

## Charter

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Identify capabilities and areas of potential instability of the “rest api todo list manager.”  
Identify documented and undocumented “rest api todo list manager” capabilities.  
For each capability create a script or small program to demonstrate the capability.  
Exercise each capability identified with data typical to the intended use of the application.

For interoperabilities

## Build

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java -jar runTodoManagerRestAPI-1.5.5.jar

## Area

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Interoperability of the main functions and capabilities of the system

## Environment

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Windows XP, 1400x1050  
Mac OS, Screen resolution 1400x1050

## Start

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9:45 am, 02/04/2023

## Other Data

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Written text attachment  
Video of the session

## Testers

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Eric Zhang, 260989014, eric.zhang3@mail.mcgill.ca  
Qing Han Zhang, 260973651, qinghan.zhang@mail.mcgill.ca

## Session Breakdown

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Total length 45 minutes

## Test Notes

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9:44




ran API on web browser

The following is the categories for the charters for column 3

1. Identify capabilities and areas of potential instability of the “rest api todo list manager”.
2. Identify documented and undocumented “rest api todo list manager” capabilities.
3. For each capability create a script or small program to demonstrate the capability.
4. Exercise each capability identified with data typical to the intended use of the application.

Date & Time	Tester Name	Curl Command	Command: Refer to 'ListOfCommands'	Charter Specifics	Note	Output
02/04/2023, 9:00 AM	Qing Han Zhang	GET	Command #1	Undocumented capability, script	Gets all the projects in the categories	<pre>{   "projects": [     {       "id": "5",       "title": "New project",       "completed": "false",       "active": "false",       "description": ""     },     {       "id": "4",       "title": "New project",       "completed": "false",       "active": "false",       "description": ""     }   ] }</pre>
02/04/2023, 9:01 AM	Qing Han Zhang	GET	Command #2	Documented Capability, typical data for application	Retrieves all the projects of a category of id 2	<pre>{   "projects": [     {       "id": "3",       "title": "New project",       "completed": "false", </pre>

						<pre>"active": "false", "description": "" }, {   "id": "2", "title": "New Updated title", "completed": "false", "active": "false", "description": "" } ]</pre>										
02/04/2023, 9:02 AM	Qing Han Zhang	GET	Command #3	Script, Documented capability, area of potential instability	This should not happen because category 11 does not exist and should give an error	NA										
02/04/2023, 9:02 AM	Qing Han Zhang	HEAD	Command #4	Documented Capability	No output visible; however since the GET is working the HEAD must be working	<div>Body  Cookies  Headers (4)  Test Results  200 OK  7ms  127 B  <a href="#">View Response</a></div> <table><tr><th>KEY</th><th>VALUE</th></tr><tr><td>Date (🔗)</td><td>Fri, 10 Feb 2023 01:58:51 GMT</td></tr><tr><td>Content-Type (🔗)</td><td>application/json</td></tr><tr><td>Transfer-Encoding (🔗)</td><td>chunked</td></tr><tr><td>Server (🔗)</td><td>Jetty(9.4.4-SNAPSHOT)</td></tr></table>	KEY	VALUE	Date (🔗)	Fri, 10 Feb 2023 01:58:51 GMT	Content-Type (🔗)	application/json	Transfer-Encoding (🔗)	chunked	Server (🔗)	Jetty(9.4.4-SNAPSHOT)
KEY	VALUE															
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Content-Type (🔗)	application/json															
Transfer-Encoding (🔗)	chunked															
Server (🔗)	Jetty(9.4.4-SNAPSHOT)															
02/04/2023, 9:04 AM	Qing Han Zhang	POST	Command #5	Documented Capability	creates an instance of a relationship named categories between projects with id 1 and the category in the body which in this case was also 1.	<pre>{   "id": "1", "title": "New project", "completed": "false", "active": "false", "description": "" }</pre>										
02/04/2023, 9:04 AM	Qing Han Zhang	POST	Command #6	Documented Capability/script	Created a project in category with id 2 but made it into id 3 since id 2 already existed	<pre>{   "id": "3", "title": "New project", "completed": "false", "active": "false", "description": "" }</pre>										

