

# Snapshot Best Practices: Artificial Intelligence



Metazoa has made a deep investment in Artificial Intelligence (AI) capabilities for managing complex Salesforce environments with our Snapshot product. While Salesforce has done a great job making AI accessible for end users in sales and marketing, Metazoa has focused on using AI to help Salesforce administrators, developers, and architects. These new AI capabilities complement our core mission of removing technical debt, documenting complexity, and optimizing security perfectly. This whitepaper presents the best practices for using all the new AI powered capabilities in our Snapshot product.

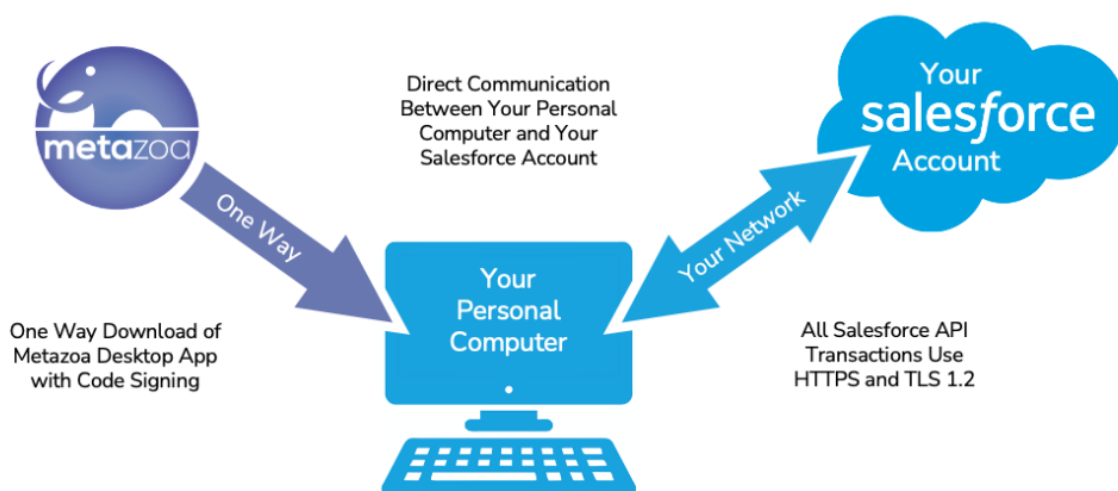
## AI Security

Before going any farther, we need to be clear that AI is an **optional** part of Snapshot. You can change a setting in the Snapshot Preferences panel and prevent all usage of AI. Most of the applications in Snapshot still function as before, but without AI powered enhancements. We have done this because some companies may still be formulating their AI adoption policy. They may still have questions about AI usage and private data security. We share these concerns and welcome any questions that customers might have.

All that having been said, we believe that the benefits of using AI far outweigh the risks. Snapshot communicates directly with the OpenAI API. No other server or cloud is involved. OpenAI has extensive security and data protection policies in place. They have server information security certifications like Salesforce. The OpenAI API does not train on any prompts or grounding data.

Meanwhile, there are substantial security **benefits** to adopting AI. Customers can use AI to detect security problems, document compliance issues, discover technical debt, and enrich the asset quality. The Metazoa Security Policy document discusses our Zero Trust architecture and OpenAI API utilization in more detail:

<https://www.metazoa.com/privacy-and-security/>



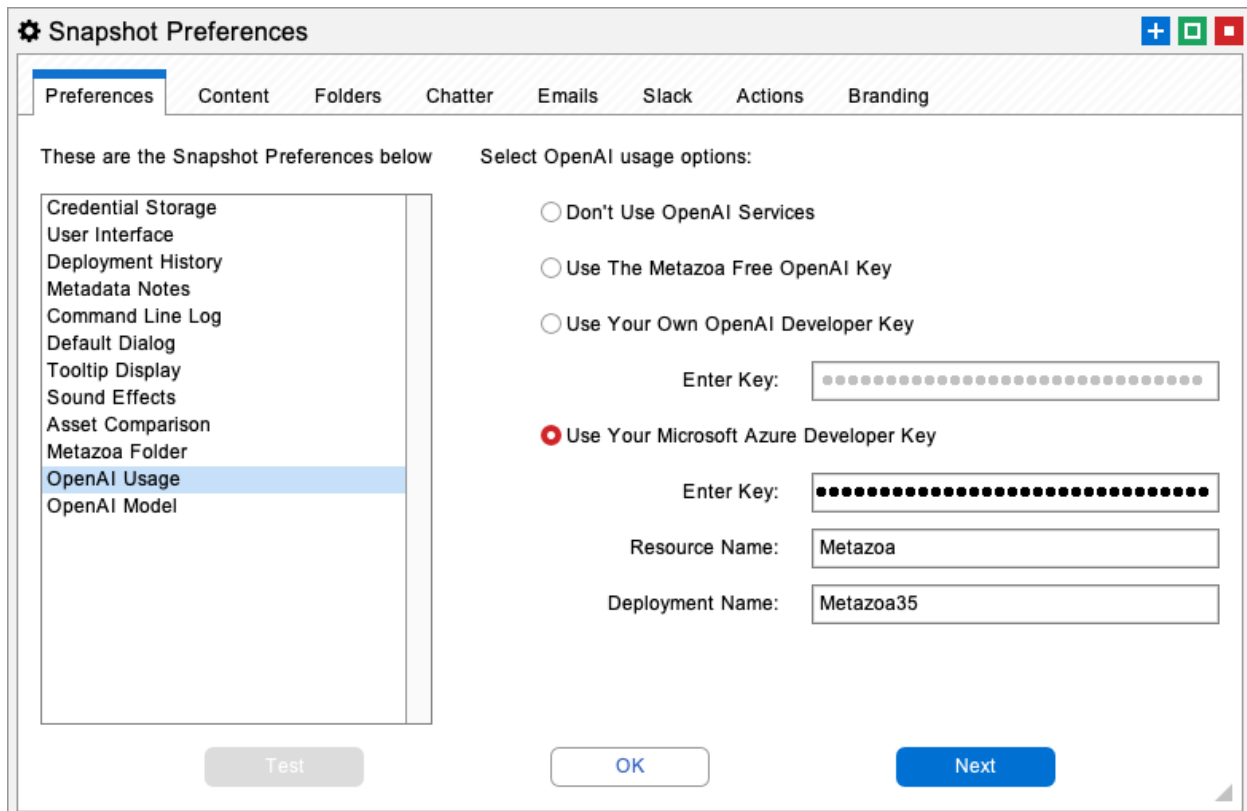
## AI Preferences

The Snapshot Preferences panel has AI specific settings. Navigate in product to the Snapshot menu and select Snapshot Preferences. Click on the third tab to edit the settings for OpenAI usage. At left, you can select three different options for OpenAI access:

- Don't Use OpenAI Services
- Use Metazoa Free OpenAI Key
- Use Your Corporate OpenAI Key
- Use Microsoft Azure OpenAI Key

The best option is to enter your Corporate OpenAI API Key. This lets you monitor usage and cost and ensure there are no service interruptions. We expect that the average cost for most Snapshot customers will be less than \$100 per month. If you are using AI for massive org transformation, then some projects might be more expensive. Here is a link to get an OpenAI Key for your company:

<https://platform.openai.com/api-keys>



The screenshot shows the 'Snapshot Preferences' dialog box. The 'Preferences' tab is selected, and the 'OpenAI Usage' option is highlighted in the left sidebar. The main area displays three radio button options for OpenAI usage: 'Don't Use OpenAI Services', 'Use The Metazoa Free OpenAI Key', and 'Use Your Own OpenAI Developer Key'. The 'Use Your Microsoft Azure Developer Key' option is selected. Below the selected option, there are input fields for 'Enter Key:', 'Resource Name:', and 'Deployment Name:'. The 'Resource Name' field contains 'Metazoa' and the 'Deployment Name' field contains 'Metazoa35'. At the bottom, there are 'Test', 'OK', and 'Next' buttons.

