Streamline Operations with Salesforce Email Services:

AUTOMATE, OPTIMIZE, AND EXCEL

Robert Davis
Solution Architect
Hike 2

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Why Email Services?

We send approximately
90 trillion emails per year

We send an estimated
294 billion emails
every day

8 million sent every sec

110 emails daily by corp. user

Source:
Vingapp.com

Inbound Email Services - Out of the Box

Pros

- A native Salesforce feature that converts incoming emails into **Cases**.
- No Apex code needed.
- Great for support scenarios.
- Automatically creates Cases from email.
- Maintains email threads via Ref ID.
- Can attach files.
- Can assign Cases using rules.
- Fast setup

Limitations

- Only creates Cases, not Leads, Contacts, etc.
- Parsing email content into structured fields is limited without extra automation (e.g., Flow).
- Not great for non-service teams (like Sales or Custom Object needs).
- Limits on Case Settings coming in to new Case.

Real-World Story: The Arbitrator's Inbox

📪 **Real-World Example: One person, one inbox, holding up the whole process**

A legal firm receives critical email threads between lawyers and arbitrators…

Scenario: Legal firm receives arbitration-related emails

Problem: Sole person manually forwards messages to the legal team
Limitations of Email-to-Case: No support for custom workflows, other objects

Solution (Apex Email Service):

- ✅ Automatically attaches emails to the correct Case
- ✅ Creates follow-up Tasks
- ✅ Adds metadata for accountability and audit trail

Email Services - On Demand / Apex

Pros

- Full control over how emails are processed.
- Great for custom logic (e.g., parsing CSV attachments, conditional routing).
- You can implement retry logic, error handling, custom logging.
- Can run external calls to other systems.

Limitations

- Requires Apex and tests.
- Must manage governor limits and potential errors carefully.
- More complex deployment and testing process.
- CI/CD Friendly
- Scalability
- Complex Logic

Real-World Story: Flow Error Logging: Catching What the User Never Reports

📪 **Real-World Example: Sometimes the most important errors are the ones nobody sees**

Scenario: Emails sent when automations fail

Problem: Visibility may be lost in email. How to prioritize on issues.

Limitations of Email-to-Case: No support for custom workflows, other objects

Solution (Apex Email Service):

- ✅ Created a custom **Email Service** to receive Flow error messages
- ✅ Parsed body, subject line, and headers
- ✅Logged errors to **Flow_Error__c** object for triage and reporting
- ✅ Now searchable, reportable, and trackable over time

Key Components of an Apex Email Service

```apex
public with sharing class AutomationEmailService implements Messaging.InboundEmailHandler {
    public Messaging.InboundEmailResult handleInboundEmail(Messaging.InboundEmail email, Messaging.InboundEnvelope envelope) {

        Messaging.InboundEmailResult result = new Messaging.InboundEmailResult();

        try {
            // Log the incoming email details using Nebula Logger
            Logger.error('Inbound Email Received');
            Logger.setField(LogEntryEvent__e.Email_Subject__c, email.subject);
            Logger.setField(LogEntryEvent__e.Email_From__c, email.fromAddress);
            Logger.setField(LogEntryEvent__e.Email_Body__c, email.plainTextBody);
            Logger.setField(LogEntryEvent__e.Email_To__c, String.join(email.toAddresses, ','));
            Logger.saveLog();


            result.success = true;
        } catch (Exception e) {
            Logger.error('Error handling inbound email: ' + e.getMessage()+' stack trace: '+e.getStackTraceString());
            Logger.saveLog();

            result.success = false;
            result.message = 'Error: ' + e.getMessage();
        }

        return result;
    }
}
```

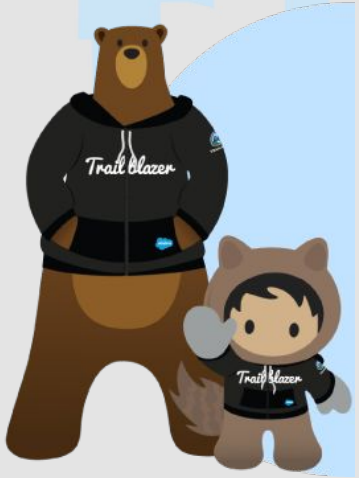
- handleInboundEmail — the **required method name**.
- Messaging.InboundEmail — contains the actual email content (subject, body, attachments, etc.).
- Messaging.InboundEnvelope — contains metadata like fromAddress, toAddress, etc.
- Messaging.InboundEmailResult — must be returned, and typically you just set result.success = true.

