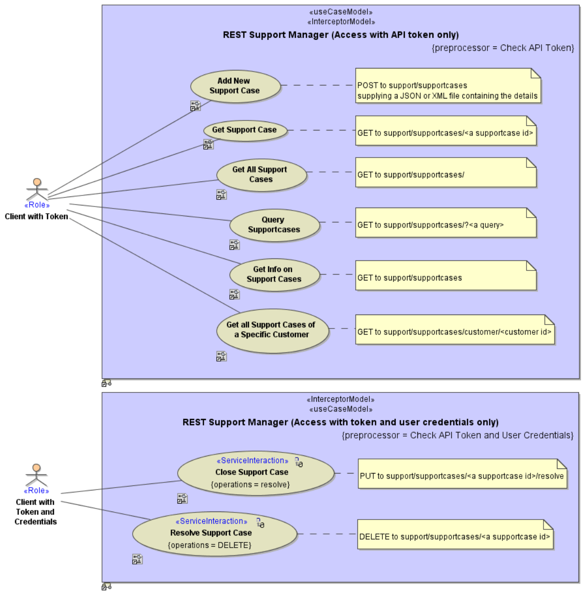
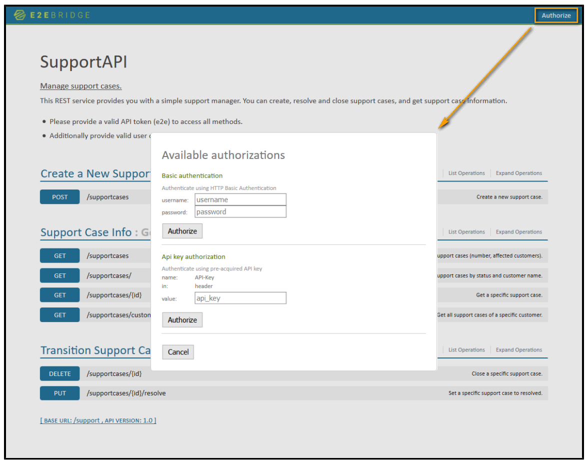
REST Service Authentication

Together with the REST Service features, you can use the normal security interceptor features as described on Security Model pp.


«useCaseModel»
«InterceptorModel»
REST Support Manager (Access with API token only)
{preprocessor = Check API Token}
«Role»
Client with Token
Add New Support Case
POST to support/supportcases supplying a JSON or XML file containing the details
Get Support Case
GET to support/supportcases/<a supportcase id>
Get All Support Cases
GET to support/supportcases/
Query Supportcases
GET to support/supportcases/?<a query>
Get Info on Support Cases
GET to support/supportcases
Get all Support Cases of a Specific Customer
GET to support/supportcases/customer/<customer id>
«InterceptorModel»
«useCaseModel»
REST Support Manager (Access with token and user credentials only)
{preprocessor = Check API Token and User Credentials}
«Role»
Client with Token and Credentials
«ServiceInteraction»
Close Support Case
{operations = resolve}
PUT to support/supportcases/<a supportcase id>/resolve
«ServiceInteraction»
Resolve Support Case
{operations = DELETE}
DELETE to support/supportcases/<a supportcase id>

The authentication headers can be accessed via the Bridge REST Test Tool, to e.g. set them for testing purposes.



SupportAPI

Manage support cases.

This REST service provides you with a simple support manager. You can create, resolve and close support cases, and get support case information.

- Please provide a valid API token (e2e) to access all methods.
- Additionally provide valid user

Create a New Suppor | List Operations | Expand Operations

POST /supportcases — Create a new support case.

Support Case Info : G | List Operations | Expand Operations

GET /supportcases — upport cases (number, affected customers).

GET /supportcases/ — upport cases by status and customer name.

GET /supportcases/{id} — Get a specific support case.

GET /supportcases/custon — Get all support cases of a specific customer.

Transition Support Ca | List Operations | Expand Operations

DELETE /supportcases/{id} — Close a specific support case.

PUT /supportcases/{id}/resolve — Set a specific support case to resolved.

[BASE URL: /support , API VERSION: 1.0]

Available authorizations

Basic authentication

Authenticate using HTTP Basic Authentication

username: username

password: password

Authorize

Api key authorization

Authenticate using pre-acquired API key

name: API-Key

in: header

value: api_key

Authorize

Cancel

Click **Authorize** in the top right corner to enter the credentials.

Related Pages:

- Security Model
- `convertBase64ToBlob()`
- `transcodeToString()`
- REST Service Reference

Enabling Authentication

If you want to use authentication with a REST service, set the tags **tokenType**, **tokenHeaderName**, and **useBasicAuth** on the REST service component in the component diagram.

