact exists in the system.   
4. The system has access to the User management module.   
5. The User to be assigned ownership has a valid profile in the system.   
  
Postconditions:   
1. The ownership of the selected Contact is successfully assigned to the User.   
2. The User is now associated with the Contact and can access or manage it if permissions allow.   
3. The system updates related modules (e.g., Distribution Group, Email Account) to reflect the ownership change.   
4. The Administrator receives a confirmation message for the ownership assignment.   
  
Main Flow:   
1. The Administrator navigates to the Contact management interface.   
2. The Administrator selects an existing Contact for which ownership needs to be assigned.   
3. The Administrator chooses a User from the system's user directory to assign ownership.   
4. The system validates the selected User's existence and permissions.   
5. The system updates the ownership information of the Contact to the selected User.   
6. The system synchronizes changes with related modules, such as Distribution Group and Email Account.   
7. The system sends a confirmation message to the Administrator indicating the ownership has been successfully assigned.   
  
Alternative Flow:   
1. If the selected User does not exist or is invalid, the system displays an error and prompts the Administrator to select a valid User.   
2. If the Contact is already owned by the selected User, the system displays a message and offers to confirm or cancel the action.   
3. If the system fails to assign ownership due to technical issues, it displays an error message and logs the failure for review.   
4. If the Administrator cancels the ownership assignment, the system reverts the Contact ownership to its previous state and returns to the management interface.  
  
Use Case Name: Manage Distribution Group   
Use Case ID: UC-35   
Actors: Administrator, Distribution Group, Email Account, Contact   
  
Preconditions:   
1. The Administrator has logged into the system.   
2. The system has access to the Distribution Group management module.   
3. The selected Distribution Group exists in the system.   
4. The system has access to the Email Account and Contact configurations.   
5. The Administrator has permission to modify Distribution Groups.   
  
Postconditions:   
1. The Distribution Group is successfully updated or deleted.   
2. The group’s membership and configuration reflect the changes made by the Administrator.   
3. Related Email Account configurations are updated to reflect the changes in the Distribution Group.   
4. The Administrator receives a confirmation message for the management action.   
  
Main Flow:   
1. The Administrator navigates to the Distribution Group management interface.   
2. The Administrator selects the Distribution Group to manage.   
3. The Administrator chooses to either update the group or delete it.   
4. If updating, the Administrator modifies the group’s name, description, or membership by adding or removing Contacts or Email Accounts.   
5. The system validates the new configuration for consistency and availability of members.   
6. The system updates the Distribution Group with the new information.   
7. The system synchronizes the changes with associated Email Accounts and Email Flow configurations.   
8. The system sends a confirmation message to the Administrator indicating the Distribution Group has been successfully managed.   
  
Alternative Flow:   
1. If the Distribution Group name is duplicated after modification, the system displays an error and asks the Administrator to choose a unique name.   
2. If a selected Contact or Email Account to be added or removed is invalid, the system displays an error and suggests valid options.   
3. If the system detects that the Distribution Group is referenced in an active Email Flow, it warns the Administrator and asks if they still want to proceed with the update or deletion.   
4. If the system fails to update or delete the Distribution Group due to technical issues, it displays an error message and logs the failure for review.   
5. If the Administrator cancels the management process at any point, the system reverts all changes and returns to the previous interface.  
  
Use Case Name: Own Calendar Event   
Use Case ID: UC-36   
Actors: Administrator, User, Calendar Event   
  
Preconditions:   
1. The Administrator has logged into the system.   
2. The system has access to the Calendar Event management module.   
3. The selected Calendar Event exists in the system.   
4. The system has access to the User management module.   
5. The User to be assigned ownership has a valid profile in the system.   
  
Postconditions:   
1. The ownership of the selected Calendar Event is successfully assigned to the User.   
2. The User is now associated with the Calendar Event and can access or manage it if permissions allow.   
3. The system updates related modules (e.g., Email Flow, Archive Policy) to reflect the ownership change if necessary.   
4. The Administrator receives a confirmation message for the ownership assignment.   
  
Main Flow:   
1. The Administrator navigates to the Calendar Event management interface.   
2. The Administrator selects an existing Calendar Event for which ownership needs to be assigned.   
3. The Administrator chooses a User from the system's user directory to assign ownership.   
4. The system validates the selected User's existence and permissions.   
5. The system updates the ownership information of the Calendar Event to the selected User.   
6. The system synchronizes changes with related modules, such as Email Flow and Archive Policy, if the event involves email notifications or data retention.   
7. The system sends a confirmation message to the Administrator indicating the ownership has been successfully assigned.   
  
