

# SENG-468

## Project

### TEST RUN-1

#### 1 User Load

This assessment will form part of your project submission, designated as Test Run 1 , and will contribute **10%** towards your overall class grade. The deadline for this deliverable is 15<sup>th</sup> February 11:59 PST. The primary objective is to evaluate the foundational API functionality under a single-user load.

A 1 User Load implies that each transaction involves a single user interacting with the system. However, multiple users may participate in the test. For instance, a user (company) might register, log in, and go through the initialization process to create multiple stocks. The scenarios presented will involve a variety of transactions, designed to assess the fundamental accuracy of API responses, but API calls will be sequential instead of parallel.

It's important to note that a transaction in this context refers to the creation, sale, purchase, partial sale, or partial purchase of stocks, or a combination of any of these actions.

The following provides an overview of the users involved and transactions being done:

- 1) Register a company account
- 2) Create stock "Google" and add stock to the company account
- 3) Create stock "Apple" and add stock to the company account
- 4) Place a limit sell order for Google from the company account
- 5) Place a limit sell order for Apple from the company account
- 6) Register a user and add money to its wallet
- 7) Place a buy market order for Google stock from user's account
- 8) Place a buy market order for Apple stock from user's account
- 9) Place a sell limit order for Google stock from user's account
- 10) Place a buy market order for Google stock from company's account
- 11) Place another buy market order for Google stock from company's account which should fail.
- 12) Cancel all pending transactions with status `PARTIALLY_COMPLETE`

The following table lists the test cases in sequence.

Http Method	Endpoint Name	Header	Request Body/ Query Params (If any)	Expected Response (JSON)
POST	<url>/register	-	{ "user_name": "VanguardETF", "password": "Vang@123", "name": "Vanguard Corp." }	{ "success": true, "data": null }

POST	<url>/register	-	{"user_name":"VanguardETF", "password":"Comp@124", "name":"Vanguard Ltd."}	{"success":false, "data":{"error":<errorMessage>}}
POST	<url>/login	-	{"user_name":"VanguardETF", "password":"Vang@1234"}	{"success":false, "data":{"error":<errorMessage>}}
POST	<url>/login	-	{"user_name":"VanguardETF", "password":"Vang@123"}	{"success":true, "data":{"token": <compToken>}}
POST	<url>/createStock	{"token":<compToken>}	{"stock_name":"Google"}	{"success":true,"data":{"stock_id": <googleStockId>}}
POST	<url>/addStockToUser	{"token":<compToken>}	{"stock_id": <googleStockId>, "quantity": 550}	{"success":true, "data":null}
POST	<url>/createStock	{"token":<compToken>}	{"stock_name":"Apple"}	{"success":true,"data":{"stock_id": <appleStockId>}}
POST	<url>/addStockToUser	{"token":<compToken>}	{"stock_id": <appleStockId>, "quantity": 350}	{"success":true, "data":null}
GET	<url>/getStockPortfolio	{"token":<compToken>}	-	{"success":true,"data":[{"stock_id": <googleStockId>,"stock_name":"Google", "quantity_owned":550}, {"stock_id":<appleStockId>, "stock_name":"Apple", "quantity_owned":350}]}
POST	<url>/placeStockOrder	{"token":<compToken>}	{"stock_id":<googleStockId>, "is_buy":false, "order_type":"LIMIT", "quantity":550, "price":135}	{"success":true,"data":null}
POST	<url>/placeStockOrder	{"token":<compToken>}	{"stock_id":<appleStockId>, "is_buy":false, "order_type":"LIMIT", "quantity":350, "price":140}	{"success":true,"data":null}
GET	<url>/getStockPortfolio	{"token":<compToken>}	-	{"success":true,"data":[]}
GET	<url>/getStockTransactions	{"token":<compToken>}	-	{"success":true, "data":[{"stock_tx_id":<googleCompStockTxId>, "parent_stock_tx_id":null, "stock_id":<googleStockId>, "wallet_tx_id":null "order_status":"IN_PROGRESS", "is_buy":false, "order_type":"LIMIT", "stock_price":135,"quantity":550, "time_stamp":<timestamp>}, {"stock_tx_id":<appleCompStockTxId>, "parent_stock_tx_id":null, "stock_id":<appleStockId>, "wallet_tx_id":null, "order_status":"IN_PROGRESS", "is_buy":false, "order_type":"LIMIT", "stock_price":140,"quantity":350, "time_stamp":<timestamp>}]}
POST	<url>/register		{"user_name":"FinanceGuru", "password":"Fguru@2024", "name":"The Finance Guru"}	{"success":true, "data":null}
POST	<url>/login		{"user_name":" FinanceGuru", "password":"Fguru@2024"}	{"success":true, "data":{"token": <user1Token>}}
GET	<url>/getStockPrices	{"token":<user1Token>}	-	{"success":true, "data":[{"stock_id":<googleStockId>, "stock_name":"Google", "current_price":135}, {"stock_id": <appleStockId>, "stock_name":"Apple", "current_price":140}]}
POST	<url>/addMoneyToWallet	{"token":<user1Token>}	{"amount":10000}	{"success":true, "data":null}
GET	<url>/getWallet	{"token":<user1Token>}	-	{"success":true,