Messaging.InboundEmail Fields Available

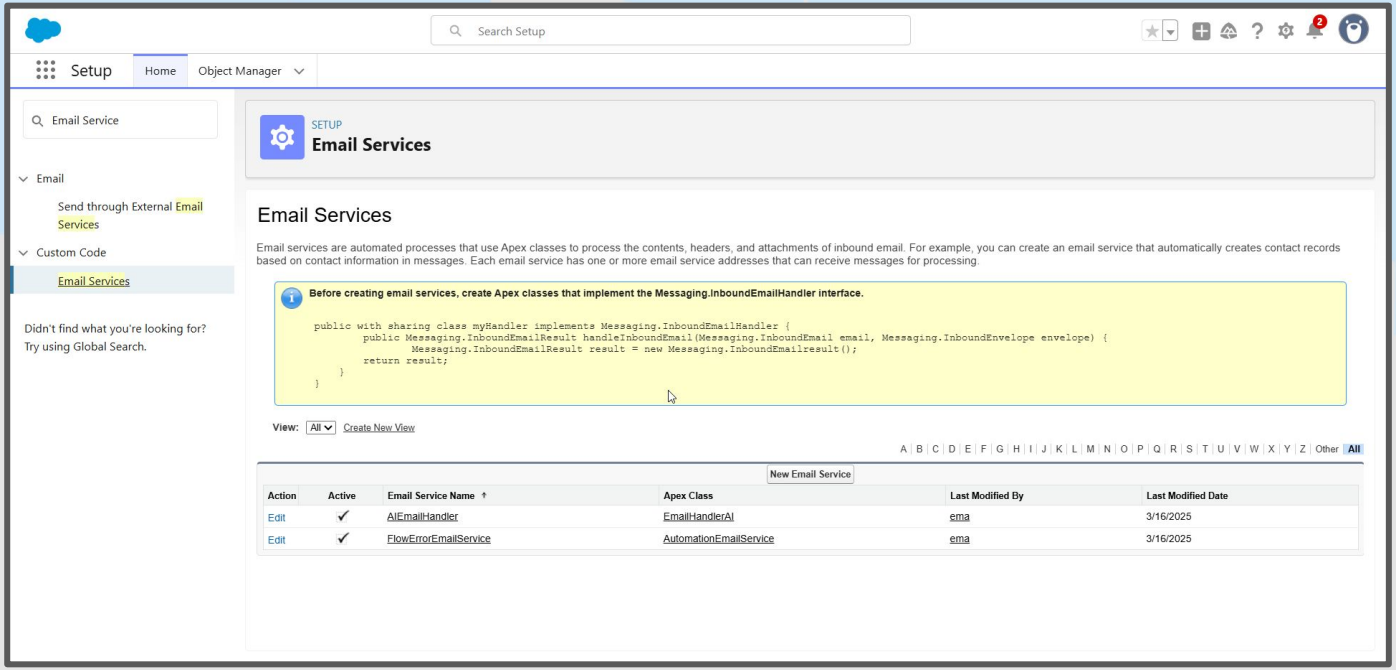
- **binaryAttachments**: An array of binary attachments included in the email. Each attachment is represented by a Messaging.InboundEmail.BinaryAttachment object, containing details like body, fileName, and mimeType.
- **ccAddresses**: An array of strings representing the CC (carbon copy) email addresses specified in the incoming email.
- **fromAddress**: A string containing the email address of the sender.
- **fromName**: A string containing the display name of the sender, if available.
- **headers**: A string capturing the raw email headers of the incoming email.
- **htmlBody**: A string containing the HTML version of the email body, if the email was sent in HTML format.
- **inReplyTo**: A string representing the 'In-Reply-To' header of the email, which can be used to identify the message to which this email is replying.
- **messageId**: A string containing the unique identifier of the email message.
- **plainTextBody**: A string containing the plain text version of the email body.
- **subject**: A string representing the subject line of the incoming email.
- **textAttachments**: An array of text attachments included in the email. Each attachment is represented by a Messaging.InboundEmail.TextAttachment object, containing details like body and fileName.
- **toAddresses**: An array of strings representing the primary recipient email addresses specified in the incoming email.