Tagged Value	Description	Allowed Values
Port (port)	Defines the machine port number the service is binding to. This port number can be given at service level only.	any number Using ports below 1024 may require additional privileges.
Trace Port (tracePort)	Defines the shadow port of the service used for tracing.	any number (default is service port + 40000)
Max Request	Runtime 2021.2 Specifies the maximum size of the request in KB (1 KB = 1024 Bytes). This can be used to prevent DoS or similar attacks. When the payload of the service exceeds the given maximum, incoming request are rejected.	any positive integer

Body Size (maxRequestBodySize)		0	Accept unlimited requests (default of services compiled with Builder versions < 7.12.0).
		2048	Builder 7.12.0 2MB, default if not specified
Max Request Header Size (maxRequestHeaderSize)	Runtime 2022.6 Specifies the maximum size of the request header in KB (1 KB = 1024 Bytes). This can be used to prevent DoS or similar attacks. When the header payload of the service exceeds the given maximum, incoming request are rejected. **Compatibility Hint** For older Runtimes, a limit of 8 KB applies.	any positive integer	
		8	8 KB (default if not specified).
Http Header Roles (httpHeaderRoles)	Runtime 2020.12 Builder 7.12.0 Assign roles to dedicated incoming headers that define how the related header will be treated by the xUML Runtime. These definitions overwrite the default behavior (see REST Adapter > HTTP Headers), and **X-Transaction-Id**, **X-Request-Id**, **X-Sender-Host** and/or **X-Sender-Service** will be substituted by this definition. Refer to HTTP Header Support > Overwriting the Standard HTTP Headers for more details. **Http Header Roles** can hold a list of definitions in format `<http header name>:<role>`, where `<role>` can be one of the listed allowed values (one list entry per line).	client_host	Take the sender host from header `<http header name>` instead of **X-Sender-Host**.
		client_service	Take the sender service from header `<http header name>` instead of **X-Sender-Service**.
		correlation_id	Take the correlation ID from header `<http header name>` instead of **X-Request-Id**.
		transaction_id	Take the transaction ID from header `<http header name>` instead of **X-Transaction-Id**.
Token Type (tokenType)	Mark the service as to use token authorization. The Bridge REST Test Tool will then present a field to enter the token and put the value into the HTTP headers. Refer also to **tokenHeaderName** for more information. You can use both in a REST service: basic authorization and token authorization, see **useBasicAuth**.	none	Do not use token authorization.
		APIKey	Use API key authorization.
Token Header Name (tokenHeaderName)	Defines the name of the header that will transport the token. This tagged value is only relevant, if token authorization is enabled at all. The token header name will be presented as the name of the header field that can be entered in the Bridge REST Test Tool. Refer also to **tokenType** for more information.	A valid HTTP header name (according to RFC2616 /RFC7230).	
Use Basic Auth (useBasicAuth)	Mark the service as to use basic authentication mechanisms. The Bridge REST Test Tool will then present fields to enter the credentials and put the values into the HTTP headers. You can use both in a REST service: basic authorization and token authorization, see **tokeType** and **tokenHeaderName**.	true	Enable basic authentication.
		false	Disable basic authentication (default).
Json Keep Nulls (jsonKeepNulls)	When **jsonKeepNulls** is true, attributes of the REST response object having NULL values will be rendered to the REST response, otherwise they will be left out completely (see also chapter NULL Values).	true	Render attributes with NULL values to the REST response.
		false	Leave out attributes with NULL values in the REST response (default).

Json Compact (jsonCompact)	When **jsonCompact** is true, the JSON composer will generate compact JSON, otherwise it will generate pretty JSON. **jsonCompact** defaults to true - also on re-compile of an older model with Builder as of 7.0.0-beta3.	**true**	Generate compact JSON (default).
		false	Generate pretty JSON.
Json Write Type Discriminator (jsonWriteTypeDiscriminator)	Runtime 2021.6 Builder 7.15.0 When **jsonCompact** is true, the JSON composer will generate xUML type properties ("e2e:type") to the generated JSON. If this option is true, the Runtime will write the original xUML type to the generated JSON in form of `"e2e:type": "<name of the original xUML type>"` if the type being serialized does not match the expected metadata. This is necessary if you want to convert the generated JSON back to an xUML class using jsonToClass(). Runtime versions before 2021.6 will ignore the value.	**true**	Write xUML type discriminator.
		false	Do not write xUML type discriminator.

Setting these tagged values does not implement anything yet. The authorization headers have to be inspected in a security interceptor preprocessor to implement authentication and authorization.

