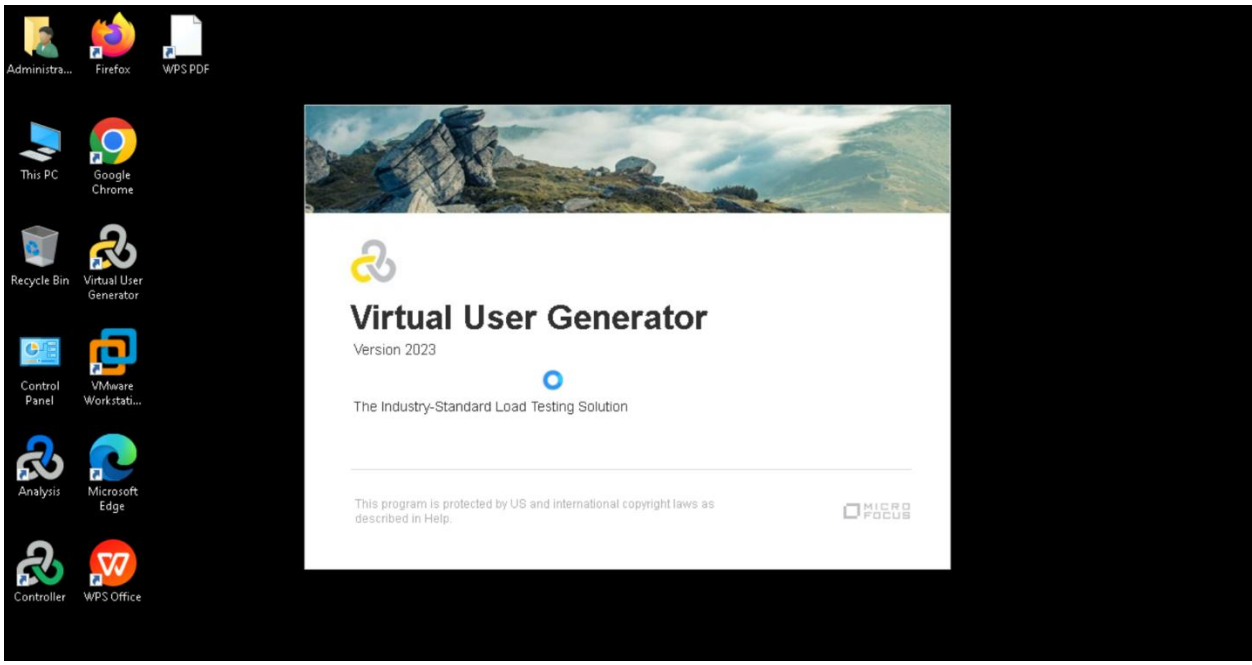
JPetStore-Aspectran:- Performance Testing