Messaging.InboundEnvelope Fields Available

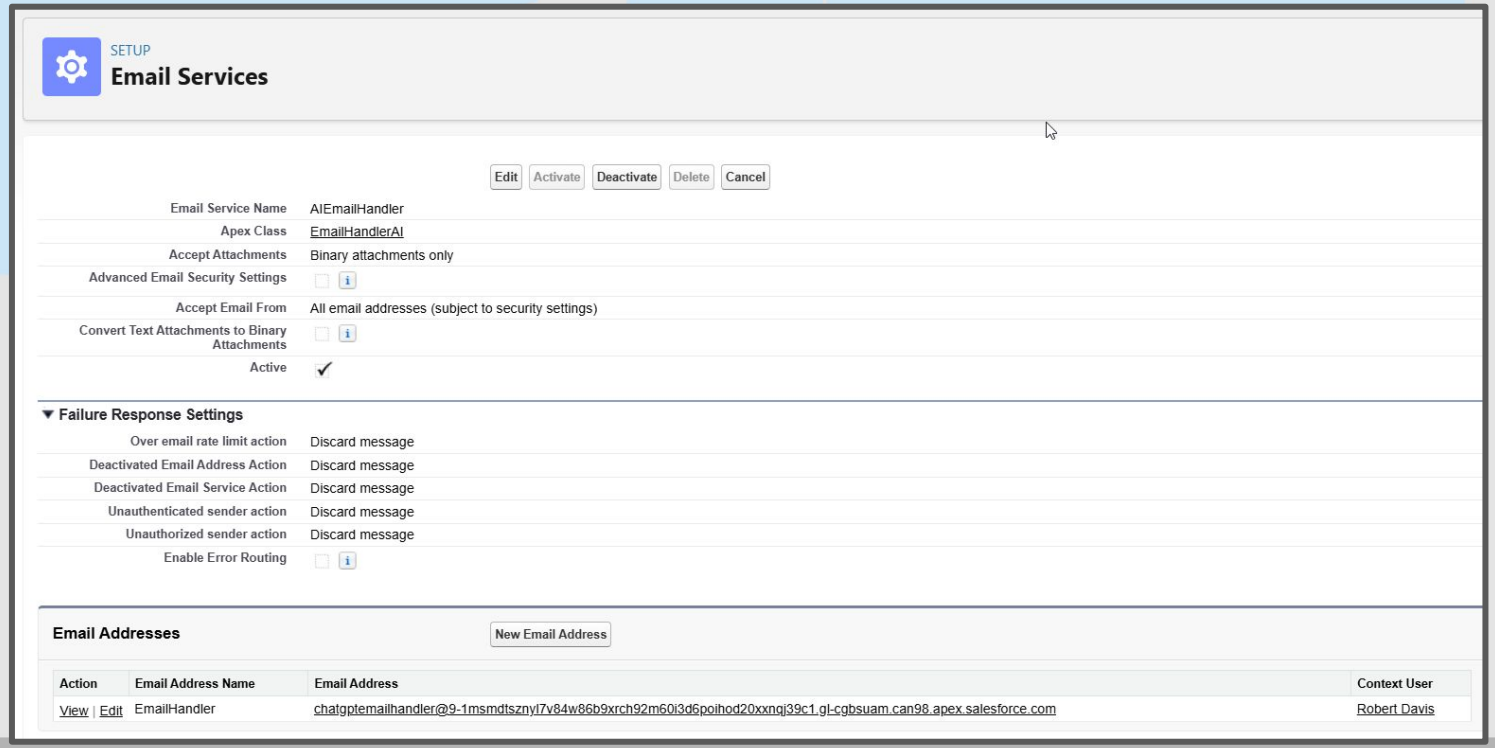
- `fromAddress`: A string containing the email address of the sender, as specified in the envelope.
- `toAddress`: A string containing the email address of the recipient, as specified in the envelope.



