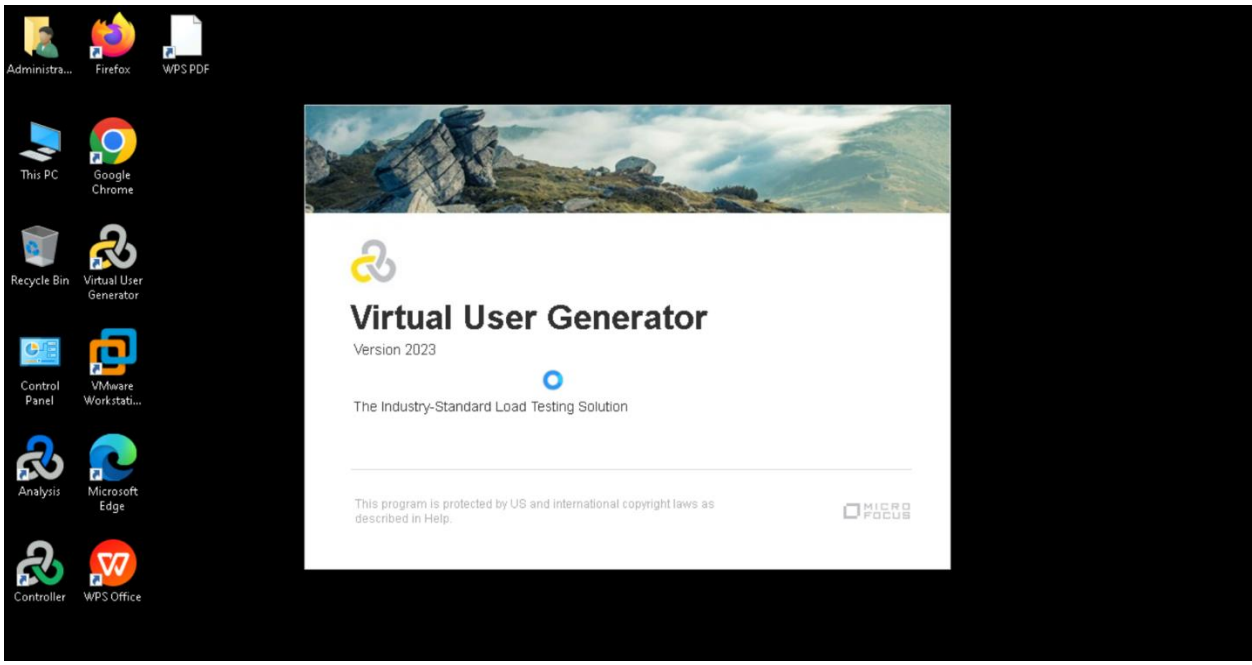
Thinking-Tester-Contact-List:- Performance Testing

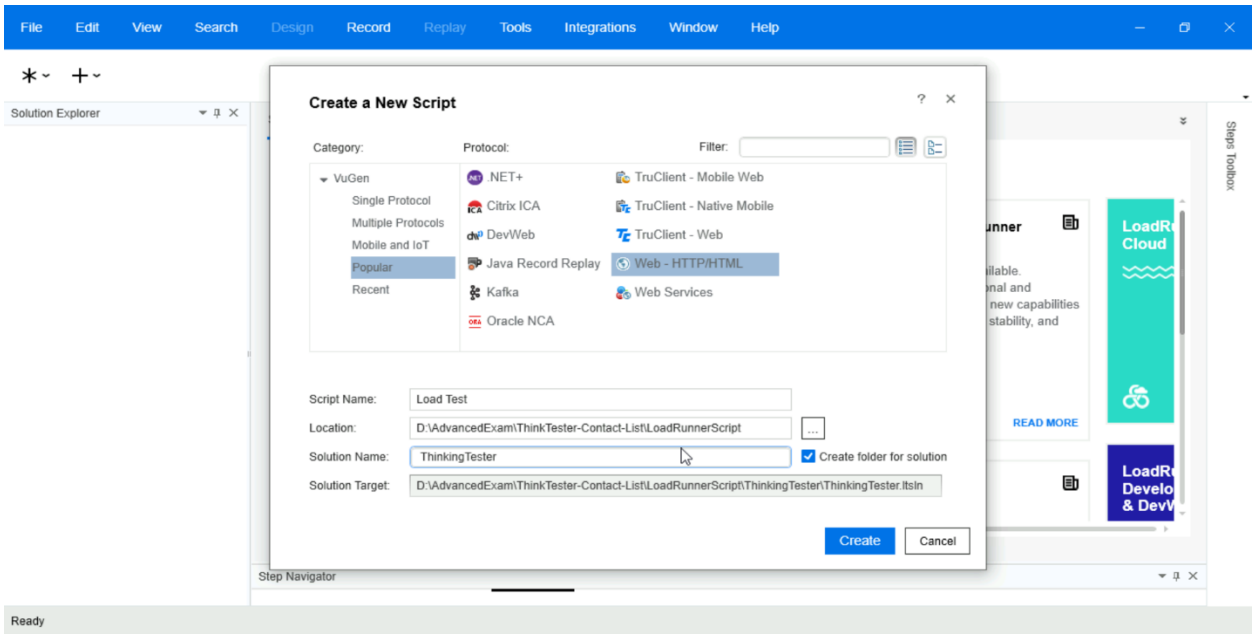
Using LoadRunner

Url:- Contact List App (thinking-tester-contact-list.herokuapp.com)

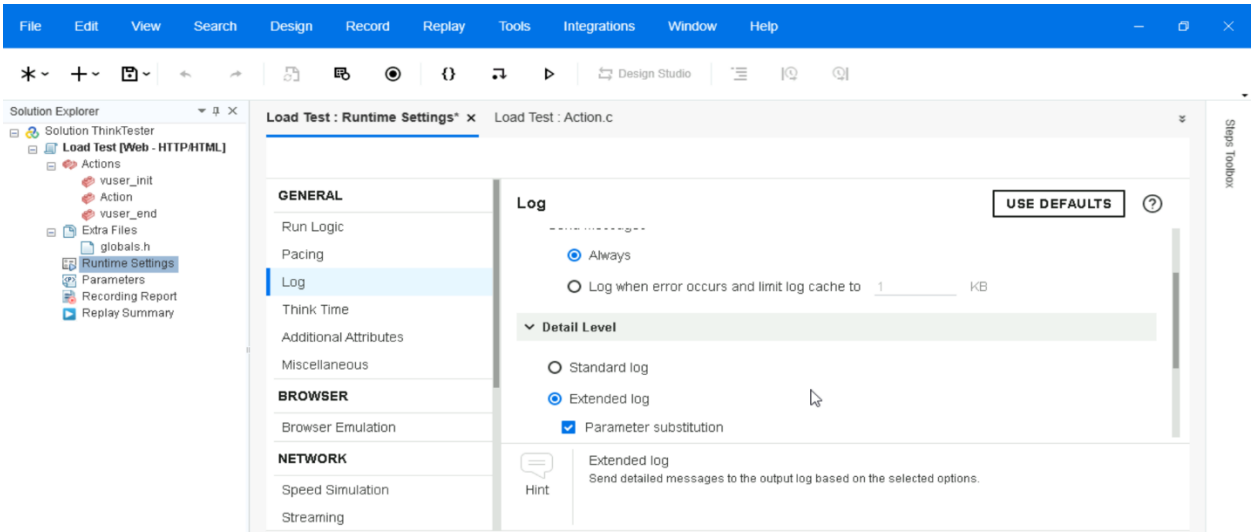
- Open LoadRunner's Virtual User Generator(VuGen)

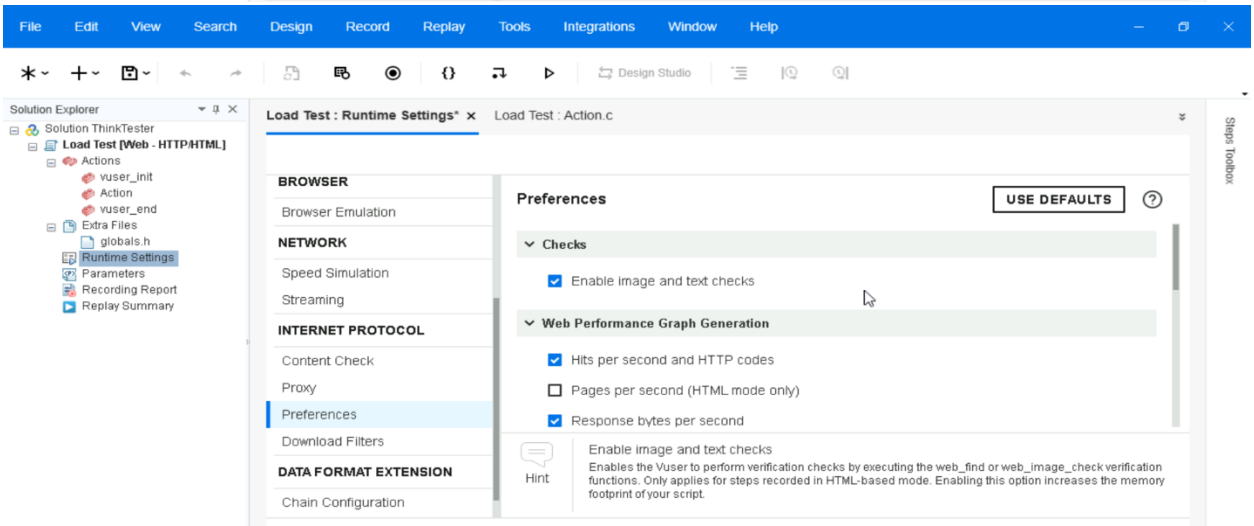


- Create new Script and solution on Web HTTP/HTML protocol

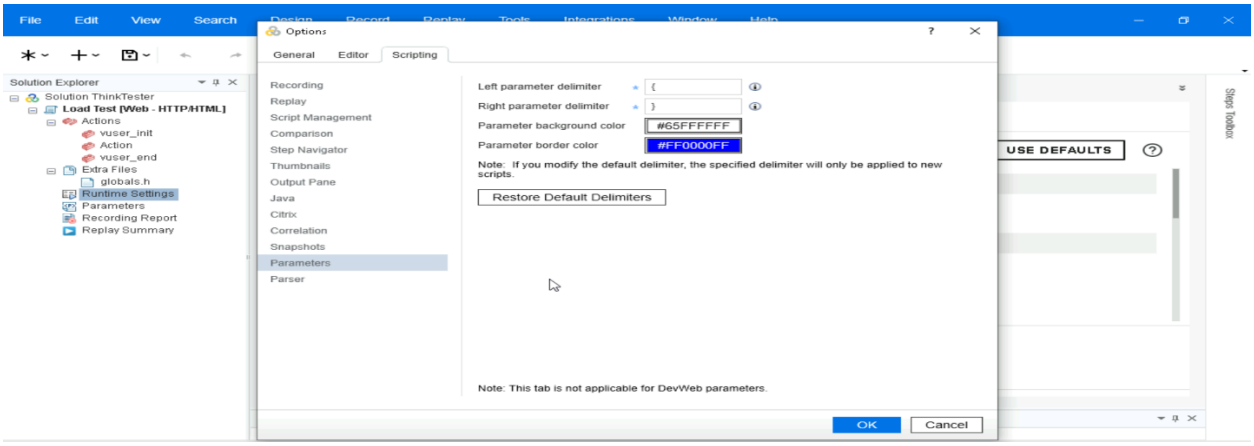


❖ Change the Runtime settings appropriately

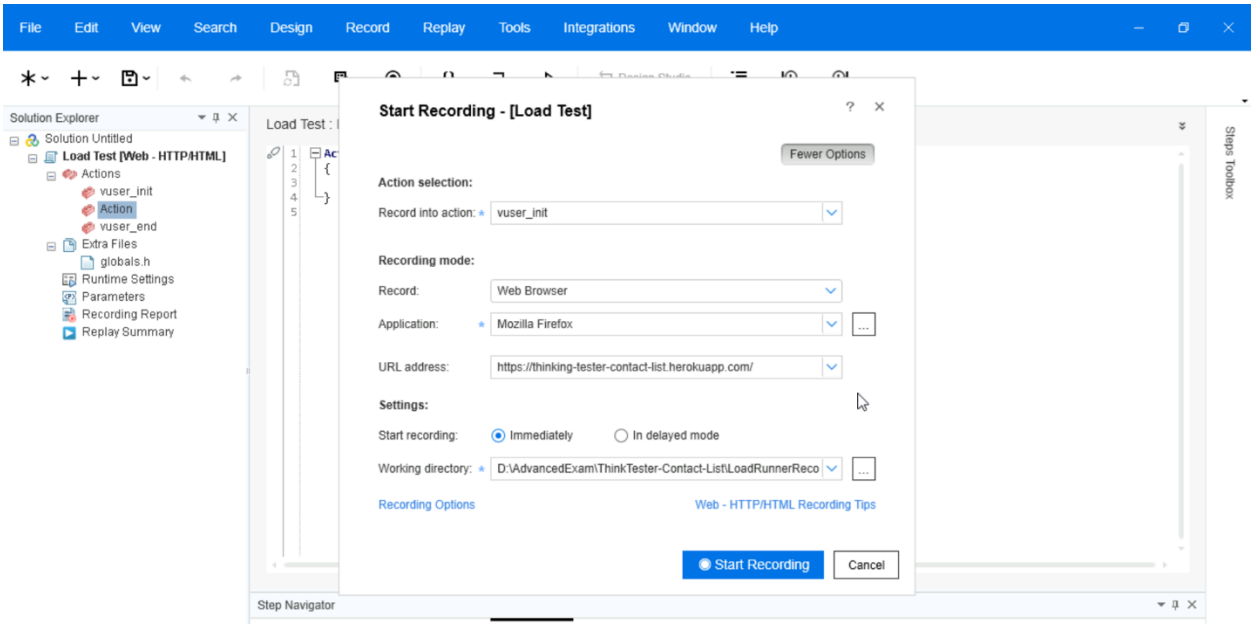




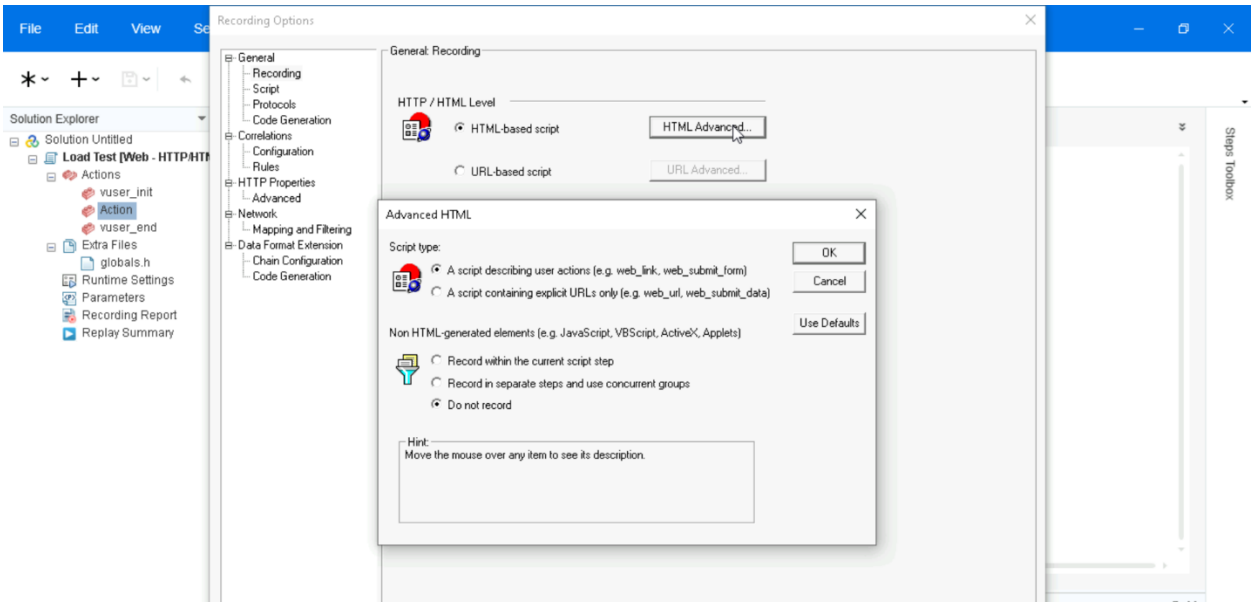
❖ We can also enables page view while replay the recording.
Tools => Options => Scripting => Replay, Recording, Snapshot, Parameter..