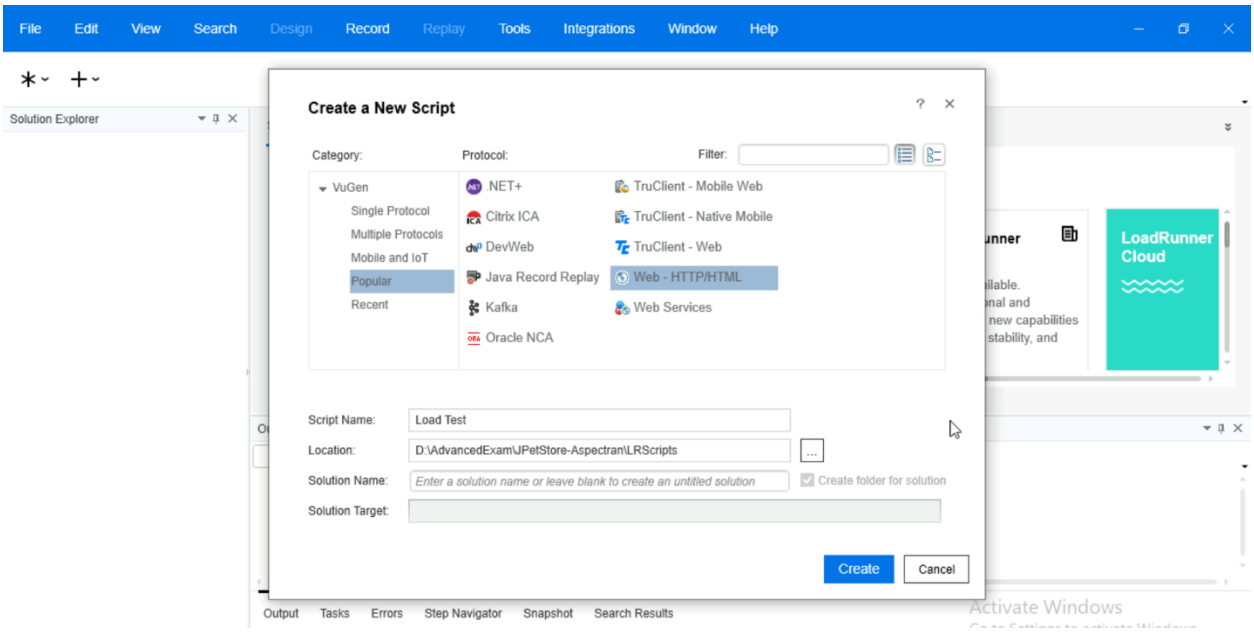
Using LoadRunner

Url:- JPetStore Demo (aspectran.com)

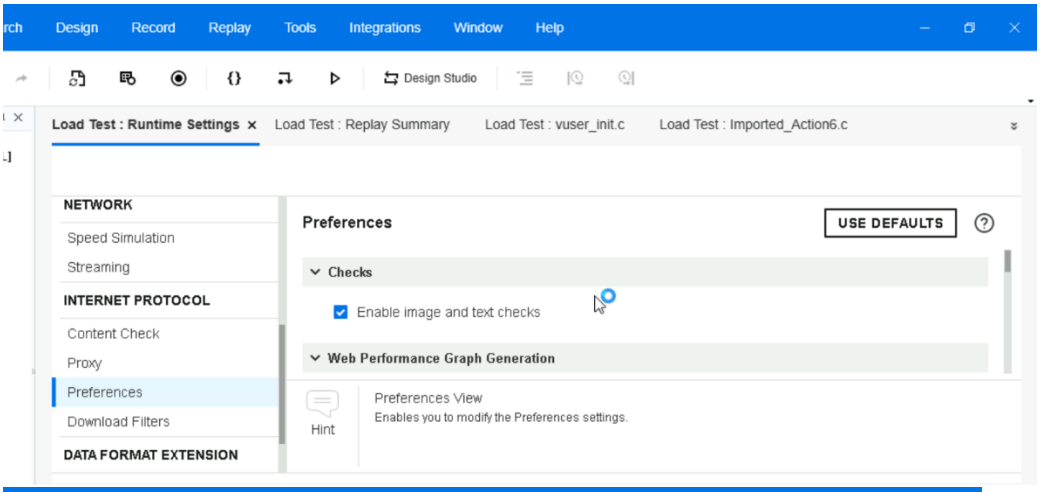
- Open LoadRunner's Virtual User Generator(VuGen)

