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API Guide

Assure Customer API

User Guide: Update Incident Analysis data via API

Evotix Ltd. Revision 2.0 (July 2024)

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The Assure Customer API is the means by which Evotix provides integration ‘capability to Assure for customers.

The Customer API is available to customers via the public internet and takes the form of a RESTful API. Using the Customer API you can automate processes such as managing users, org unit structure and exporting data for analysis. Making use of the Customer API requires a level of technical expertise so this is typically something that a company’s IT function would handle.

This guide focusses on how to set up the Customer API to update data in incident analysis in Assure. A separate guide is available for setting up the Customer API.

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Managing Incident Analysis Records via the Customer API

Another of the interactive methods available via the Customer API is the ability to manage Incident Analysis Records in Assure.

This allows you to create, update and delete records within the Incident Analysis module.

Limitations

The following lists the current limitations of the API for creating, editing and deleting Incident Analysis records. It is expected that these will be addressed in future Assure releases:

- The Incident Analysis reference field cannot be changed via the API. You can only create new records with a unique reference, or update records where there is an existing record for the reference provided.
- The Incident Analysis reference field cannot be automatically assigned by the system when creating or updating records, it must be provided in the requests.
- Supporting items cannot be added via the API. This includes actions, attachments, notes, reviews, and links to policies and guidance. If there are default reviewers and approvers set up they will be automatically used on the creation of the record.
- Any default values set within the caption maintenance area are not taken into consideration by the API.

Pre-configuration for Incident Analysis Records

Organisational Unit External IDs

Where Organisational Units have been manually created in Assure (i.e. not via the Customer API) there is some pre-configuration required in order to be able then use the Customer API methods. This is required for the API methods to be able to correctly assign Organisational Units to Incident Analysis records.

This pre-configuration is only needed for Organisational Units which have been manually added and which do not have an External ID set.

The Assure Organisational Unit hierarchy has a new attribute for each unit called 'External ID'. You will find this in the 'Edit' page of an Organisational Unit and its purpose is to allow a unique external identifier to be associated with each unit. This is necessary because:

1. The existing Organisational Unit names are not unique and therefore cannot be used with an API method to target a specific Organisational Unit.
2. Organisational Unit names can be changed by Assure administrative users, so they are not guaranteed to align with the customers IT systems (where user details are being obtained from by the customers integration workflow).
3. Integration workflows should use the immutable unique identifier for Organisational Units so that changes to names (whether in Assure or the source system) do not break the integration workflow. This means Assure needs to be able to configure the unique identifier against each Organisational Unit which is what the External ID field does.

It is strongly recommended that a customer uses their own identifier external ID of an Organisational Unit i.e. the identifier that their IT systems / source data uses for the Organisational Unit (e.g. for a retailer this might be the Shop ID). This removes the need for the customer to maintain a mapping between their Org Unit identifiers and the Assure internal identifier for an Org Unit.

The external IDs for the Organisational Units can be configured manually using the Assure UI (screenshot below shows an example setting the Organisational Unit external ID for the "North West region" to be REGION_NW). This is fine for testing but for ensuring that the Organisational Unit hierarchy is in sync with the customer's user management system we have a bulk import/update tool which can be used.

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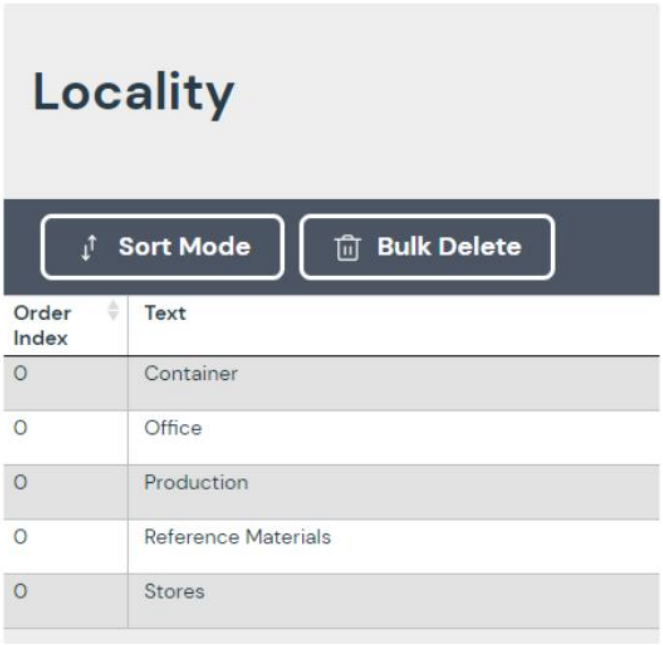
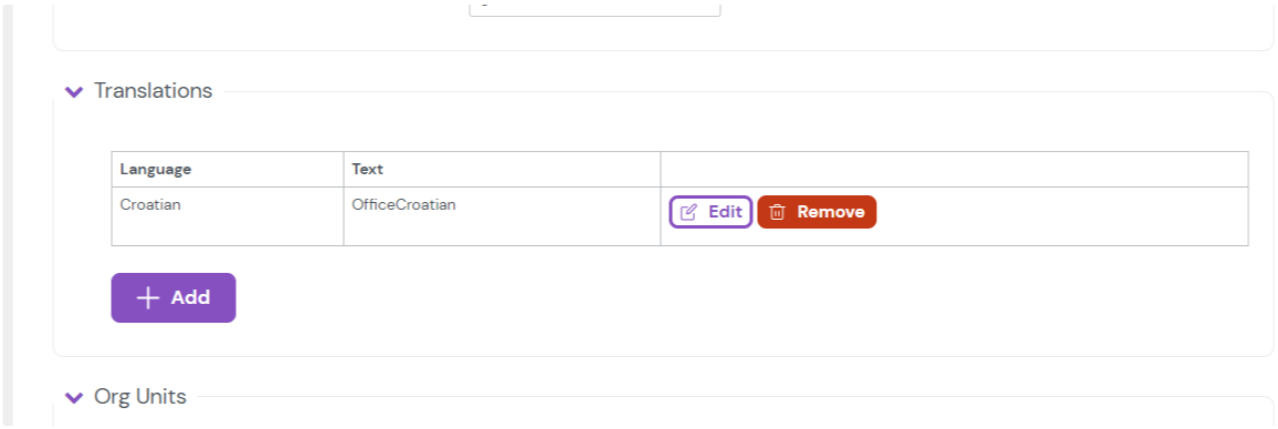
Picklist Values