	Balance	en>}		"data":{"balance":10000}}
POST	<url>/placeStockOrder	{"token":<userToken>}	{"stock_id":<googleStockId>,"is_buy":true,"order_type":"MARKET","quantity":10}	{"success":true, "data":null}
GET	<url>/getStockTransactions	{"token":<userToken>}	-	{ "success":true, "data":[{"stock_tx_id":<googleStockTxId>,"parent_stock_tx_id":null,"stock_id":<googleStockId>,"wallet_tx_id":<googleWalletTxId>,"order_status":"COMPLETED","is_buy":true,"order_type":"MARKET","stock_price":135,"quantity":10,"time_stamp":<timestamp>}]}
GET	<url>/getWalletTransactions	{"token":<userToken>}	-	{ "success":true, "data":[{"wallet_tx_id":"","googleWalletTxId>,"stock_tx_id":<googleStockTxId>,"is_debit":true, "amount":1350,"time_stamp":<timestamp>}]}
GET	<url>/getWalletBalance	{"token":<userToken>}	-	{ "success":true, "data":{"balance":8650}}
GET	<url>/getStockPortfolio	{"token":<userToken>}	-	{ "success":true,"data":[{"stock_id":<googleStockId>,"stock_name":"Google","quantity_owned":10}]}
GET	<url>/getStockTransactions	{"token":<compToken>}	- // Since the tx googleCompStockTxId is partially matched its status is changed to PARTIALLY_COMPLETE	{ "success":true, "data":[{"stock_tx_id":<googleCompStockTxId>,"parent_stock_tx_id":null,"stock_id":<googleStockId>,"wallet_tx_id":null,"order_status":"PARTIALLY_COMPLETE","is_buy":false,"order_type":"LIMIT","stock_price":135,"quantity":550,"time_stamp":<timestamp>}, {"stock_tx_id":<appleCompStockTxId>,"parent_stock_tx_id":null,"stock_id":<appleStockId>,"wallet_tx_id":null,"order_status":"IN_PROGRESS","is_buy":false,"order_type":"LIMIT","stock_price":140,"quantity":369,"time_stamp":<timestamp>}, {"stock_tx_id":<googleCompStockTxId2>,"parent_stock_tx_id":"","googleCompStockTxId2>,"stock_id":<googleStockId>,"wallet_tx_id":"","googleCompWalletTxId>,"order_status":"COMPLETED","is_buy":false,"order_type":"LIMIT","stock_price":135,"quantity":10,"time_stamp":<timestamp>}]}
GET	<url>/getWalletBalance	{"token":<compToken>}	-	{ "success":true, "data":{"balance":1350}}
GET	<url>/getWalletTransactions	{"token":<compToken>}	-	{ "success":true, "data":[{"wallet_tx_id":"","googleCompWalletTxId>,"stock_tx_id":<googleCompStockTxId2>,"is_debit":false, "amount":1350,"time_stamp":<timestamp>}]}
POST	<url>/placeStockOrder	{"token":<userToken>}	{"stock_id":<appleStockId>,"is_buy":true,"order_type":"MARKET","quantity":20}	{ "success":true, "data":null}
				{ "success":true, "data":[{"stock_tx_id":<googleUserStockTxId>,"parent_stock_tx_id":null,"stock_id":<googleStockId>,"wallet_tx_id":<googleUserWalletTxId>

