

SE 3XA3
REST Assured
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MIS

Team 31

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1 Revision History

Date	Version	Notes
10-Nov-2017	0.0	Revision 0

Table 1: **Revision History**

2 RestStub Module

Template Module

RestStubT

Uses

Constants

Syntax

Exported Types

RestStubT = ?

Exported Access Programs

Routine name	In	Out	Exceptions
RestStub	JSON		
toJSON		JSON	
setRequestType	String		
getRequestType			
runTest	Function		

Semantics

State Variables

label: String - User readable label of the test stub.

identifier: String - Unique string used to identify test stubs.

request_type: String - Type of request for the test, GET, PUT, POST, DELETE.

request_data: JSON - Data for the request.

response_data: JSON - Response data for the request.

response_expected: JSON - Expected response data.

State Invariant

none

Assumptions

none

Access Routine Semantics

RestStub(data):

- input: Rest Stub fields.
- transition: The module constructor. Loads information from data if possible.
- output: Assign fields to the data fields, if data is null the fields are set to defaults.
- exception: none

toJSON():

- input: Rest Stub fields.
- transition: The module constructor. Loads information from data if possible.
- output: Assign fields to the data fields, if data is null the fields are set to defaults.
- exception: none

toJSON():

- input: none
- transition: none
- output: JSON equivalent of the object.
- exception: none

setRequestType(rtype):

- input: rtype
- transition: Sets the value of request_type field to rtype
- output: none
- exception: none

getRequestType():

- input: none
- transition: none
- output: Value of request_type
- exception: none

runTest(callback):

- input: none
- transition: Runs the test and executes the callback operation based on the test success.
- output: none
- exception: none

Local Functions

none

3 RestChain Module

Template Module

RestChainT

Uses

Constants

Syntax

Exported Types

RestChain = ?

Exported Access Programs

Routine name	In	Out	Exceptions
RestChain	List<String>		
addTest	String		
removeTest	String		MissingTestException
moveTest		String, int	MissingTestException, IndexOutOfBounds
runTests	Function		

Semantics

State Variables

label: String - User readable label of the RestChain.

identifier: String - Unique string used to identify RestChain.

reststub_list: List<String> - List of RestChain identifiers to be run by the RestChain.

State Invariant

none

Assumptions

none

Access Routine Semantics

RestChain(list):

- input: List of RestStub identifiers to store in chain.
- transition: The module constructor.
- output: Assign fields to the data fields, if data is null the fields are set to defaults.
- exception: none

toJSON():

- input: none
- transition: none
- output: none
- exception: none

addTest(testid):

- input: String of the identifier for the RestStub to add to the RestChain.
- transition: Appends the identifier, to the reststub_list.
- output: Json equivalent of the object.
- exception: none

removeTest(identifier):

- input: Identifier of test to remove from the RestChain.
- transition: Test identifier is removed from reststub_list.
- output: none
- exception: MissingTestException: Thrown if the RestStub is not in reststub_list.

moveTest(identifier, newIndex):

- input: Identifier of the RestStub, and new index in the list.
- transition: Moves the position of the corresponding RestStub in reststub_list.
- output: none
- exception: MissingTestException: Thrown if the RestStub is not in reststub_list. IndexOutOfBounds: newIndex is not a valid index for reststub_list.

runTests(callback):

- input: none
- transition: Runs the tests in the RestChain and executes callback function with success boolean.
- output: none
- exception: none

Local Functions

none

4 JsonComparer Module

Module

JsonComparer

Uses

Constants

Syntax

Exported Types

none

Exported Access Programs

Routine name	In	Out	Exceptions
compare	JSON, JSON		
compareExact	JSON, JSON	JSON	
compareWithTolerance	JSON, JSON, int		

Semantics

State Variables

none

State Invariant

none

Assumptions

none

Access Routine Semantics

compare(expected, received):

- input: Two json objects to compare for similarities.
- transition: none
- output: True if received is a subset of expected.

- exception: none

`compareExact(expected, received):`

- input: Two json objects to compare for similarities.
- transition: none
- output: True if received is identical to expected.
- exception: none

`compareWithTolerance(expected, received, mostDifferences):`

- input: Two json objects to compare for similarities, and an int for the maximum number of differences between the json objects.
- transition: none
- output: none
- exception: none

Local Functions

none

5 RestSuite Module

Module

RestSuite

Uses

Constants, ProfileStore, IO, JsonParser

Syntax

Exported Types

none

Exported Access Programs

Routine name	In	Out	Exceptions
display			
saveAllToDisk			
loadAllFromDisk			
saveSpecifiedToDisk	String		

Semantics

State Variables

none

State Invariant

none

Assumptions

none

Access Routine Semantics

display():

- input: none
- transition: none

- output: Visual information for the Window to display to the user.
- exception: none

saveAllToDisk:

- input: none
- transition: none
- output: Downloads the application's state to the user's machine.
- exception: none

loadAllFromDisk():

- input: none
- transition: none
- output: Updates the application's state with information from a selected file.
- exception: none

saveSpecifiedToDisk(data):