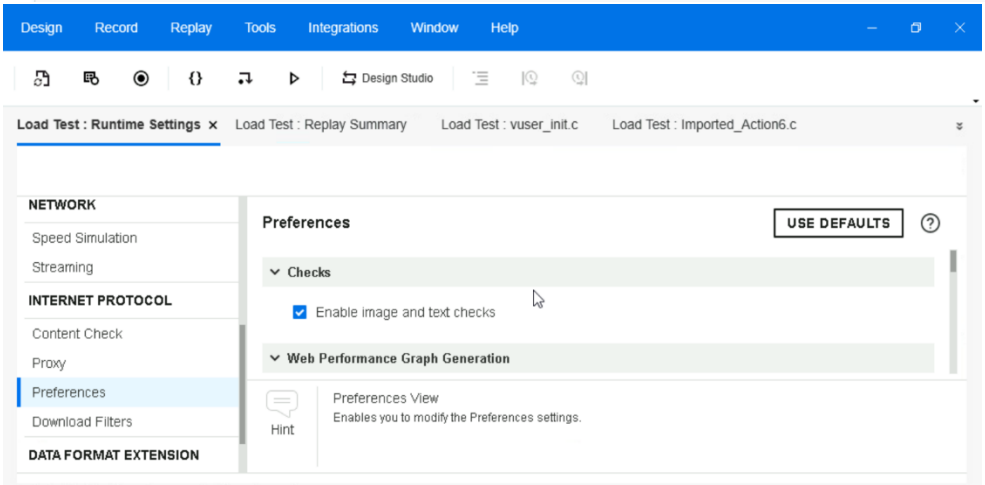


- Create new Script and solution on Web HTTP/HTML protocol

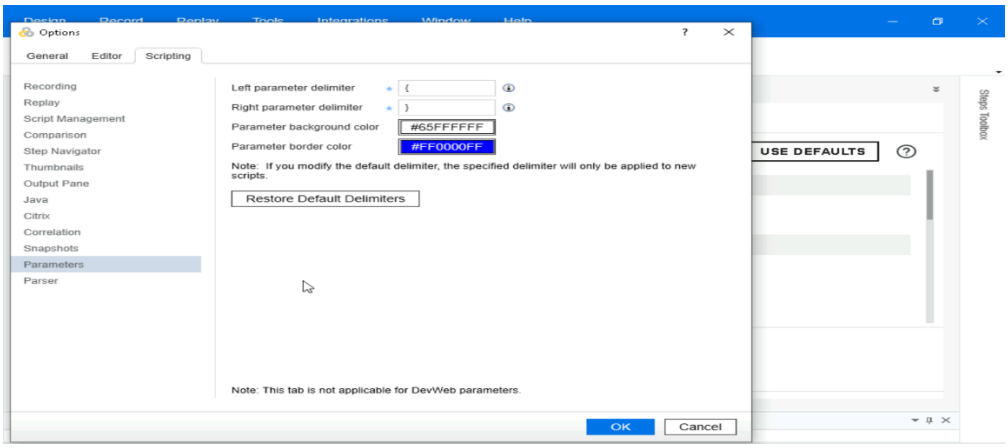


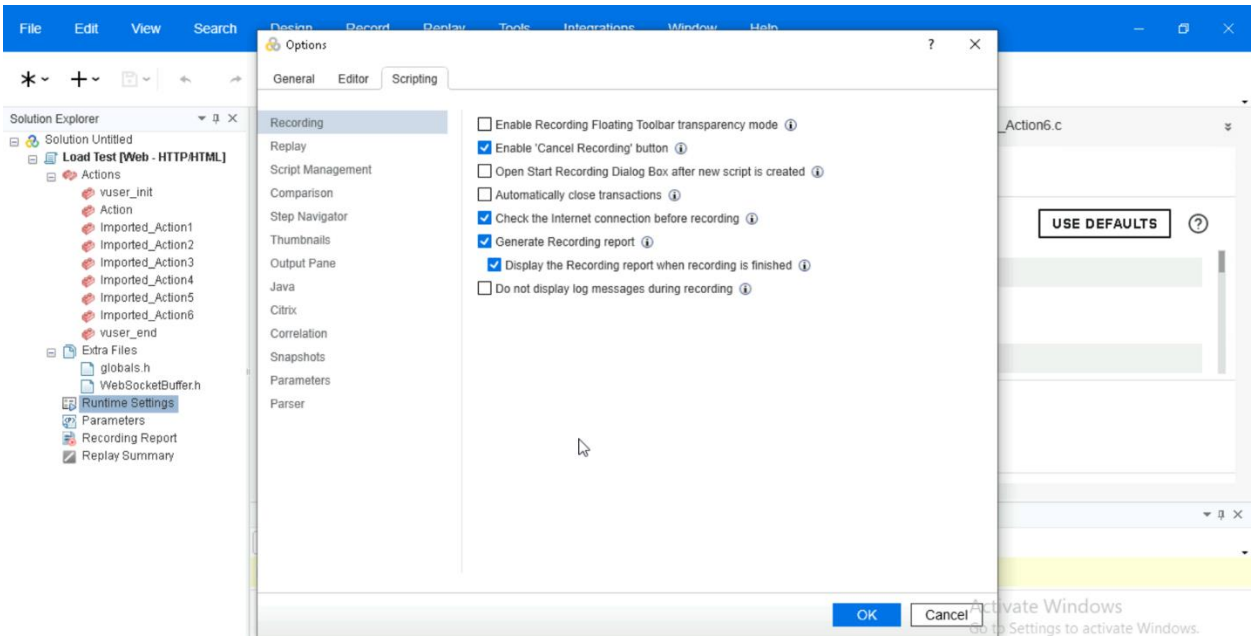
❖ Change the Runtime settings appropriately