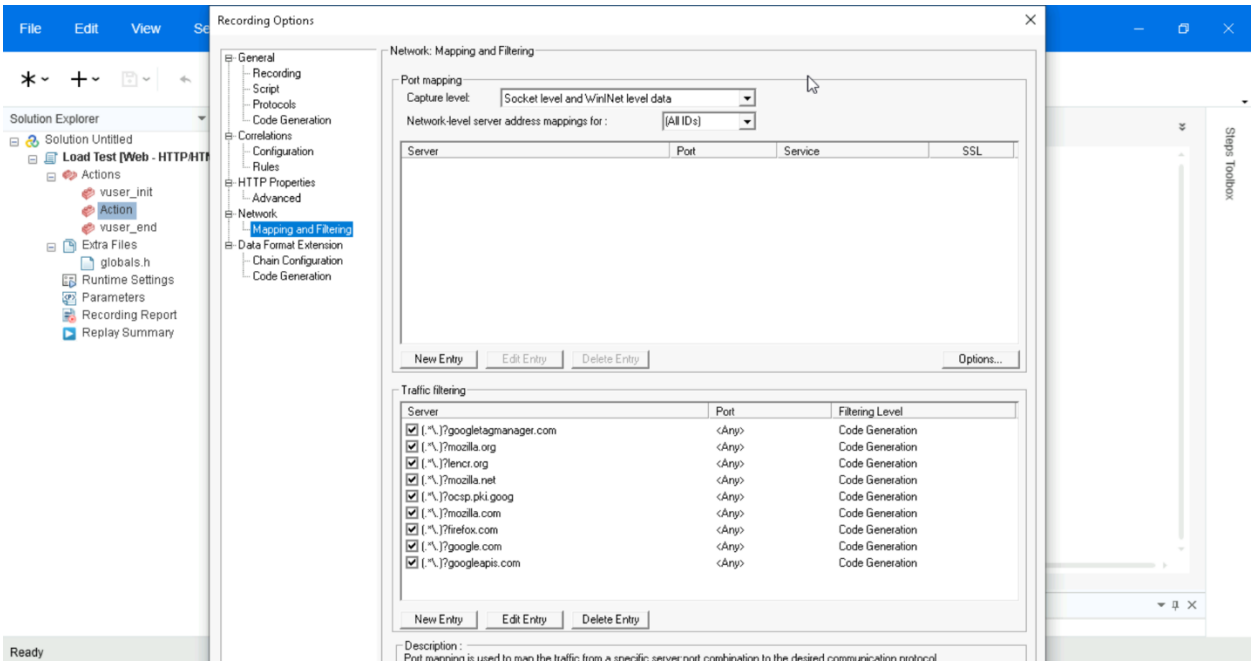


❖ Record user interaction with the website



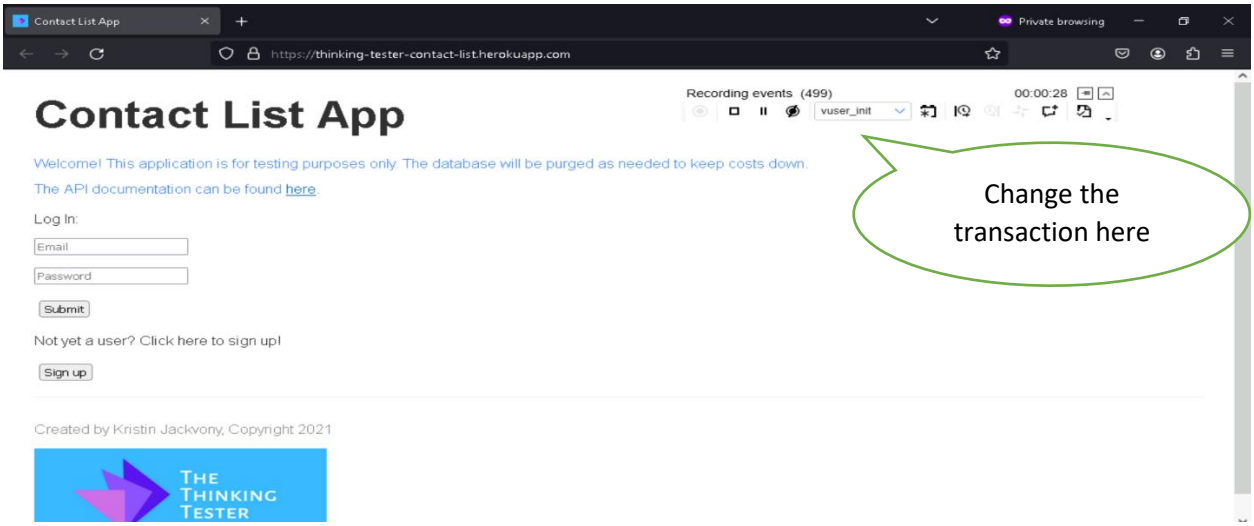
In Recording Options,

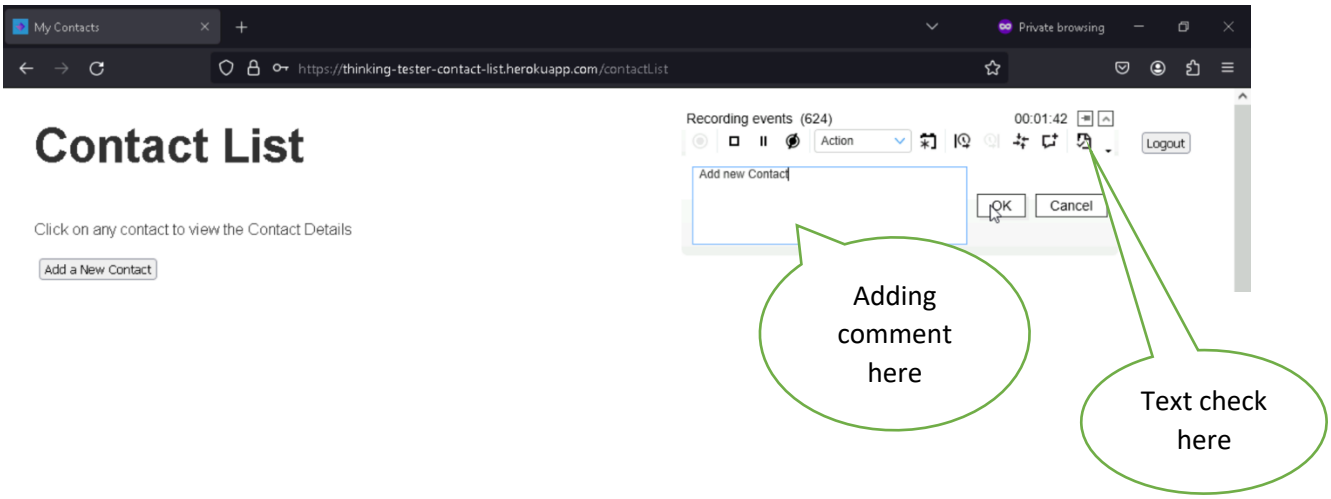




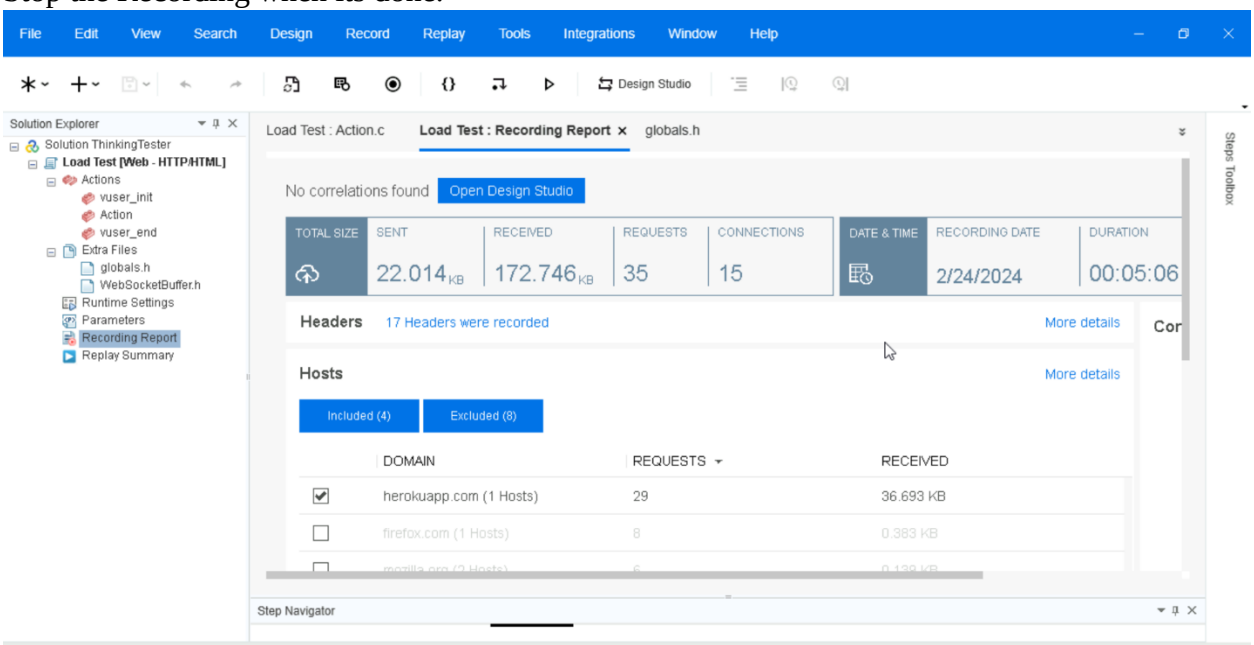
Then click record Button.

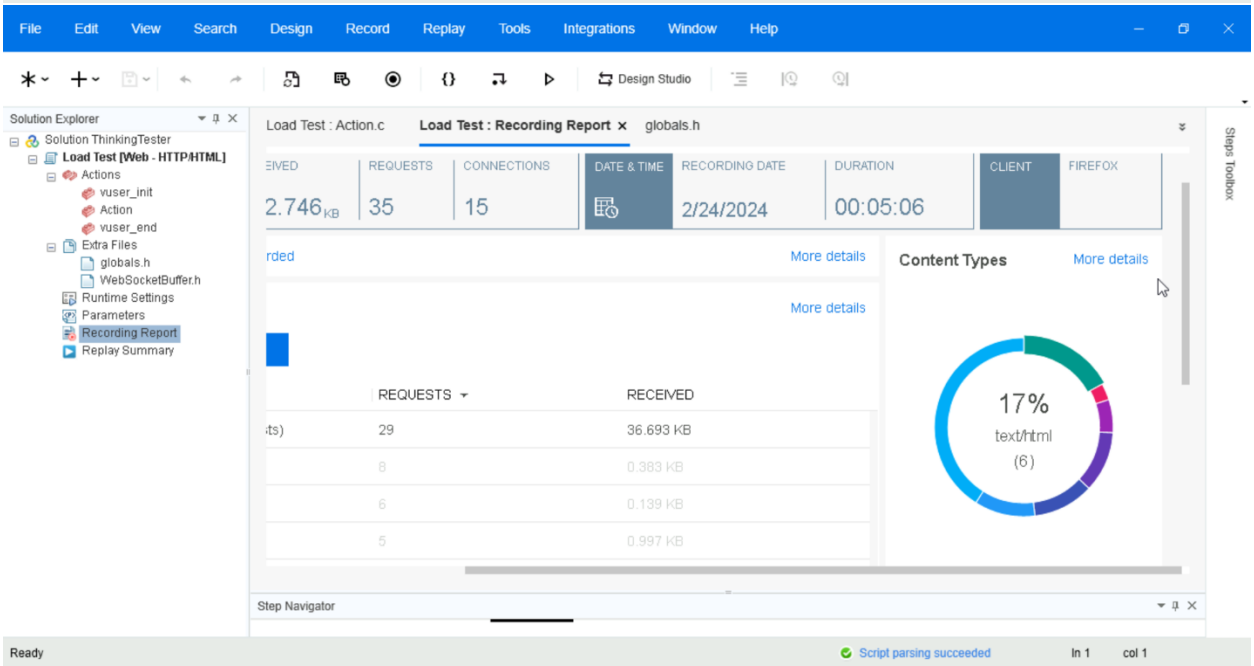
- While recording , we can comment each activity and change the transaction also.(action, vuser_init ,vuser_end)



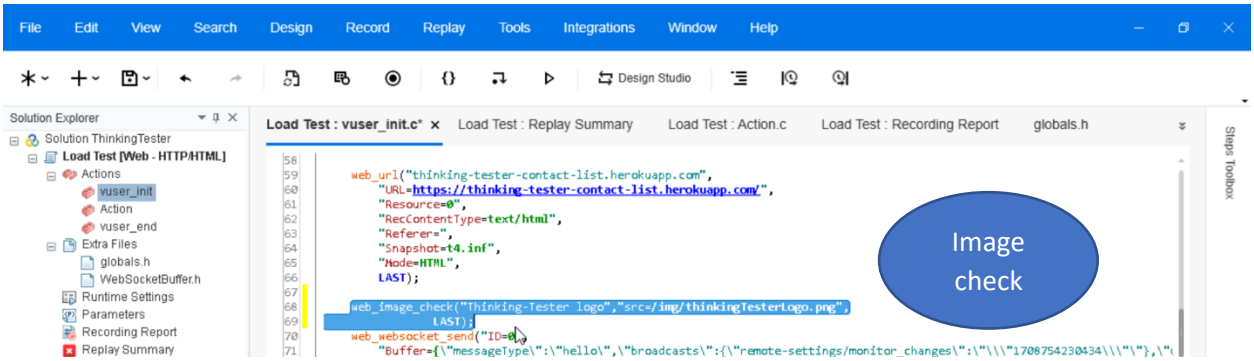


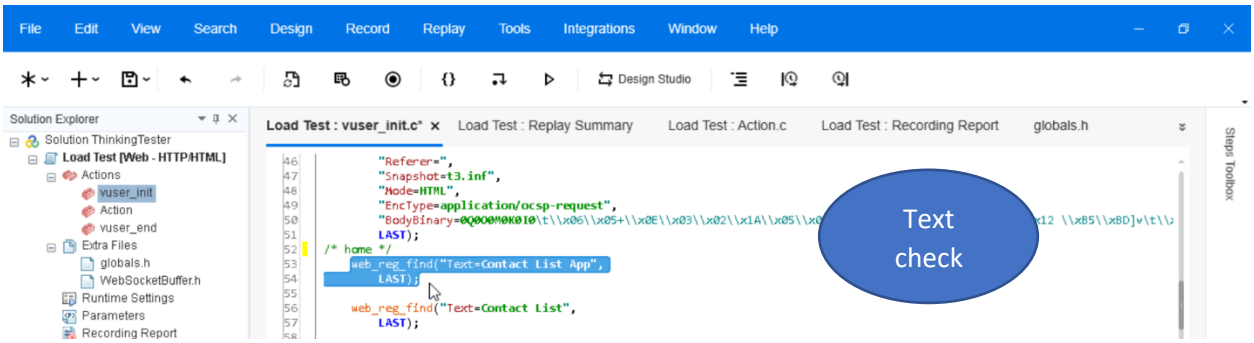
❖ Stop the Recording when its done.