GET	<url>/getStockTransactions	{"token":<userToken>}	-	>, "order_status": "COMPLETED", "is_buy": true, "order_type": "MARKET", "stock_price": 135, "quantity": 10, "time_stamp": <timestamp>}, {"stock_tx_id": <appleUserStockTxId>, "parent_stock_tx_id": null, "stock_id": <appleStockId>, "wallet_tx_id": <appleUserWalletTxId>, "order_status": "COMPLETED", "is_buy": true, "order_type": "MARKET", "stock_price": 120, "quantity": 20, "time_stamp": <timestamp>}]}
GET	<url>/getWalletTransactions	{"token":<userToken>}	-	{ "success": true, "data": [{"wallet_tx_id": <googleUserWalletTxId>, "stock_tx_id": <googleUserStockTxId>, "is_debit": true, "amount": 1350, "time_stamp": <timestamp>}, {"wallet_tx_id": <appleUserWalletTxId>, "stock_tx_id": <appleUserStockTxId>, "is_debit": true, "amount": 2400, "time_stamp": <timestamp>}]}
GET	<url>/getWalletBalance	{"token":<userToken>}	-	{ "success": true, "data": { "balance": 6250 } }
GET	<url>/getStockPortfolio	{"token":<userToken>}	-	{ "success": true, "data": [{"stock_id": <googleStockId>, "stock_name": "Google", "quantity_owned": 10}, {"stock_id": <appleStockId>, "stock_name": "Apple", "quantity_owned": 20}]}
POST	<url>/placeStockOrder	{"token":<userToken>}	{ "stock_id": <googleStockId>, "is_buy": false, "order_type": "LIMIT", "quantity": 5, "price": 130 }	{ "success": true, "data": null }
GET	<url>/getStockTransactions	{"token":<userToken>}	-	{ "success": true, "data": [{ <old transactions> }, { "stock_tx_id": <googleUserStockTxId2>, "parent_stock_tx_id": null, "stock_id": <googleStockId>, "wallet_tx_id": null, "order_status": "IN_PROGRESS", "is_buy": false, "order_type": "LIMIT",
				"stock_price": 130, "quantity": 5, "time_stamp": <timestamp>}]}
GET	<url>/getWalletTransactions	{"token":<userToken>}	-	{ "success": true, "data": [{ "wallet_tx_id": <googleUserWalletTxId>, "stock_tx_id": <googleUserStockTxId>, "is_debit": true, "amount": 1350, "time_stamp": <timestamp> }, { "wallet_tx_id": <appleUserWalletTxId>, "stock_tx_id": <appleUserStockTxId>, "is_debit": true, "amount": 2400, "time_stamp": <timestamp> }, ]}
GET	<url>/getWalletBalance	{"token":<userToken>}	-	{ "success": true, "data": { "balance": 6250 } }
GET	<url>/getStockPortfolio	{"token":<userToken>}	-	{ "success": true, "data": [{"stock_id": <googleStockId>, "stock_name": "Google", "quantity_owned": 5}, {"stock_id": <appleStockId>, "st