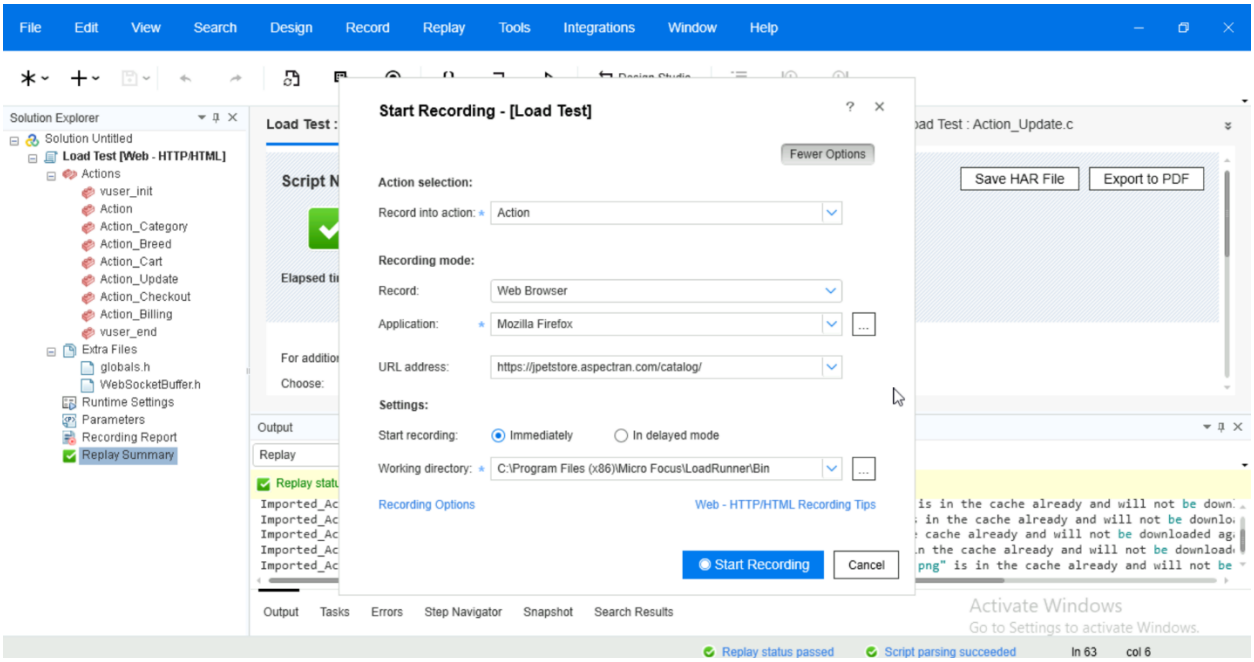


❖ We can also enables page view while replay the recording.
Tools => Options => Scripting => Replay, Recording, Snapshot, Parameter..