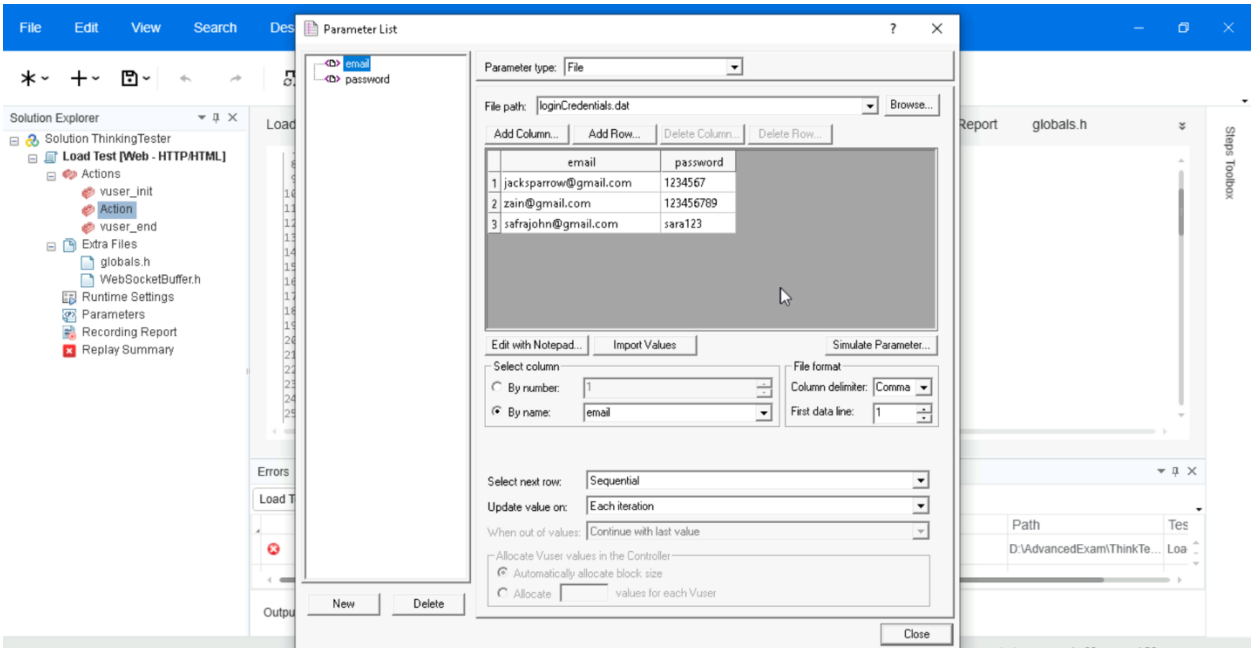
❖ Image check and Text check also done

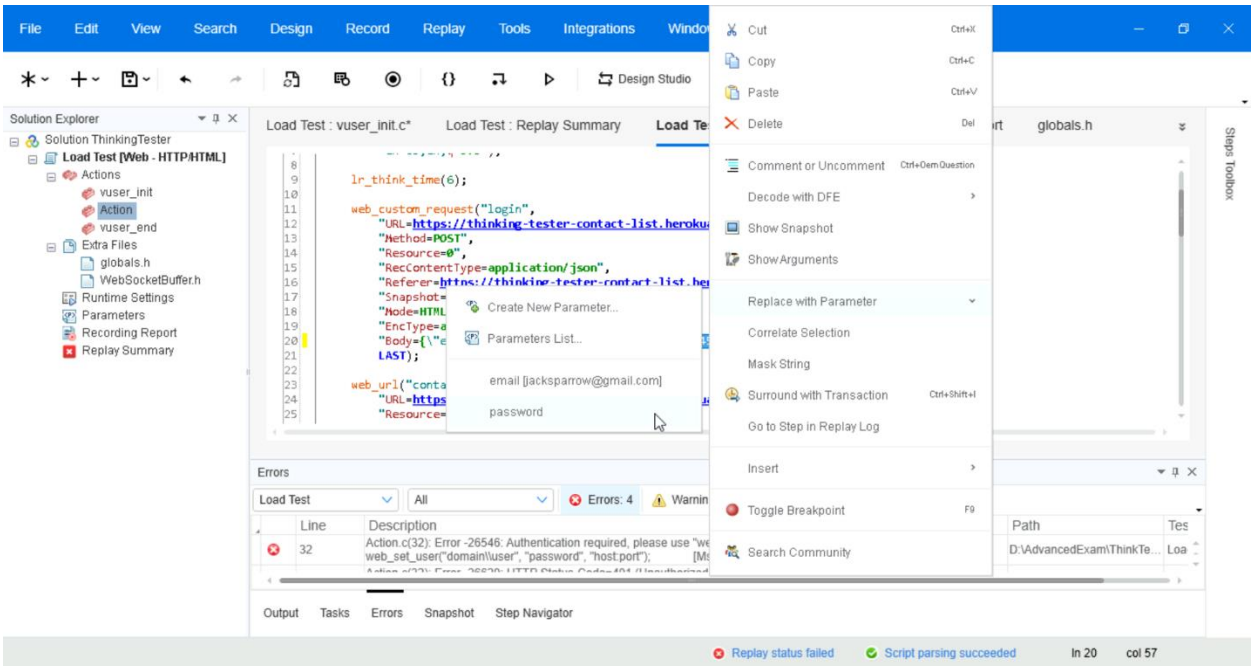


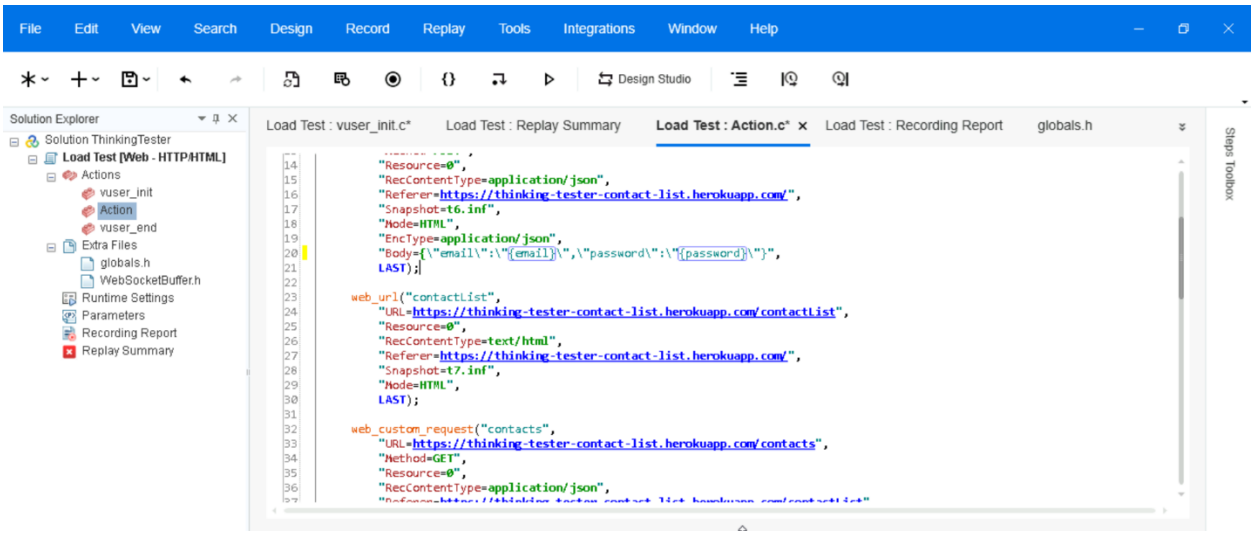


❖ Enhance the script with Parameterization and Correlation.

❖ Give Parameterization for input data.
For Login and Adding Contact,




File Edit View Search Design Record Replay Tools Integrations Window
Design Studio
Solution Explorer
Solution ThinkingTester
Load Test [Web - HTTP/HTML]
Actions
vuser_init
Action
vuser_end
Extra Files
globals.h
WebSocketBuffer.h
Runtime Settings
Parameters
Recording Report
Replay Summary
Load Test : vuser_init.c*
Load Test : Replay Summary
globals.h
lr_think_time(6);
web_custom_request("login",
"URL=https://thinking-tester-contact-list.heroku
"Method=POST",
"Resource=0",
"RecContentType=application/json",
"Referer=https://thinking-tester-contact-list.he
"Snapshot=
"Mode=HTML
"EncType=a
"Body={\"e
LAST);
web_url("conta
"URL=https
"Resource=
Create New Parameter...
Parameters List...
email [jacksparrow@gmail.com]
password
Cut Ctrl+X
Copy Ctrl+C
Paste Ctrl+V
Delete Del
Comment or Uncomment Ctrl+Oem Question
Decode with DFE
Show Snapshot
Show Arguments
Replace with Parameter
Correlate Selection
Mask String
Surround with Transaction Ctrl+Shift+I
Go to Step in Replay Log
Insert
Toggle Breakpoint F9
Search Community
Errors
Load Test
All
Errors: 4
Warnin
Line
Description
Path
32
Action.c(32): Error -26546: Authentication required, please use "we
web_set_user("domain\\user", "password", "host:port");
D:\AdvancedExam\ThinkTe...
Output Tasks Errors Snapshot Step Navigator
Replay status failed
Script parsing succeeded
ln 20 col 57
Steps Toolbox


File Edit View Search Design Record Replay Tools Integrations Window Help
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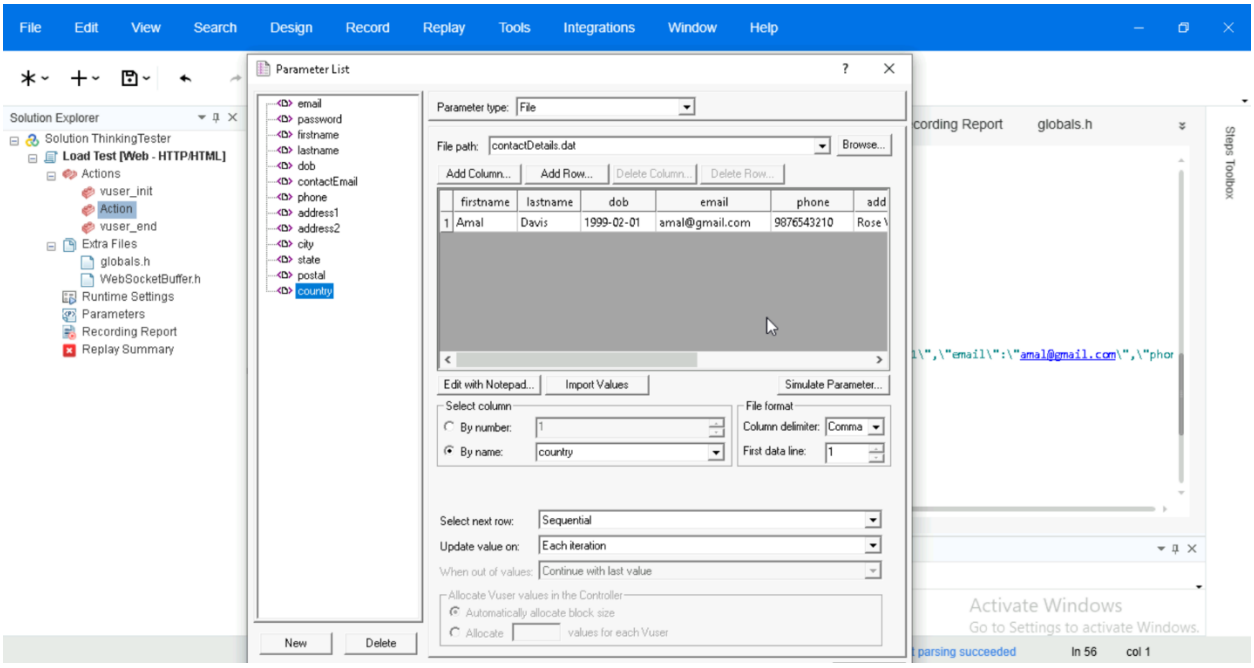
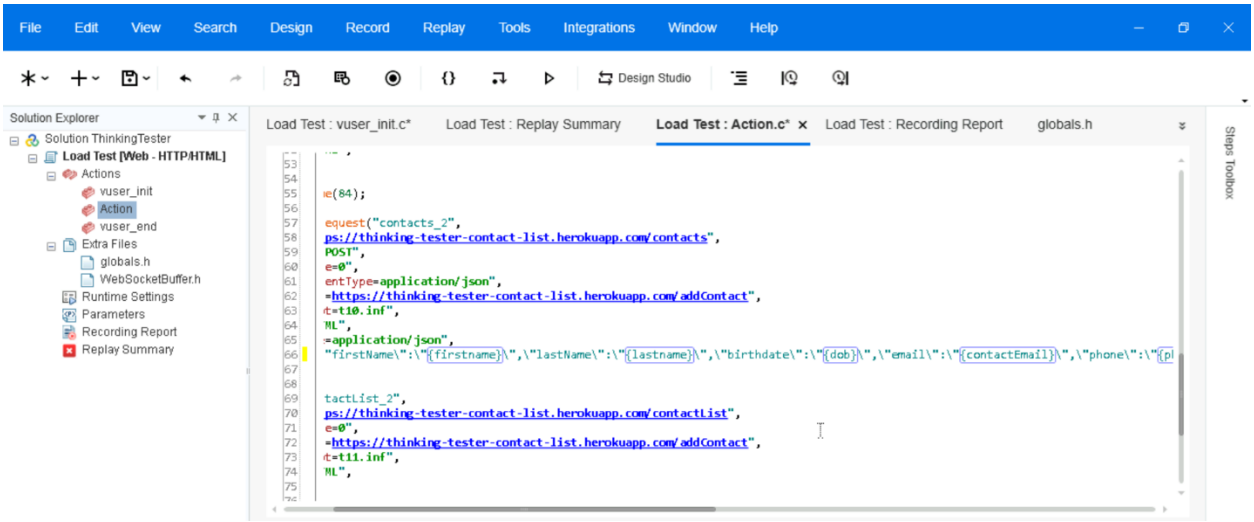
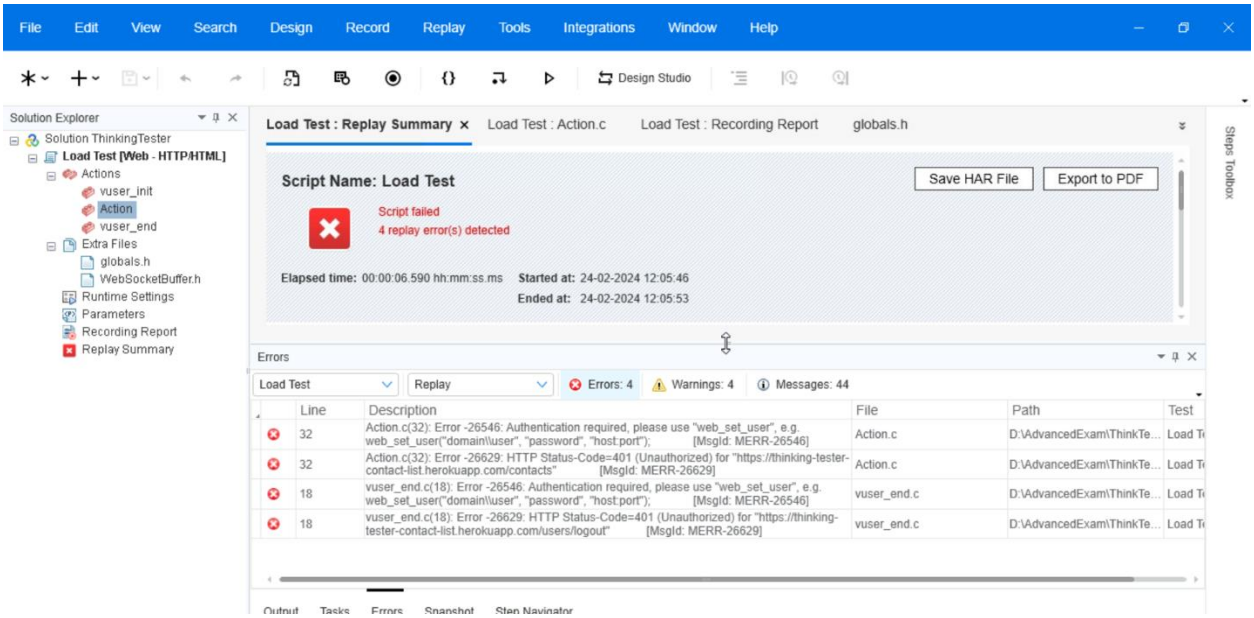
Solution Explorer
Solution ThinkingTester
Load Test [Web - HTTP/HTML]
Actions
vuser_init
Action
vuser_end
Extra Files
globals.h
WebSocketBuffer.h
Runtime Settings
Parameters
Recording Report
Replay Summary
Load Test : vuser_init.c*
Load Test : Replay Summary
Load Test : Action.c*
Load Test : Recording Report
globals.h
"Resource=0",
"RecContentType=application/json",
"Referer=https://thinking-tester-contact-list.herokuapp.com/",
"Snapshot=t6.inf",
"Mode=HTML",
"EncType=application/json",
"Body={\"email\":\"{email}\",\"password\":\"{password}\"}",
LAST);
web_url("contactList",
"URL=https://thinking-tester-contact-list.herokuapp.com/contactList",
"Resource=0",
"RecContentType=text/html",
"Referer=https://thinking-tester-contact-list.herokuapp.com/",
"Snapshot=t7.inf",
"Mode=HTML",
LAST);
web_custom_request("contacts",
"URL=https://thinking-tester-contact-list.herokuapp.com/contacts",
"Method=GET",
"Resource=0",
"RecContentType=application/json",
Steps Toolbox