For any of the fields in a Module record that has values that come from the 'Picklist Data Dictionary' in Assure then the value provided in the API request must match a value in the 'Picklist Data Dictionary' for that field and can be in the customer's default language or base system language (English-UK). For example, the 'Locality' field is a picklist value for Modules. If you locate this value in the Assure UI you will see the values that exist for the field (see example in the screenshot below).

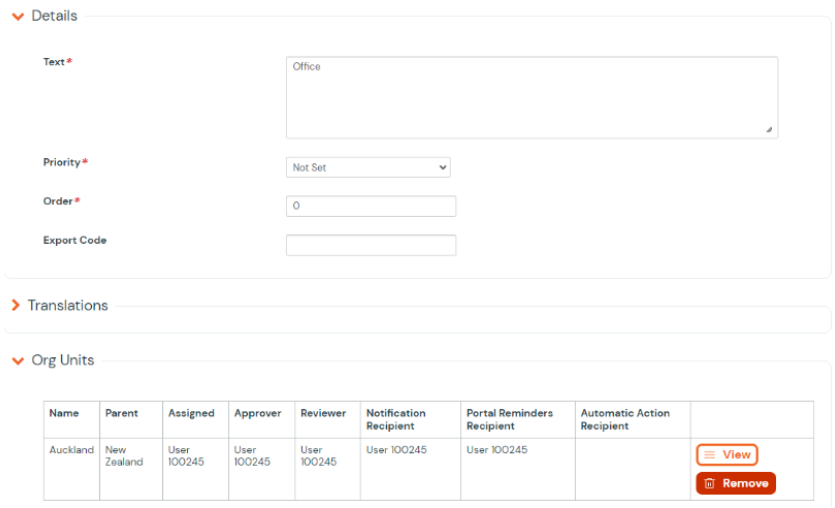


If you have translations for the picklist value and the language is the same as the default customer language this can also be supplied via API. Example, in the screenshot below, if the customer's default language is in Croatian, then the value 'OfficeCroatian' can be supplied via API. Validation is performed in the request to ensure that the 'Locality' field takes only one of these values or no value. This is then the case for all picklist values.



Picklist values can also be restricted by Org-Unit. Using the same example above in the first screenshot the value ‘Office' exists for the ‘Locality’ picklist dictionary value. Here you can restrict ‘Office’ to only be allowed as a value for a specific org unit. This validation will then work via API as it would in Assure. Meaning that if you then try to create a Module record with ‘Office’ as the 'Locality’ but the org unit supplied in the request is not for the org unit 'Office’ was restricted to and so the request would fail. See the second screenshot to see how this restriction can be set up.

The screenshot below shows how this restriction can be set up.

