

Connected System Plugin for **Appian**

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Introduction

Guidewire and Appian have partnered to bring together the industry leading P&C Platform with the speed, flexibility, and low-code capabilities of the Appian Al-powered process Platform. With this plugin, Insurers can connect their existing systems and data into enterprise-wide automated processes to save time and create relevant, highly personalized experiences.

Appian's Connected System for Guidewire InsuranceSuite provides seamless connectivity between enterprise data and critical insurance processes that allows organizations to:

- **Unify data.** Create a single, 360-degree view of your enterprise by connecting all of your data so you can use it to inform your processes and take action. Connect and unify data from Guidewire InsuranceSuite, enterprise systems, and other 3rd party sources.
- **Simplify processes.** Introduce automation rapidly where needed without having to write code, speeding up enterprise insurance processes.
- **Build data-driven apps and workflows faster.** Use low-code, process automation, and AI to reimagine your underwriting, claims, and billing experiences.
- Improve customer and user experiences. Deliver a custom front-end interface that combines Appian UI and Guidewire's embedded Jutro Digital Platform micro-frontends.

Appian directly integrates to the entirety of the InsuranceSuite Cloud API. This means that customers can use Appian's pre-built connector for nearly any Guidewire use case, from policy underwriting to billing to claims. The Appian connector automatically connects to the customer's unique Guidewire Cloud API schema allowing Appian to create, read, update and delete Guidewire data with no coding required.

Further Information

https://appian.com/partners/partner-program/all-partners/guidewire.html https://marketplace.guidewire.com/s/partner/0013400001Omc4RAAR/appian?language=en_US

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Connected System Architecture

The Guidewire Connected System integrates to the full-suite of Guidewire Cloud's <u>ClaimCenter</u>, <u>PolicyCenter</u>, and <u>BillingCenter</u>. The following API modules are supported within each Center:

- 1. ClaimCenter: Admin, Async, Common, Claim, System Tools
- 2. PolicyCenter: Product Definition, Admin, Job, Policy, Account, Async, Common, System Tools
- 3. BillingCenter: Admin, Billing, Async, Common, System Tools

The Guidewire plugin functions by:

- 1. Retrieving the OpenAPI Schema for the selected API. This is a file that contains a model of all the information needed to call the API.
- 2. Using the schema to generate the endpoints and parameters necessary to call specific Guidewire API operations.

Setup Prerequisites

- 1. In Guidewire, AllowList the IP addresses of your Appian instance. This will allow Appian to send/receive data to/from Guidewire. These articles may be useful:
 - a. How to allow traffic from Appian Cloud based on IPs
 - b. Appian Cloud FAQ
- 2. Configure Guidewire OAuth
- 3. Configure <u>role maps</u> for the users/service accounts that will be calling Guidewire from Appian

- a. It is essential the /openapi.json endpoint is enabled for any role map using this plugin. In addition, enable all endpoints that you would like to be able to call from Appian.
- b. Please note that the user will be able to see all endpoints available in the selected API, but only those that have been enabled in the role map will be available to use.
- 4. If using the plugin in testing & development, it may be useful to set up sample data

Connected System Authentication

The following <u>authentication patterns</u> are supported:

- 1. Basic Authentication
- 2. Standalone Service
- 3. Service Account with Internal User Context
- 4. Service with Service Account Mapping

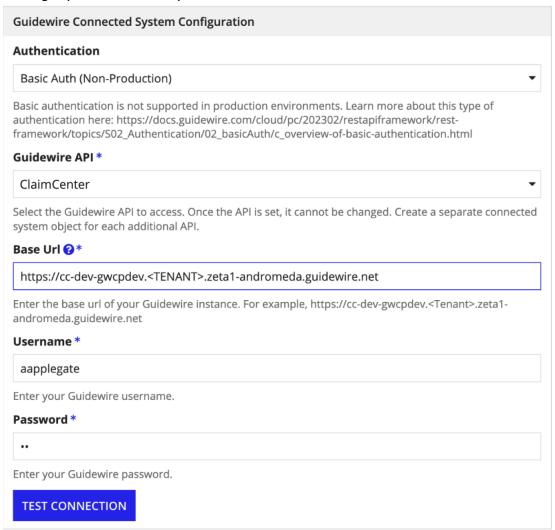
Connected System Authentication Setup

Important Note

Once a connected system object's authentication is configured, do not change the API selected. For example, if I configure a ClaimCenter Connected system and build integrations off of it, reconfiguring the authentication with PolicyCenter will break all configured integrations that were built off of ClaimCenter endpoints. Simply create a new connected system object if you would like to configure different APIs/authentication patterns.

1. Select the authentication pattern that best suits your needs. Read more about the authentication behaviors here.

a. Basic Authentication. Use this pattern for testing—as of Garmisch, this pattern is no longer permitted within production environments.