**Snapshot Preferences**

Preferences | Content | Folders | Chatter | Emails | Slack | Actions | Branding

These are the Snapshot Preferences below

Credential Storage  
User Interface  
Deployment History  
Metadata Notes  
Command Line Log  
Default Dialog  
Tooltip Display  
Sound Effects  
Asset Comparison  
Metazoa Folder  
**OpenAI Usage**  
OpenAI Model

Select OpenAI usage options:

☐ Don't Use OpenAI Services

☐ Use The Metazoa Free OpenAI Key

☐ Use Your Own OpenAI Developer Key

Enter Key: [Redacted]

☒ Use Your Microsoft Azure Developer Key

Enter Key: [Redacted]

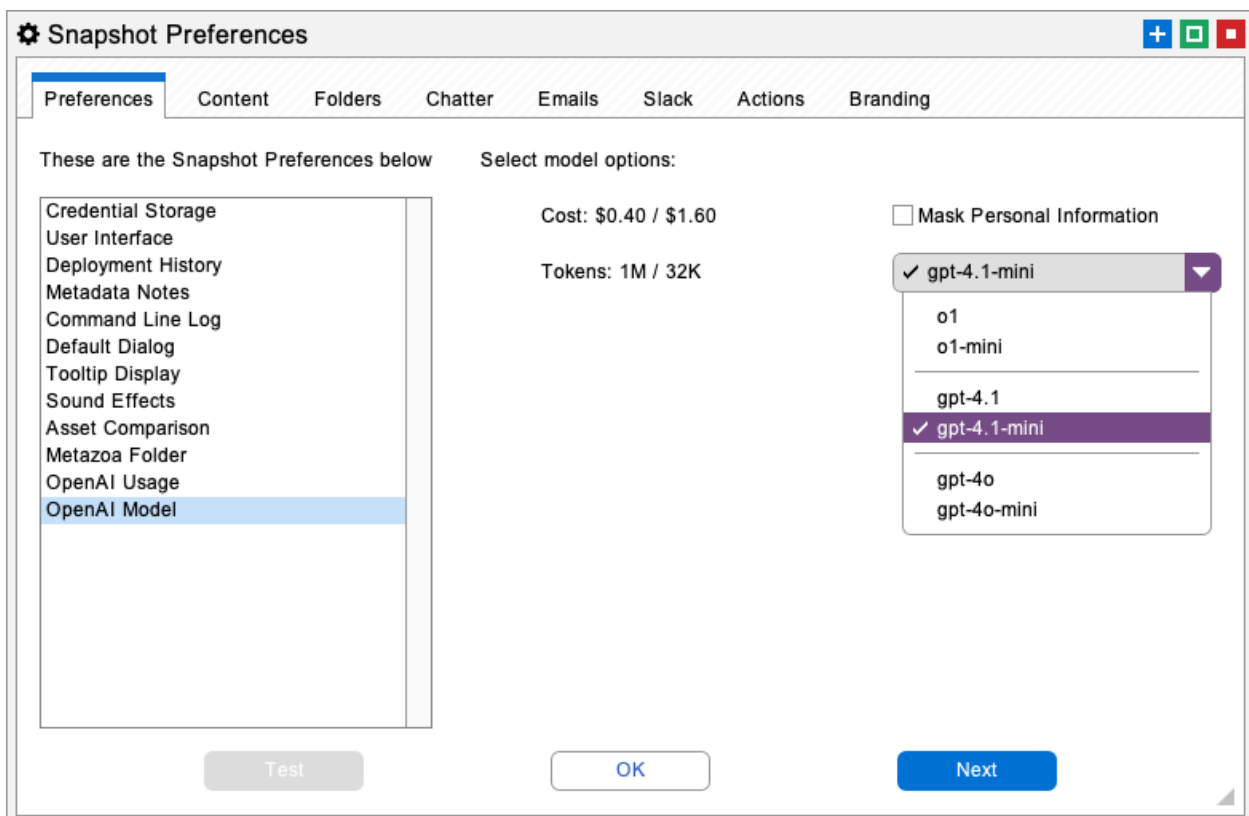
Resource Name: Metazoa

Deployment Name: Metazoa35

Test OK Next

Companies with a Microsoft Azure account can call the Azure implementation of OpenAI. You will need the Azure API Key, the name of the Resource that you are using, and the Deployment name. This information needs to be set up or is already available in the Microsoft Azure Console. The Resource name is like the Salesforce “my domain” and can be used to identify your company. The Deployment name represents the OpenAI model being used.

Unfortunately, the Deployment name is an arbitrary string that was created for one of the OpenAI models. That means there is not a good way for Snapshot to figure out what OpenAI model you are using. We need that information to identify the correct model and set the correct token window size. Because of this, be sure that the Azure model you are using is also selected in the Snapshot Preferences interface for the OpenAI Model. That way Snapshot will have the correct model information for Microsoft Azure users.



The screenshot shows the "Snapshot Preferences" window with the "OpenAI Model" option selected in the left sidebar. The main area displays the following settings:

- Cost:** \$0.40 / \$1.60
- Tokens:** 1M / 32K
- Mask Personal Information:** ☐
- Model Selection:** A dropdown menu showing a list of models: o1, o1-mini, gpt-4.1, **gpt-4.1-mini** (selected), gpt-4o, and gpt-4o-mini.

At the bottom of the window, there are three buttons: "Test", "OK", and "Next".