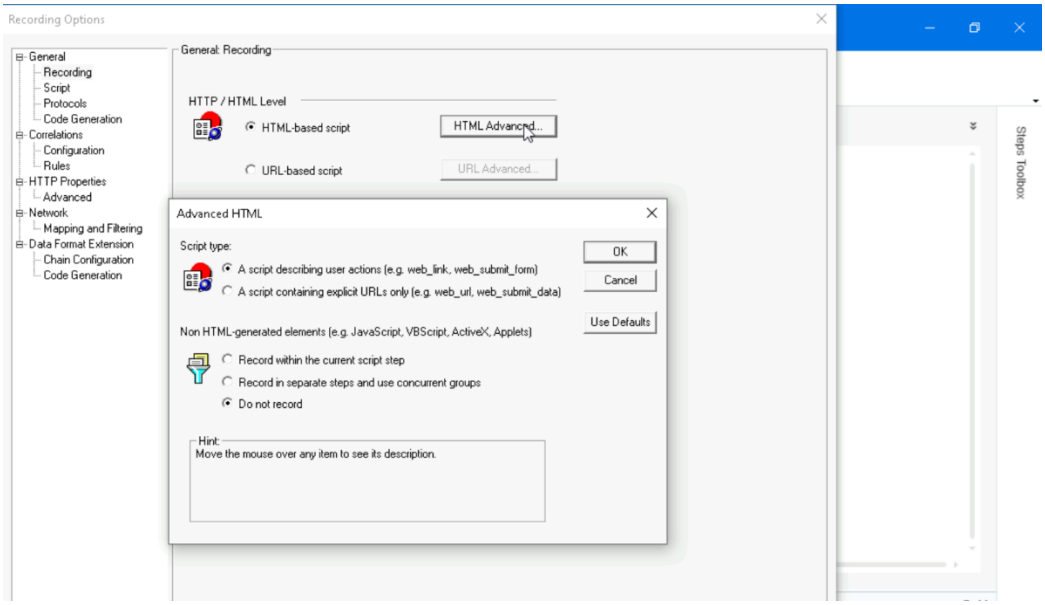




❖ Record user interaction with the website

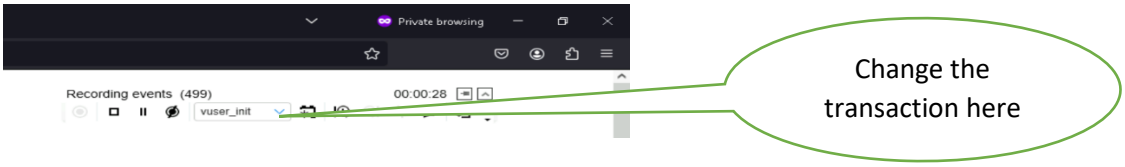


In Recording Options,

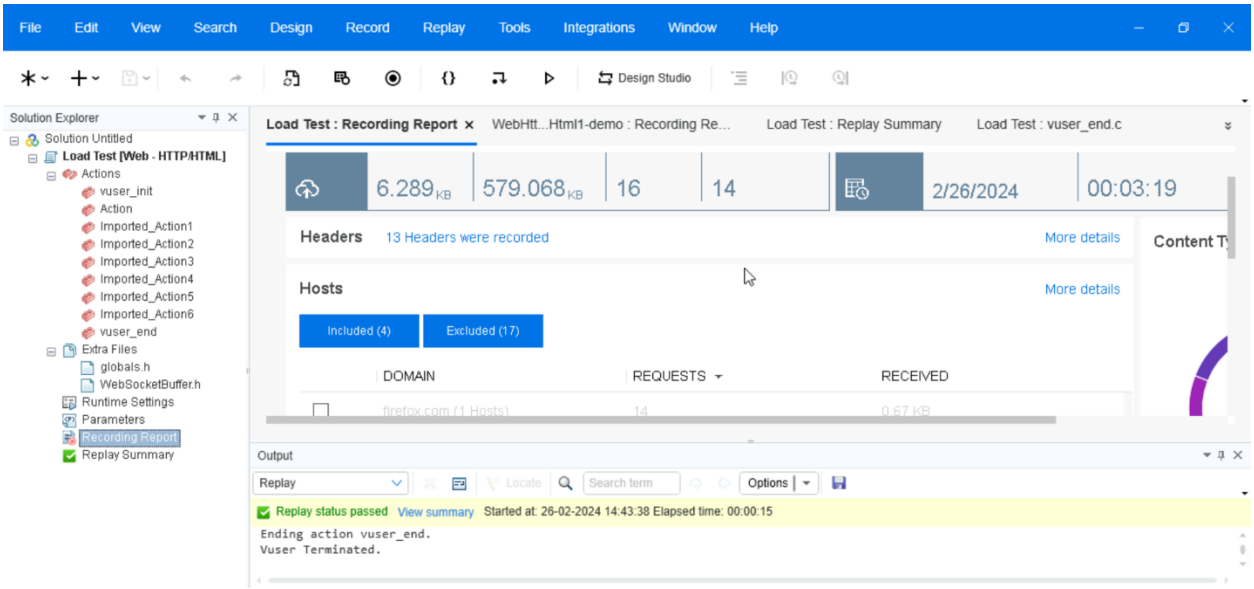


Then click record Button.