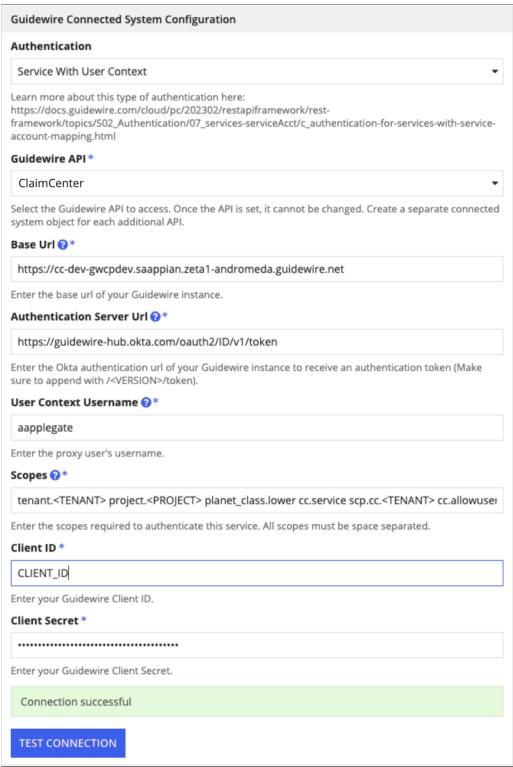


b. Standalone Service. In this case, the service executes the call as itself. It does not execute the call as a specific person or on behalf of a specific person. The

service does not execute the call using a service account stored in ClaimCenter.

Guidewire Connected System Configuration
Authentication
Standalone Service ▼
Learn more about this type of authentication here: https://docs.guidewire.com/cloud/bc/202302/cloudapica/cloudAPI/topics/702-AuthFlows/05-service-standalone/c_OAuth2-client-credential-flow-standalone-services.html
Guidewire API *
ClaimCenter ▼
Select the Guidewire API to access. Once the API is set, it cannot be changed. Create a separate connected system object for each additional API.
Base Url 🔞 *
https://cc-dev-gwcpdev. <tenant> zeta1-andromeda.guidewire.net</tenant>
Enter the base url of your Guidewire instance.
Authentication Server Url *
https://guidewire-hub.okta.com/oauth2/ <id>/v1/token</id>
Enter the Okta authentication url of your Guidewire instance to receive an authentication token (Make sure to append with / <version>/token).</version>
Scopes ? *
tenant. <tenant> project.<planet> planet_class.lower cc.service scp.cc.<tenant>_standalones</tenant></planet></tenant>
Enter the scopes required to authenticate this service. All scopes must be space separated.
Client ID *
CLIENTID
Enter your Guidewire Client ID.
Client Secret *
Enter your Guidewire Client Secret.
Connection successful

c. Service with Internal User Context. The call is able to do only the things that both the service by itself could do and the user by itself could do



d. Service with Account Mapping. In this case, the service is automatically mapped to a "service account". The mapping information is specified elsewhere in the

environment. The service account is a user account in the ClaimCenter database that is intended to be used only by the service and not by any person.

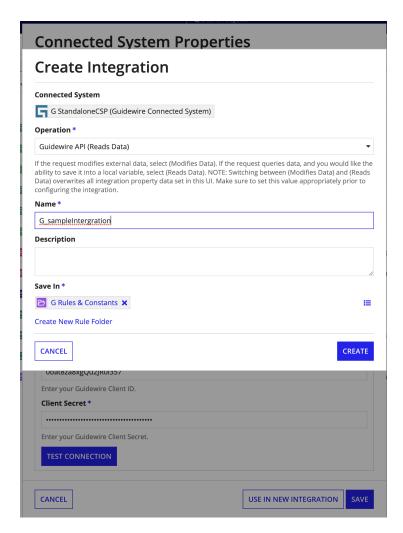
Guidewire Connected System Configuration
Authentication
Service With Service Account Mapping ▼
Learn more about this type of authentication here: https://docs.guidewire.com/cloud/bc/202302/cloudapica/cloudAPI/topics/702-AuthFlows/05-service-standalone/c_OAuth2-client-credential-flow-standalone-services.html Guidewire API*
ClaimCenter
Select the Guidewire API to access. Once the API is set, it cannot be changed. Create a separate connected system object for each additional API.
Base Url 😯 *
https://cc-dev-gwcpdev. <tenant>.zeta1-andromeda.guidewire.net</tenant>
Enter the base url of your Guidewire instance.
Authentication Server Url ②*
https://guidewire-hub.okta.com/oauth2/ <id>/v1/token</id>
Enter the Okta authentication url of your Guidewire instance to receive an authentication token (Make sure to append with / <version>/token).</version>
Scopes ② *
tenant. <tenant> project.gwcp planet_class.lower</tenant>
Enter the scopes required to authenticate this service. All scopes must be space separated. Client ID *
CLIENT_ID
Enter your Guidewire Client ID.
Client Secret *
Enter your Guidewire Client Secret.
Connection successful

Integration Overview

Important Note

The integration will either Read Data or Modify Data. Switching between (Modifies Data) and (Reads Data) overwrites all integration property data set in the integration UI. Make sure to set this value appropriately prior to configuring the integration. If you configure an integration with the wrong option selected, simply create a new integration and copy/paste the values over.