Alternative Flow:   
1. If the selected User does not exist or is invalid, the system displays an error and prompts the Administrator to select a valid User.   
2. If the Calendar Event is already owned by the selected User, the system displays a message and offers to confirm or cancel the action.   
3. If the system fails to assign ownership due to technical issues, it displays an error message and logs the failure for review.   
4. If the Administrator cancels the ownership assignment, the system reverts the Calendar Event ownership to its previous state and returns to the management interface.  
  
Use Case Name: Manage Archive Policy   
Use Case ID: UC-37   
Actors: Administrator, Archive Policy, Email Account, Archive Recovery   
  
Preconditions:   
1. The Administrator has logged into the system.   
2. The system has access to the Archive Policy configuration module.   
3. The selected Archive Policy exists in the system if updating or deleting.   
4. The system has access to the Email Account configurations for policy association.   
5. The system has access to the Archive Recovery module if necessary.   
  
Postconditions:   
1. The Archive Policy is successfully created, updated, or deleted.   
2. The Email Account configurations are updated to reflect any changes to the Archive Policy.   
3. The Archive Recovery module is informed of any policy modifications that affect archived data.   
4. The Administrator receives a confirmation message for the management action.   
  
Main Flow:   
1. The Administrator navigates to the Archive Policy management interface.   
2. The Administrator selects an option to create, update, or delete an Archive Policy.   
3. If creating or updating, the Administrator defines the policy rules, including retention periods, archive locations, and conditions for email retention or deletion.   
4. The system validates the policy rules for completeness and compatibility with existing configurations.   
5. The system saves or updates the Archive Policy and associates it with the relevant Email Account(s).   
6. The system synchronizes the policy changes with the Archive Recovery module to ensure proper handling of archived data.   
7. The system sends a confirmation message to the Administrator indicating the Archive Policy has been successfully managed.   
  
Alternative Flow:   
1. If the entered Archive Policy name is already in use, the system displays an error and prompts the Administrator to choose a different name.   
2. If the retention period is invalid or conflicts with system limitations, the system displays an error and asks the Administrator to correct the input.   
3. If the selected Archive Policy is referenced by active Email Accounts or emails, the system warns the Administrator and asks if they still want to proceed with deletion or modification.   
4. If the system fails to manage the Archive Policy due to technical issues, it displays an error message and logs the failure for review.   
5. If the Administrator cancels the process at any step, the system reverts all changes and returns to the previous interface.  
  
Use Case Name: Apply Archive Policy   
Use Case ID: UC-38   
Actors: Administrator, Archive Policy, Email Account, Archived Email   
  
Preconditions:   
1. The Administrator has logged into the system.   
2. The system has access to the Archive Policy configuration module.   
3. The selected Email Account exists and contains emails that can be archived.   
4. The system has access to the Email Account and Archived Email storage.   
5. The Archive Policy to be applied is already configured and valid.   
  
Postconditions:   
1. The Archive Policy is successfully applied to the selected Email Account.   
2. Emails in the Email Account that meet the policy criteria are archived.   
3. The archived emails are no longer visible in the inbox but are accessible in the Archive module.   
4. The system logs the application of the Archive Policy and sends a confirmation to the Administrator.   
  
Main Flow:   
1. The Administrator navigates to the Archive Policy management interface.   
2. The Administrator selects an Email Account to apply the Archive Policy.   
3. The Administrator chooses an existing Archive Policy from the list of configured policies.   
4. The system checks the Archive Policy rules and determines which emails in the Email Account meet the criteria for archiving.   
5. The system archives the identified emails to the designated storage location.   
6. The system updates the Email Account inbox to remove the archived emails.   
7. The system logs the application of the Archive Policy.   
8. The system sends a confirmation message to the Administrator indicating the Archive Policy has been successfully applied.   
  
Alternative Flow:   
1. If the selected Archive Policy is invalid or not properly configured, the system displays an error and prompts the Administrator to select a valid Archive Policy.   
2. If no emails in the Email Account meet the Archive Policy criteria, the system informs the Administrator and offers to apply a different policy or schedule a future run.   
3. If the system fails to archive the emails due to technical issues, it displays an error message and logs the failure for review.   
4. If the Administrator cancels the application process, the system returns to the previous interface without archiving any emails.  
  
Use Case Name: Capture Email Flow   
Use Case ID: UC-39   
Actors: Administrator, Email Flow, Email Account, Archive Policy, Email Recovery   
  
Preconditions:   
1. The Administrator has logged into the system.   
2. The system has access to the Email Flow monitoring and configuration module.   
3. The selected Email Account is active and has associated Email Flow rules.   
4. The system has access to the Archive Policy and Email Recovery settings if the flow involves archiving or failed delivery handling.   
5. The Administrator has the necessary permissions to capture or monitor Email Flow activities.   
  