The Metazoa Free OpenAI Key is available to all customers. We limit use of this key for some activities that might result in massive usage. Here are the restrictions for the Metazoa Free OpenAI Key:

- Calculating SOQL Filters: Unlimited Use
- Explaining Migration Errors: Unlimited Use
- Explaining Deployment Errors: Unlimited Use
- Explaining Metadata Assets: Unlimited Use
- Explaining Report Tables: Unlimited Use
- Metadata Studio Prompt Engineering: 100 Uses / Individual
- Metadata Studio Prompt Automation: 100 Uses / Individual
- Intelligent Search Assistant: 200 Uses / Individual
- Description Enrichment: 100 Uses / Individual
- Improve Code Coverage: 100 Uses / Individual
- Improve Code Quality: 100 Uses / Individual

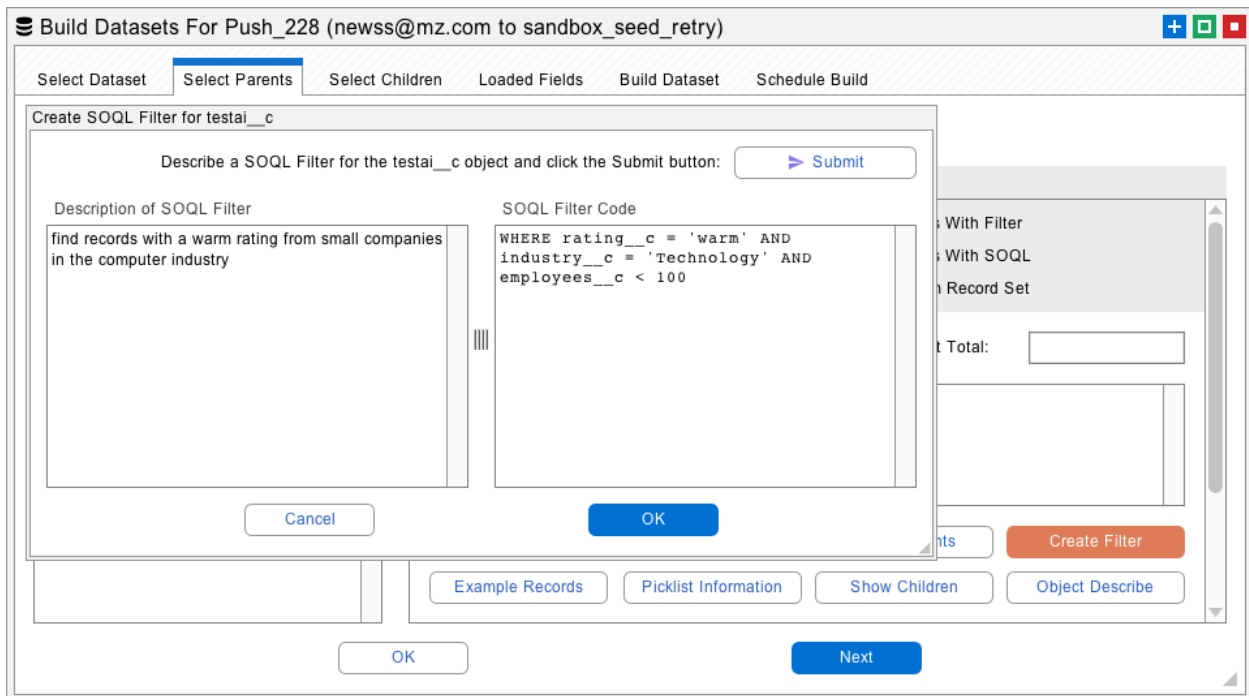
The checkbox to Mask Personal Information will scramble email addresses, phone numbers, and other fields with sensitive information. The information is unscrambled when the answer is returned.

Lastly, you can select the default OpenAI Model that you want to use. Our default is the economical gpt-4.1-mini model. Use gpt-4.1 for better quality but with a slower response time. The table below shows the different models that are available and the number of characters they support for questions and responses.

Model	Purpose	Question	Answer	Speed	Price
O1	Highest Reasoning	200K	100K	Slowest	Expensive
O1-mini	High Reasoning	128K	64K	Slow	Mid Price
gpt-4.1	Highest Intelligence	1M	32K	Medium	Mid Price
gpt-4.1-mini	High Intelligence	1M	32K	Fast	Low Price
gpt-4o	High Intelligence	128K	16K	Medium	Mid Price
gpt-4o-mini	Average Intelligence	128K	16K	Fast	Low Price

## SOQL Filters

There are half a dozen places in Snapshot where the user can select data records. For example, when building a new dataset for data migration you might select parent objects. Records can be selected in many ways, but the most powerful option is to create a SOQL filter that finds the records. However, SOQL must conform to syntactical rules that are hard to remember. Now there is an option to type in a textual description of the record filter and have AI create the SOQL string. Simply click the Create Filter button and this brings up the interface below. You can interactively test the SOQL filter and make sure you are retrieving the desired record set.



The screenshot shows a web application window titled "Build Datasets For Push\_228 (newss@mz.com to sandbox\_seed\_retry)". The window has a tabbed interface with tabs: "Select Dataset", "Select Parents" (active), "Select Children", "Loaded Fields", "Build Dataset", and "Schedule Build".

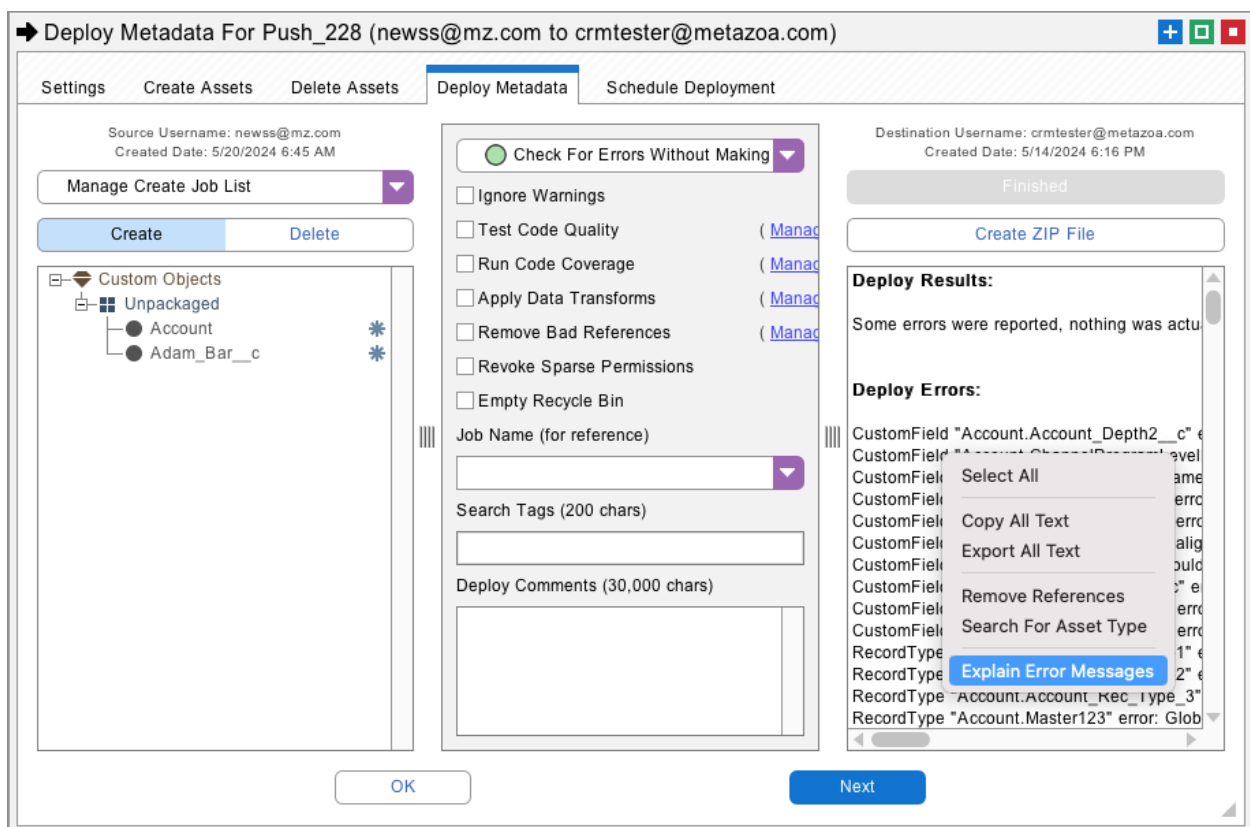
The "Select Parents" tab contains a sub-dialog titled "Create SOQL Filter for testai\_\_c". This dialog has a "Submit" button with a right-pointing arrow. Below the submit button are two text areas:

- Description of SOQL Filter:** Contains the text "find records with a warm rating from small companies in the computer industry".
- SOQL Filter Code:** Contains the text `WHERE rating__c = 'warm' AND industry__c = 'Technology' AND employees__c < 100`.