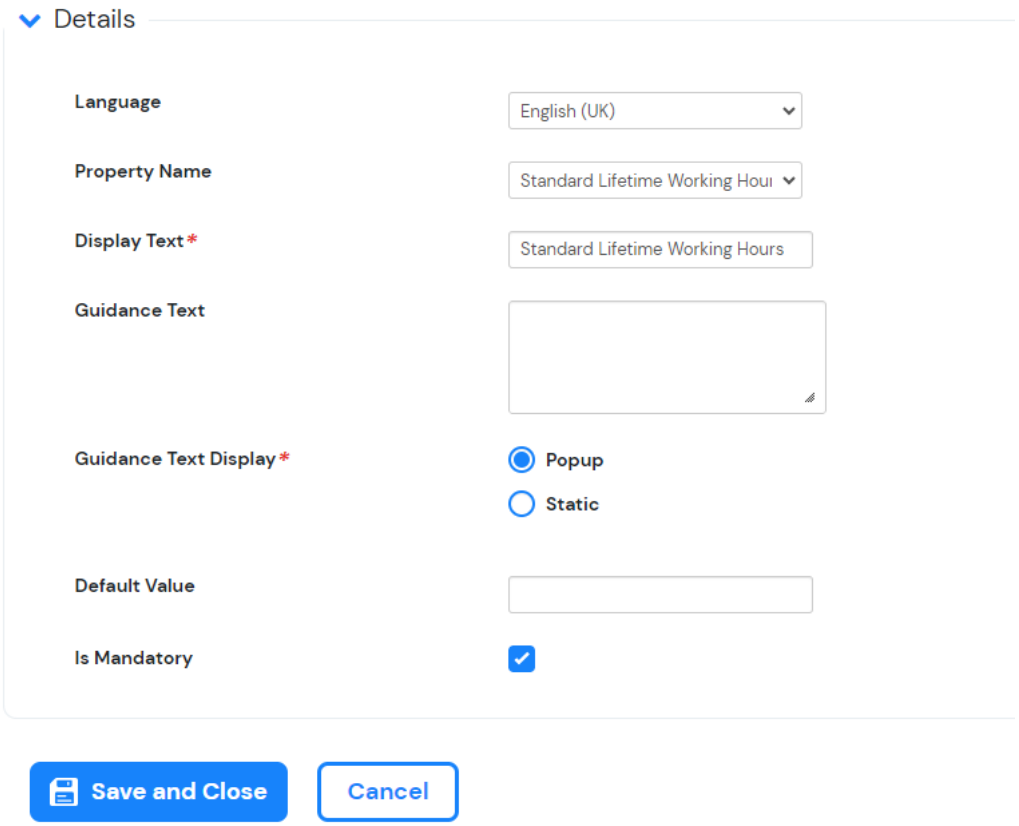


Custom Mandatory Values

In Assure you can set up custom mandatory values for each module, which are then validated on creation and update of records in those modules. This validation is also honoured by the API.

Any field that has been set to mandatory in Incident Analysis records must be provided in the API request even if the schema does have it as a required field.

These fields are managed via caption maintenance in Assure. The example below shows the set up to make 'Standard Lifetime Working Hours' a mandatory field. The field must also have the 'Display in Interface' selected for the mandatory validation to occur in the API.



If a default value is set in caption maintenance, the API does not currently take that into consideration.

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Incident Analysis JSON object

When creating and updating an Incident Analysis record the records details need to be provided in the form of a JSON object. JSON is the most commonly used syntax for describing data objects in RESTful APIs.

The OpenAPI schema for the Customer API contains the formal definition of the JSON structure i.e. the incidentAnalysisPOSTRequestobject.

The OpenAPI schema is the master definition of the API methods and data objects, it should always be consulted to understand the required fields, field types, max data lengths and string patterns, plus descriptions of the behaviour associated with the use of each field (or its omission). Some software tools and platforms can consume the OpenAPI schema to automate the process of generating the correct JSON and if this is available it should be used. To aid understanding of how the JSON fields in the Incident Analysis JSON object relate to the resulting Incident Analysis record setup in Assure the following sections contain some worked examples.

The text encoding to be used for all interactions with the Customer API is UTF-8. This is pretty much the standard today for software tools and platforms however it is important to check that you are using UTF-8 as if not then when you get foreign characters in the data or other symbols like emoticons these will not appear correctly in Assure.

As JSON objects are described using plain text it is possible to hand craft these objects for initial testing. However, it is very important to ensure that when generating JSON objects to send to the Customer API you use a proper JSON library or a tool with native JSON support. This is because JSON relies on 'escaping' for certain data values, if this escaping is not done correctly it will lead to API errors and can also be a source of security vulnerabilities.