Postconditions:   
1. The system captures the details of the Email Flow, including routing, filtering, and delivery actions.   
2. The captured Email Flow data is stored for analysis or auditing purposes.   
3. If configured, the system archives or retains the captured Email Flow data according to the Archive Policy.   
4. The Administrator receives a confirmation message indicating the capture was successful.   
  
Main Flow:   
1. The Administrator navigates to the Email Flow monitoring or capture interface.   
2. The Administrator selects the Email Account or specific Email Flow for which data should be captured.   
3. The Administrator sets the capture parameters, such as time frame, flow type, or specific rules to monitor.   
4. The system begins monitoring the selected Email Flow and captures relevant data (e.g., sender, recipient, subject, action taken).   
5. The system stores the captured Email Flow data in a designated log or report.   
6. The system applies the Archive Policy to the captured data if configured for retention.   
7. If any email delivery failures are encountered during the capture, the system logs and forwards them to the Email Recovery module.   
8. The system sends a confirmation message to the Administrator indicating the Email Flow capture has been completed successfully.   
  
Alternative Flow:   
1. If the selected Email Flow or Email Account is invalid or not available, the system displays an error and prompts the Administrator to choose a valid option.   
2. If the capture parameters conflict with existing Archive Policy or Email Flow rules, the system warns the Administrator and allows adjustments.   
3. If the system fails to capture or store the Email Flow data due to technical issues, it displays an error message and logs the failure for review.   
4. If the Administrator cancels the capture process, the system stops monitoring and returns to the Email Flow interface without saving any captured data.  
  
Use Case Name: Define Retention Period   
Use Case ID: UC-40   
Actors: Administrator, Archive Policy, Email Account, Retention Period   
  
Preconditions:   
1. The Administrator has logged into the system.   
2. The system has access to the Archive Policy configuration module.   
3. The system has access to the Email Account module to associate the retention period.   
4. The system is not currently applying any Archive Policy to the Email Account being configured.   
  
Postconditions:   
1. A new Retention Period is successfully defined and saved in the system.   
2. The Archive Policy is updated to include the new Retention Period if applicable.   
3. The system schedules the future application of the Retention Period to associated Email Accounts.   
4. The Administrator receives a confirmation message indicating the Retention Period has been successfully defined.   
  
Main Flow:   
1. The Administrator navigates to the Archive Policy or Retention Period configuration interface.   
2. The Administrator selects the option to define a new Retention Period.   
3. The Administrator inputs the details for the Retention Period, such as the duration (e.g., 30 days, 6 months, 1 year) and conditions for retention or deletion.   
4. The system validates the input for correctness, ensuring the duration is within acceptable limits and the conditions are logically consistent.   
5. The system saves the new Retention Period configuration and associates it with a specific Archive Policy or Email Account if required.   
6. The system schedules the application of the Retention Period to relevant Email Account inboxes, based on the defined policy.   
7. The system sends a confirmation message to the Administrator indicating the Retention Period has been successfully defined and is ready to be applied.   
  
Alternative Flow:   
1. If the entered Retention Period is invalid (e.g., negative duration or exceeds system limits), the system displays an error message and prompts the Administrator to correct the input.   
2. If the Retention Period conflicts with another active policy, the system warns the Administrator and asks if they want to resolve the conflict or adjust the policy.   
3. If the system fails to save the Retention Period due to technical issues, it displays an error message and logs the failure for review.   
4. If the Administrator cancels the process, the system discards the new Retention Period and returns to the Archive Policy or Retention Period interface without making any changes.  
  
Use Case Name: Apply Archive Policy Application   
Use Case ID: UC-41   
Actors: Administrator, Archive Policy, Email Account, Archive Policy Application, Archived Email   
  
Preconditions:   
1. The Administrator has logged into the system.   
2. The system has access to the Archive Policy Application module.   
3. The selected Email Account exists and is associated with an Archive Policy.   
4. The system has access to the Email Account inbox and the Archive Policy details.   
5. The system is able to execute the Archive Policy Application process.   
  
Postconditions:   
1. The Archive Policy Application is successfully triggered and executed.   
2. The system archives the emails in the Email Account that meet the Archive Policy criteria.   
3. The Email Account inbox is updated to reflect the removal of archived emails.   
4. The Archive Policy Application logs the execution details for audit or review.   
5. The Administrator receives a confirmation message for the successful execution of the Archive Policy Application.   
  
Main Flow:   
1. The Administrator navigates to the Archive Policy Application interface.   
2. The Administrator selects an Email Account to which the Archive Policy should be applied.   
3. The Administrator chooses the Archive Policy to apply from the system's available policies.   
4. The system verifies the Archive Policy is valid and applicable to the selected Email Account.   
5. The system initiates the Archive Policy Application process.   
6. The system identifies emails in the Email Account that meet the Archive Policy criteria (e.g., age, type, size).   
7. The system archives the identified emails to the designated storage location based on the Archive Policy.   
8. The system updates the Email Account inbox to remove the archived emails.   
9. The system logs the Archive Policy Application execution details.   
10. The system sends a confirmation message to the Administrator indicating the policy has been applied successfully.   
  