At the bottom of the dialog are "Cancel" and "OK" buttons. To the right of the dialog, partially visible, is a section with a "Create Filter" button (orange) and a "Next" button (blue). Below the dialog, in the main window, are buttons for "Example Records", "Picklist Information", "Show Children", and "Object Describe".

## Explaining Errors

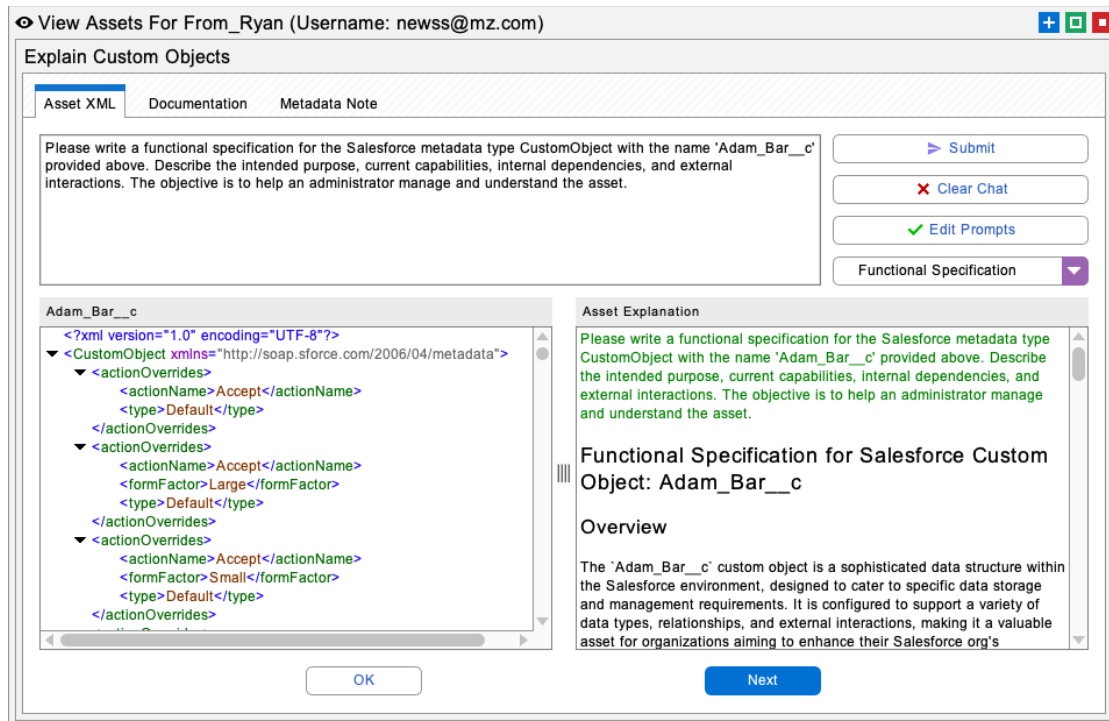
The deployment errors returned by the Metadata API are often difficult to understand. Now, Snapshot can use AI to explain metadata deployment errors. In many situations, the Intelligent Assistant can both explain the error message and suggest the correct solution. In the screenshot below, metadata deployment errors were encountered, they are visible at lower right. Right-click and select Explain Error Messages to bring up the Error Explanation interface.



The data migration tools will also explain errors and suggest solutions. Just right-click the error message returned in the Migrate Datasets application to bring up the Error Explanation interface.

## Explaining Assets

There are many places in Snapshot where the user can view metadata assets. There are XML assets like Custom Objects and text-based assets like Apex Classes. Now, when working with an asset, you can right click and select Explain Asset. This brings up the Explain Asset interface when you can select a prompt to run on the asset.



Each prompt can reveal different information about the asset. Click the Edit Prompts button to edit the default prompts or to create new ones based on your corporate policies. Here are the default prompts that are currently available:

- Automated Documentation
- Best Practices
- Compliance Review
- Functional Specification
- Technical Debt

## Explaining Reports

There are many places in Snapshot where reports are generated. In some cases, these reports are complex and might be difficult to fully understand. Now, when working with a complex report, you can right click and select Explain Report Table. This brings up the Explain Report interface when you can select a prompt to run on the report. Here are the reports where this capability is currently available:

- Fields Vs Page Layouts
- Field Usage
- Apex Code Quality
- Security Health Check
- Org Health Scan

Field Usage For From\_Ryan (Username: newss@mz.com)

Explain Field Usage Report

Intelligent Assistant

Report Table

Examine the Fields Usage report provided above. This report shows which Fields are being used and which Fields are not being used. Field names are down the left hand side of the report and field usage information is across the top. The total column is the total number of fields. The empty column is the number of empty fields. The used column is the number of fields that are not empty. The default column is the number of fields that contain their default value. Having the default value might indicate low usage. The distinct column is the number of distinct field values. The details column might have information about when the field itself was created or last modified. If a field was created recently that might explain lots of empty values. The last edit column shows the most recent time that the field had some unique value other than empty or the default value. The relationships column shows how many

Submit

Clear Chat

Edit Prompts

Field Usage

Report Explanation

Key Observations

1. Unused Fields:

- Several fields have a high number of empty values, indicating they are not being utilized effectively. For example, 'Approval\_Status\_\_c' and 'Delete\_Me\_\_c' have 51 and 49 empty values, respectively.

- Fields like 'Age\_\_c', 'Amount\_Closed\_\_c', and 'Close\_Date\_MTD\_\_c' have no empty values, suggesting they are actively used.