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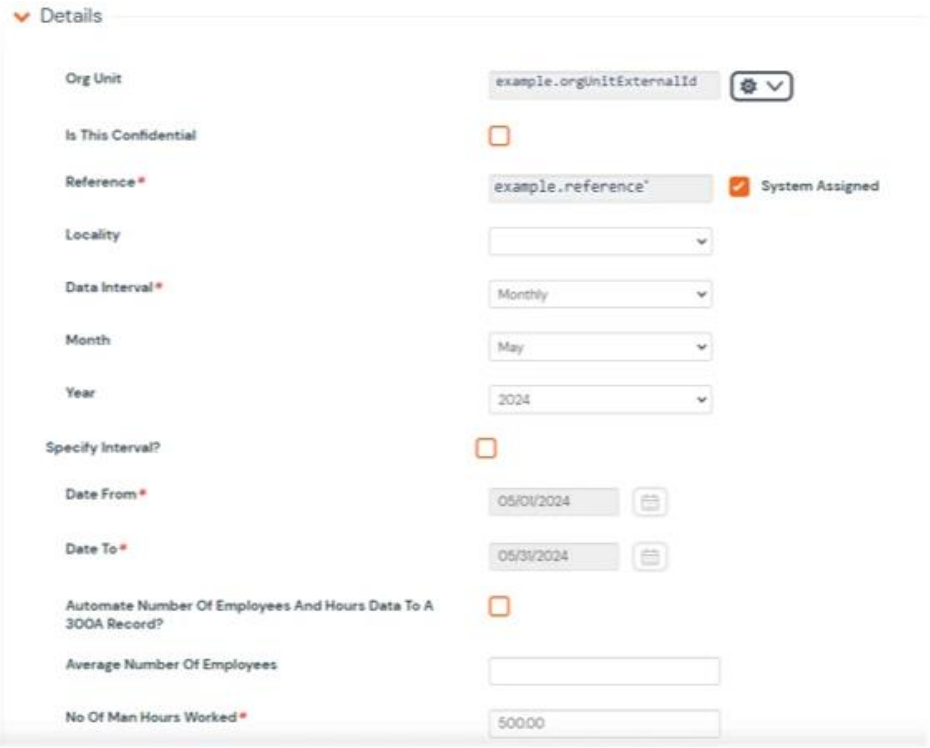
Minimum Incident Analysis data

This example shows the minimum possible Incident Analysis data which can be used to create or update an Incident Analysis record,

```
{
    "reference": "example.reference",
    "orgUnitExternalId": "example.orgUnitExternalId",
    "dataInterval" : "Monthly",
    "analysisMonth" : "MAY",
    "analysisYear" : "2024",
    "numberOfManHoursWorked" : "500"
}
```



Further Incident Analysis details omitted for brevity as they will all be the defaults.

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Incident Analysis Record with ‘Supply Analysis’ Object and everything Defined

This example shows the same incident Analysis record with all fields populated. For any further specific information as to how any of the fields populate the values in assure please refer to the schema.


```
{
    "reference": "example.reference",
    "orgUnitExternalId": "example.orgUnitExternalId",
    "dataInterval" : "Monthly",
    "analysisMonth" : "MAY",
    "analysisYear" : "2024",
    "numberOfManHoursWorked" : "500",
    "locality" :"Container",
    "specifyInterval" : {
        "fromDate" : "2024-01-01",
        "toDate" : "2024-01-31"
        },
    "numberOfEmployees" : 400,
    "lifetimeHours":600,
    "cascadeResults" :true,
    "supplyAnalysis" : "MANUAL",
    "OSHA300AReference" : "example.OshaReference"
    "incidentAnalysis" :
        {
            "totalLostTimeAccidents" :"1",
            "totalReportableAccidents" :"100.11",
            "totalAccidents" :"111",
            "injuryFrequencyRate":"343",
            "incidentRate" :"32",
            "incidenceRate" :"0"
        }
}
```