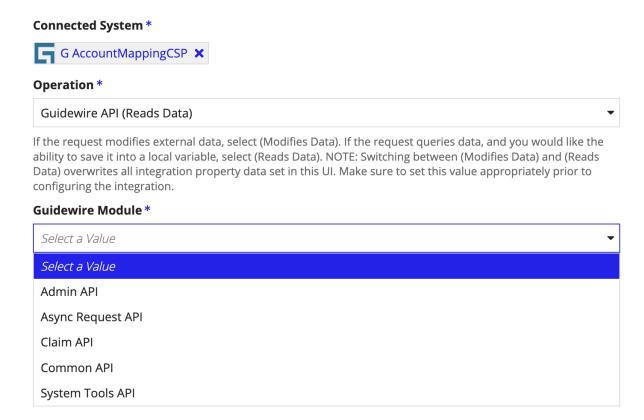
- If the request modifies external data or writes a file to Appian, select (Modifies Data). This selection automatically creates rule inputs for onSuccess and onError which define the behavior of the successful or unsuccessful HTTP call. This type of integration response cannot be saved as a localVariable. Most POST/PATCH/DELETE calls will use this integration type.
- If the request queries data, and you would like the ability to save it into a local variable, select (Reads Data). All GET calls will use this option. Some POSTs essentially act as GET calls and can therefore be used with (Reads Data), for example, posting to get all claims.
- 1. After configuring the authentication of a connected system, select "Use In New Integration" or click the "New" then "Integration" buttons from the main developer



2. Select which Guidewire module you would like to build an integration to. Here is the ClaimCenter, PolicyCenter, and BillingCenter API Reference Guides.

Important Note

If you do not have access to the API module, you will receive the following error message: "Authentication error: user does not have access to this module." Make sure that the authentication pattern you have selected has access to a role file that enables the user to make calls to the /openapi.json endpoint of the module (ClaimCenter /claims example) as well as whatever endpoint the integration will call.



- (Optional) Use the sort endpoints field to search for the endpoint you would like to use. For example, type "activities" to sort the "Select Operation" dropdown by fields relating to activities.
- 4. Select and configure the endpoint you would like to use

Connected System *



Operation *

Guidewire API (Reads Data)

If the request modifies external data, select (Modifies Data). If the request queries data, and you would like the ability to save it into a local variable, select (Reads Data). NOTE: Switching between (Modifies Data) and (Reads Data) overwrites all integration property data set in this UI. Make sure to set this value appropriately prior to configuring the integration.

Guidewire Module*



Select the Guidewire module to access within Claim Center. If no resource is found, the user does not have access to the module.

Sort Endpoints

activity

Sort the endpoints dropdown below with a relevant search query

Select Operation *

Select a Value

Select a Value

POST - Creates a new activity associated with this claim

GET - The list of suggested people, groups, queues, etc. that new activities on this claim can be assigne...

GET - Returns a list of activity patterns that can be used to create activities on this claim

GET - The list of objects related to this claim

GET - Returns a list of activities associated with this claim

GET - The details of a specific intake interaction

GET - The details of a specific payment

POST - Searches for active or archived claims that match the specified criteria

POST - Acknowledge submission of this payment

GET - The details of a specific recovery

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Basic Integration Tutorial

The following instructions will walk through <u>Guidewire's REST API Fundamentals</u>. If you have never worked with HTTP calls, it is highly recommended that you read through this documentation to gain more understanding into what this plugin is doing. Make sure ClaimCenter Connected System authentication is properly configured, your IP address is whitelisted, and the module's API endpoints called in these exercises (along with <module>/openapi.json) are properly configured in the user's Guidewire role map. The following exercises are for ClaimCenter, but could be applied to PolicyCenter or BillingCenter.

Important Note

If you receive the following error, the user/service account authentication does not have access to the operation you are trying to use. In Guidewire, update the <u>role file</u> to permit access.