Alternative Flow:   
1. If the selected Archive Policy is not compatible with the Email Account, the system displays an error and suggests a compatible policy.   
2. If no emails in the Email Account meet the Archive Policy criteria, the system informs the Administrator and offers to apply a different policy or schedule a future run.   
3. If the system fails to apply the Archive Policy during the Archive Policy Application process due to technical issues, it displays an error message, logs the failure, and allows the Administrator to retry or cancel the application.   
4. If the Administrator cancels the Archive Policy Application process, the system halts the operation and returns to the Archive Policy interface without performing any archiving.  
  
Use Case Name: Delete Email Recovery   
Use Case ID: UC-42   
Actors: Administrator, Email Recovery, Email Account, Archive Policy, Archived Email   
  
Preconditions:   
1. The Administrator has logged into the system.   
2. The system has access to the Email Recovery module.   
3. The selected Email Recovery record exists in the system.   
4. The system has access to the Email Account and Archive Policy configurations.   
5. The system can verify that the Email Recovery record is not currently in use by an active Email Flow or required for audit or compliance purposes.   
  
Postconditions:   
1. The selected Email Recovery record is successfully deleted.   
2. The Email Recovery module is updated to remove the record.   
3. The associated Email Account is updated to remove any references to the deleted recovery record.   
4. If the recovery record refers to an archived email, the Archive Policy and Archived Email module are updated accordingly.   
5. The Administrator receives a confirmation message for the deletion of the Email Recovery record.   
  
Main Flow:   
1. The Administrator navigates to the Email Recovery management interface.   
2. The Administrator selects an existing Email Recovery record to delete.   
3. The system prompts the Administrator to confirm the deletion of the selected recovery record.   
4. The Administrator confirms the deletion.   
5. The system verifies that the Email Recovery record is not associated with active processes or required for compliance.   
6. The system removes the Email Recovery record from the database.   
7. The system updates the Email Account and Archive Policy configurations to remove any references to the deleted recovery record.   
8. The system sends a confirmation message to the Administrator indicating the Email Recovery record has been successfully deleted.   
  
Alternative Flow:   
1. If the selected Email Recovery record is in use by an active Email Flow or is required for compliance, the system displays a warning and asks the Administrator if they still want to proceed with the deletion.   
2. If the Administrator cancels the deletion process, the system retains the Email Recovery record and returns to the management interface.   
3. If the system fails to delete the Email Recovery record due to technical issues, it displays an error message and logs the failure for review.   
4. If the selected Email Recovery record does not exist, the system displays an error and returns to the Email Recovery management interface.  
  
Use Case Name: Manage User   
Use Case ID: UC-43   
Actors: Administrator, User, Email Account, Contact, Archive Policy   
  
Preconditions:   
1. The Administrator has logged into the system.   
2. The system has access to the User management module.   
3. The selected User exists in the system if updating or deleting.   
4. The system has access to the Email Account, Contact, and Archive Policy configurations to ensure consistency.   
5. The Administrator has the necessary permissions to manage User records.   
  
Postconditions:   
1. The selected User is successfully created, updated, or deleted.   
2. If the User is associated with an Email Account, the Email Account is updated or disassociated accordingly.   
3. If the User is associated with a Contact, the Contact information is updated or disassociated.   
4. If the User is linked to an Archive Policy, the policy is updated or disassociated.   
5. The Administrator receives a confirmation message for the management action.   
  
Main Flow:   
1. The Administrator navigates to the User management interface.   
2. The Administrator selects an option to create, update, or delete a User.   
3. If creating a User, the Administrator enters the necessary details such as name, role, access level, and associated Email Account.   
4. If updating a User, the Administrator selects an existing User and modifies their details (e.g., role, access level, associated Email Account).   
5. If deleting a User, the Administrator selects an existing User and confirms the deletion.   
6. The system validates the entered information for completeness and correctness.   
7. The system updates the User record and synchronizes any related Email Account, Contact, and Archive Policy configurations.   
8. The system sends a confirmation message to the Administrator indicating the User has been successfully managed.   
  
Alternative Flow:   
1. If the entered Email Account is already associated with another User, the system displays an error and prompts the Administrator to select a different Email Account.   
2. If the system fails to save or update the User due to technical issues, it displays an error message and logs the failure for review.   
3. If the selected User is referenced in active Email Flows, Distribution Groups, or Archive Policies, the system displays a warning and asks if the deletion should proceed.   
4. If the Administrator cancels the process at any step, the system reverts all changes and returns to the previous interface.