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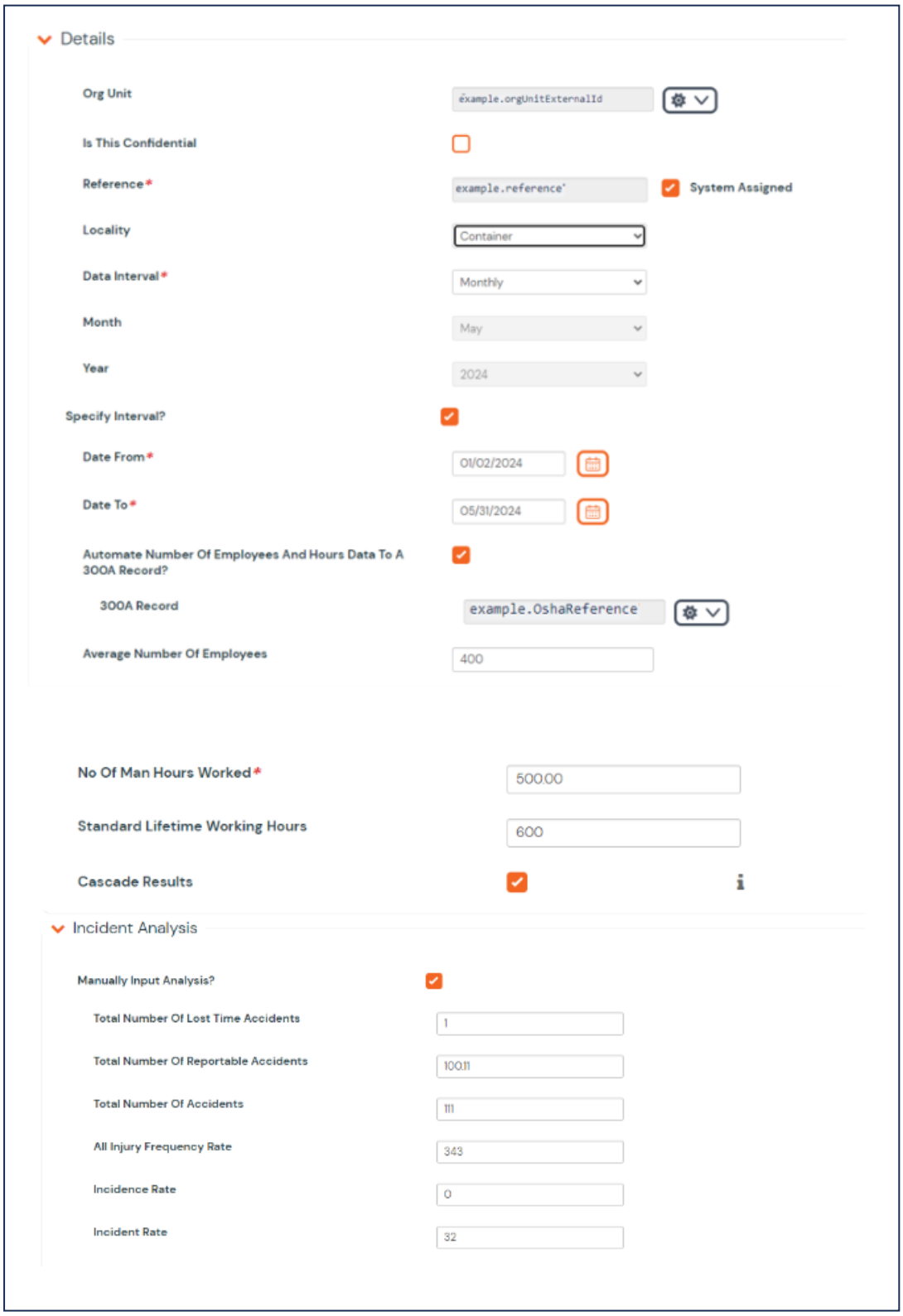

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Creating an Incident Analysis Record

The Customer API allows the creation of incident analysis records in Assure using the /v1/incident-analysis API method with the POST verb. The incident analysis' details are supplied in the body of the API request using the incident analysis JSON object (see section above). Records are uniquely identified by their reference which is the value in the reference field of the Incident Analysis JSON object. If there are no incident analysis records for the reference provided in the request then the /v1/incident-analysis API method will create the record using the details in the Incident Analysis JSON object.

If there is an existing incident analysis record for the external ID then the /v1/incident-analysis API method will update the existing Incident Analysis record to match the supplied details (see the 'Update a Incident Analysis Record' section below for details on the behaviour when updating an existing incident analysis record). Note: If there are multiple incident analysis records with the same reference that is provided in the request this will result in an error response (HTTP error 409).

Before attempting to use the /v1/incident-analysis API method make sure you understand the Incident Analysis JSON object (see the section above) and that you have the required details to access the API (i.e. the URL prefix, API key, etc), follow the Getting Started guide if you don't have these details already. The following table sections show how to create an incident analysis record using the /v1/incident-analysis API method in a variety of software tools / platforms:

Any HTTP response code is the range 200-299 should be treated as success (do not use the contents of the response body for identifying success or failure as these may change). Implement effective error handling as per the guide for error handling.

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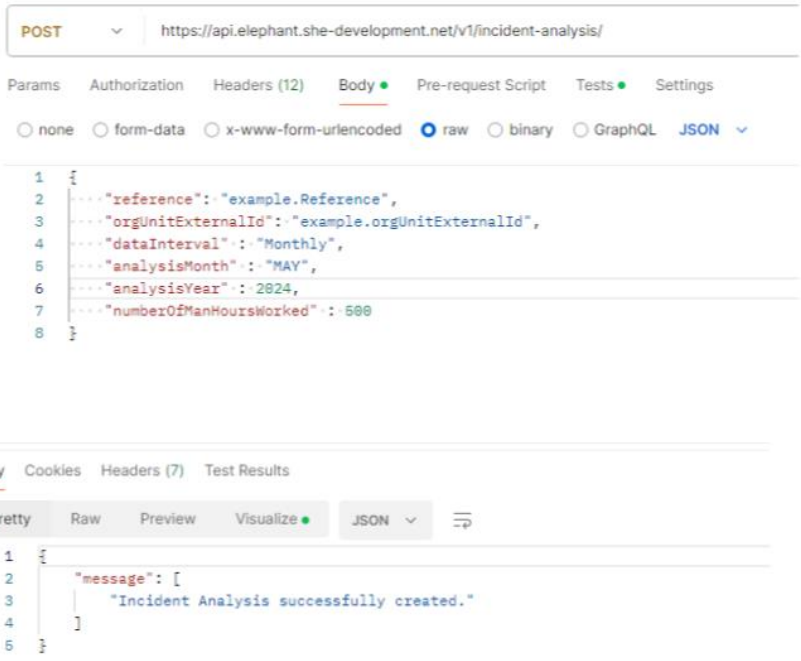
Postman API platform	The screenshot below shows a successful 'create incident analysis record' request. The API key is supplied via the 'Authorization' tab (see the Getting Started guide for how to setup the API key). The response section at the bottom shows the result Status: 200 OK which indicates that the record's creation was successful (also displayed is the response message from the Customer API confirming the successful creation). NB: With tools like this where the Incident Analysis JSON object is manually entered you must ensure the contents of any string values are properly escaped. 