Frror 404

{userMessage=No resource was found at path /common/v1/notes/cc:SYBmKpNEfwqnn1u3BBl4i, errorCode=gw.api.rest.exceptions.NotFoundException, status=404}

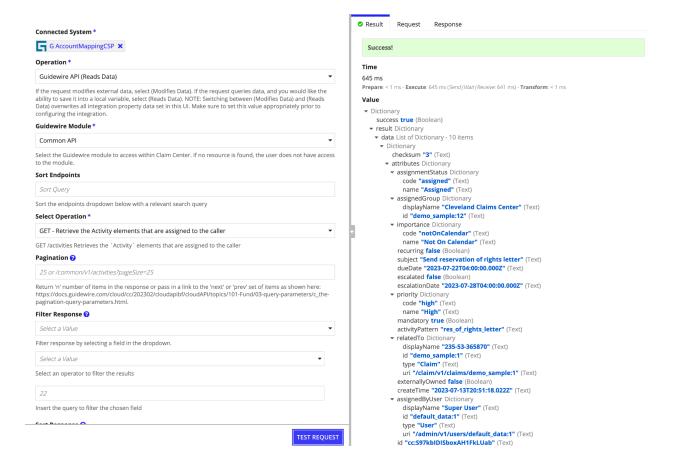
Integration Tutorials

GET

Complete the following GET tutorial in the order listed below.

Basic GET

- 1. Learn more here
- 2. Select "Common API" and "Retrieve the Activity elements that are assigned to the caller"
- 3. Click "Test Request



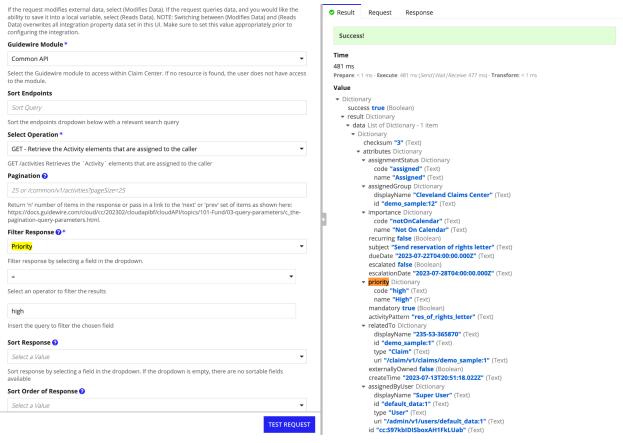
Filter Response

- 4. Learn more here. This option is only available on certain GET calls.
- 5. Let's filter for high priority activities

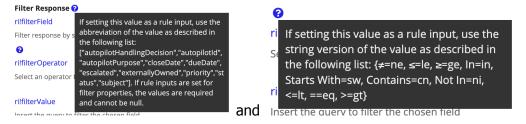
a. Filter Field: Select "Priority"

b. Filter Operator: Select "="

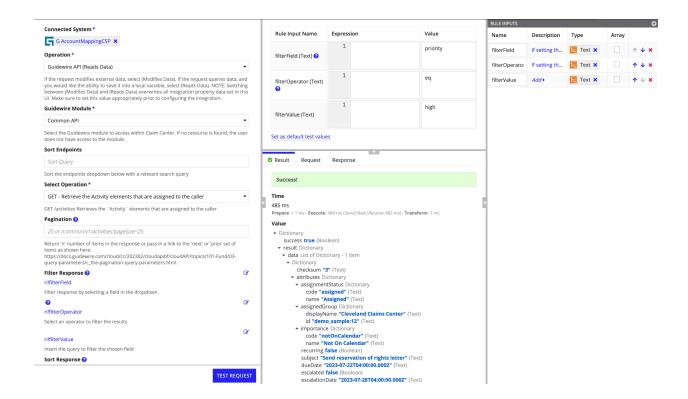
c. Filter Value: type "high"



- 6. If you want to make these rule inputs:
 - a. Create rule inputs of type Text for filterField, filterOperater, and filterValue.
 - b. Read the instructions listed in the for each field. This will tell you the expected format of each of the values. For example

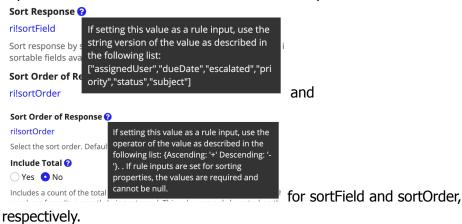


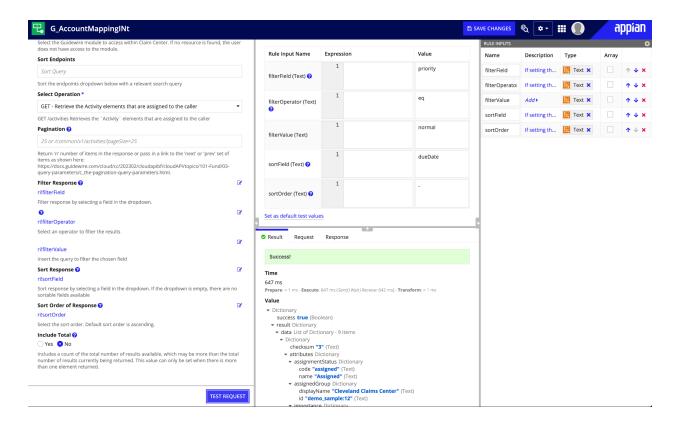
for filterField and filterValue, respectively. Pass these descriptions as the description for the ruleInput to make the dynamic configuration easier to set up when the integration is called.



