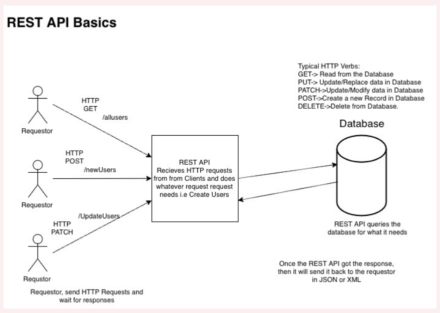
ServiceNow REST - Cheat Sheet Cheat Sheet

by Bibin Gokuldas (bibingokuldas) via cheatography.com/69673/cs/17659/

REST API Basics


REST API Basics
Typical HTTP Verbs:
GET-> Read from the Database
PUT-> Update/Replace data in Database
PATCH->Update/Modify data in Database
POST->Create a new Record in Database
DELETE->Delete from Database.
Database
Requestor
HTTP
GET
/allusers
Requestor
HTTP
POST
/newUsers
REST API
Recieves HTTP requests
from from Clients and does
whatever request request
needs i.e Create Users
/UpdateUsers
HTTP
PATCH
Requstor
Requestor, send HTTP Requests and
wait for responses
REST API queries the
database for what it needs
Once the REST API got the response,
then it will send it back to the requestor
in JSON or XML

Scripted REST APIs

API URIs	This part the for the scripted rest has to define name_space, api_id, resource_path, version
API Query Parameter	When defining a scripted resource, which parameter is mandatory for the request can also be defined
API Error Objects*	Scripted REST APIs provide multiple ways to send an error in a response to a requesting client.

*Multiple error objects are available in scripted REST API scripts to report error information to requesting clients.All scripted REST API error objects use the sn_ws_err namespace.
Error objects available are 400,404,406,409,415

REST API Best Practices

Follow REST API Conventions	REST API conventions define specific behaviour for each type of method. For ex : *GET* : to Query the data, *POST* : to create Data, *PUT and PATCH* : to Update data, *DELETE* : to delete records.
Use Versioning to control changes to API	Use versioning to implement new functionalities, so that the existing functionalities will not impact
Return an Informative HTTP Status code	Return a status code, which inform the requestor about the success and failures(defined in the response codes section)
Return useful error information	Provide the requestor with enough information of why the failure occurred. Error message is a mix of error message and error code

REST API Best Practices (cont)

Enforce and test Access Controls	Enforce existing access controls and require additional GlideRecordSecure* API in scripted RESI services
Build Tests to verify functionality	Tests should validate the response code, headers, and resource you implement. You can also use tests to vali to confirm that errors return useful responses.

*GlideRecordSecure API Ensure that the ACLs are defined on the underl user.

REST Security

How is REST API Secure?

The REST API uses basic authentication or OAuth to enforce access c defined on tables to restrict the data viewership.

Will all tables be available for the REST API Access?

By default, Yes. All tables including system tables, and scoped tables a

How can I restrict a table Access through web services?

In the table properties, uncheck the option for Allow access to this table

Does REST API support CORS?

Cross Origin Resource Security is supported.

How can I Define CORS Rules?

CORS Rules can be defined in sys_cors_rule. Which allows to specify expose.

How to disable CORS Support for Instance?

CORS support on instance is defined by glide.rest.cors.enabled set it t

Can I use OAuth with REST?

Yes, use OAuth token for REST Requests

Can I use MFA with REST?

Yes again, with a REST Request, if MFA is enabled then append token rid:passwrdtoken. Encode using base64 encoding

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Building Blocks REST API

API	API allows to select a specific Application Programming interface, which is available in SNOW	Ex TableAPI,AggregateAPI
Namespace	REST APIs provided by ServiceNow has **now** namespace	Scripted REST may use a different one
Method	REST enables the use of few methods like **GET**,**POST**,**DELETE**,**PATCH**	Not all the APIs available from ServiceNow would have all the methods available
Request Header	Allows to specify a header for the Integration	Can add Custom header as per requirement
Query parameter	Allows to specify an encoded query for the REST Call	Can add more query parameters or even a sys_id for some methods