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Windows Powershell	The code block below shows the few lines of Powershell script required to setup the Incident Analysis Object JSON and to make the 'create incident analysis record' request to the Customer API for a customer. The XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX is where the API key needs to be placed. `$IncidentAnalysisObjectJSON = @{` `"reference" = "example.Reference",` `"orgUnitExternalId" = "example.orgUnitExternalId",` `"dataInterval" = "Monthly",` `"analysisMonth" = "MAY",` `"analysisYear" = 2024,` `"numberOfManHoursWorked" = 500` `} | ConvertTo-Json` `Invoke-WebRequest `` `-Headers @{'x-api-key' = 'XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX'} `` `-Uri https://api.elephant.sheassure.net/v1/incident-analysis `` `-Method Post `` `-ContentType 'application/json' ``  `-Body $IncidentAnalysisObjectJSON`` The following shows the output from the above Powershell script code being run where a successful response is generated. The StatusCode: 200 indicates that the create incident analysis request was successful. Some response lines have been removed for brevity. `StatusCode : 200` `StatusDescription : OK` `Content : {"message":"Incident Analysis successfully created."}`

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Python	The code block below shows the few lines of Python code required to setup the Incident Analysis Object JSON and to make the 'create incident analysis' request to the Customer API for a customer. The XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX is where the API key needs to be placed.
	
	`# pip install requests`
	`import requests`
	`incident_analysis_object = {`
	`"reference": "example.Reference",`
	`"orgUnitExternalId": "example.orgUnitExternalId",`
	`"dataInterval" : "Monthly",`
	`"analysisMonth" : "MAY",`
	`"analysisYear" : 2024,`
	`"numberOfManHoursWorked" : 500`
	`}`
	`headers = { "x-api-key": "XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX"}`
	`r = requests.post("https://api.elephant.sheassure.net/v1/incident-analysis",`
	`headers=headers, json = incident_analysis_object)`
	`r.raise_for_status()`
	`print(f"StatusCode={r.status_code}")`
	
	`print(f"Body={r.content}")`
	
	The following shows the output from the above Python code being run where a successful response is generated. The StatusCode=200 indicates that the incident analysis record creation was successful.
	
	`StatusCode=200`
	`Body=b'{"message": "Incident Analysis successfully created."}'`

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Updating an Incident Analysis Record

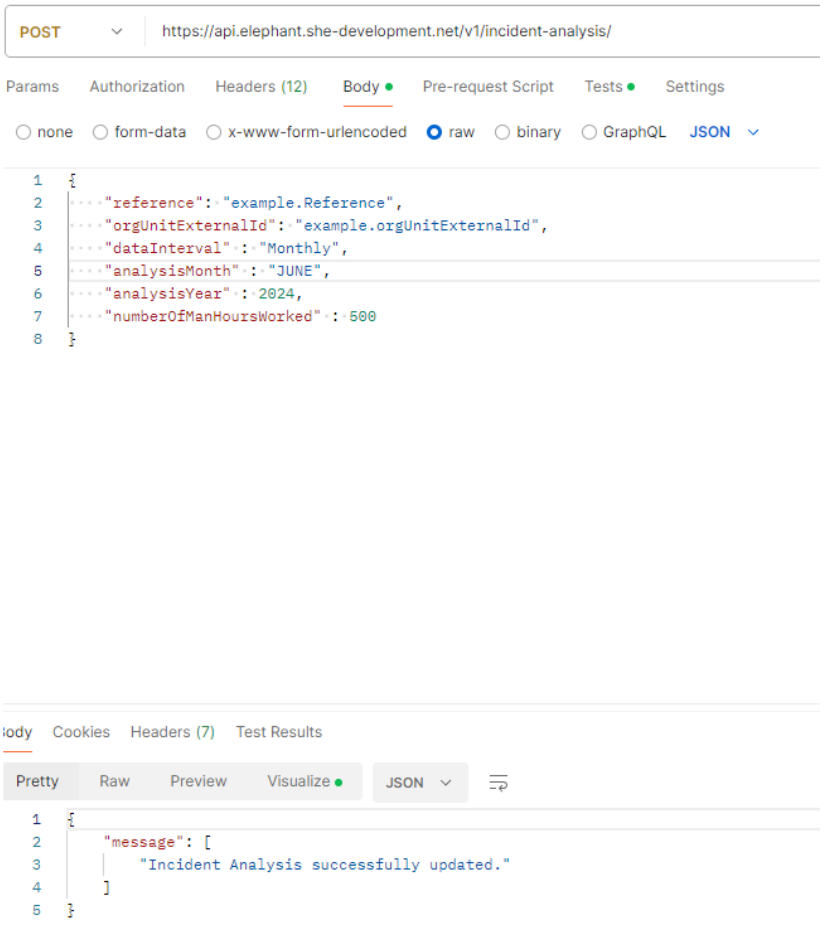
The Customer API allows the updating of incident analysis records in Assure using the /v1/incident-analysis API method with the POST verb. The incident analysis record details are supplied in the body of the API request using the incident analysis JSON object (see section above). Incident Analysis records are identified by their reference, which is the value in the reference field of the incident analysis JSON object. If there is an existing incident analysis record for the reference provided then the /v1/incident-analysis API method will update the existing incident analysis record to match the supplied details (see the 'Update ae incident analysis record' section below for details on the behaviour when updating an existing incident analysis record). Note: If there are multiple incident analysis records with the same reference that is provided in the request this will result in an error response (HTTP error 409).