Sorting

- 7. Learn more <u>here</u>. This option is only available on certain GET calls.
- 8. Change the filterValue to "normal" ("high" only has one in the sample data, which makes sorting pointless)
- 9. Configure Sort Response with "Due Date" and "Descending"
- 10. If you want to use rule inputs
 - a. Create rule inputs of type Text for sortField and sortOrder.
 - b. Read the instructions listed in the for each field. This will tell you the expected format of each of the values. For example



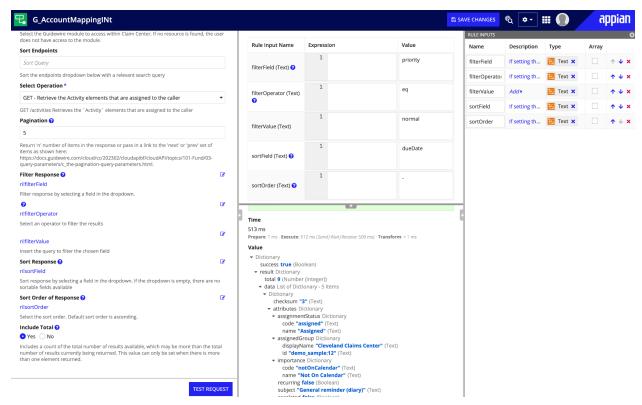


Include Total

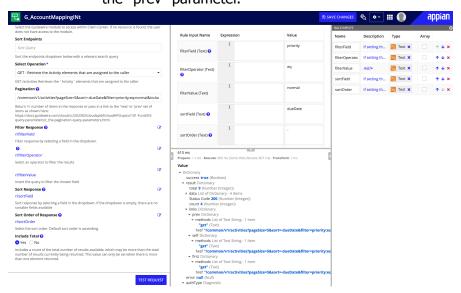
- 11. Learn more <u>here</u>. This option is only available on certain GET calls.
- 12. Select "Yes" if you want the total count of all elements to be returned. Includes a count of the total number of results available, which may be more than the total number of results currently being returned. This value can only be set when there is more than one element returned.

Pagination

- 13. Learn more here
- 14. Pagination allows you to get a certain number of responses back, adhering to the predetermined amount of responses, sorting, and filtering rules you previously created. To get the first 5 results, simply put 5 into the pagination field.



15. To get the next 5 results, find the "next" field in the response under result.links.next.href
a. For testing purposes, copy and paste that value into the pagination field and click
"Test Request." This gets you the next 5 results. To get the previous results, use
the "prev" parameter.



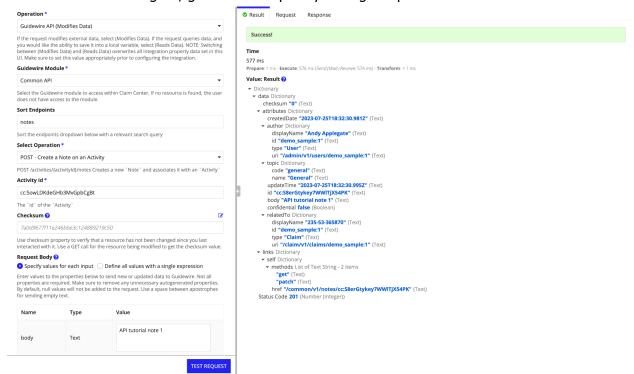
b. Outside of testing, it would be best practice to configure this field as a rule input and pass in the "next" or "prev" parameter in.

POST

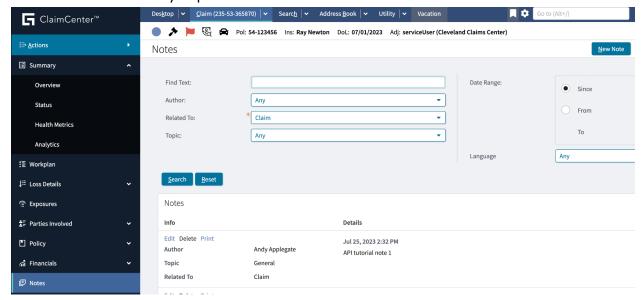
This tutorial will use Basic Authentication, following along the instructions provided by Guidewire here. Note that Basic Authentication is only available for development, it is not allowed in production. This tutorial follows the assumption that sample data has already been loaded into your development environment.