Contact Details :-

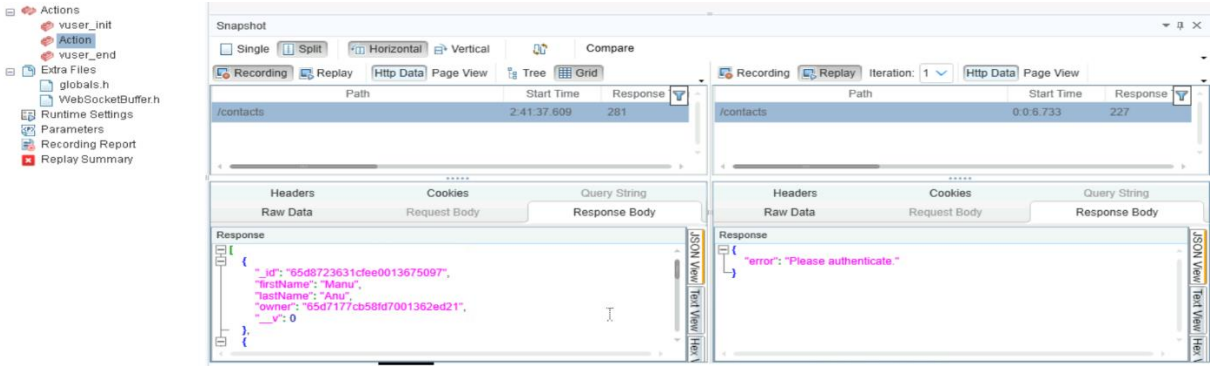




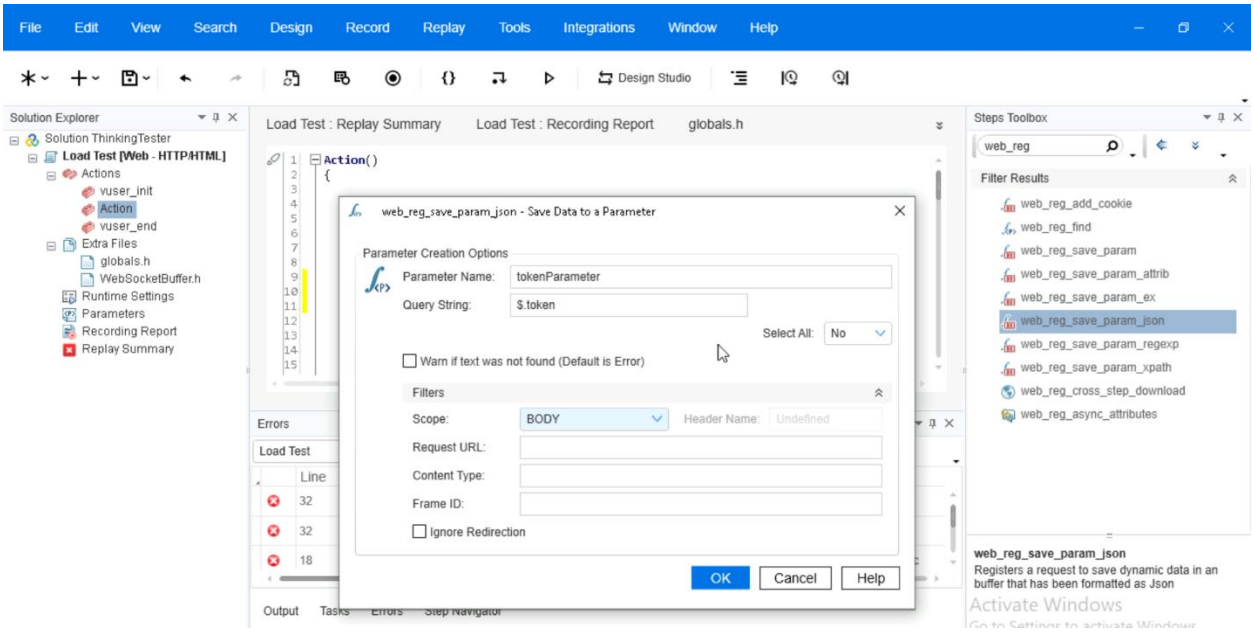
❖ Replay the Script

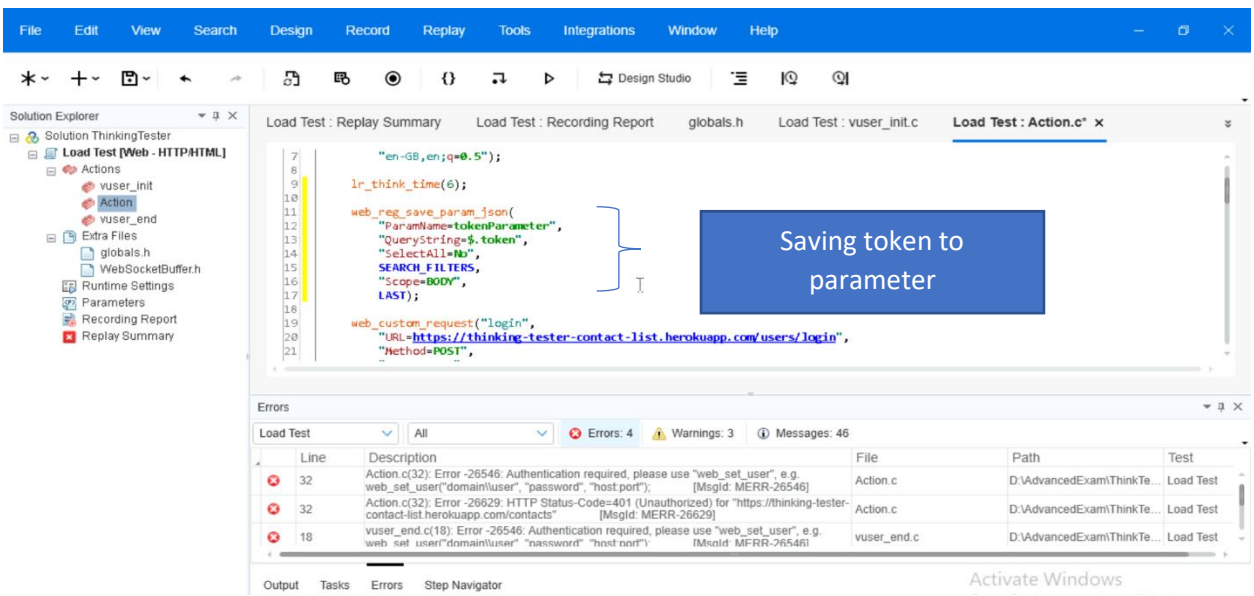


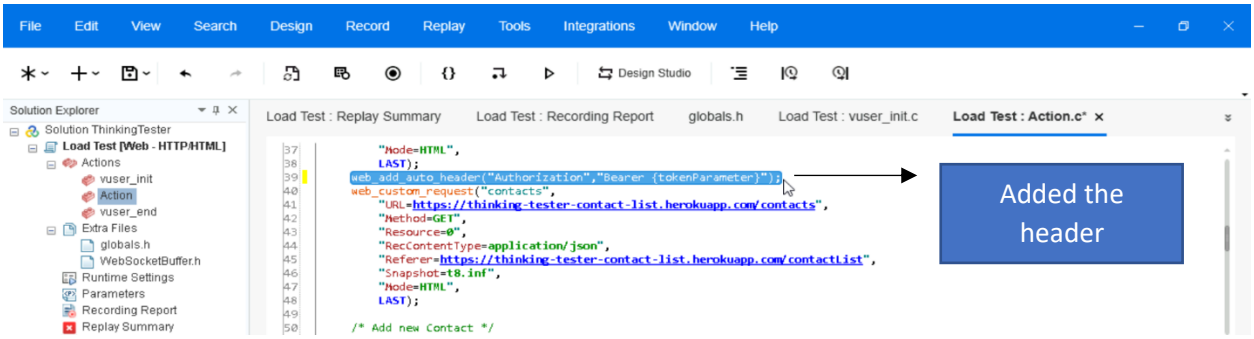
It occurs because of Authentication problem.
So we have to do correlation.
When I look on Snapshot here is the problem,



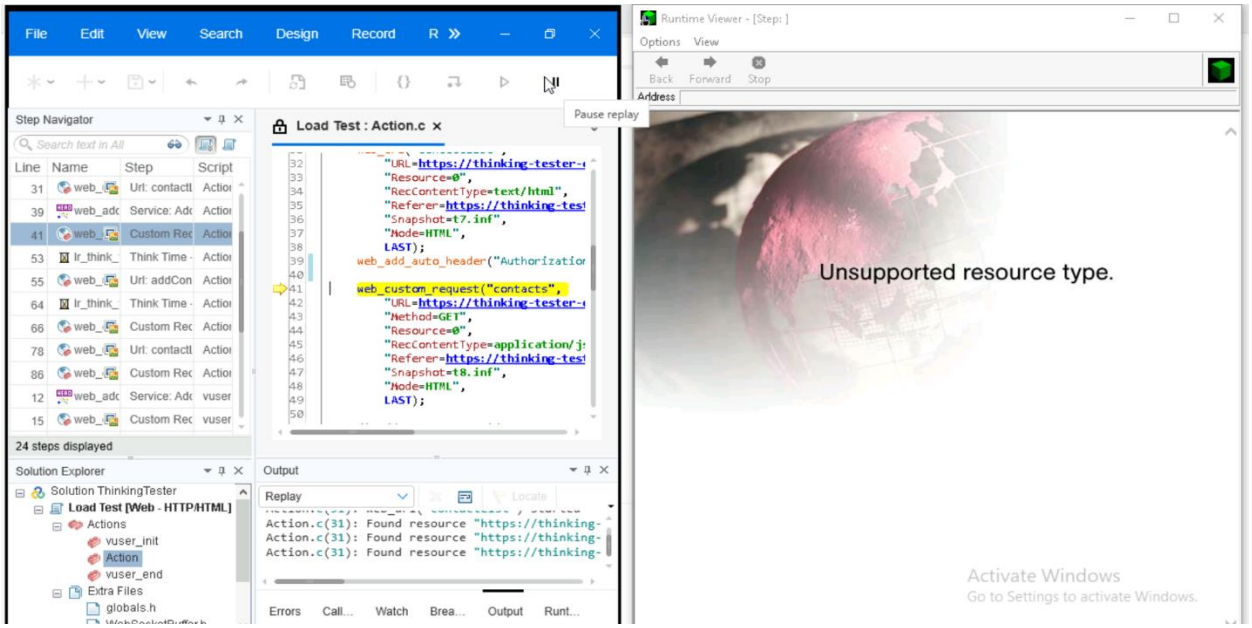
We have to store the token and use it throughout the session.