				ock_name":"Apple","quantity_ow ned":20}}]
GET	<url>/getStockPrices	{"token":<compToken>}	-	{ "success":true, "data":[{"stock_id":<googleStockId>,"stock_name":"Google", "current_price":130},{ "stock_id":":<appleStockId>,"stock_name":"Apple",current_pric e":140}]}
POST	<url>/placeStockOrder	{"token":<compToken>}	{"stock_id":<googleStockId>,"is_buy":true, "order_type":"MARKET", "quantity":2}	{ "success":true,"data":null}
GET	<url>/getStockTransactions	{"token":<compToken>}	-	{ "success":true, "data":[{"<old transactions>,{ "stock_tx_id":<googleCompStockTxId3>,"parent_stock_tx_id":null, "stock_id":<googleStockId>,"wallet_tx_id":":<googleCompWalletTxId2>,"order_status":"COMPLETED", "is_buy":true, "order_type":"MARKET", "stock_price":130,"quantity":2, "time_stamp":<timestamp>}]}
GET	<url>/getWalletTransactions	{"token":<compToken>}	-	{ "success":true, "data":[{"wallet_tx_id":<googleCompWalletTxId>,"stock_tx_id":<googleCompStockTxId2>,"is_debit":false, "amount":1350, "time_stamp":<timestamp>}, { "wallet_tx_id":<appleCompWalletTxId>,"stock_tx_id":<appleCompStockTxId2>,"is_debit":false,"amount":2400,"time_stamp":<timestamp>}, {"wallet_tx_id":":<googleCompWalletTxId2>,"stock_tx_id":<googleCompStockTxId3>,"is_debit":true, "amount":260, "time_stamp":<timestamp>}]}
GET	<url>/getWalletBalance	{"token":<compToken>}		{ "success":true, "data":{"balance":3490}}
POST	<url>/placeStockOrder	{"token":<compToken>}	{"stock_id":<googleStockId>,"is_buy":true, "order_type":"MARKET", "quantity":5} //Not enough sell orders since company cannot buy its own shares	{ "success":false,"data":{"error":<errorMessage>}}
POST	<url>/cancelStockTransaction	{"token":<user1Token>}	{"stock_tx_id":<googleUserStockTxId2>}	{ "success":true, "data":null}
POST	<url>/cancelStockTransaction	{"token":<compToken>}	{"stock_tx_id":<googleCompStockTxId>}	{ "success":true, "data":null}
POST	<url>/cancelStockTransaction	{"token":<compToken>}	{"stock_tx_id":<appleCompStockTxId>}	{ "success":true, "data":null}
GET	<url>/getStockTransactions	{"token":<compToken>}	-	{ "success":true, "data":[{"stock_tx_id":<googleCompStockTxId>,"parent_stock_tx_id":null, "stock_id":<googleStockId>,"wallet_tx_id":null, "order_status": "CANCELLED ",

				<pre>"is_buy":false, "order_type":"LIMIT", "stock_price":135, "quantity":550, "time_stamp":"&lt;timestamp&gt;" }, {   "stock_tx_id":"&lt;appleCompStockTxId&gt;",   "parent_stock_tx_id":null,   "stock_id":"&lt;appleStockId&gt;",   "wallet_tx_id":null,   "order_status":"CANCELLED",   "is_buy":false,   "order_type":"LIMIT",   "stock_price":140,   "quantity":350,   "time_stamp":"&lt;timestamp&gt;" }, {   "stock_tx_id":"&lt;googleCompStockTxId2&gt;",   "parent_stock_tx_id":"&lt;googleCompStockTxId&gt;",   "stock_id":"&lt;googleStockId&gt;",   "wallet_tx_id":"&lt;googleCompWalletTxId&gt;",   "order_status":"COMPLETED",   "is_buy":false,   "order_type":"LIMIT",   "stock_price":135,   "quantity":10,   "time_stamp":"&lt;timestamp&gt;" }, {   "stock_tx_id":"&lt;appleCompStockTxId2&gt;",   "parent_stock_tx_id":"&lt;appleCompStockTxId&gt;",   "stock_id":"&lt;appleStockId&gt;",   "wallet_tx_id":"&lt;appleCompWalletTxId&gt;",   "order_status":"COMPLETED",   "is_buy":false,   "order_type":"LIMIT",   "stock_price":140,   "quantity":20,   "time_stamp":"&lt;timestamp&gt;" }, {   "stock_tx_id":"googleCompStockTxId3"&gt; ",   "parent_stock_tx_id":null,   "stock_id":"&lt;googleStockId&gt;",   "wallet_tx_id":"&lt;googleCompWalletTxId2&gt;",   "order_status":"COMPLETED",   "is_buy":true,   "order_type":"MARKET",   "stock_price":130,   "quantity":2,   "time_stamp":"&lt;timestamp&gt;" } ] }</pre>
GET	<url>/getStockPortfolio	{ "token":<compToken> }	-	<pre>{ "success":true,"data":[{"stock_id":&lt;googleStockId&gt;,"stock_name":"Google","quantity_owned":542},{ "stock_id":&lt;appleStockId&gt;,"stock_name":"Apple","quantity_owned":320}]}</pre>
GET	<url>/getStockTransactions	{ "token":<userToken> }	-	<pre>{   "success":true,   "data":[     {</pre>