Basic Post

- 1. Set up a Basic Authentication ClaimCenter connected system with user aapplegate and password gw.
- 2. Select (Reads Data), "Common API," and "Retrieve the Activity elements that are assigned to the caller." Click "Test Request." Note the following fields:
 - a. Attributes.id
 - b. attributes.relatedTo.displayName
- 3. In another integration, select (Modified Data), "Common API," type "notes" and click on the top endpoint "Create a Note on an Activity."
 - a. Use the attributes.id from the previous get call for Activity Id field
 - b. Fill in the "body" field with "API tutorial note 1"
 - c. Only parameters marked with (Required) must be set. All other parameters are optional.
 - d. It is highly recommended that you use the "Specify values for each input" UI to configure POST/PATCH integrations. "Define all values with a single expression" allows you to view all possible values that integration can configure, which may be useful to analyze what can be set with the integration, but is often unwieldy to configure, given the complexity of large request bodies.



- 4. Let's verify that this request worked. Log in to Guidewire Cloud (same as the root url of the connected system) with user aapplegate and password gw.
 - a. Use the "Claims" Dropdown at the top of the screen and enter the attributes.relatedTo.displayName from the first GET call.
 - b. Now that we have selected the correct claim, click on "Notes" in the left side bar.
 - c. The Note you posted should be the most recent Note in the list.

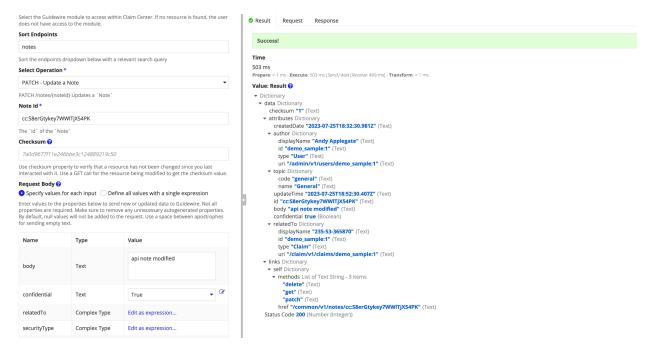


5. Given that the integration UI (all endpoints, dropdowns, configurable fields) are autogenerated under the hood based off of the OpenAPI schema received from Guidewire, not all fields are as descriptive as they should be. Follow along this <u>section</u> to determine how to properly set values with unclear instructions.

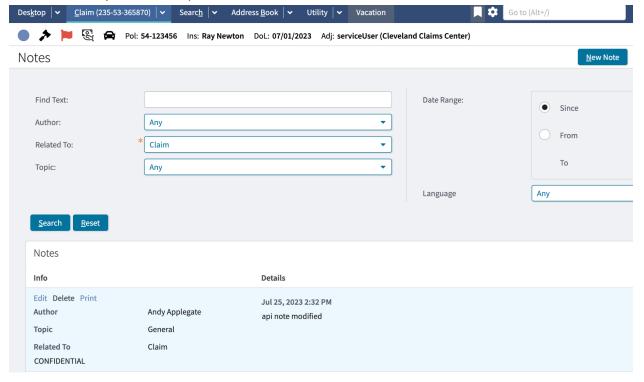
PATCH

This tutorial will use Basic Authentication, following along the instructions provided by Guidewire here. Note that Basic Authentication is only available for development, it is not allowed in production. This tutorial follows the assumption that sample data has already been loaded into your development environment and that you have completed the POST tutorial above.

- 1. From the previous tutorial, note the following returned fields:
 - a. Data.attributes.id
- Set up a Basic Authentication ClaimCenter connected system with user elee and password gw (aapplegate doesn't have patch/delete permissions by default).
- 3. Using the new connected system set up an integration with (Modified Data), "Common API," and "Update a Note,"
 - a. Using the Data.attributes.id from the note created from the POST tutorial
 - b. Update the body to "API Note Modified," set it to confidential, and press "Test Request



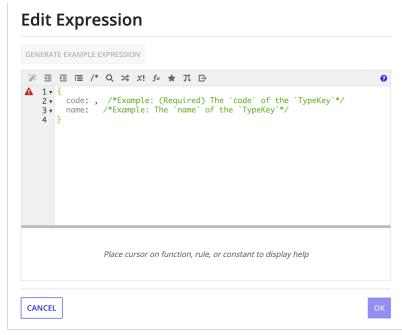
4. From the ClaimCenter UI, we see that the note is now marked as "CONFIDENTIAL" and the body has been updated.