2. Fields with Default Values:

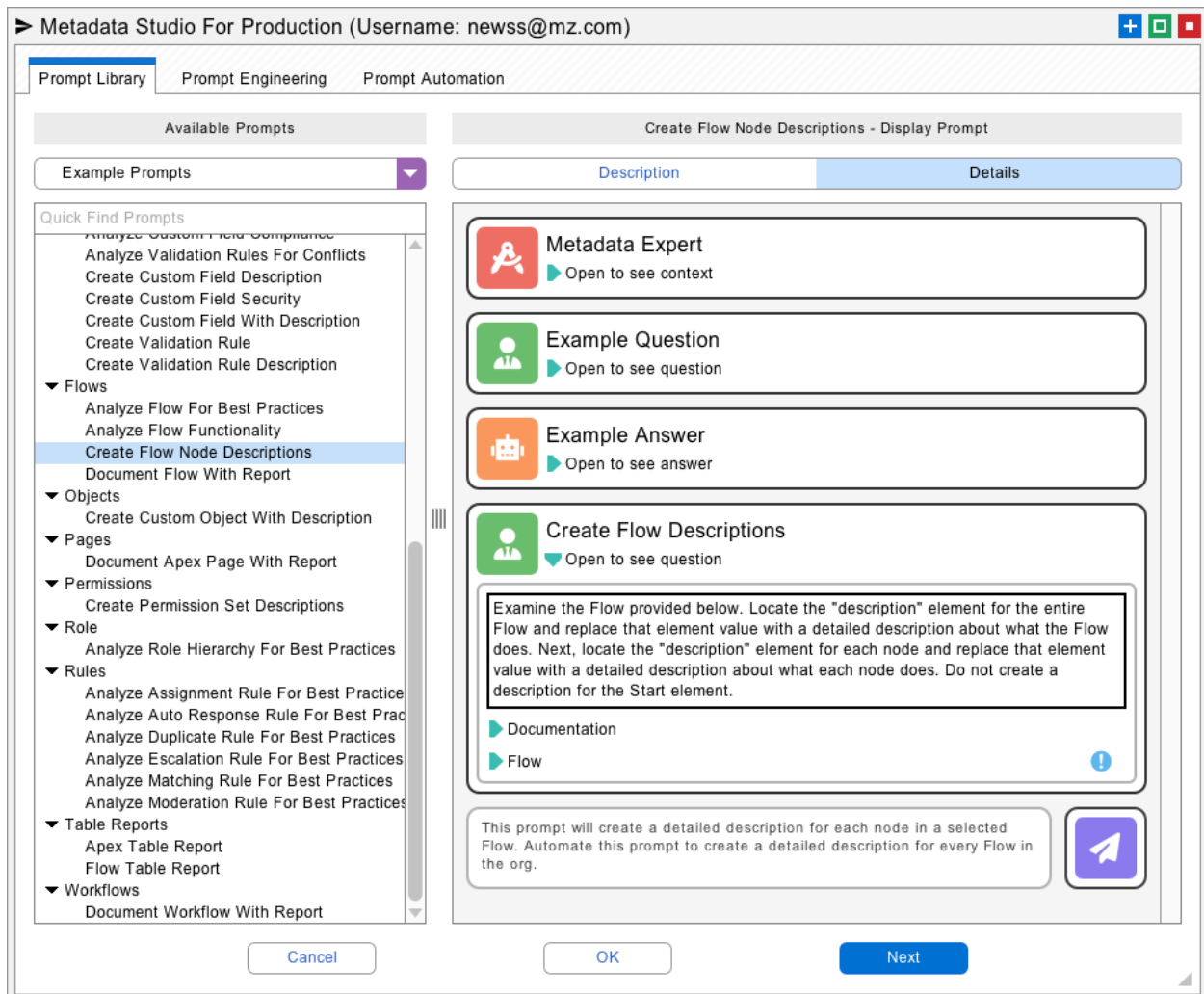
- Fields such as 'My\_Regular\_Picklist\_\_c' and 'My\_Multiselect\_Picklist\_\_c' have default values set, which might indicate low usage if the default value is not meaningful.

OK

Next

# Metadata Studio

Metadata Studio is a powerhouse prompt engineering platform designed for org management and prompt automation. We supply 60 default prompts that Salesforce administrators and developers can run and customize. You can also create entirely new prompts and share them with your team. The first tab in metadata studio is easy to use. Just select any prompt at left and click the submit button at lower right.



Metadata Studio For Production (Username: newss@mz.com)

Prompt Library | Prompt Engineering | Prompt Automation

Available Prompts

Example Prompts

Quick Find Prompts

- Analyze Custom Field Compliance
- Analyze Validation Rules For Conflicts
- Create Custom Field Description
- Create Custom Field Security
- Create Custom Field With Description
- Create Validation Rule
- Create Validation Rule Description
- ▼ Flows
  - Analyze Flow For Best Practices
  - Analyze Flow Functionality
  - Create Flow Node Descriptions
  - Document Flow With Report
- ▼ Objects
  - Create Custom Object With Description
- ▼ Pages
  - Document Apex Page With Report
- ▼ Permissions
  - Create Permission Set Descriptions
- ▼ Role
  - Analyze Role Hierarchy For Best Practices
- ▼ Rules
  - Analyze Assignment Rule For Best Practices
  - Analyze Auto Response Rule For Best Practices
  - Analyze Duplicate Rule For Best Practices
  - Analyze Escalation Rule For Best Practices
  - Analyze Matching Rule For Best Practices
  - Analyze Moderation Rule For Best Practices
- ▼ Table Reports
  - Apex Table Report
  - Flow Table Report
- ▼ Workflows
  - Document Workflow With Report

Create Flow Node Descriptions - Display Prompt

Description | Details

Metadata Expert  
▶ Open to see context

Example Question  
▶ Open to see question

Example Answer  
▶ Open to see answer

Create Flow Descriptions  
▶ Open to see question

Examine the Flow provided below. Locate the "description" element for the entire Flow and replace that element value with a detailed description about what the Flow does. Next, locate the "description" element for each node and replace that element value with a detailed description about what each node does. Do not create a description for the Start element.