Email Service Setup



Email Service Setup



Review the AutomationEmailService

```
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            Logger.setField(LogEntryEvent__e.Email_From__c, email.fromAddress);
            Logger.setField(LogEntryEvent__e.Email_Body__c, email.plainTextBody);
            Logger.setField(LogEntryEvent__e.Email_To__c, String.join(email.toAddresses, ','));
            Logger.saveLog();


            result.success = true;
        } catch (Exception e) {
            Logger.error('Error handling inbound email: ' + e.getMessage()+' stack trace: '+e.getStackTraceString());
            Logger.saveLog();

            result.success = false;
            result.message = 'Error: ' + e.getMessage();
        }

        return result;
    }
}
```
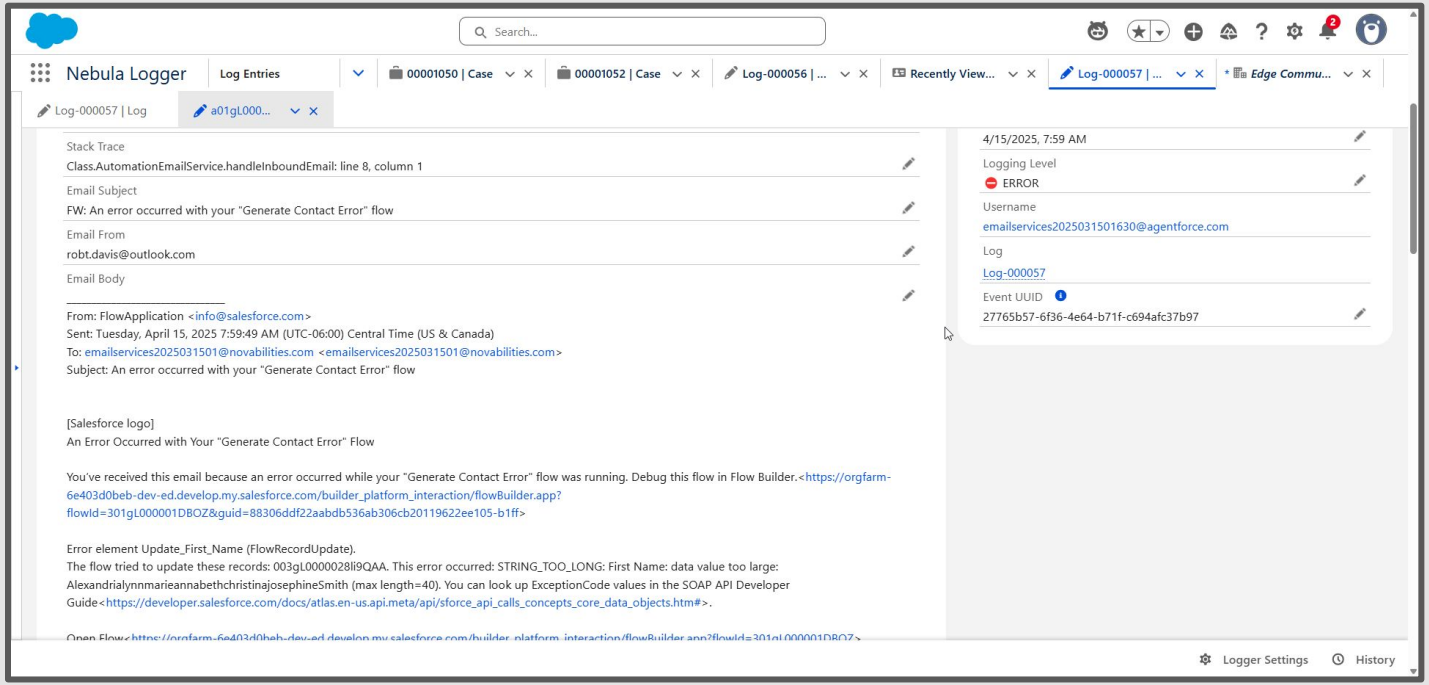

- Review in VS Code
- Might use truncation in case too long.
- Create an Event and forward Automated Process User Email Address

Capture Errors Over Time



- Flow errors often go unnoticed unless users report them.
- Able to Log and reduce inbox and see errors over time.
- Searchable and reportable.
- Easier triage and faster response.

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Real-World Story: Snap, Send, Save: Simplifying Expense Tracking

📪 **Real-World Example: No app. No clicks. Just an email with a receipt.**

No Receipt left behind

Scenario: Remove Friction of uploading receipts, process Expenses quicker.

Problem: Uploading expense reports may require using desktop app and not terribly user friendly.