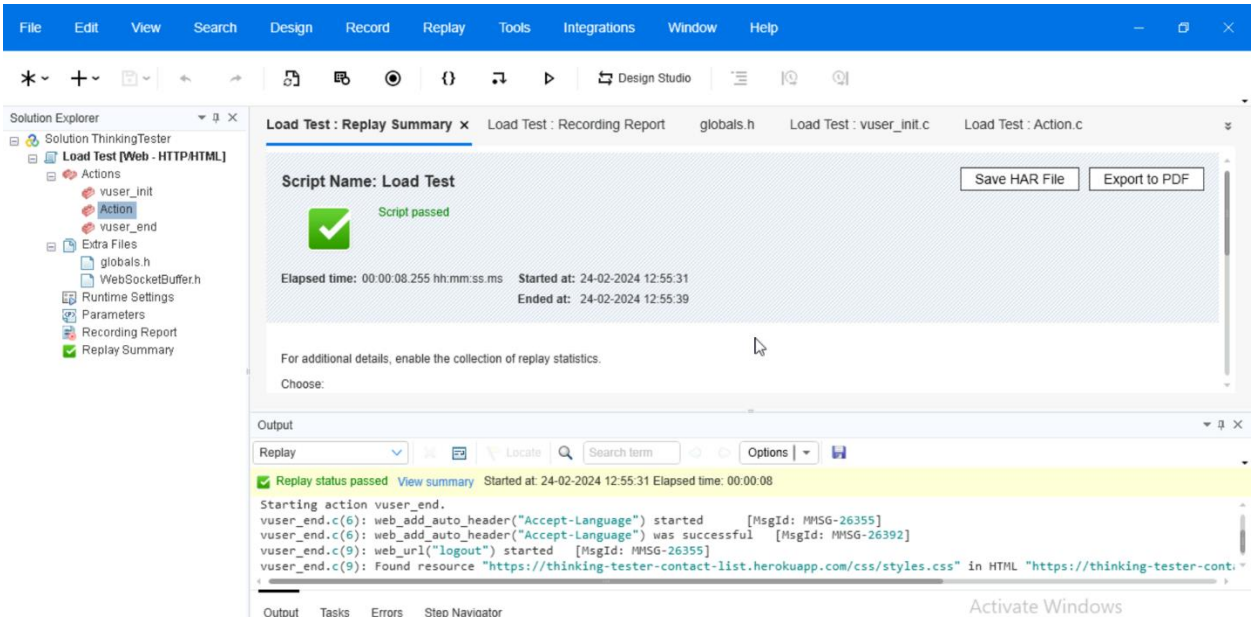


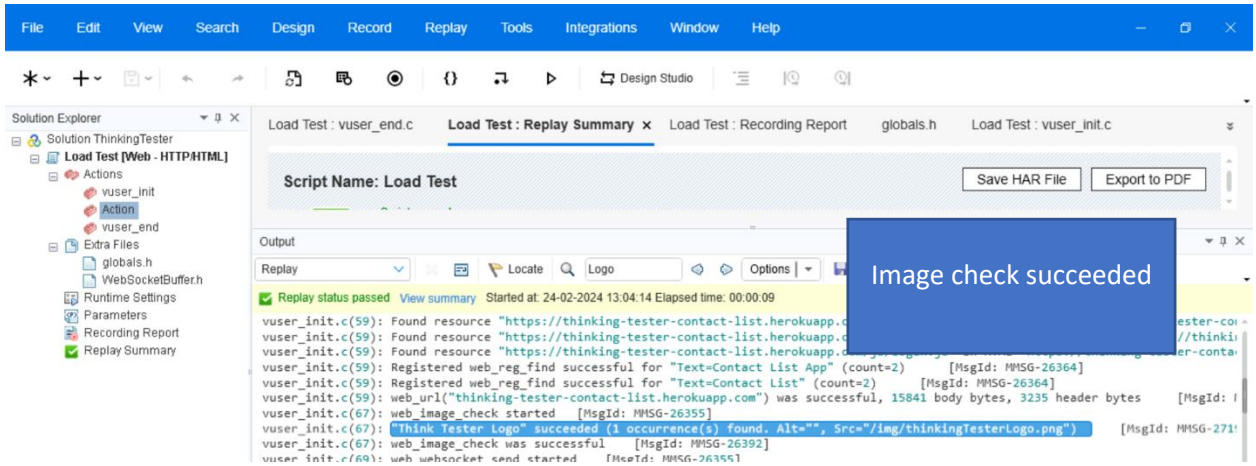


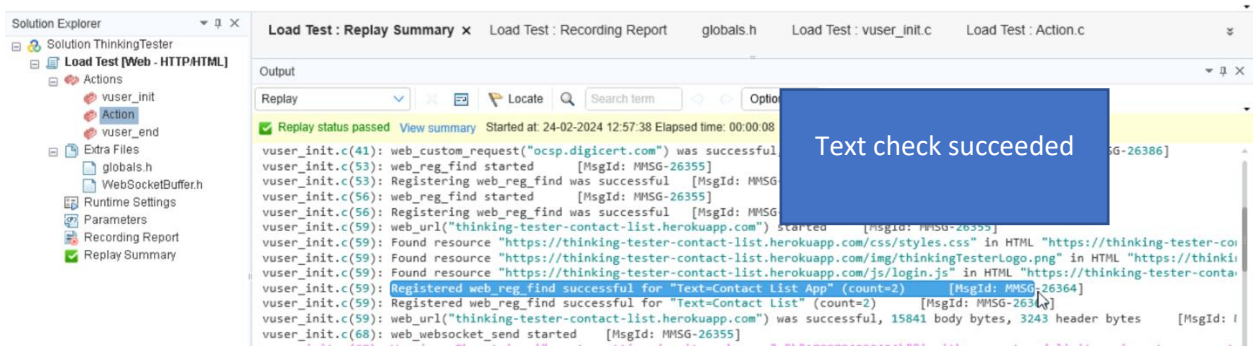


❖ Replay the after parameterization and correlation






File Edit View Search Design Record Replay Tools Integrations Window Help
Design Studio
Solution Explorer
Solution ThinkingTester
Load Test [Web - HTTP/HTML]
Actions
vuser_init
Action
vuser_end
Extra Files
globals.h
WebSocketBuffer.h
Runtime Settings
Parameters
Recording Report
Replay Summary
Load Test : vuser_end.c
Load Test : Replay Summary
Load Test : Recording Report
globals.h
Load Test : vuser_init.c
Script Name: Load Test
Save HAR File
Export to PDF
Output
Replay
Locate
Logo
Options
Image check succeeded
Replay status passed
View summary
Started at: 24-02-2024 13:04:14 Elapsed time: 00:00:09
vuser_init.c(59): Found resource "https://thinking-tester-contact-list.herokuapp.com/
vuser_init.c(59): Found resource "https://thinking-tester-contact-list.herokuapp.com/
vuser_init.c(59): Found resource "https://thinking-tester-contact-list.herokuapp.com/
vuser_init.c(59): Registered web_reg_find successful for "Text=Contact List App" (count=2) [MsgId: MMSG-26364]
vuser_init.c(59): Registered web_reg_find successful for "Text=Contact List" (count=2) [MsgId: MMSG-26364]
vuser_init.c(59): web_url("thinking-tester-contact-list.herokuapp.com") was successful, 15841 body bytes, 3235 header bytes
vuser_init.c(67): web_image_check started [MsgId: MMSG-26355]
vuser_init.c(67): "Think Tester Logo" succeeded (1 occurrence(s) found. Alt="", Src="/img/thinkingTesterLogo.png")
vuser_init.c(67): web_image_check was successful [MsgId: MMSG-26392]


Solution Explorer
Solution ThinkingTester
Load Test [Web - HTTP/HTML]
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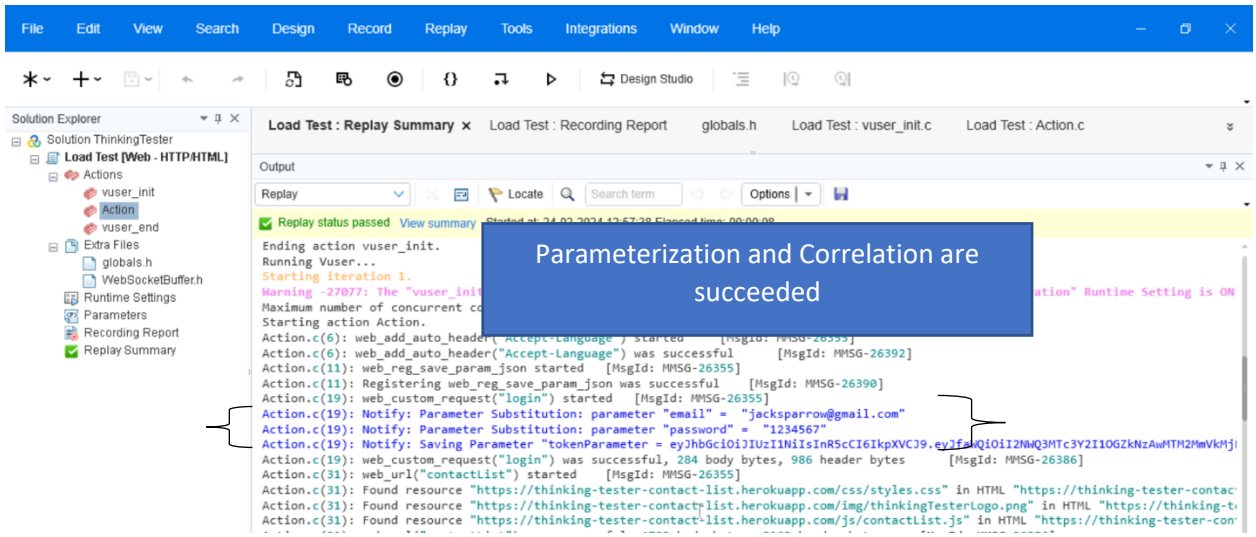
vuser_init
Action
vuser_end
Extra Files
globals.h
WebSocketBuffer.h
Runtime Settings
Parameters
Recording Report
Replay Summary
Load Test : Replay Summary
Load Test : Recording Report
globals.h
Load Test : vuser_init.c
Load Test : Action.c
Output
Replay
Locate
Search term
Text check succeeded
Replay status passed
View summary
Started at: 24-02-2024 12:57:38 Elapsed time: 00:00:08
vuser_init.c(41): web_custom_request("ocsp.digicert.com") was successful
vuser_init.c(53): web_reg_find started [MsgId: MMSG-26355]
vuser_init.c(53): Registering web_reg_find was successful
vuser_init.c(56): web_reg_find started [MsgId: MMSG-26355]
vuser_init.c(56): Registering web_reg_find was successful
vuser_init.c(59): web_url("thinking-tester-contact-list.herokuapp.com") started
vuser_init.c(59): Found resource "https://thinking-tester-contact-list.herokuapp.com/css/styles.css" in HTML
vuser_init.c(59): Found resource "https://thinking-tester-contact-list.herokuapp.com/img/thinkingTesterLogo.png" in HTML
vuser_init.c(59): Found resource "https://thinking-tester-contact-list.herokuapp.com/js/login.js" in HTML
vuser_init.c(59): Registered web_reg_find successful for "Text=Contact List App" (count=2) [MsgId: MMSG-26364]
vuser_init.c(59): Registered web_reg_find successful for "Text=Contact List" (count=2) [MsgId: MMSG-26364]
vuser_init.c(59): web_url("thinking-tester-contact-list.herokuapp.com") was successful, 15841 body bytes, 3243 header bytes
vuser_init.c(68): web_websocket_send started [MsgId: MMSG-26355]


File Edit View Search Design Record Replay Tools Integrations Window Help
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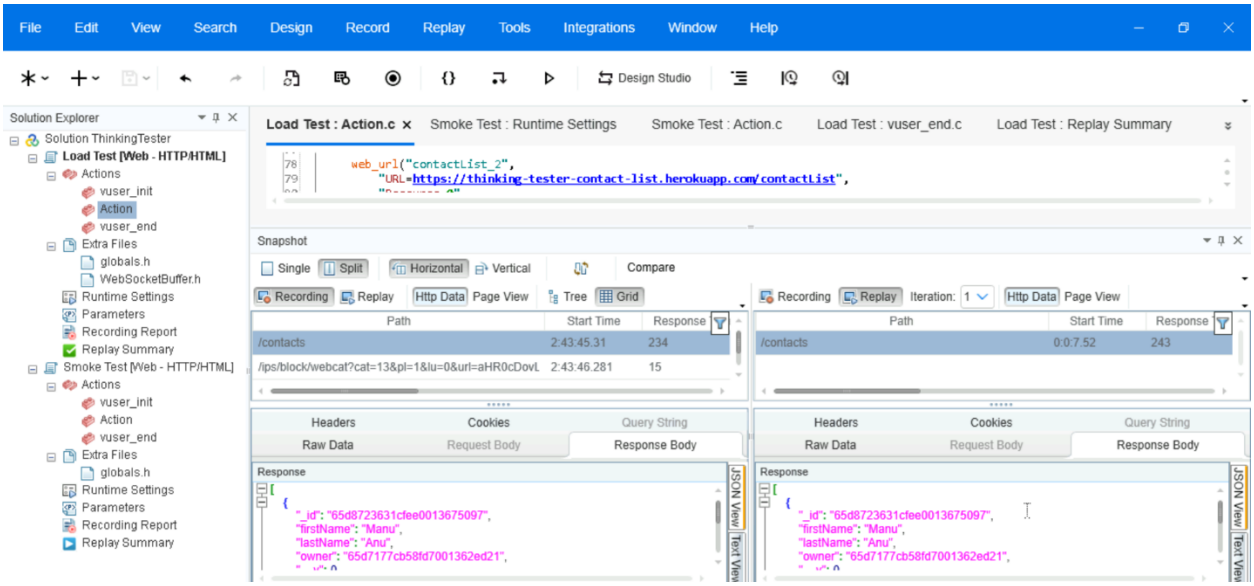
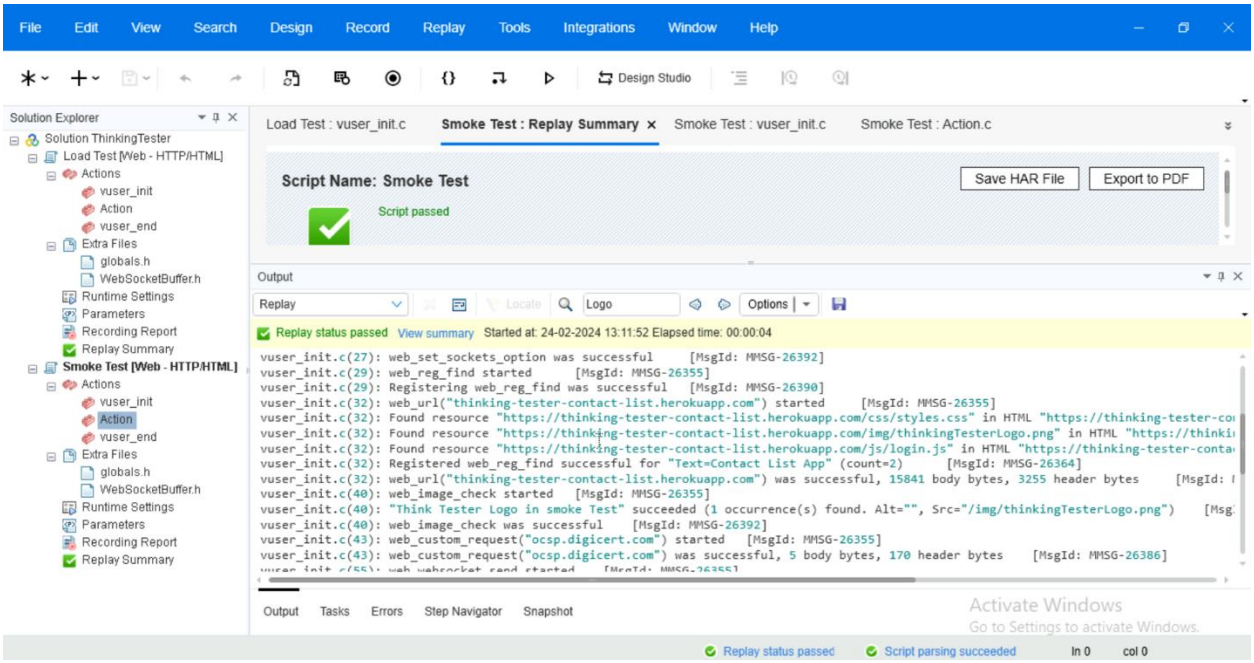
Load Test : Replay Summary
Load Test : Recording Report
globals.h
Load Test : vuser_init.c
Load Test : Action.c
Output
Replay
Locate
Search term
Options
Replay status passed
View summary
Parameterization and Correlation are succeeded
Ending action vuser_init.
Running Vuser...
Starting iteration 1.
Maximum number of concurrent
Starting action Action.
Action.c(6): web_add_auto_header("Accept-Language") was successful [MsgId: MMSG-26392]
Action.c(11): web_reg_save_param_json started [MsgId: MMSG-26355]
Action.c(11): Registering web_reg_save_param_json was successful [MsgId: MMSG-26390]
Action.c(19): web_custom_request("login") started [MsgId: MMSG-26355]
Action.c(19): Notify: Parameter Substitution: parameter "email" = "jacksparrow@gmail.com"
Action.c(19): Notify: Parameter Substitution: parameter "password" = "1234567"
Action.c(19): Notify: Saving Parameter "tokenParameter = eyJhbGciOiJIUzI1NiIsInR5cCI6IkpXVCJ9.
Action.c(19): web_custom_request("login") was successful, 284 body bytes, 986 header bytes [MsgId: MMSG-26386]
Action.c(31): web_url("contactList") started [MsgId: MMSG-26355]
Action.c(31): Found resource "https://thinking-tester-contact-list.herokuapp.com/css/styles.css" in HTML
Action.c(31): Found resource "https://thinking-tester-contact-list.herokuapp.com/img/thinkingTesterLogo.png" in HTML
Action.c(31): Found resource "https://thinking-tester-contact-list.herokuapp.com/js/contactList.js" in HTML

❖ Then the Snapshot view become.