				<pre> "stock_tx_id": "&lt;googleUserStockTxId&gt;", "parent_stock_tx_id": null, "stock_id": "&lt;googleStockId&gt;", "wallet_tx_id": "&lt;googleUserWalletTxId&gt;", "order_status": "COMPLETED", "is_buy": true, "order_type": "MARKET", "stock_price": 135, "quantity": 10, "time_stamp": "&lt;timestamp&gt;" }, { "stock_tx_id": "&lt;appleUserStockTxId&gt;", "parent_stock_tx_id": null, "stock_id": "&lt;appleStockId&gt;", "wallet_tx_id": "&lt;appleUserWalletTxId&gt;", "order_status": "COMPLETED", "is_buy": true, "order_type": "MARKET", "stock_price": 120, "quantity": 20, "time_stamp": "&lt;timestamp&gt;" }, { "stock_tx_id": "&lt;googleUserStockTxId2&gt;", "parent_stock_tx_id": null, "stock_id": "&lt;googleStockId&gt;", "wallet_tx_id": null, "order_status": "CANCELLED", "is_buy": false, "order_type": "LIMIT", "stock_price": 130, "quantity": 5, "time_stamp": "&lt;timestamp&gt;" }, { "stock_tx_id": "&lt;googleUserStockTxId3&gt;", "parent_stock_tx_id": "&lt;googleUserStockTxId2&gt;", "stock_id": "&lt;googleStockId&gt;", "wallet_tx_id": "&lt;googleUserWalletTxId2&gt;", "order_status": "COMPLETED", "is_buy": false, "order_type": "LIMIT", "stock_price": 130, "quantity": 2, "time_stamp": "&lt;timestamp&gt;" }] } ] </pre>
GET	<url>/getStockPortfolio	{ "token": <userToken> }	-	{ "success": true, "data": [{ "stock_id": "<googleStockId>", "stock_name": "Google", "quantity_owned": 8 }, { "stock_id": "<appleStockId>", "stock_name": "Apple", "quantity_owned": 20 }] }
GET	<url>/getStockPortfolio	{ "token": <invalidToken> }	-	{ "success": false, "data": { "error": <errorMessage> } }
GET	<url>/getWalletTransactions	{ "token": <invalidToken> }	-	{ "success": false, "data": { "error": <errorMessage> } }
GET	<url>/getStockTransactions	{ "token": <invalidToken> }	-	{ "success": false, "data": { "error": <errorMessage> } }
POST	<url>/addMoneyToWallet	{ "token": <userToken> }	{ "amount": -10000 } //balance-amount<0	{ "success": false, "data": { "error": <errorMessage> } }
POST	<url>/placeStockOrder	{ "token": <userToken> }	{ "stock_id": "<googleStockId>", "is_buy": true, "order_type": "MARKET", "quantity": 1,	{ "success": false, "data": { "error": <errorMessage> } }

			"price":80} //Price given for Market buy	
POST	<url>/addMoneyToWallet	{"token":<invalidToken>}	{"amount": -100}	{"success":false, "data":{"error":<errorMessage>}}
POST	<url>/placeStockOrder	{"token":<invalidToken>}	{"stock_id":<googleStockId>, "is_buy":true, "order_type":"LIMIT", "quantity":1, "price":80}	{"success":false, "data":{"error":<errorMessage>}}