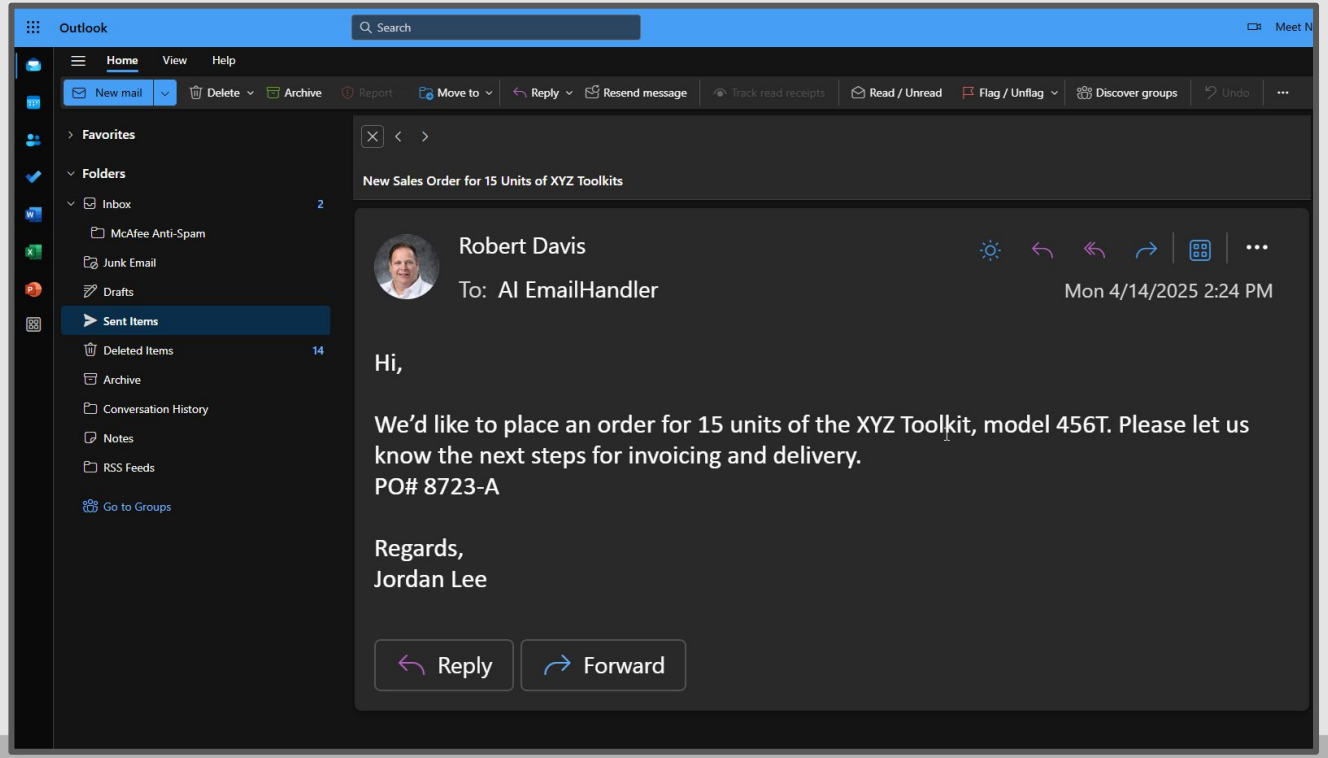
Limitations of Email-to-Case: No support for custom workflows, other objects
Solution (Apex Email Service):

- Sales reps emailed photos of receipts from the road
- Email sent to `expenses@company.com`
- Apex Email Service logic:
  - ✅ Match to existing open `Expense__c` by sender
  - ✅ If none, create new `Expense__c` record
  - ✅ Attach image file to record