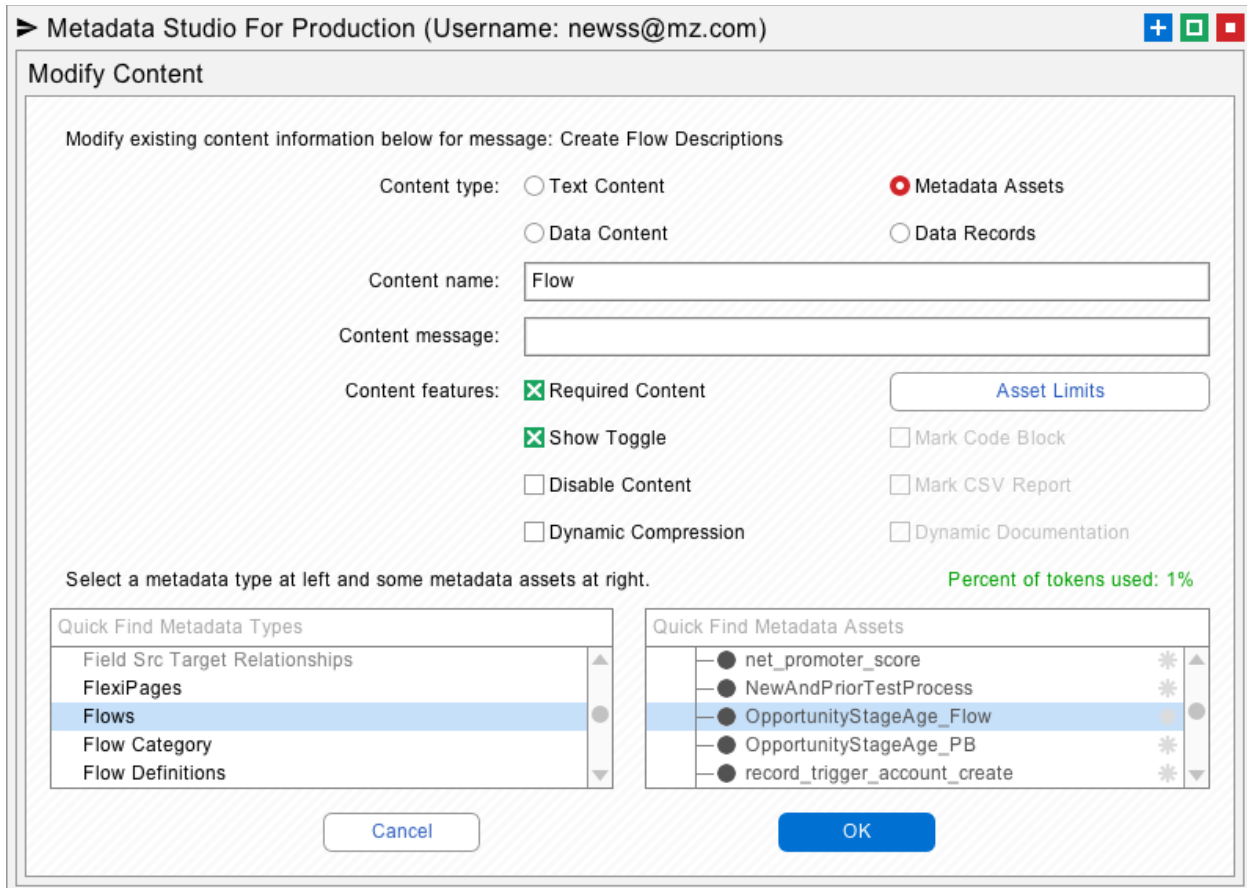
▶ Documentation

▶ Flow

This prompt will create a detailed description for each node in a selected Flow. Automate this prompt to create a detailed description for every Flow in the org.

Cancel OK Next

The second tab is Prompt Engineering where you can create and modify these prompts. Prompts are composed of Messages, and Messages are composed of Content. A message can be created for the System, a User, or the Assistant. Prompts must start with the system message which is followed by any number of user and assistant messages in that order. Here is the content editing interface, below:



Metadata Studio For Production (Username: newss@mz.com)

### Modify Content

Modify existing content information below for message: Create Flow Descriptions

Content type: ☐ Text Content ☒ Metadata Assets  
☐ Data Content ☐ Data Records

Content name:

Content message:

Content features: ☒ Required Content ☒ Show Toggle ☐ Disable Content ☐ Dynamic Compression

[Asset Limits](#)

☐ Mark Code Block ☐ Mark CSV Report ☐ Dynamic Documentation

Select a metadata type at left and some metadata assets at right. Percent of tokens used: 1%

Quick Find Metadata Types

- Field Src Target Relationships
- FlexiPages
- Flows**
- Flow Category
- Flow Definitions

Quick Find Metadata Assets

- net\_promoter\_score
- NewAndPriorTestProcess
- OpportunityStageAge\_Flow**
- OpportunityStageAge\_PB
- record\_trigger\_account\_create

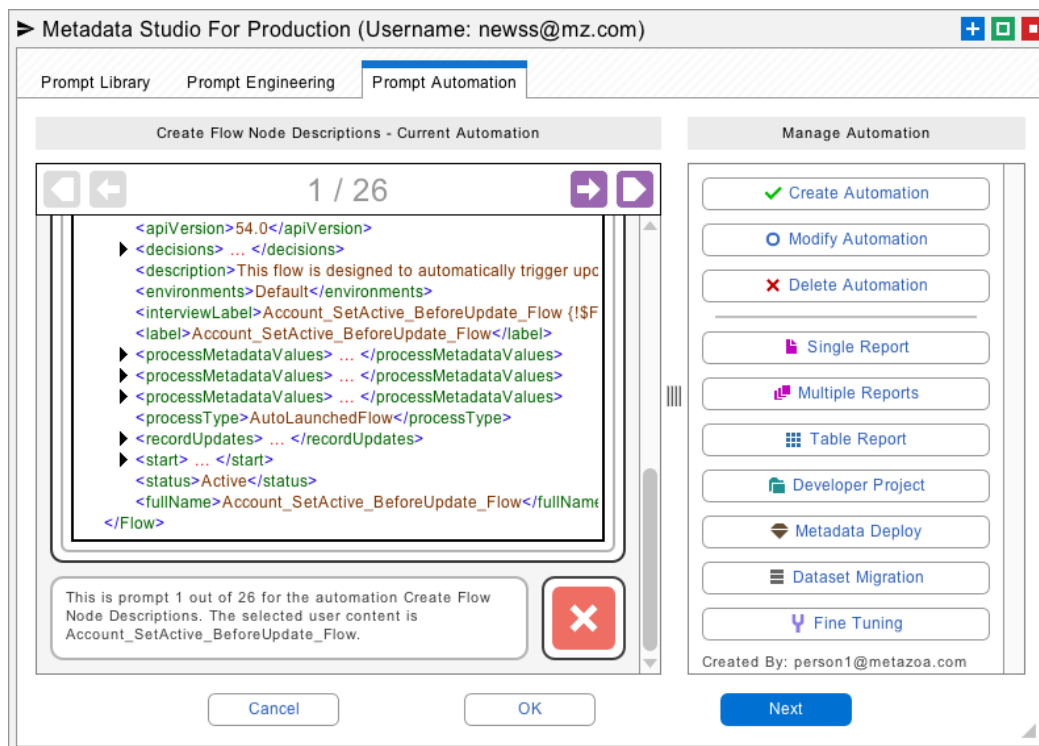
[Cancel](#) [OK](#)

Content can be composed of metadata assets, data records, XML data, or text characters. Check the Required Content option to have the end user manually select the content information before continuing. Use the Assets Limits button to control what metadata assets and data records can be selected. For example, you might want the user to only select apex test classes, or certain types of data records.

The Dynamic Compression option will compress metadata assets and data records to fit within the token limits. This is accomplished by removing the least important parts of the asset. The Dynamic Documentation option will document all the elements in the metadata assets and data records for superior AI responses.

## Prompt Automation

The last tab is Prompt Automation which allows a prompt to be applied to the entire org. For example, let's say you have a prompt that creates node descriptions for a Flow. You can open that prompt on the Prompt Automation tab and run it on any number of selected Flows. Then all those changes can be opened in the deployment tooling. Here is another example. Let's say you have a prompt that documents an Apex Class. In prompt automation you can document all of your Apex Classes and assemble this information into a single report table.



Here are the options on the right-hand side of the dialog for using automated prompts. All the output from the prompt can be combined into a Single Report, or you can save Multiple Reports, one for each prompt. The CSV output of each prompt can also be assembled into a Table Report. When the prompts contain metadata assets, this information can be saved as a local Developer Project. You can also deploy this information immediately with the Metadata Deployment option. Lastly, when the prompts contain data records, this information can be saved for Dataset Migration. In this manner, the powerful Snapshot tools for Metadata Deployment and Data Migration are directly integrated into the Prompt Engineering platform.