Complex Type Fields

5. Given that the integration UI (all endpoints, dropdowns, configurable fields) are autogenerated under the hood based off of the OpenAPI schema received from Guidewire, not all fields are as descriptive as they should be. For example, for some

complex fields like "relatedTo," "securityType," and "topic" for this specific endpoint, the descriptions are lacking. For example, "securityType" only gives us the following information:

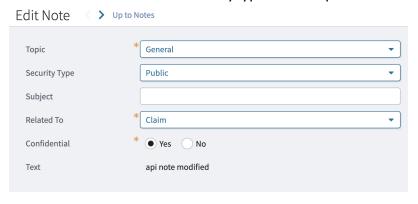


a. To get the expected values for these fields, fill them in with empty strings ("") and press send. Filling in securityType with {code: "hello", name: "world"} and pressing "Test Request" gives us the following error

Error 400

{userMessage=The request parameters or body had issues, errorCode=gw.api.rest.exceptions.BadInputException, details=[{message=The value 'hello' was not a valid element of the 'typekey.NoteSecurityType' typelist; values must be one of [medical, private, public, sensitive], properties={parameterName=body, parameterLocation=body, lineNumber=1}}], developerMessage=The request parameters or body had issues. See the details elements for exact details of the problems., status=400}

- b. Using this information, we can now set the correct values. For example, we could use {code: "public"}. The "name" field is not required.
- c. Click "Test Request." In the Guidewire UI, if we click "edit" on the Note, we can see that the securityType is set to public



6. Follow this same procedure for discovering the correct values to pass into required fields you want to edit. If you want this field to be controlled by a rule input, it is highly suggested that you configure the description field of the rule input with information from the error message. That way, this value can be set correctly with multiple values depending on where it is used.

Checksums

- 7. Learn more <u>here</u>
- 8. A checksum is a string value that identifies the "version" of a particular resource. Cloud API calculates checksums as needed based on information about the underlying entities in the ClaimCenter database.
 - a. When a process modifies data, either through user action, Cloud API, or some other process, Cloud API calculates a different checksum for the resource. You can prevent lost updates by checking a resource's checksum before you modify the resource to see if it matches a previously retrieved checksum.
 - b. By default, checksums are provided in the response payloads of all GETs, POSTs, and PATCHes. Checksums can be included in:
 - i. Request payloads, which is appropriate for:
 - PATCHes
 - Business action POSTs that allow request payloads (such as POST /{activityID}/assign)
 - ii. Request object headers for:
 - 1. DELETES
 - 2. Business action POSTs that do not allow request payloads
- 9. To use this field, simply keep track of the "checksum" value returned from GETs, POSTs, and PATCHes. When making a PATCH, DELETE, or Business action POST request, pass in this saved value.
 - a. If the resource you are trying to modify has been changed since the last time you interacted with it, the checksum will be different and the request will fail
 - b. If the resource you are trying to modify has not been changed since the last time you interacted with it, the checksum will be the same and the request will succeed.

DELETE

This tutorial will use Basic Authentication, following along the instructions provided by Guidewire here. Note that Basic Authentication is only available for development, it is not allowed in production. This tutorial follows the assumption that sample data has already been loaded into your development environment and that you have completed the POST tutorial above.

Basic Delete

- 1. Create an integration on the Basic Authentication connected system configured for applequate (user elee does not have delete permission for the endpoint).
- 2. Get the id of the Note we created in the POST tutorial and modified in the PATCH tutorial.
 - a. (optional) In practice, it might be a good idea to use <u>checksums</u>.
- Click "Test Request"
- 4. Go to the Guidewire UI and confirm that the Note on the Claim has been deleted.

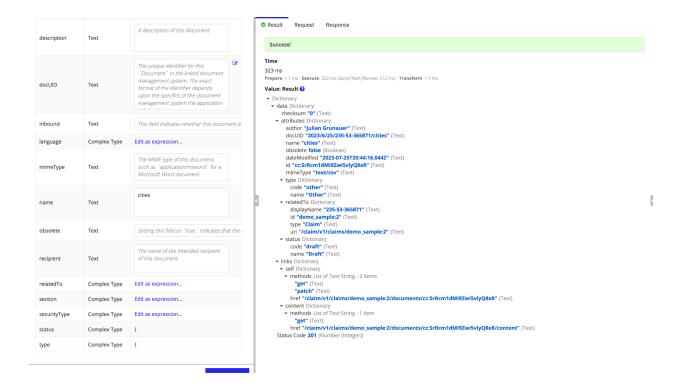
Posting Documents

- 1. Create an integration based on the aapplegate Basic Authentication Connected System (set up in the <u>GET</u> tutorial)
 - a. Select (Reads Data), "Claim API," "Retrieves a list of claims"
 - b. Note the following values
 - i. data.attributes.id (ex. demo_sample:2)
 - ii. data.claimNumber (ex. 235-53-365871)
- 2. Create an another integration based on the applegate Basic Authentication Connected System
 - a. Select (Modifies Data), "Claim API," type in "documents" into the "Sort Endpoints" field and select "Create a new document on the given claim"
 - Under claim id, enter data.attributes.id of the claim you would like to post a document to
 - c. Add the document you want to post (docx, txt, .xlsx, .png, etc...). This is an optional field—it is possible to post only the metadata for a document, but not the actual document contents itself.
- 3. Similar to what is described here, POSTing a document requires status and type. If these values are not known, fill in test values for status and type (ex. {code: "hello}). Pressing "Test Request" gives us the following error