- Later enhancement: OCR to auto-fill vendor, amount, and date

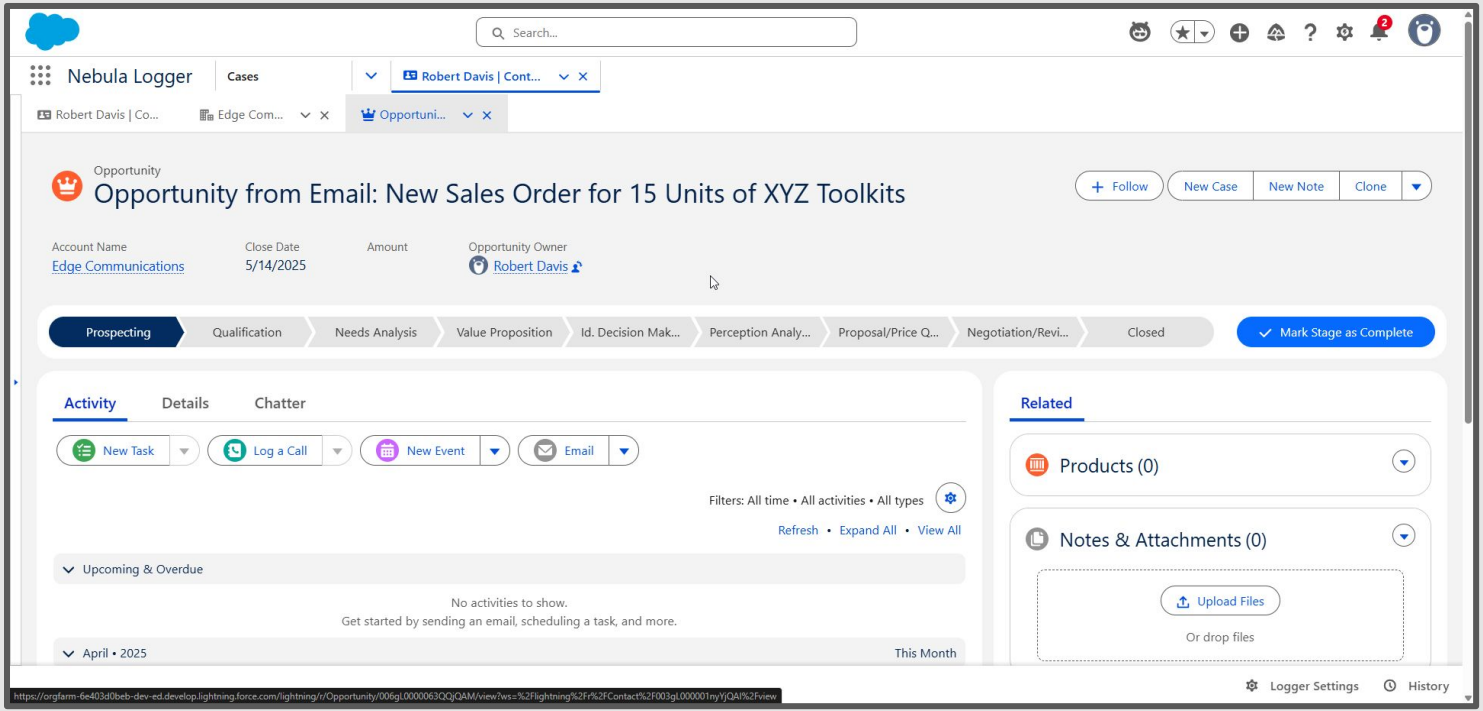

DEMO TIME
makeameme.org

Send / Forward Email



- Create an Opportunity not an option for out of the box
- See in industries where there is a unique identifier