# Intelligent Search

Our Intelligent Search application expands your team with an intelligent assistant that knows everything about your org. There are four main areas with selected grounding data that Intelligent Search can focus on:

## **Data Records**

You can select any set of data records and connected children and ask Intelligent Search questions about them. For example, you could select an Account with connected Opportunities and Contacts and then ask about the next best steps to close one of the opportunities.

## **Object Schema**

This option uses schema information for a selected object. For example, if you select an object, you could create Validation Rules, Custom Fields, Record Types, Picklists, SOQL Filters, or Formula Fields for that object.

## **Metadata Types**

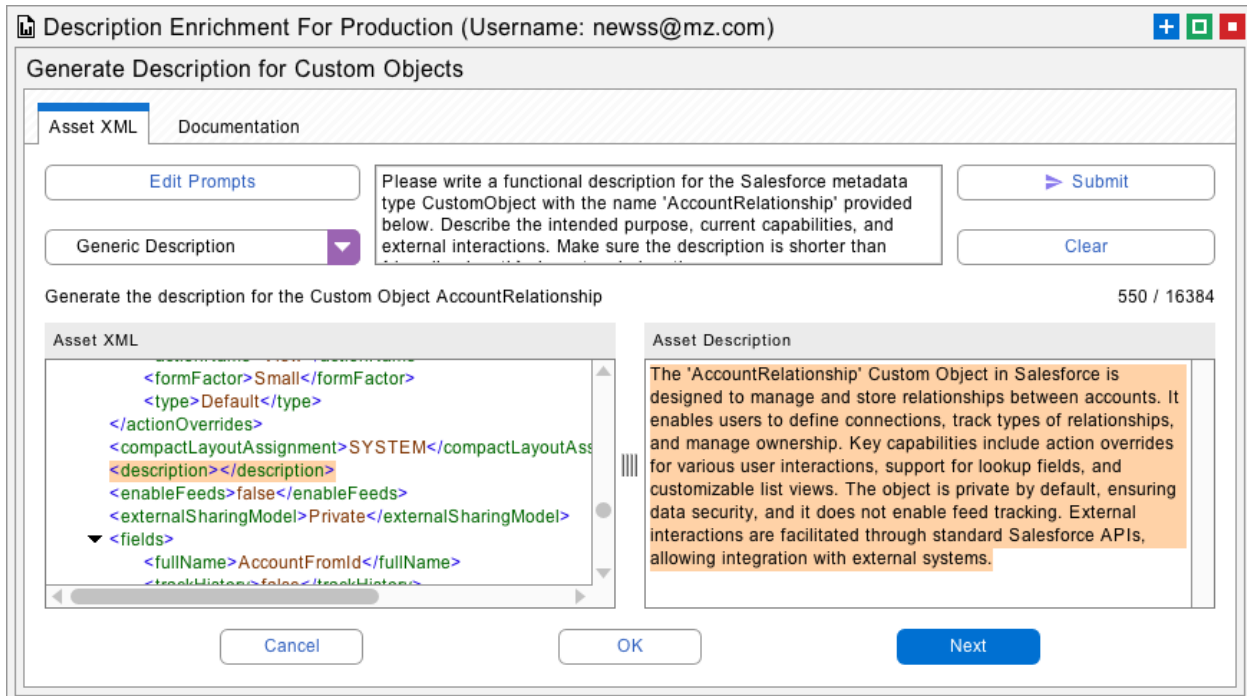
You can select any number of metadata assets and ask Intelligent Search questions about them. For example, you could select multiple Validation Rules and ask if there are conflicts between them. Or you could select a Flow and ask what it does or see if there are any security problems.

## **Org Management**

This option lets you ask any kind of question about org management. Our extensive library of whitepapers and documentation is used for grounding data. The intelligent assistant can answer your questions and suggest strategies to solve org management problems.

## Description Enrichment

Our latest application of AI technology can be found in the Description Enrichment report. This application gathers information from the 160 metadata types that have a description field. You can identify assets that need descriptions, and better yet, you can edit the descriptions right from the report, review the changes, and deploy the new descriptions immediately.



The screenshot shows a web application window titled "Description Enrichment For Production (Username: newss@mz.com)". The main heading is "Generate Description for Custom Objects". Below this, there are two tabs: "Asset XML" (selected) and "Documentation".

Under the "Asset XML" tab, there is a section for "Edit Prompts". It includes a text input field with the prompt: "Please write a functional description for the Salesforce metadata type CustomObject with the name 'AccountRelationship' provided below. Describe the intended purpose, current capabilities, and external interactions. Make sure the description is shorter than". To the right of this field are two buttons: "Submit" and "Clear".

Below the prompt field, there is a dropdown menu labeled "Generic Description" with a downward arrow. To the right of this dropdown is a button labeled "Submit".

Below the "Generic Description" dropdown, there is a text input field with the text: "Generate the description for the Custom Object AccountRelationship". To the right of this field is a counter: "550 / 16384".

Below the text input field, there are two panels. The left panel is titled "Asset XML" and contains XML code for a Custom Object. The right panel is titled "Asset Description" and contains a generated description for the 'AccountRelationship' Custom Object.

The XML code in the left panel is as follows:

```
<formFactor>Small</formFactor>
<type>Default</type>
</actionOverrides>
<compactLayoutAssignment>SYSTEM</compactLayoutAssignment>
<description></description>
<enableFeeds>false</enableFeeds>
<externalSharingModel>Private</externalSharingModel>
<fields>
  <fullName>AccountFromId</fullName>
  <trackHistory>false</trackHistory>
```

The generated description in the right panel is:

The 'AccountRelationship' Custom Object in Salesforce is designed to manage and store relationships between accounts. It enables users to define connections, track types of relationships, and manage ownership. Key capabilities include action overrides for various user interactions, support for lookup fields, and customizable list views. The object is private by default, ensuring data security, and it does not enable feed tracking. External interactions are facilitated through standard Salesforce APIs, allowing integration with external systems.

At the bottom of the window, there are three buttons: "Cancel", "OK", and "Next".

Description Enrichment also includes a sophisticated capability to generate new descriptions using AI. The end user can select from a variety of prompts or create their own. This allows different prompts to be used for each metadata type. Lastly, Description Enrichment allows the selection of multiple metadata assets and the automatic creation of descriptions for all of them. Again, these changes can be carefully reviewed and deployed with our deployment tooling inside the report.

## Apex Code Coverage

The Apex Code Coverage Report shows the Code Coverage for each Test Class in the Org. Now with the use of Artificial Intelligence, you can automatically repair and improve Code Coverage for any Test Class. The improvement can start with a single Test Class. You can edit the prompts and make sure that the results conform to your business practices and policies. Then the improvements in Code Coverage can be automated for any number of Test Classes in the Org with the Multiple Improvements button. The changes can be reviewed and deployed right from the same interface.

Apex Code Coverage For From\_Ryan (Username: newss@mz.com)

Select Apex Tests

Code Coverage

Display Report

Schedule Report

Editing Palette

Note: code coverage improvements are not visible until after deployment.