02/04/2023, 9:04 AM	Qing Han Zhang	POST	Command #7	Script, Documented capability, area of potential instability	Created a project in category 5 and gave the project id 5	<pre>{   "id": "5",   "title": "New project",   "completed": "false",   "active": "false",   "description": "" }</pre>
02/04/2023, 9:04 AM	Qing Han Zhang	DELETE	Command #8	Documented Capability	delete the instance of the relationship named tasks between project and category using the :id	NA
02/04/2023, 9:06 AM	Qing Han Zhang	DELETE	Command #9	Undocumented Capability	delete the instance of the relationship named tasks between project and category the :id that has already been deleted gives an error	<pre>{   "errorMessage": [     "Could not find any instances with     categories/1/projects/1"   ] }</pre>
02/04/2023, 9:08 AM	Qing Han Zhang	POST	Command #10	Undocumented capability	BUG: was unable to POST using XML input for valid ID value, relationship was not identified	
02/04/2023, 9:10 AM	Qing Han Zhang	POST	Command #11	Documented Capability, area of potential instability, typical data for application	BUG: was unable to use POST using XML input for valid ID value, unclear error message was thrown	
02/04/2023, 9:12AM	Qing Han Zhang	GET	Command #12	Documented Capability	Works as expected: the GET request is received and categories is returned.	<pre>{   "categories": [] }</pre>
02/04/2023, 9:14 AM	Qing Han Zhang	PUT	Command #13	Documented Capability	BUG: nothing is returned meaning that the relation is incorrect. Wrong Error.	
02/04/2023, 9:16 AM	Qing Han Zhang	PUT	Command #14	Undocumented Capability	Works as expected was able to use PUT operation on a todo using XML.	<pre>{   "id": "13",   "title": "hello",   "doneStatus": "false",   "description": "" }</pre>

						}
02/04/2023, 9:18 AM	Qing Han Zhang	GET	Command #15	Undocumented capability	Gathered all the todos of all the categories	{ "todos": [ { "id": "3", "title": "New todos", "doneStatus": "false", "description": "" }, { "id": "4", "title": "New todos", "doneStatus": "false", "description": "" } ] }
02/04/2023, 9:20 AM	Qing Han Zhang	GET	Command #16	Documented capability, script, data, are of potential instability	Even if category 1 does not exist, it still outputs some todos for it which is wrong	{ "todos": [ { "id": "3", "title": "New todos", "doneStatus": "false", "description": "" }, { "id": "4", "title": "New todos", "doneStatus": "false", "description": "" }, { "id": "5", "title": "New todos", "doneStatus": "false", "description": "" } ] }

						}										
02/04/2023, 9:20 AM	Qing Han Zhang	GET	Command #17	Documented Capability, Script	Worked as expected: and got the todos for the specific category	<pre>{   "todos": [     {       "id": "3",       "title": "New todos",       "doneStatus": "false",       "description": ""     },     {       "id": "4",       "title": "New todos",       "doneStatus": "false",       "description": ""     }   ] }</pre>										
02/04/2023, 9:22 AM	Qing Han Zhang	HEAD	Command #18	Documented Capability	Worked as expected:	<div>Body  Cookies  Headers (4)  Test Results  ⓘ Status: 200 OK Time: 4 ms Size: 147 B Save Response ▾</div> <table><tr><th>KEY</th><th>VALUE</th></tr><tr><td>Date ⓘ</td><td>Fri, 10 Feb 2023 02:16:35 GMT</td></tr><tr><td>Content-Type ⓘ</td><td>application/json</td></tr><tr><td>Transfer-Encoding ⓘ</td><td>chunked</td></tr><tr><td>Server ⓘ</td><td>Jetty(9.4.z-SNAPSHOT)</td></tr></table>	KEY	VALUE	Date ⓘ	Fri, 10 Feb 2023 02:16:35 GMT	Content-Type ⓘ	application/json	Transfer-Encoding ⓘ	chunked	Server ⓘ	Jetty(9.4.z-SNAPSHOT)
KEY	VALUE															
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Content-Type ⓘ	application/json															
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Server ⓘ	Jetty(9.4.z-SNAPSHOT)															
02/04/2023, 9:24 AM	Qing Han Zhang	POST	Command #19	Documented Capability	create an instance of a relationship named todos between category instance :id and the todo instance represented by the id in the body of the message	NA										
02/04/2023, 9:24 AM	Qing Han Zhang	POST	Command #20	Undocumented capability	If the category id does not exist, then it is expected that there is an error	<pre>{   "errorMessage": [     "Could not find parent thing for relationship categories/1/todos"   ] }</pre>										
02/04/2023, 9:26 AM	Qing Han Zhang	GET	Command #21	Documented Capability, typical data for application	Retrieves all the todos of a project of id 1	<pre>{   "todos": [     {       "id": "1",</pre>										