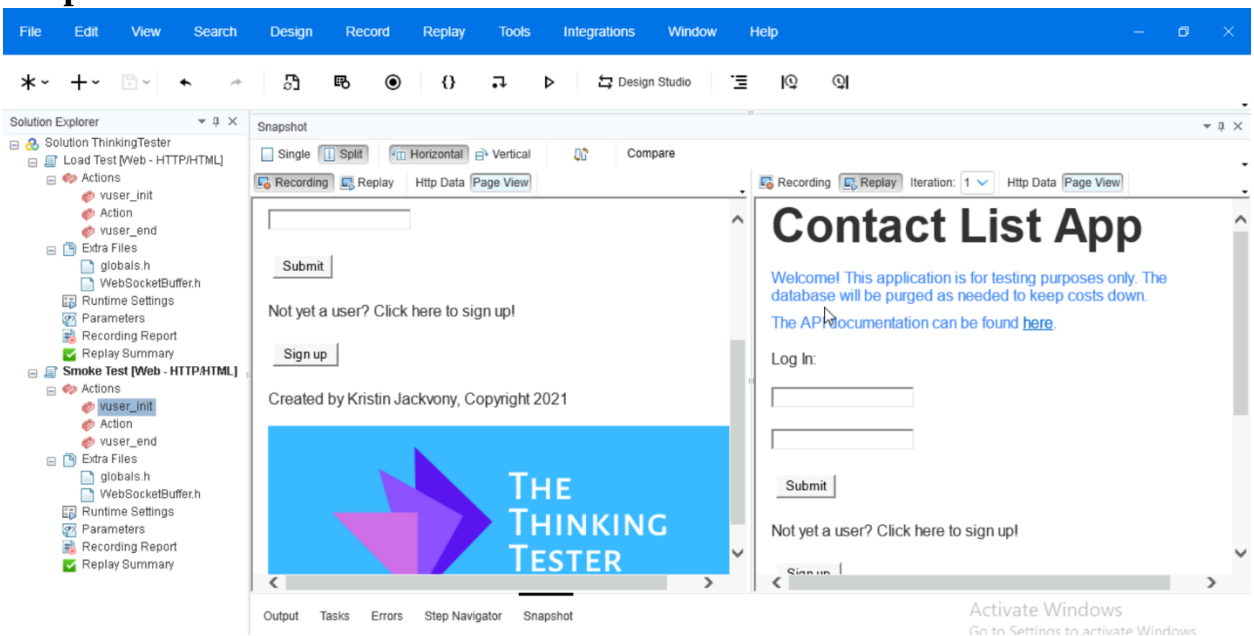
Earlier, in replay it says it needs authorization.Now the response body appears.



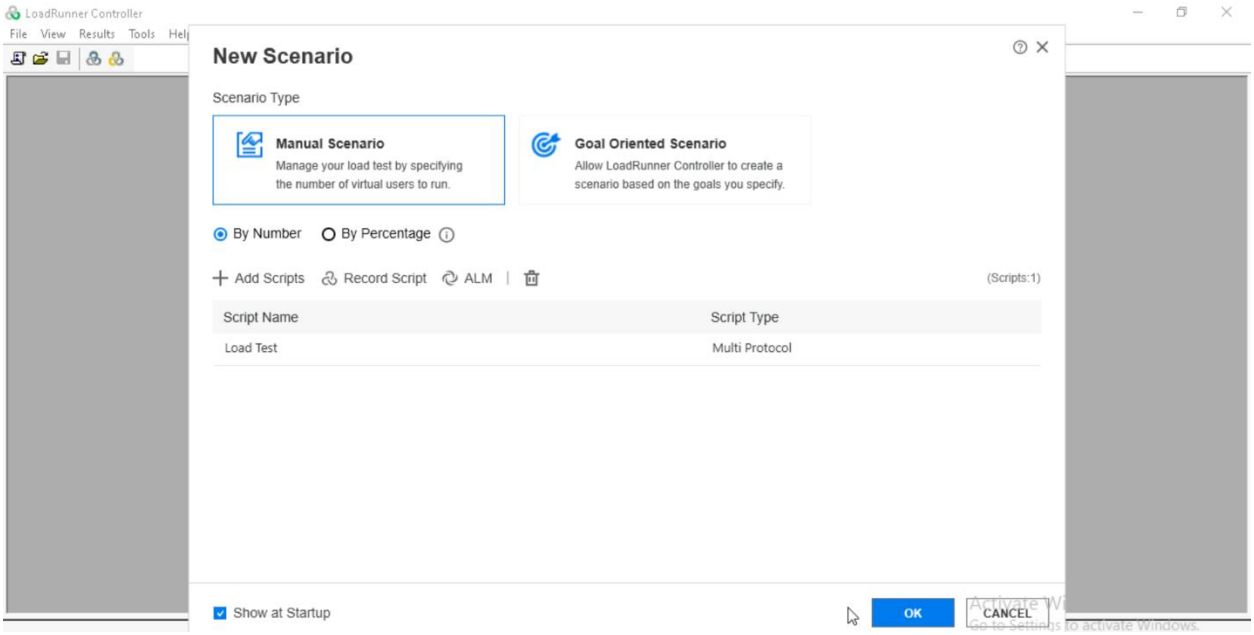
❖ Also done a smoke test with image check and text check on home page of think tester

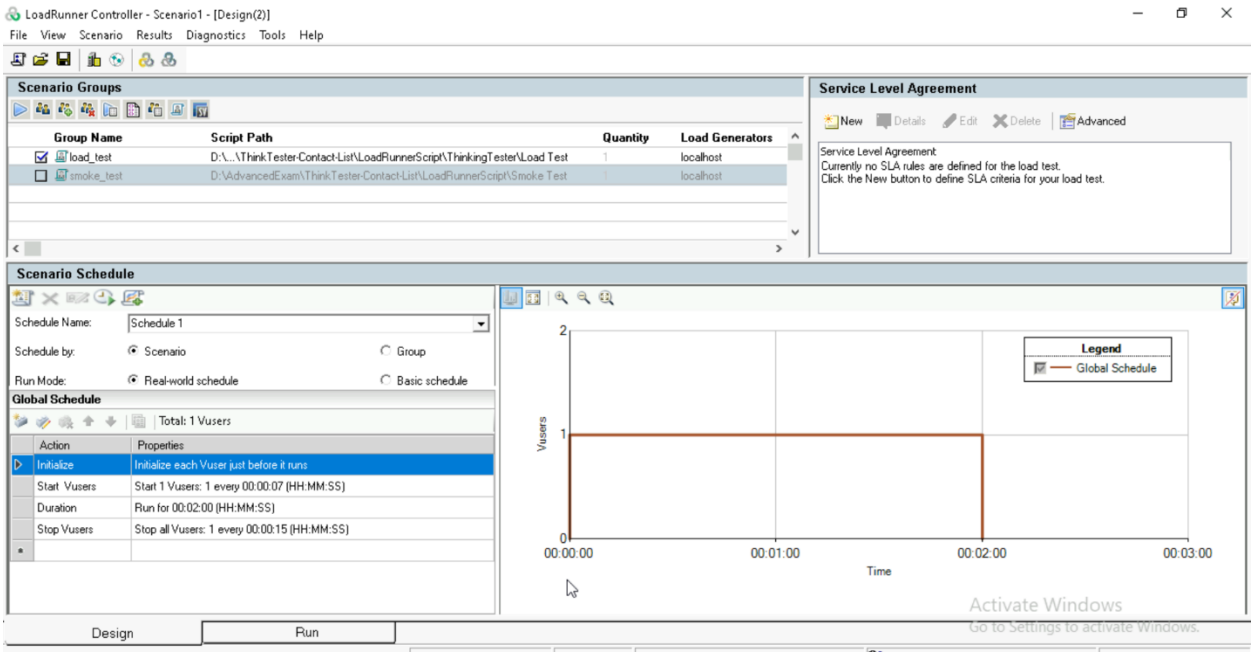


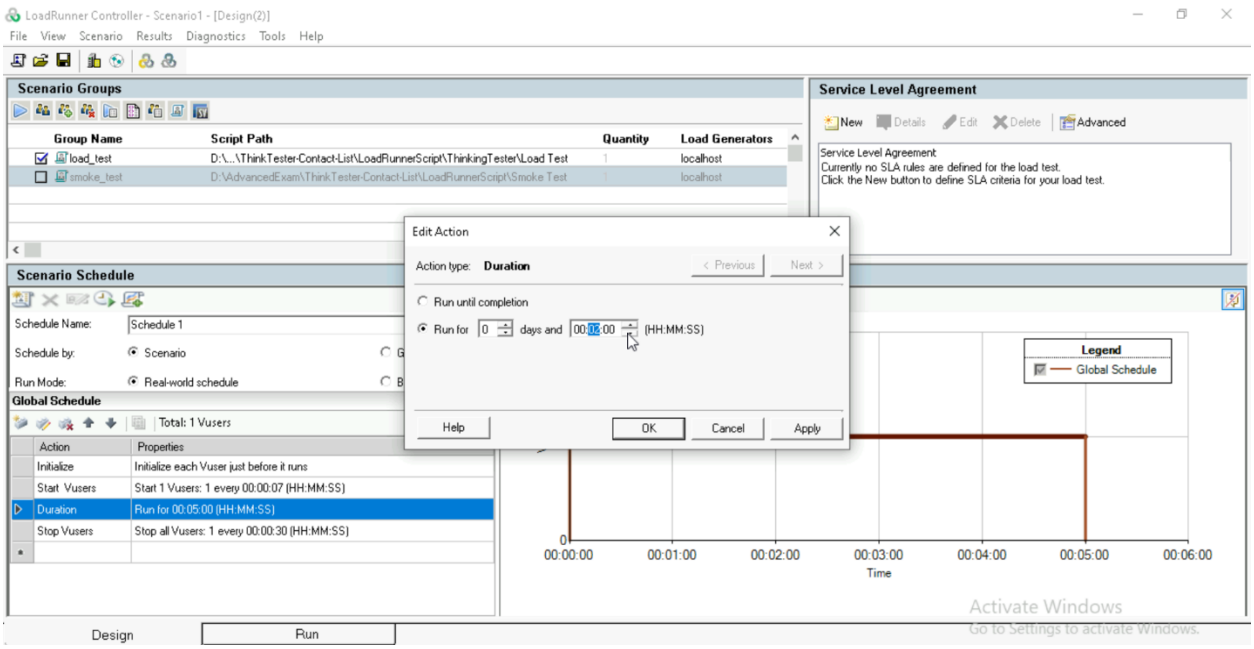
Snapshot View of Smoke Test

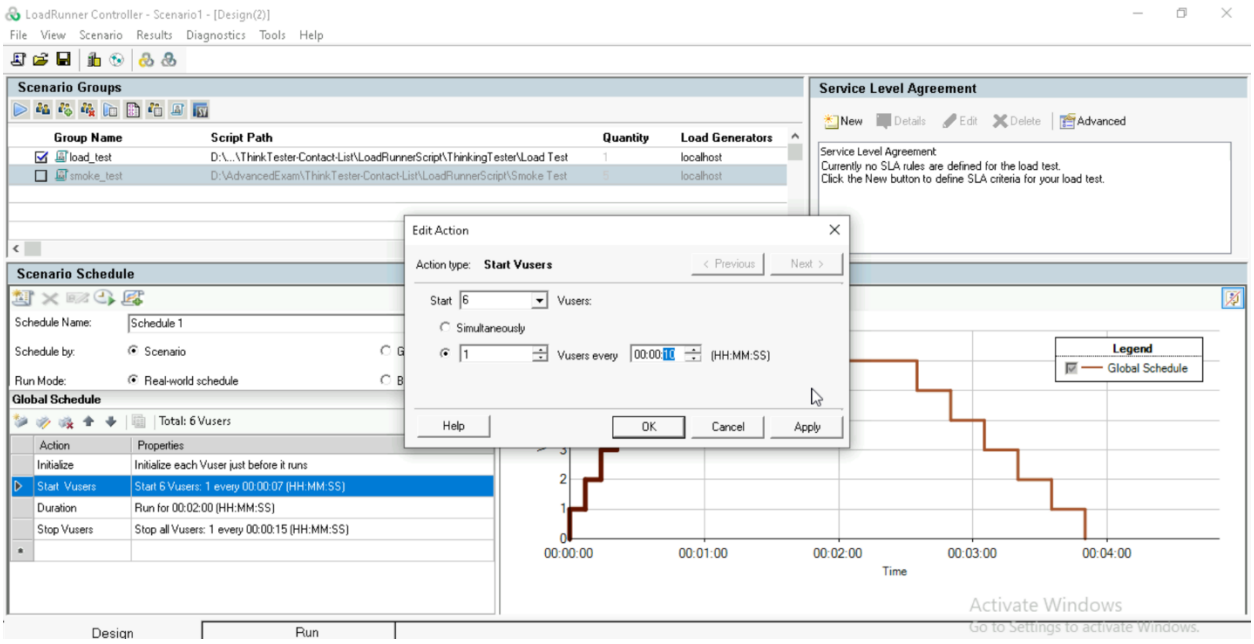


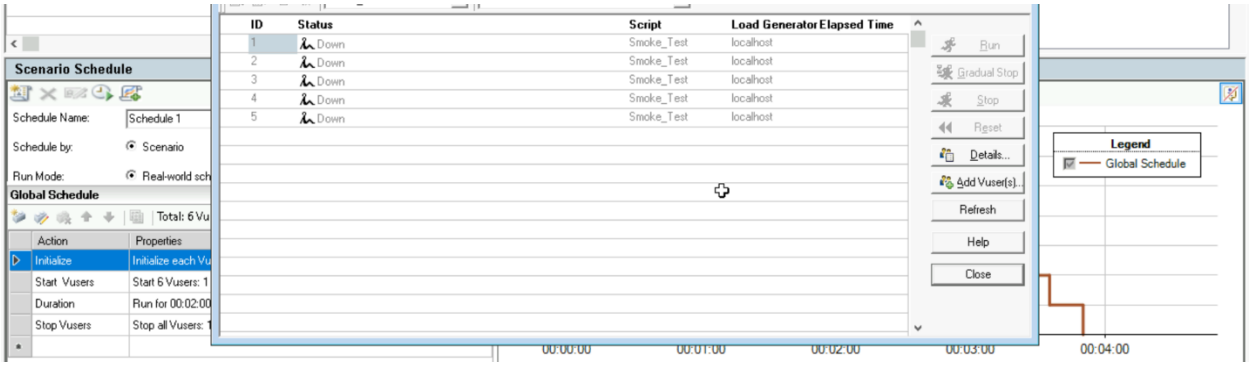
- **Open LoadRunner's Controller**
- Add Script