Check the boxes below to include an ape

Quick Find Apex Tests

☒ billiscooltest
 ☒ ChangePasswordControllerTest
 ☒ ChatterAnswersCreateAccountTest
 ☒ ChatterAnswersEscalationTriggerTe
 ☒ CommunitiesLandingControllerTest
 ☒ CommunitiesLoginControllerTest
 ☒ CommunitiesSelfRegConfirmContro
 ☒ CommunitiesSelfRegControllerTest
 ☒ ForgotPasswordControllerTest
 ☒ LightningForgotPasswordController
 ☒ LightningLoginFormControllerTest
 ☒ LightningSelfRegisterControllerTest
 ☒ MicrobatchSelfRegControllerTest
 ☒ MyProfilePageControllerTest
 ☒ SetActiveWhenNewAccountCreates

This table shows a preview of the selected apex test.

Status	Time	Test Name	Method Name	Apex Name
Failure	1133 ms	ChatterAnswersCreateAccountTest	validateAccountCreation	AccountTriggerHandler
Failure	1133 ms	ChatterAnswersCreateAccountTest	validateAccountCreation	AccountTrigger
Failure	1133 ms	ChatterAnswersCreateAccountTest	validateAccountCreation	AccountTriggerHelper
Failure	1133 ms	ChatterAnswersCreateAccountTest	validateAccountCreation	ChatterAnswers
Tested				AccountTrigger
Tested				AccountTriggerHandler
Tested				AccountTriggerHelper
Tested				ChatterAnswers
All Tested	1133 ms	One Test and 4 Failures	One Method	3 Classes and One Trigger

Apex Editing Palette

Manual Editing

Coverage Improvement

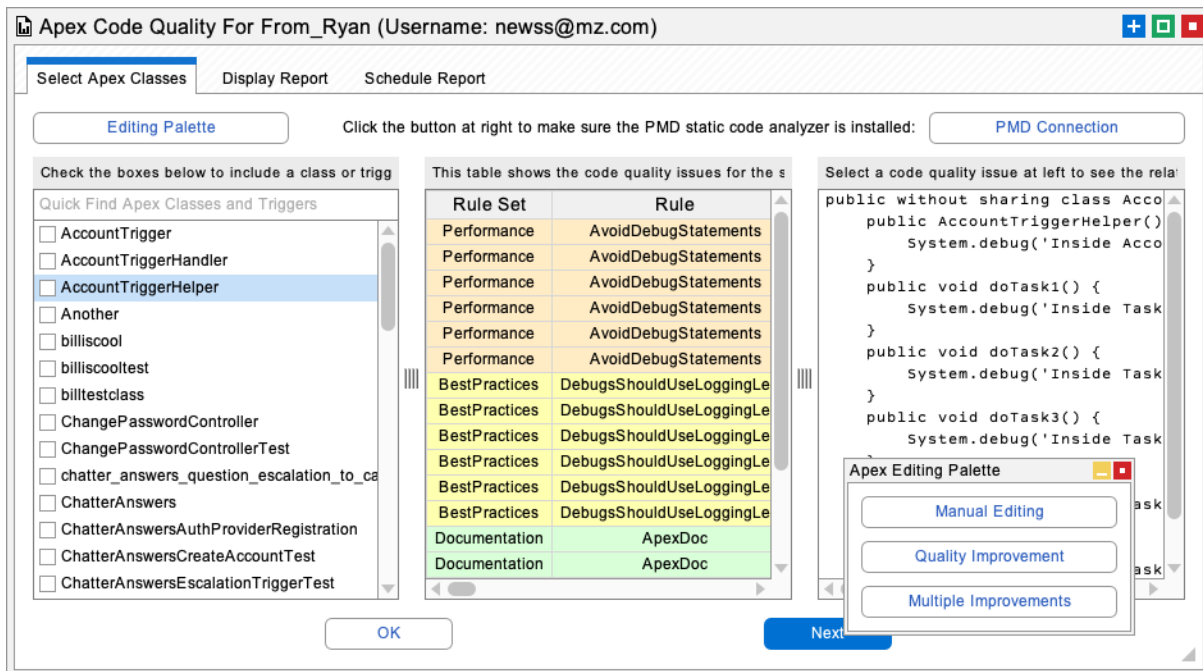
Multiple Improvements

OK

Next

## Apex Code Quality

The Apex Code Quality Report uses PMD static code analysis to list out Code Quality Issues for any selected Apex Class or Trigger. You can also run this report on the entire Org. Now with the use of Artificial Intelligence, you can automatically repair and improve the Code Quality Issues that were discovered. The improvement can start with a single Class or Trigger. You can edit the prompts and make sure that the results conform to your business practices and policies. Then the improvements in Code Quality can be automated for any number of Classes or Triggers in the Org with the Multiple Improvements button. The changes can be reviewed and deployed right from the same interface.



The screenshot displays the 'Apex Code Quality' interface for user 'From\_Ryan' (Username: newss@mz.com). The interface includes tabs for 'Select Apex Classes', 'Display Report', and 'Schedule Report'. A 'PMD Connection' button is available for ensuring the static analyzer is installed.

**Class Selection:** A list of Apex classes and triggers is shown, with 'AccountTriggerHelper' selected. The list includes: AccountTrigger, AccountTriggerHandler, AccountTriggerHelper, Another, billischool, billischooltest, billtestclass, ChangePasswordController, ChangePasswordControllerTest, chatter\_answers\_question\_escalation\_to\_ca, ChatterAnswers, ChatterAnswersAuthProviderRegistration, ChatterAnswersCreateAccountTest, and ChatterAnswersEscalationTriggerTest.

**Code Quality Issues Table:** This table shows the results of the PMD static code analysis. It lists the Rule Set and the specific Rule for each issue.

Rule Set	Rule
Performance	AvoidDebugStatements
Performance	AvoidDebugStatements
Performance	AvoidDebugStatements
Performance	AvoidDebugStatements
Performance	AvoidDebugStatements
Performance	AvoidDebugStatements
BestPractices	DebugsShouldUseLoggingLe
BestPractices	DebugsShouldUseLoggingLe
BestPractices	DebugsShouldUseLoggingLe
BestPractices	DebugsShouldUseLoggingLe
BestPractices	DebugsShouldUseLoggingLe
BestPractices	DebugsShouldUseLoggingLe
Documentation	ApexDoc
Documentation	ApexDoc

**Code Preview:** The right side shows the source code for the selected class, 'AccountTriggerHelper'. The code includes a constructor, and three methods: doTask1(), doTask2(), and doTask3(), each containing a debug statement.

**Apex Editing Palette:** A floating palette provides options for editing the code: 'Manual Editing', 'Quality Improvement', and 'Multiple Improvements'.

## Conclusion

There you have it. Metazoa wants to revolutionize org management with AI and prompt engineering. This white paper has discussed how we use AI with our administrative thinking partner Intelligent Search and our prompt engineering platform Metadata Studio to document the org, remove technical debt, and optimize security for administrators and developers. This technology is delivered in a Zero Trust security environment that companies can deploy with confidence.

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