- input: none
- transition: none
- output: Saves specified information to a file.
- exception: none

Local Functions

none

6 Constants Module

Module

Constants

Uses

Constants

Syntax

Exported Constants

REQUEST_TYPES: List<String> - String of valid requests

Exported Access Programs

none

Semantics

State Variables

none

State Invariant

none

7 ProfileStorage Module

Module

ProfileStorage

Uses

Constants

Syntax

Exported Types

Exported Access Programs

Routine name	In	Out	Exceptions
init			
getRestStubFromID	String	RestStub	missingRestStub
getRestChainFromID	String	RestChain	missingRestChain
newRestStub		String	
newRestChain		String	
copyRestStub	String	String	missingRestStub
copyRestChain	String	String	missingRestChain
generateIdentifier		String	
newProfile		String	
deleteRestStub	String		missingRestStub
deleteRestChain	String		missingRestChain

Semantics

State Variables

all_RestStubs: List<RestStub> - List of all identifiers for RestStubs in memory.
all_RestChains: List<RestChain> - List of all identifiers for RestChains in memory.
all_identifiers: List<String> - List of all identifiers in memory.
all_profiles: List<Profile> - List of all profiles in memory.

State Invariant

none

Assumptions

none

Access Routine Semantics

getRestStubFromID(identifier):

- input: Identifier of the RestChain to retrieve.
- transition: none
- output: RestChain with the identifier.
- exception: none

getRestChainFromID(identifier):

- input: none
- transition: none
- output: none
- exception: none

newRestStub():

- input: none
- transition: Creates a new RestStub, and appends it to all_RestStubs.
- output: Identifier of the new RestStub.
- exception: none

copyRestStub(identifier):

- input: Identifier of the RestStub to copy.
- transition: Creates a deep copy of an existing RestStub, and appends it to all_RestStubs.
- output: Identifier of the new RestStub.
- exception: none

copyRestChain(identifier):

- input: Identifier of the RestChain to copy.
- transition: Creates a deep copy of an existing RestChain, and appends it to all_RestChains.
- output: New identifier.
- exception: none

newProfile():

- input: none
- transition: Creates a new Profile, and appends it to allProfiles.
- output: Identifier of the new Profile.
- exception: none

deleteRestStub(identifier):

- input: none
- transition: Removes a RestStub from allRestStubs, and performs removeRestStub(identifier) on all Profile objects in allProfiles.
- output: none
- exception: none

deleteRestChain(identifier):

- input: none
- transition: Removes a RestChain from all_RestStubs, and performs removeRestChain(identifier) on all Profile objects in all_RestChains.
- output: none
- exception: none

Local Functions

none

8 Profile Module

Module

ProfileT

Uses

RestStub, RestChain

Syntax

Exported Types

Exported Access Programs

Routine name	In	Out	Exceptions
init			
getRestStubs		List<String>	
getRestChains	List<String>		
addRestStub	String		
addRestChain	String		
removeRestStub	String	String	
removeRestChain	String	String	

Semantics

State Variables

local_RestStubs: List<String> - List of identifiers for RestStubs in this Profile.

local_RestChains: List<String> - List of identifiers for RestChains in this Profile.

local_identifiers: List<String> - List of identifiers in this Profile.

State Invariant

none

Assumptions

none

Access Routine Semantics

getRestStubs():

- input: none

- transition: none
- output: copy of local_RestStubs
- exception: none

getRestChains():

- input: none
- transition: none
- output: Copy of local_RestChains.
- exception: none

addRestStub():

- input: Identifier of RestStub to add to Profile.
- transition: Adds corresponding RestStub, and appends it to local_RestStubs.
- output: identifier of the new RestStub.
- exception: none

addRestChain():

- input: Identifier of RestChain to add to Profile.
- transition: Creates a new RestChain, and appends it to local_RestChains.
- output: Identifier of the new RestChain.
- exception: none

removeRestStub(identifier):

- input: Identifier of RestChain to remove from Profile.
- transition: Removes the RestStub local_RestStubs, if it exists. Performs the RemoveRestStub(identifier) on all TestChains in local_RestChains.
- output: none
- exception: none

removeRestChain(identifier):

- input: Identifier of RestChain to remove from Profile.
- transition: Removes the RestChain local_RestChains, if it exists.
- output: none
- exception: none

Local Functions

none

9 IO Module

Module

IO

Uses

Constants

Syntax

Exported Types

Exported Access Programs

Routine name	In	Out	Exceptions
readFile	String	String	MissingFileException, FileSizeError
saveFile	String, String	JSON	MissingFileException

Semantics

State Variables

none

State Invariant

none

Assumptions

none

Access Routine Semantics

readFile(location):

- input: Storage location of file to read.
- transition: none
- output: String of file contents.
- exception: none

saveFile(fileName, data):

- input: Name of file to save to the user's computer, and the data to store in the file.

- transition: none
- output: String of file contents.
- exception: none

Local Functions

none