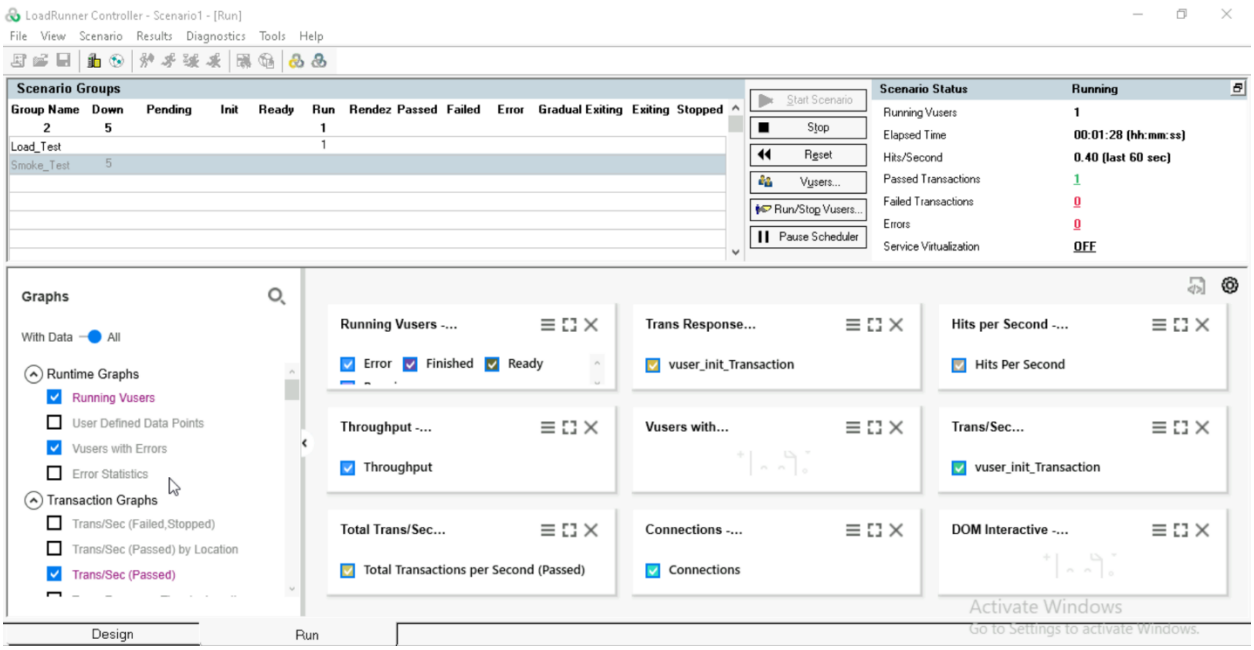


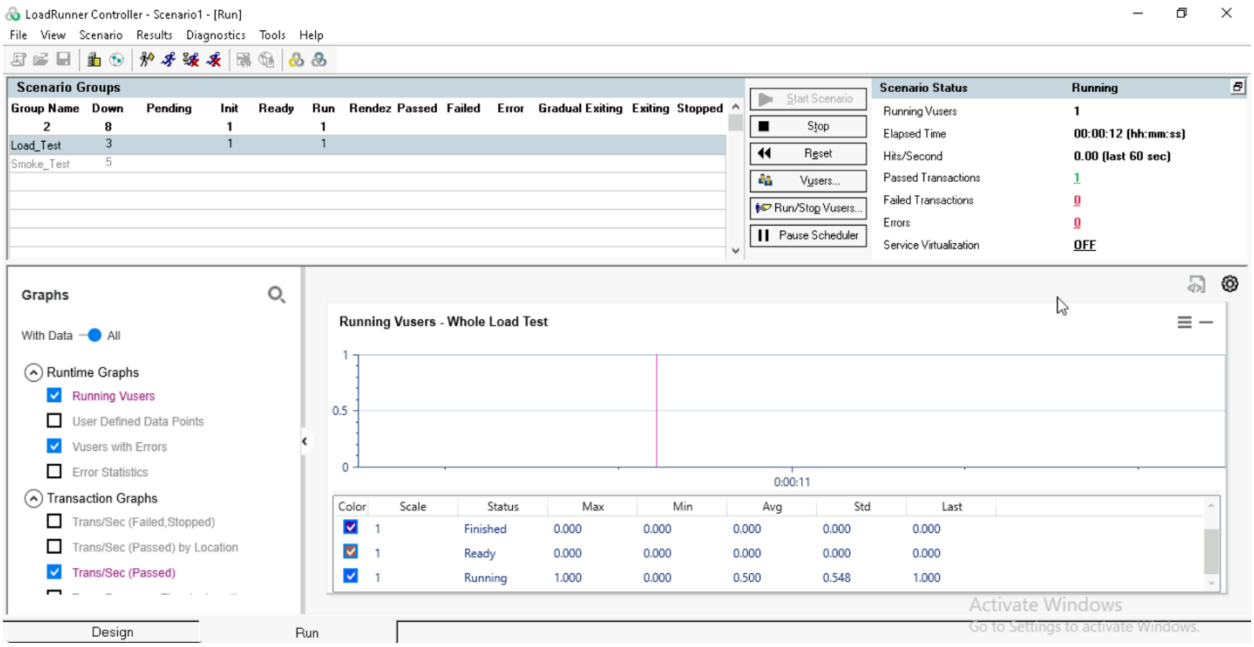


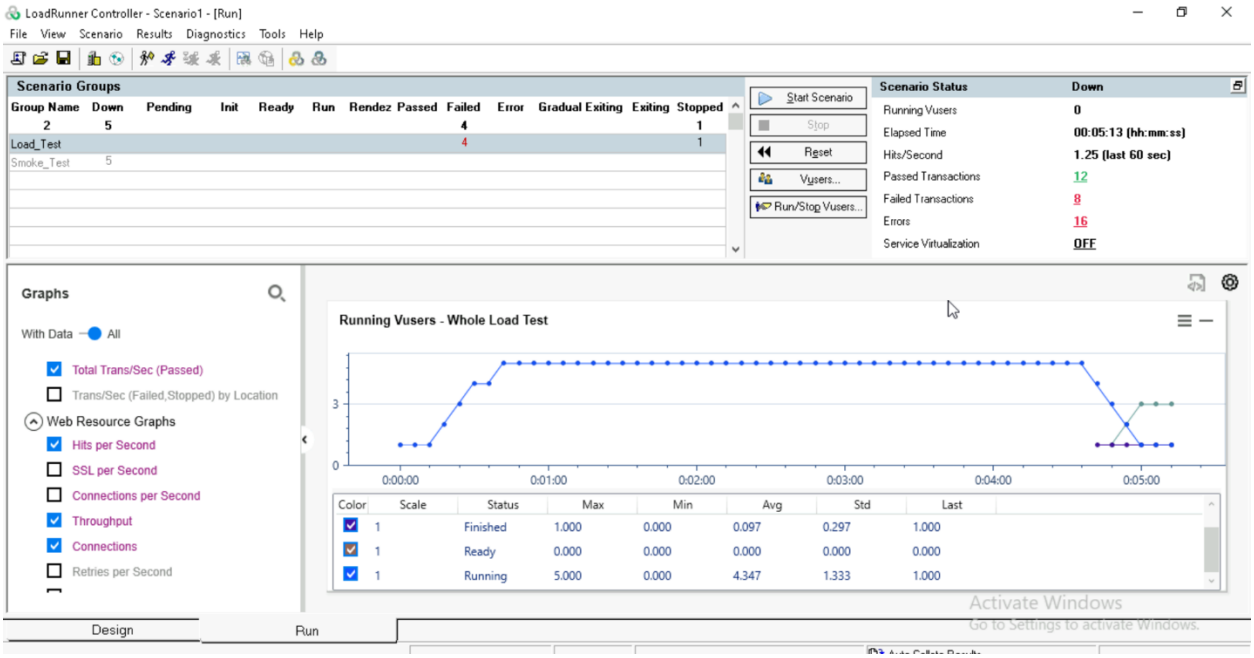

LoadRunner Controller - Scenario1 - [Design(2)]
File View Scenario Results Diagnostics Tools Help
Scenario Groups
Group Name
Script Path
Quantity
Load Generators
load_test
D:\...\ThinkTester-Contact-List\LoadRunnerScript\ThinkingTester\Load Test
localhost
smoke_test
D:\AdvancedExam\ThinkTester-Contact-List\LoadRunnerScript\Smoke Test
localhost
Service Level Agreement
New Details Edit Delete Advanced
Service Level Agreement
Currently no SLA rules are defined for the load test.
Click the New button to define SLA criteria for your load test.
Edit Action
Action type: Duration
Previous Next
Run until completion
Run for 0 days and 00:05:00 (HH:MM:SS)
Help OK Cancel Apply
Scenario Schedule
Schedule Name: Schedule 1
Schedule by: Scenario
Run Mode: Real-world schedule
Global Schedule
Total: 1 Vusers
Action
Properties
Initialize
Initialize each Vuser just before it runs
Start Vusers
Start 1 Vusers: 1 every 00:00:07 (HH:MM:SS)
Duration
Run for 00:05:00 (HH:MM:SS)
Stop Vusers
Stop all Vusers: 1 every 00:00:30 (HH:MM:SS)
Legend
Global Schedule
00:00:00 00:01:00 00:02:00 00:03:00 00:04:00 00:05:00 00:06:00
Time
Activate Windows
Go to Settings to activate Windows.
Design
Run


LoadRunner Controller - Scenario1 - [Design(2)]
File View Scenario Results Diagnostics Tools Help
Scenario Groups
Group Name
Script Path
Quantity
Load Generators
load_test
D:\...\ThinkTester-Contact-List\LoadRunnerScript\ThinkingTester\Load Test
localhost
smoke_test
D:\AdvancedExam\ThinkTester-Contact-List\LoadRunnerScript\Smoke Test
localhost
Service Level Agreement
New Details Edit Delete Advanced
Service Level Agreement
Currently no SLA rules are defined for the load test.
Click the New button to define SLA criteria for your load test.
Edit Action
Action type: Start Vusers
Previous Next
Start 6 Vusers:
Simultaneously
1 Vusers every 00:00:10 (HH:MM:SS)
Help OK Cancel Apply
Scenario Schedule
Schedule Name: Schedule 1
Schedule by: Scenario
Run Mode: Real-world schedule
Global Schedule
Total: 6 Vusers
Action
Properties
Initialize
Initialize each Vuser just before it runs
Start Vusers
Start 6 Vusers: 1 every 00:00:07 (HH:MM:SS)
Duration
Run for 00:02:00 (HH:MM:SS)
Stop Vusers
Stop all Vusers: 1 every 00:00:15 (HH:MM:SS)
Legend
Global Schedule
00:00:00 00:01:00 00:02:00 00:03:00 00:04:00
Time
Activate Windows
Go to Settings to activate Windows.
Design
Run

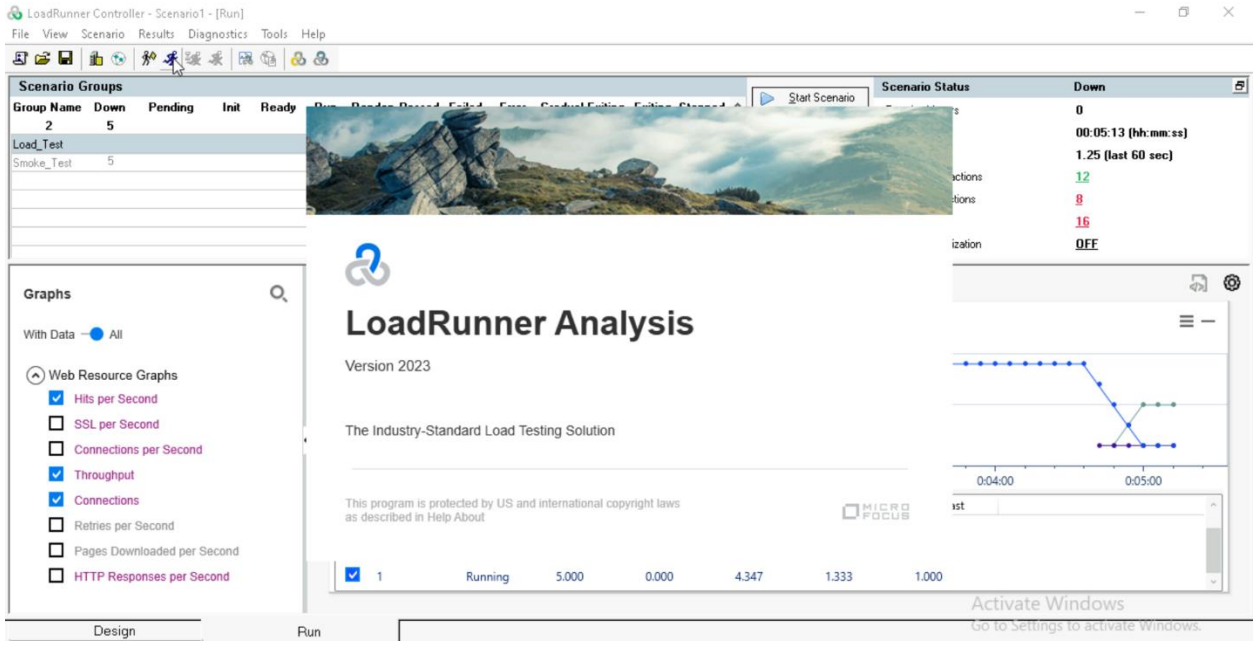

ID
Status
Script
Load Generator
Elapsed Time
1 Down Smoke_Test localhost
2 Down Smoke_Test localhost
3 Down Smoke_Test localhost
4 Down Smoke_Test localhost
5 Down Smoke_Test localhost
Run
Gradual Stop
Stop
Reset
Details...
Add Vuser(s)...
Refresh
Help
Close
Scenario Schedule
Schedule Name: Schedule 1
Schedule by: Scenario
Global Schedule
Action
Properties
Initialize
Start Vusers
Duration
Stop Vusers
Legend
Global Schedule
00:04:00