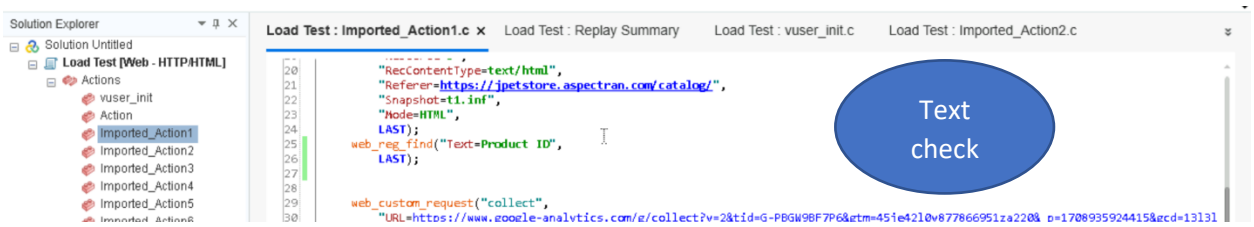
- While recording , we can comment each activity and change the transaction also.(action, vuser_init ,vuser_end)

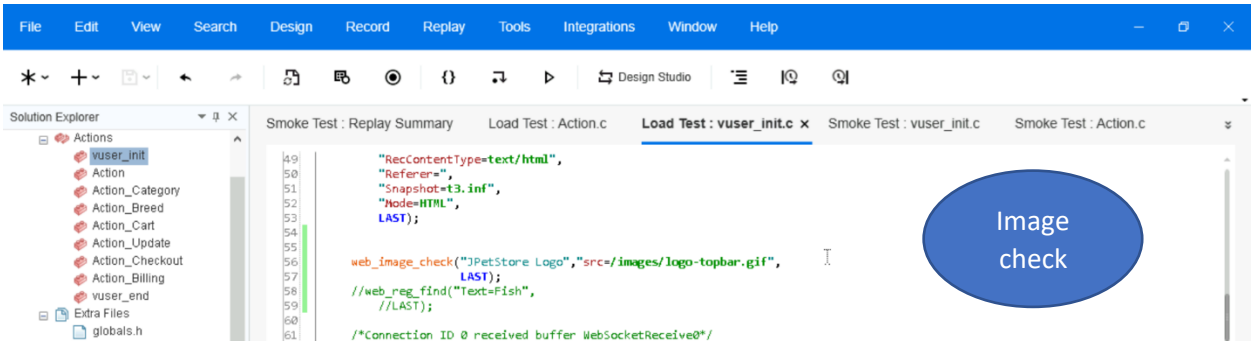


❖ Stop the Recording when its done.