If there is no incident analysis records for the reference then the /v1/incident-analysis API method will create the incident analysis record using the details in the Incident Analysis JSON object (see the 'Create an incident analysis record' section above for details on the behaviour when creating an incident analysis record).

Before attempting to use the /v1/incident-analysis API method make sure you understand the incident analysis JSON object (see the section above) and that you have the required details to access the API (i.e. the URL, API key, etc), follow the Getting Started guide if you don't have these details already. The following table sections show how to update an incident analysis record using the /v1/incident-analysis API method in a variety of software tools / platforms.

Partial updates are not supported i.e. you cannot update only selected incident analysis fields. The incident analysis JSON object must contain all the fields that are required to define the records data (same as if the record was being created). Assure will update the incident analysis record to match the details supplied, this includes applying the default values for any fields that are not provided in the incident analysis JSON object. See the OpenAPI schema for details of how the incident analysis data will be defaulted for each field.

Any HTTP response code is the range 200-299 should be treated as success (do not use the contents of the response body for identifying success or failure as these may change). Implement effective error handling as per the guide for error handling.

Postman API platform	The screenshot below shows a successful 'update incident Analysis' (NB: the Postman setup is identical to that used for creating an Incident Analysis record). The API key is supplied via the 'Authorization' tab (see the Getting Started guide for how to setup the API key). The response section at the bottom shows the result Status: 200 OK which indicates that the incident analysis update was successful (also displayed is the response message from the Customer API confirming the successful update). NB: With tools like this where the Incident Analysis JSON object is manually entered you must ensure the contents of any string values are properly escaped. 

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Windows Powershell	The code block below shows the few lines of Powershell script required to setup the Incident Analysis Object JSON and to make the 'update incident analysis' request to the Customer API (NB: this is identical to the script for creating an incident analysis record). The XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX is where the API key needs to be placed. `$IncidentAnalysisObjectJSON= @{` `  "reference" = "example.Reference",` `  "orgUnitExternalId" = "example.orgUnitExternalId",` `  "dataInterval" = "Monthly",` `  "analysisMonth" = "JUNE",` `  "analysisYear" = 2024,` `  "numberOfManHoursWorked" = 500` `} | ConvertTo-Json` `Invoke-WebRequest `` `  -Headers @{'x-api-key' = 'XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX'} `` ` -Uri https://api.elephant.sheassure.net/v1/incident-analysis`` `  -Method Post `` ` -ContentType 'application/json' ``  `  -Body $IncidentAnalysisObjectJSON`` The following shows the output from the above Powershell script code being run where a successful response is generated. The StatusCode: 200 indicates that the update an incident analysis record request was successful. Some response lines have been removed for brevity. `StatusCode : 200` `StatusDescription : OK` `Content : {"message":"Incident Analysis successfully updated."}`

Python	The code block below shows the few lines of Python code required to setup the Incident Analysis Object JSON and to make the 'update incident analysis record' request to the Customer API for a customer (NB: this is identical to the script for creating an incident analysis record). The XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX is where the API key needs to be placed.
	