Error 400

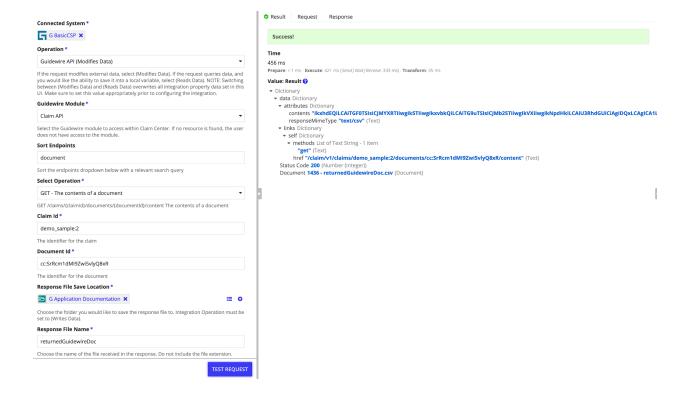
{userMessage=The request parameters or body had issues, errorCode=gw.api.rest.exceptions.BadInputException, details=[{message=The value 'hello' was not a valid element of the 'typekey.DocumentStatusType' typelist; values must be one of [approved, approving, draft, final], properties={parameterName=body, parameterLocation=body, lineNumber=1}}, {message=The value 'hello' was not a valid element of the 'typekey.DocumentType' typelist; values must be one of [iso, metro, diagram, email, email_sent, fnol, letter_received, letter_sent, other, policereport, repairestimate, sla, statement, w9], properties={parameterName=body, parameterLocation=body, lineNumber=1}}], developerMessage=The request parameters or body had issues. See the details elements for exact details of the problems., status=400}

- a. Now we know to use one of [approved, approving, draft, final] for status and one of one of [iso, metro, diagram, email, email_sent, fnol, letter_received, letter_sent, other, policereport, repairestimate, sla, statement, w9] for type
- b. Fix the type (ex. {code: "other"} and status {code: "draft"} and press "Test Request" and optionally fill in other metadata as needed.



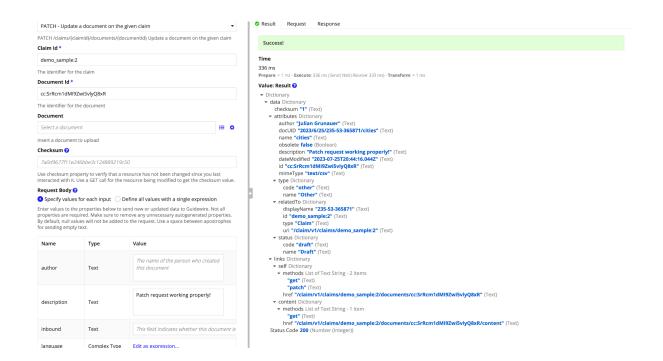
Getting Documents

- 4. Getting Document Content
 - a. Use the data.attributes.id from the document you just created. If you posted a document (and not just metadata) then you are able to get that document content back into appian. In practice, you would first use the Claims API "Get all documents associated with a claim" and find the id of the document you want, then continue with the following steps.
 - Create a new integration and select (Modifies Data). Since this integration is writing information to Appian, it MUST be set to modified data to function correctly.
 - c. Select "Claims API" and "GET the contents of a document" and configure the Claim Id (ex. demo_sample:2), Document Id (ex. cc:SrRcm1dMI9Zwi5vlyQ8xR), Response File Save Location, and Response File Name.

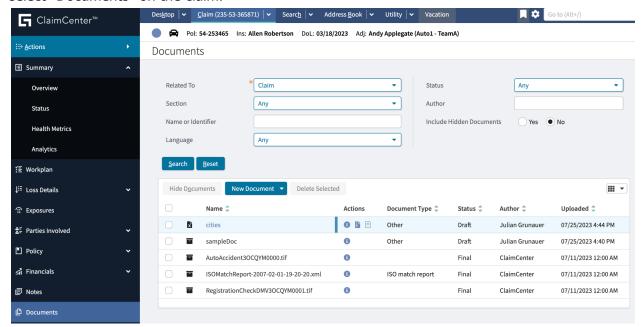


Patching Documents

- 5. Use the Claim Id and data.attributes.id from the document you previously created. You can update the metadata or replace the document with a new document.
- 6. Create a new integration and select (Modifies Data).
 - a. Select "Claims API" and "PATCH update a document on a given claim" and configure the Claim Id (ex. demo_sample:2) and Document Id (ex. cc:SrRcm1dMI9Zwi5vlyQ8xR)
 - b. Update the description (ex. "Patch request working properly!") and press "Test Request"



7. Verify that it works properly from the Guidewire UI by entering data.attributes.relatedTo.displayName from the request into the Claims Search UI and select "Documents" on the claim.



a. If we click the on the posted document, we can see that our description updated successfully.