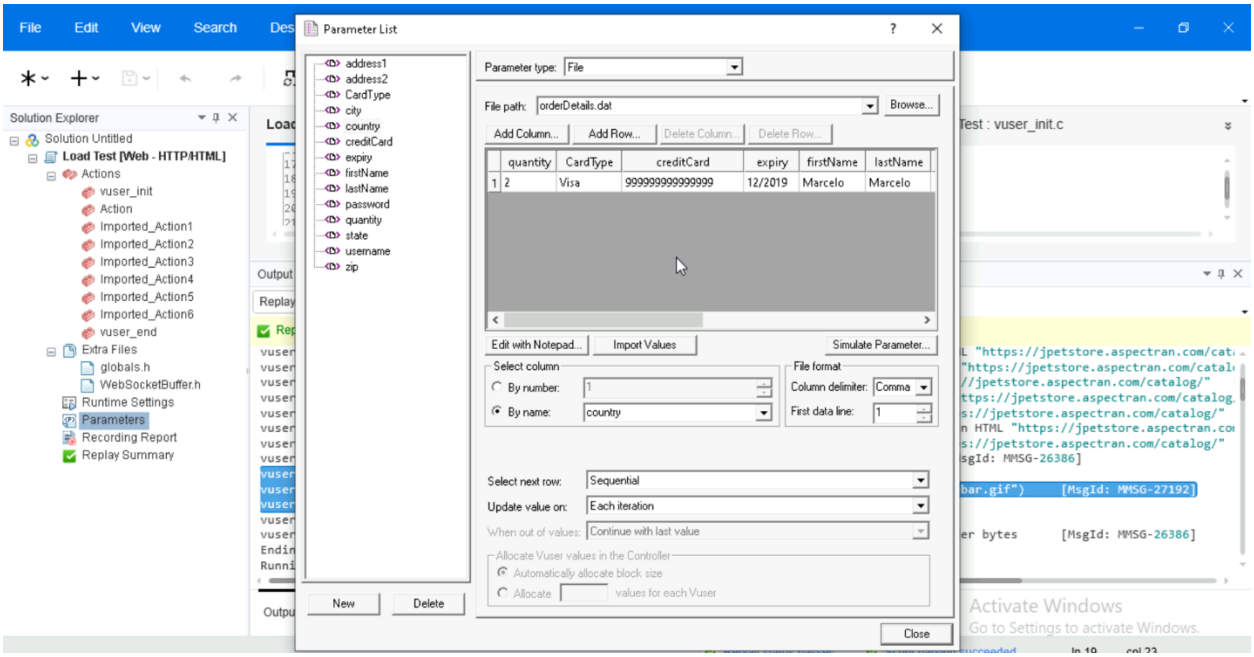


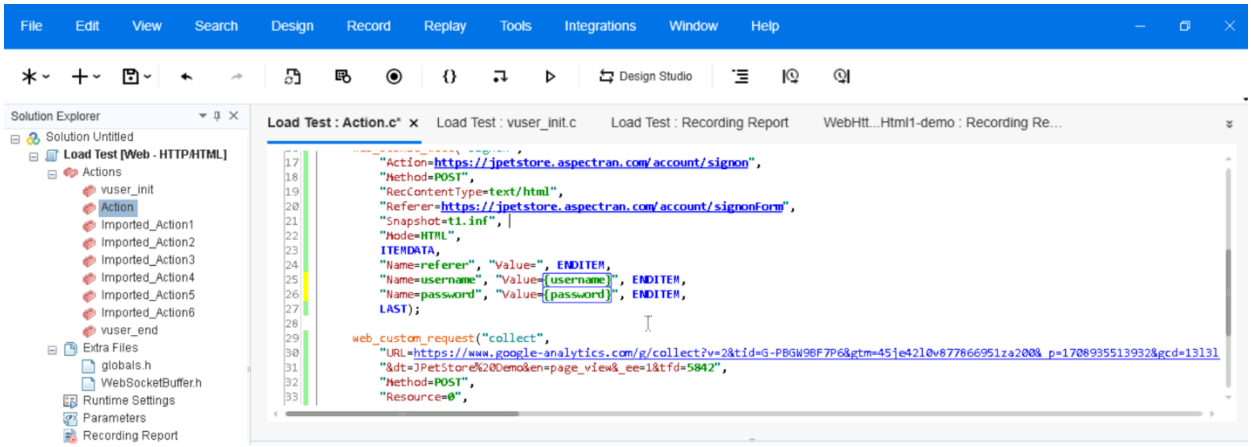
❖ Image check and Text check also done



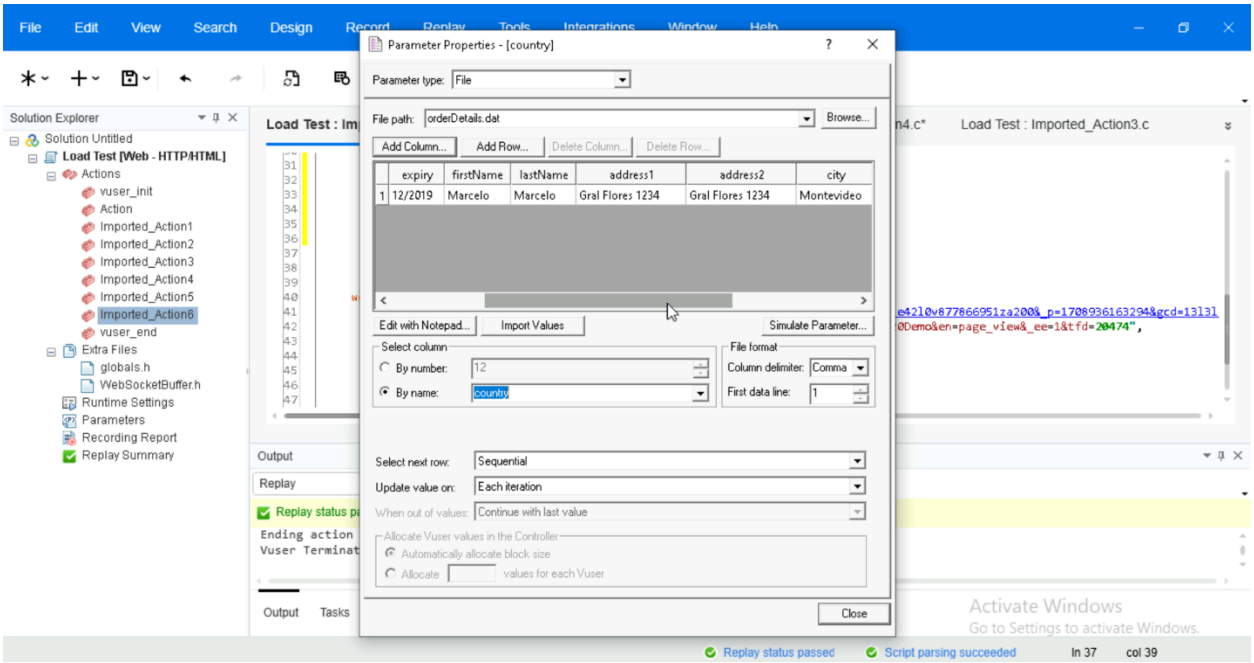