Created Opportunity



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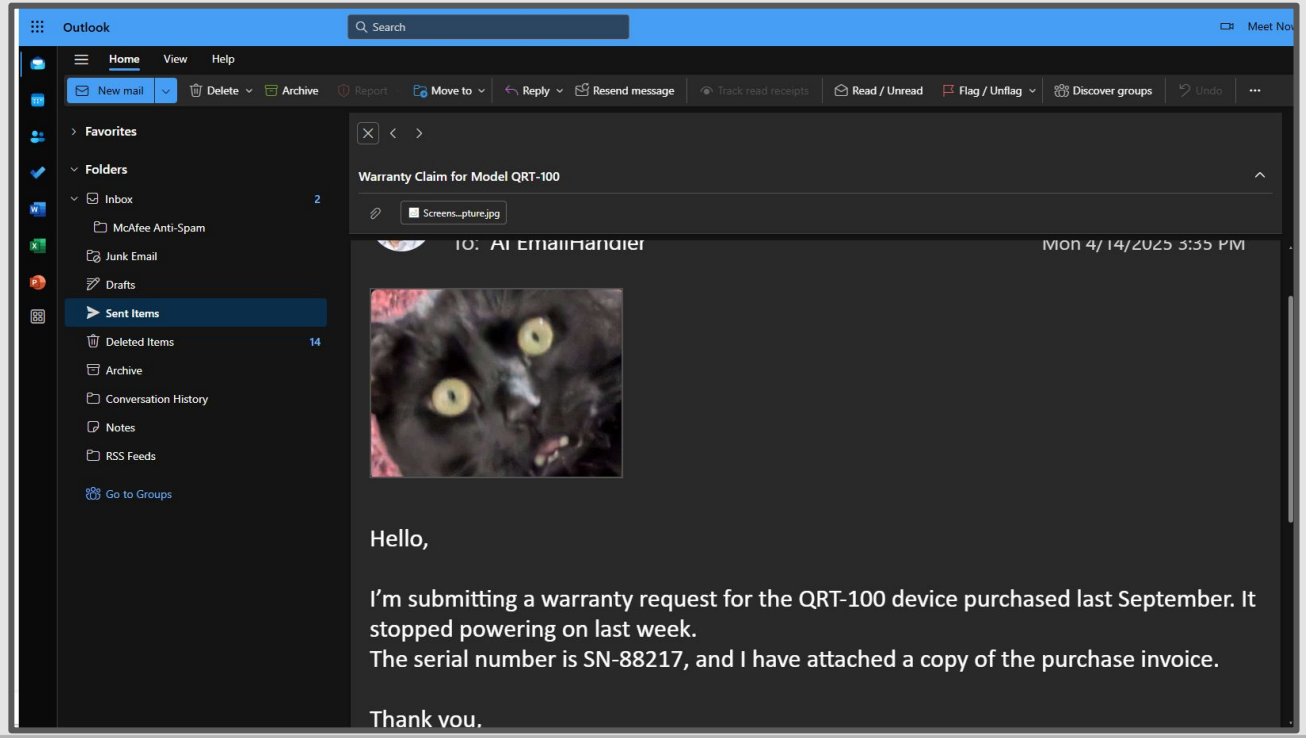
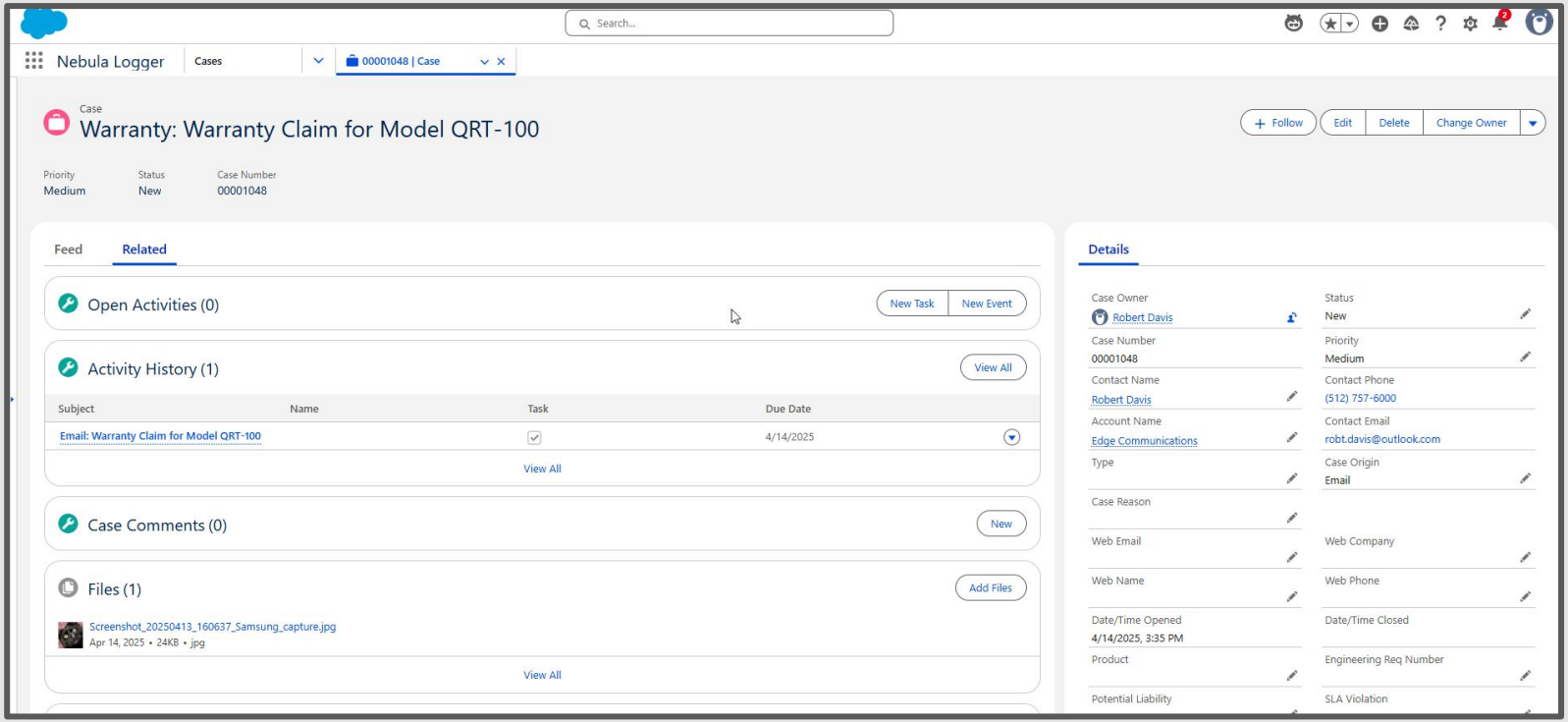
Send / Forward Email