						<pre>"title": "scan paperwork", "doneStatus": "false", "description": "", "tasksof": [   {     "id": "1"   } ], "categories": [   {     "id": "1"   } ] }, {   "id": "2", "title": "file paperwork", "doneStatus": "false", "description": "", "tasksof": [   {     "id": "1"   } ] }</pre>										
02/04/2023, 9:30 AM	Qing Han Zhang	HEAD	Command #22	Documented Capability	No output visible; however since the GET is working the HEAD must be working	<div>Body Cookies Headers (4) Test Results 200 OK 7ms 147 B <a href="#">View Response</a></div> <table><tr><th>KEY</th><th>VALUE</th></tr><tr><td>Date</td><td>Fri, 10 Feb 2023 01:58:51 GMT</td></tr><tr><td>Content-Type</td><td>application/json</td></tr><tr><td>Transfer-Encoding</td><td>chunked</td></tr><tr><td>Server</td><td>Jetty(9.4.43-SNAPSHOT)</td></tr></table>	KEY	VALUE	Date	Fri, 10 Feb 2023 01:58:51 GMT	Content-Type	application/json	Transfer-Encoding	chunked	Server	Jetty(9.4.43-SNAPSHOT)
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02/04/2023, 9:34 AM	Qing Han Zhang	POST	Command #23	Documented Capability	create an instance of a relationship named tasks between project instance :id and the todo instance represented by the id in the body of the message	<pre>{ "todos": [   {     "id": "1", "title": "scan paperwork", "doneStatus": "false", "description": "", "tasksof": [</pre>										

						<pre>{   "id": "1" }, "categories": [   {     "id": "1"   } ], {   "id": "2", "title": "file paperwork", "doneStatus": "false", "description": "", "tasksof": [   {     "id": "1"   } ] }</pre>
02/04/2023, 9:38 AM	Qing Han Zhang	DELETE	Command #24	Documented Capability	delete the instance of the relationship named tasks between project and todo using the :id	NA
02/04/2023, 9:40 AM	Qing Han Zhang	DELETE	Command #25	Undocumented Capability	delete the instance of the relationship named tasks between project and todo using the :id that has already been deleted gives an error	<pre>{   "errorMessage": [     "Could not find any instances with projects/1/tasks/1"   ] }</pre>
02/04/2023, 9:44AM	Qing Han Zhang	POST	Command #26	area of potential instability, typical data for application	BUG : /projects/1/tasks {id:null} as xml. worked but it should not have worked.	NA



----- session end -----

Area of potential risk:

- Categories and projects can get confusing since they are not bidirectional
- Issues with HEAD where there is no response on multiple occasions
- Not throwing an error when GET of a todos with an invalid ID
- Not being able to delete all categories at once
- Getting todos for a specific category that would not exist would still return todos
- XML file output could be wrong and bugged
- Most of the documented API functions work properly
- Most of the error messages are intuitive
- There are issues with certain curl commands which are more drilled down

New testing ideas:

- Testing out the null keyword
- Test out with null parameters
- Putting a very large ID number for the projects
- Negative IDs exist?
- Testing in a different version of project
- Testing out ids that are not natural numbers
- Adding extra information in the body
- A lot was done in the undocumented part
- Test other commands i.e. PATCH, COPY
- Test commands where XML input failed with JSON
- Test inputs with HTML input
- Testing using a computer with different OS