You can prepare the sample request using the REST API Explorer in ServiceNow.
ServiceNow REST URI looks like this <LINKFORSNOW>/api/now/apiname/. For ex : if we are using a table API for POST then the link look something like below : POST <LINKOFServiceNow>/api/now/table/tablename

REST API Rate Limit

To prevent excessive inbound REST API requests, set rules that limit the number of inbound REST API requests processed per hour.
There is an option to create Rate Limit for users with specific roles, or for all users. The table for creating rate limit is **sys_rate_limit_rules**.
In the basic Response Header, the Rate limit would be specified for ex : x-RateLimit-Limit -->10

REST API Headers

Accept	application/json, application/xml
Content-Type	pplication/json, application/xml

By design, POST, PUT, PATCH, and DELETE operations required to provide both headers.
GET operations require only the Accept header.
There is an option override the HTTP method, such as GET or POST, by setting the X-http-method-override header.

REST API Response Codes

200	Success	Success with Response Body
201	Created	Success with Response Body
204	Success	Success with Response Body

REST API Response Codes (cont)

400	Bad Request	The Request URI can't match the API.
401	Unauthorized	The User is not authori
403	Forbidden	The Operation requeste not permitted for the us
404	Not Found	The requested resource not found
405	Method not allowed	The HTTP action is not
406	Not acceptable	The endpoint doesn't su the response format
415	Unsupported media type	The endpoint does not

RESTMessageV2

execute()	Sends the REST mess
executeAsync()	Sends the REST mess instance doesn't wait fo
getEndpoint()	Get the URL of the end
getRequestBody()	Get the content of the
getRequestHeader(<headername>)*	Get the value for an HT message.
getRequestHeaders()	Get HTTP headers tha associated values.

RESTMessageV2 (cont)

saveResponseBodyAsAttachmen-t(tblname,recordid,filename)**	Configures the REST message to save the returned response body as an attachment record.
saveResponseBodyAsAttachmen-t(tblname,recordid,filename,encry-ptcontext)*	Configure the REST message to save the returned response body as an encrypted attachment record.
setAuthenticationProfile(type,pro-fileid)**	Set the credentials for the REST message using an existing basic auth or OAuth 2.0 profile.
setBasicAuth(username,pa-ssword)	Sets basic authentication headers for the REST message.
setEccCorrelator(correlator)	Associate outbound requests and the resulting response record in the ECC queue. This method only applies to REST messages sent through a MID Server.
setEccParameter(name,value)	Override a value from the database by writing to the REST message payload. This method only applies to REST messages sent through a MID Server.
setEndpoint(endpoint)	Set the endpoint for the REST message.
setHttpMethod(method)	The HTTP method this REST message performs, such as GET or PUT.
setHttpTimeout(milliseconds)	Set the amount of time the REST message waits for a response from the web service provider before the request times out.
setLogLevel(level)	Set the log level for this message and the corresponding response.Valid values for level are basic, elevated, and all.

RESTMessageV2 (cont)

setMIDServer(midse-rver)	The name of the MID Ser active MID Server with th
setMutualAuth(profile-name)	Set the mutual authentica message.
setQueryParameter(-name, value)	Append a parameter to th name=value.
setRequestBody(-body)	Set the body content to s using PUT or POST HTT
setRequestBodyF-romAttachment(atta-chmentsysid)	Sets the request body us
setRequestHeader(n-ame,value);	Set an HTTP header in th value.
setRequestorProfile(r-equestorcontext,re-questorid)	Override the default requ order to retrieve an OAut different requestor.
setStringParameter-(name,value)	Set a REST message fur from the REST message
setStringParameter-NoEscape(name,v-alue)	XML reserved characters equivalent escaped chara
waitForResponse(se-conds)	In seconds. Wait at most Queue/Mid Server.

*By design, this method cannot return the value for a he
To grant this method access to all headers, set the prop
**the input parameters for this functions are string, and r
*encryptcontext should specify the sysid of the encryptio