LoadRunner Controller - Scenario1 - [Run]
File View Scenario Results Diagnostics Tools Help
Scenario Groups
Group Name Down Pending Init Ready Run Rendez Passed Failed Error Gradual Exiting Exiting Stopped
2 5 1
Load_Test 1
Smoke_Test 5
Start Scenario
Stop
Reset
Vusers...
Run/Stop Vusers...
Pause Scheduler
Scenario Status Running
Running Vusers 1
Elapsed Time 00:01:28 (hh:mm:ss)
Hits/Second 0.40 (last 60 sec)
Passed Transactions 1
Failed Transactions 0
Errors 0
Service Virtualization OFF
Graphs
With Data All
Runtime Graphs
Running Vusers
User Defined Data Points
Vusers with Errors
Error Statistics
Transaction Graphs
Trans/Sec (Failed,Stopped)
Trans/Sec (Passed) by Location
Trans/Sec (Passed)
Running Vusers -...
Error Finished Ready
Trans Response...
vuser_init_Transaction
Hits per Second -...
Hits Per Second
Throughput -...
Throughput
Vusers with...
Trans/Sec...
vuser_init_Transaction
Total Trans/Sec...
Total Transactions per Second (Passed)
Connections -...
Connections
DOM Interactive -...
Activate Windows
Go to Settings to activate Windows.
Design
Run

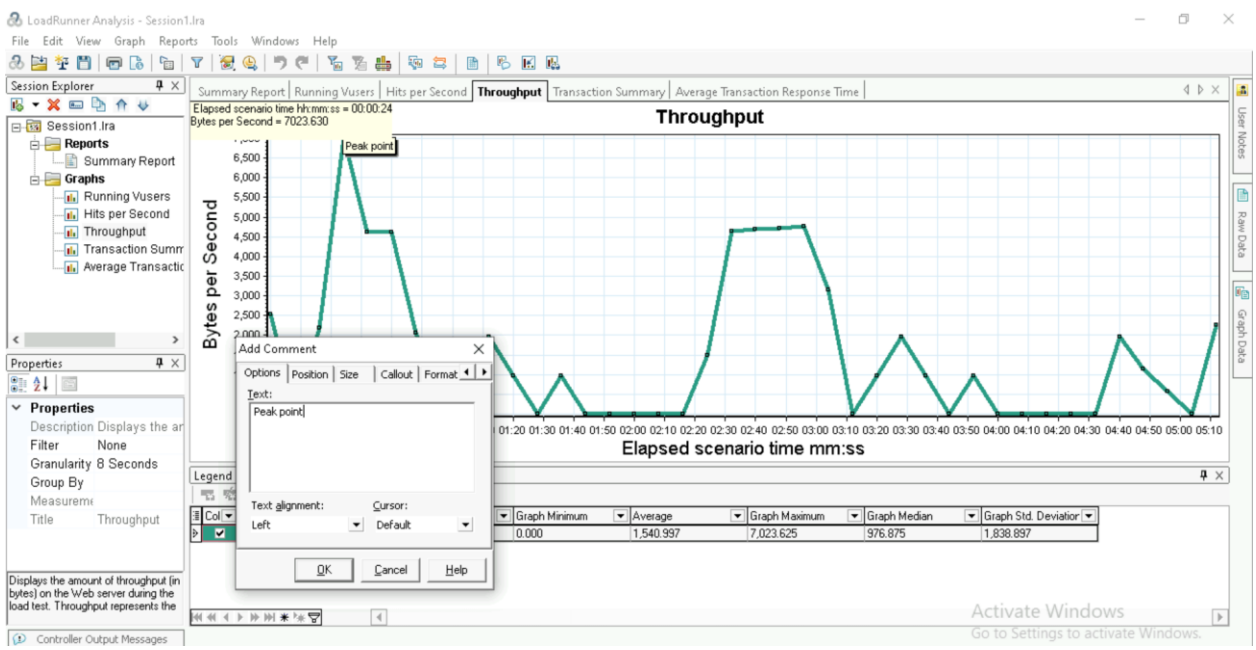

LoadRunner Controller - Scenario1 - [Run]
File View Scenario Results Diagnostics Tools Help
Scenario Groups
Group Name Down Pending Init Ready Run Rendez Passed Failed Error Gradual Exiting Exiting Stopped
2 8 1 1
Load_Test 3 1 1
Smoke_Test 5
Start Scenario
Stop
Reset
Vusers...
Run/Stop Vusers...
Pause Scheduler
Scenario Status Running
Running Vusers 1
Elapsed Time 00:00:12 (hh:mm:ss)
Hits/Second 0.00 (last 60 sec)
Passed Transactions 1
Failed Transactions 0
Errors 0
Service Virtualization OFF
Graphs
With Data All
Runtime Graphs
Running Vusers
User Defined Data Points
Vusers with Errors
Error Statistics
Transaction Graphs
Trans/Sec (Failed,Stopped)
Trans/Sec (Passed) by Location
Trans/Sec (Passed)
Running Vusers - Whole Load Test
1
0.5
0
0:00:11
Color Scale Status Max Min Avg Std Last
1 Finished 0.000 0.000 0.000 0.000 0.000
1 Ready 0.000 0.000 0.000 0.000 0.000
1 Running 1.000 0.000 0.500 0.548 1.000
Activate Windows
Go to Settings to activate Windows.
Design
Run

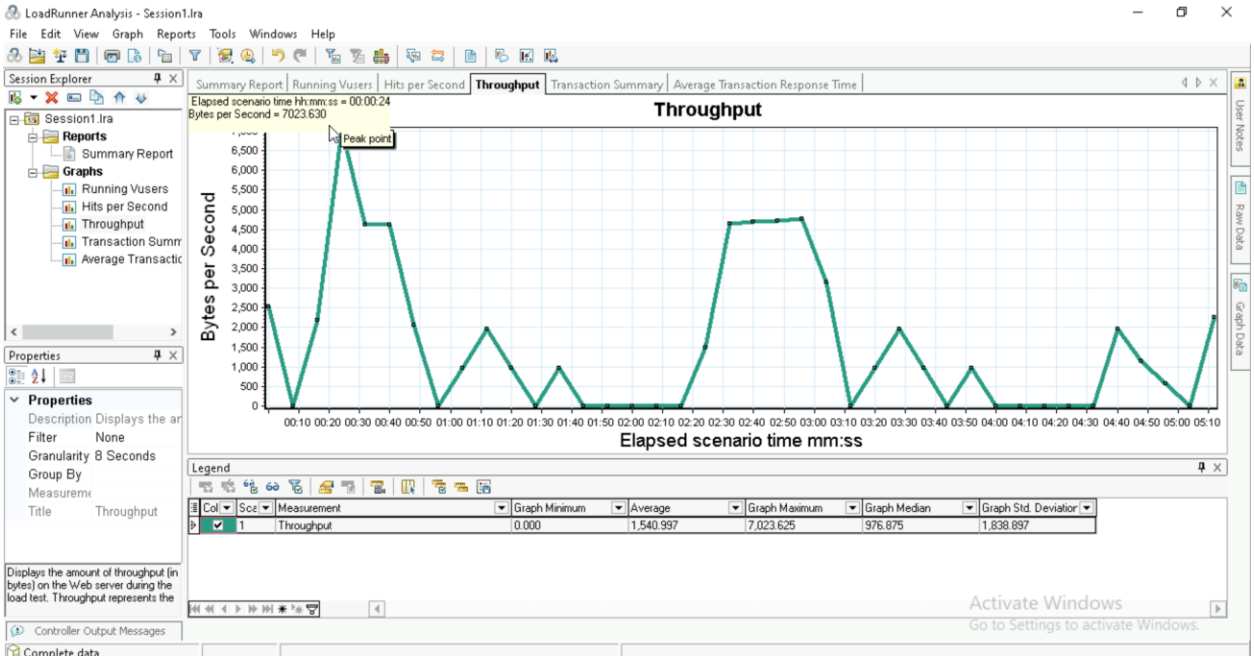

LoadRunner Controller - Scenario1 - [Run]
File View Scenario Results Diagnostics Tools Help
Scenario Groups
Group Name Down Pending Init Ready Run Rendez Passed Failed Error Gradual Exiting Exiting Stopped
2 5 4 1
Load_Test 4 1
Smoke_Test 5
Start Scenario
Stop
Reset
Vusers...
Run/Stop Vusers...
Scenario Status Down
Running Vusers 0
Elapsed Time 00:05:13 (hh:mm:ss)
Hits/Second 1.25 (last 60 sec)
Passed Transactions 12
Failed Transactions 8
Errors 16
Service Virtualization OFF
Graphs
With Data All
Total Trans/Sec (Passed)
Trans/Sec (Failed,Stopped) by Location
Web Resource Graphs
Hits per Second
SSL per Second
Connections per Second
Throughput
Connections
Retries per Second
Running Vusers - Whole Load Test
3
0
0:00:00 0:01:00 0:02:00 0:03:00 0:04:00 0:05:00
Color Scale Status Max Min Avg Std Last
1 Finished 1.000 0.000 0.097 0.297 1.000
1 Ready 0.000 0.000 0.000 0.000 0.000
1 Running 5.000 0.000 4.347 1.333 1.000
Design
Run
Activate Windows
Go to Settings to activate Windows.

❖ Then Analyze the Result on LoadRunner Analysis

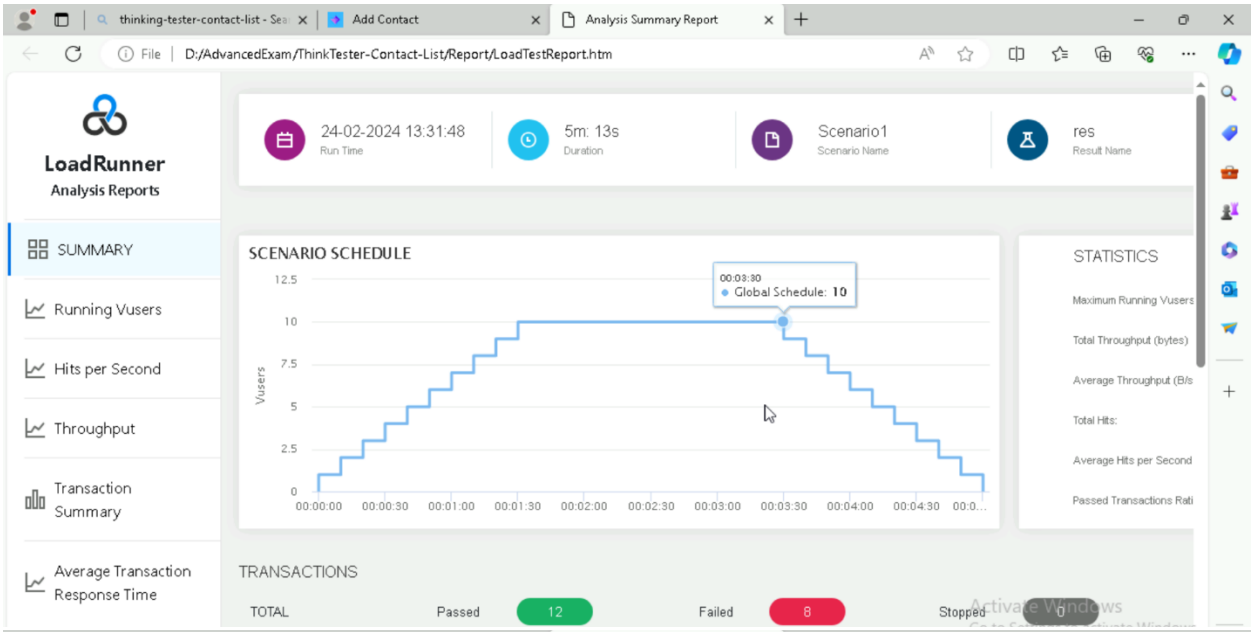


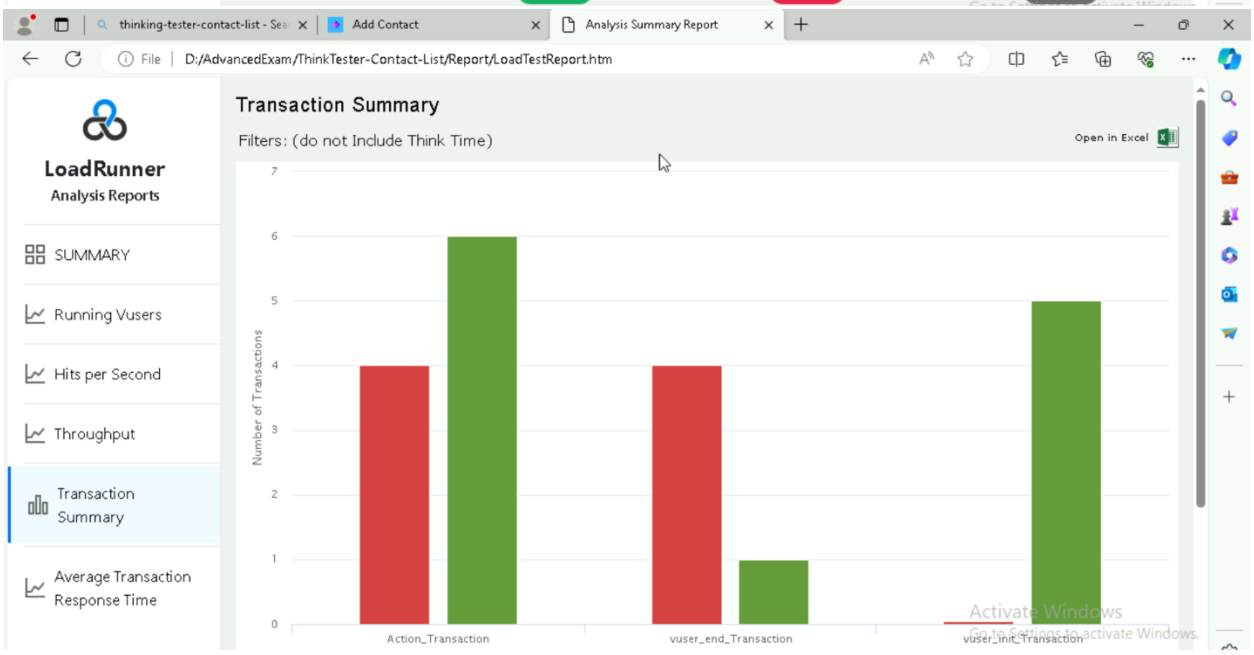
Give Comment in the graph like annotations.




LoadRunner Analysis - Session1.lra
File Edit View Graph Reports Tools Windows Help
Session Explorer
Session1.lra
Reports
Summary Report
Graphs
Running Vusers
Hits per Second
Throughput
Transaction Summr
Average Transactic
Properties
Description Displays the ar
Filter None
Granularity 8 Seconds
Group By
Measurem
Title Throughput
Displays the amount of throughput (in bytes) on the Web server during the load test. Throughput represents the
Controller Output Messages
Complete data
Summary Report
Running Vusers
Hits per Second
Throughput
Transaction Summary
Average Transaction Response Time
Elapsed scenario time hh:mm:ss = 00:00:24
Bytes per Second = 7023.630
Peak point
Throughput
Bytes per Second
Elapsed scenario time mm:ss
Legend
Col Sce Measurement Graph Minimum Average Graph Maximum Graph Median Graph Std. Deviation
1 Throughput 0.000 1,540.997 7,023.625 976.875 1,838.897
Activate Windows
Go to Settings to activate Windows.

❖ Then Generate Report





NB:- Throughput graph, hits per second ,Transaction Response time are in the Report folder .Reports, scripts, sessions, scenario are attaching with the document in zip file.