	`# pip install requests`
	`import requests`
	`incident_analysis_object= {`
	`  "reference": "example.Reference",`
	`  "orgUnitExternalId": "example.orgUnitExternalId",`
	`  "dataInterval" : "Monthly",`
	`  "analysisMonth" : "JUNE",`
	`  "analysisYear" : 2024,`
	`  "numberOfManHoursWorked" : 500`
	`}`
	`headers = { "x-api-key": "XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX"}`
	`r = requests.post("https://api.elephant.sheassure.net/v1/incident-analysis",`
	`headers=headers, json = incident_analysis_object)`
	`r.raise_for_status()`
	`print(f"StatusCode={r.status_code}")`
	
	`print(f"Body={r.content}")`
	
	The following shows the output from the above Python code being run where a successful response is generated. The `StatusCode=200` indicates that the incident analysis update was successful.
	
	`StatusCode=200`
	`Body=b'{"message": "Incident Analysis successfully updated."}'`

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Deleting an Incident Analysis Record

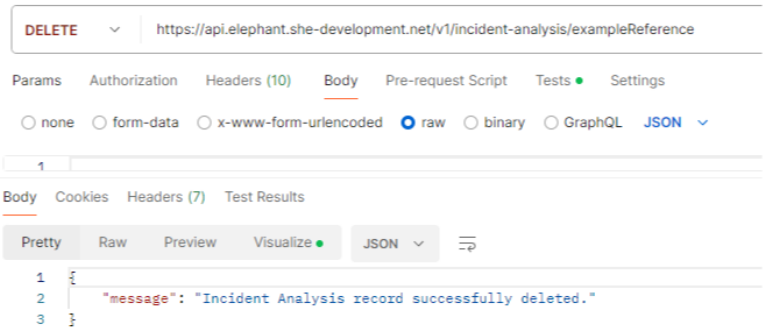
The Customer API allows the deletion of incident analysis records in Assure using the /v1/incident-analysis/{reference} API method with the DELETE verb. The record will be identified by its reference provided from the {reference} path parameter. The Incident Analysis Object is NOT required for this method.

If there is no incident analysis record for the reference provided then the /v1/incident-analysis/{reference}API method will still return a successful response (i.e. HTTP status code in the range 200-299).

Before attempting to use the /v1/incident-analysis/{reference} API method make sure you have the required details to access the API (i.e. the URL, API key, etc), follow the Getting Started guide if you don't have these details already. The following table sections show how to delete an incident analysis record using the /v1/incident-analysis/{reference} API method in a variety of software tools / platforms.

Any HTTP response code is the range 200-299 should be treated as success (do not use the contents of the response body for identifying success or failure as these may change). Implement effective error handling as per the guide for error handling.

IMPORTANT - The login user name value needs to have URL escaping applied before inclusion in the URL.

Postman API platform	The screenshot below shows a successful 'delete incident analysis record' request for a customer. Note the use of the 'Authorization' tab to configure the API key header. The XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX value is where the API key would be placed. The response section at the bottom shows the result Status: 200 OK which indicates that the record was successfully disabled (also displayed is the response message from the Customer API confirming the successful disable). NB: With tools like this where the reference to be deleted is manually entered you must ensure that URL escaping is applied to the reference. 

Windows Powershell	The code block below shows the few lines of Powershell script required to make the 'delete incident analysis record' request to the Customer API for a customer on the `elephant`stack. The XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX is where the API key needs to be placed.
	
	IMPORTANT - Note the use of [System.Net.WebUtility]::UrlEncode to ensure that the reference value is properly escaped for inclusion in the URL.
	
	`$URL = "https://api.elephant.sheassure.net/v1/incident-analysis/" + [System.Net.WebUtility]::UrlEncode("example?reference")`
	`Invoke-WebRequest ` `-Headers @{'x-api-key' = 'XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX'} ` `-Uri $URLEscaped ` `-Method Delete `
	
	The following shows the output from the above Powershell script code being run where a successful response is generated. The StatusCode: 200 indicates that the delete incident analysis request was successful. Some response lines have been removed for brevity.
	
	`StatusCode : 200`
	`StatusDescription : OK`
	`Content : {"message": "Incident Analysis record successfully deleted."}`

Python	The code block below shows the few lines of Python code required to make the 'delete incident analysis record' request to the Customer API for a customer. The XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX is where the API key needs to be placed.
	
	IMPORTANT – Note the use of urllib.parse.quote to ensure that the reference value is properly escaped for inclusion in the URL.
	
	`# pip install requests`
	`# pip install urllib`
	`import requests`
	`import urllib`
	`url = "https://api.elephant.sheassure.net/v1/incident-analysis/" +`
	`urllib.parse.quote('example.reference', safe='')`
	`headers = { "x-api-key": "XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX"}`
	`r = requests.delete(url, headers=headers)`
	`r.raise_for_status()`
	`print(f"StatusCode={r.status_code}")`
	
	`print(f"Body={r.content}")`
	
	The following shows the output from the above Python code being run where a successful response is generated. The StatusCode=200 indicates that the incident analysis delete was successful.
	
	`StatusCode=200`
	`Body=b'{"message": "Incident Analysis record successfully deleted."}'`