Case Created



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EmailHandlerAI

```
public class EmailHandlerAI implements Messaging.InboundEmailHandler {

    public Messaging.InboundEmailResult handleInboundEmail(Messaging.InboundEmail email, Messaging.
InboundEnvelope envelope) {
        Messaging.InboundEmailResult result = new Messaging.InboundEmailResult();

        // Callout to ChatGPT to classify email
        String emailType = EmailClassifier.classifyEmail(email.subject, email.plainTextBody);

        if(emailType == 'Product Inquiry'){
            SalesforceRecordCreator.createCase(email, 'Product Inquiry:');
        }
        else if(emailType == 'Sales Order'){
            SalesforceRecordCreator.createOpportunity(email);
        }
        else if(emailType == 'Warranty'){
            SalesforceRecordCreator.createCase(email, 'Warranty:');
        }
        else if(emailType == 'Request for More Information'){
            SalesforceRecordCreator.createCase(email, 'Request for More Information:');
        } else{
            SalesforceRecordCreator.createCase(email, 'Unable to Determine Email Type:');
        }

        result.success = true;
        return result;
    }
}
```

- Implements Messaging.InboundEmailHandler
- Passes off to a callout to do the classification
- Comes back and creates a Case or Opportunity

EmailClassifier

```
public class EmailClassifier {
    public static AI_Integration_Config__mdt
 config;

    public static String classifyEmail(String
 subject, String body) {

// Initialize configuration - get the values for c
onfig
        initializeConfig();

        // Prepare and send request
        HttpResponse response =
sendClassificationRequest(subject, body);

        // Log the response
        logResponse(response);

        // Process the response
        return processResponse(response);
    }
```

- Get api info from Custom Metadata
- Send the Classification to Gemini LLM
- Log the response
- Pass back the classification

SalesforceRecordCreator

```
public class SalesforceRecordCreator {

    public static void createCase(Messaging.InboundEmail email, String type){
        Contact cont = [
            SELECT Id, AccountId
            FROM Contact
            WHERE Email = :email.fromAddress
            LIMIT 1
        ];

        Case c = new Case();
        c.Subject = (type == 'Unable to Determine Email Type' ?
'Unable to Determine Email Type: ' : '') + Type+' '+email.subject;
        c.Description = email.plainTextBody;
        c.ContactId = cont.Id;
        c.AccountId = cont.AccountId;
        c.Origin = 'Email';
        insert c;

        attachEmailAndFiles(c.Id, email);
    }
```

- Create Case
- Create Task
- Create Email Message
- Create Account and Opportunity
- Create Opportunity
- Attach Attachments

THANK YOU / Q & A

Robert Davis
Solution Architect, Hike 2

🙏 “Thanks for spending time with me today — and for letting me talk about something I really enjoy building.

Slides

https://bit.ly/4kBerrm

LinkedIn

https://bit.ly/3XcyG5d

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When to Use Apex Email Services

When out-of-the-box just isn’t enough.

- You need to create something *other than* a Case
- You want to parse email content or attachments
- You need to route messages based on subject or sender
- You want to log Flow or system activity by email
- You want to integrate with AI, OCR, or external systems
- You want to reduce inbox chaos with automation

Resources

- Salesforce CI/CD DevOps - A REAL How To
- Increase Email-to-Case Limit
- Setup Email-to-Case in Salesforce
- Using the InboundEmail Object
- Email Services in Salesforce with simple example
- InboundEmail Object fields

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