Implementing Authentication

In the preprocessor of you security interceptor, you can implement the authentication process.

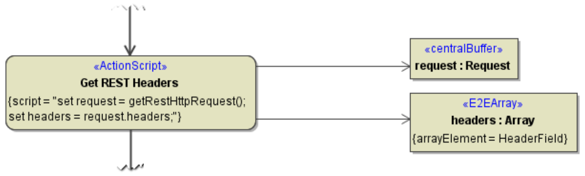
1. Read the authentication headers (see Reading the REST HTTP Headers further below), which are
   - **Authorization** for basic authentication
     The basic authentication headers are base64 encoded. You have to decode them before usage.
   - **<name of token header>** in component diagram for token authentication
2. Decode the basic authentication if necessary (see Decoding Basic Authentication further below).
3. Implement your security settings depending on the header values.
   In case of the REST Support Manager example, this is a very simplified role assignment based on hard coded header values.

Reading the REST HTTP Headers

To read the REST HTTP headers, use `getRestHttpRequest()`.

> `getRestHttpRequest()` will contain the headers in REST service context. In other contexts, e.g. if called via a SOAP shadow port (and thus SOAP context), `getRestHttpRequest()` will return `NULL`. Use `getServiceContext()` or `getServiceContextValue()` in such cases.

Figure: getRestHttpRequest()

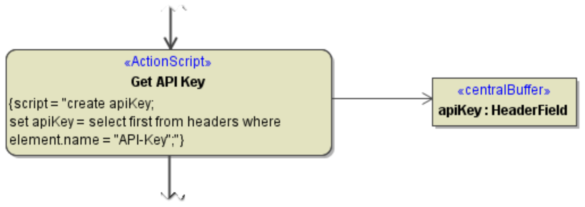

«ActionScript»
Get REST Headers
{script = "set request = getRestHttpRequest();
set headers = request.headers;"}
«centralBuffer»
request : Request
«E2EArray»
headers : Array
{arrayElement = HeaderField}

Receive the result in an object of type **Request** and get all request headers in an array object of type **HeaderField**.
HeaderField is a type containing a key value pair (see Request and Response Types).

Getting the API Key from the Request Headers

To get the API key value pair from the request headers array, look for the API key name you defined in the component diagram. In our example, this is "API-Key".

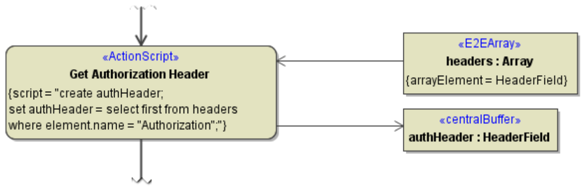
Figure: Lookup API Key


«ActionScript»
Get API Key
{script = "create apiKey;
set apiKey = select first from headers where
element.name = "API-Key";"}
«centralBuffer»
apiKey : HeaderField

Getting the Authorization Headers from the Request Headers

To get the Authorization key value pair from the request headers array, look for "Authorization".

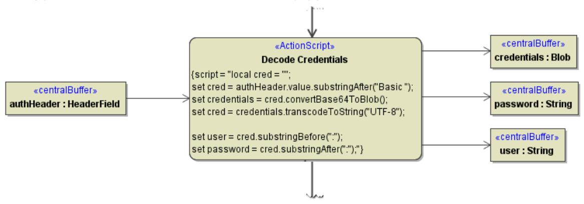
Figure: Lookup Authorization Header



```
{script = "create authHeader;
set authHeader = select first from headers
where element.name = "Authorization";"}
```

Decoding Basic Authentication

To decode the base64 encoded basic authentication header value, use operations `convertBase64ToBlob()` and `transcodeToString()`.



```
{script = "local cred = "";
set cred = authHeader.value.substringAfter("Basic ");
set credentials = cred.convertBase64ToBlob();
set cred = credentials.transcodeToString("UTF-8");

set user = cred.substringBefore(":");
set password = cred.substringAfter(":");"}
```

1. Remove string "Basic " from the beginning of the header value, e.g.

   ```
   local cred = "";
   set cred = authHeader.value.substringAfter("Basic ");
   ```

2. Convert the base64 string to a Blob object using `convertBase64ToBlob()`, e.g.

   ```
   set credentials = cred.convertBase64ToBlob();
   ```

3. Convert the Blob object to a readable string using `transcodeToString()`, e.g.

   ```
   set cred = credentials.transcodeToString("UTF-8");
   ```

4. Split user and password from the credentials string, e.g.

   ```
   set user     = cred.substringBefore(":");
   set password = cred.substringAfter(":");
   ```