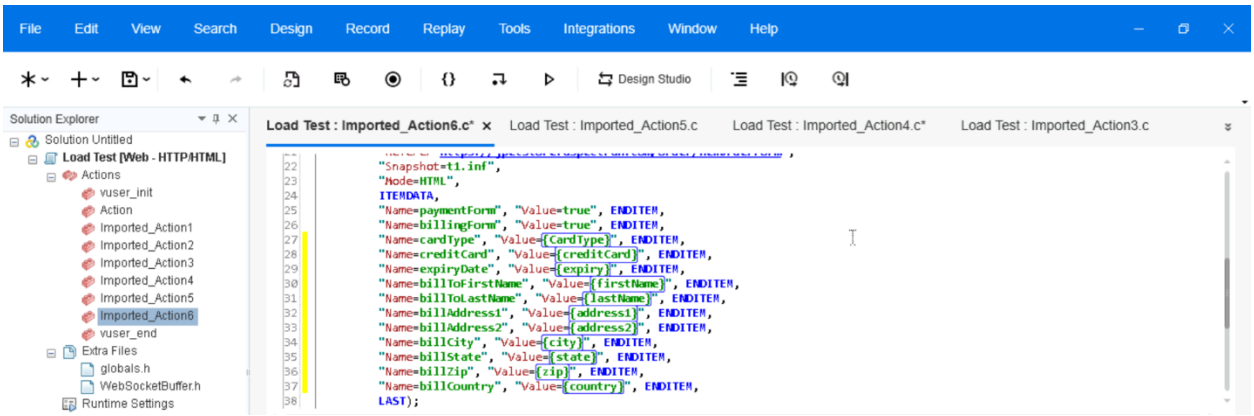
- Enhance the script with Parameterization and Correlation.
- Give Parameterization for input data.
  For Login and Billing address,



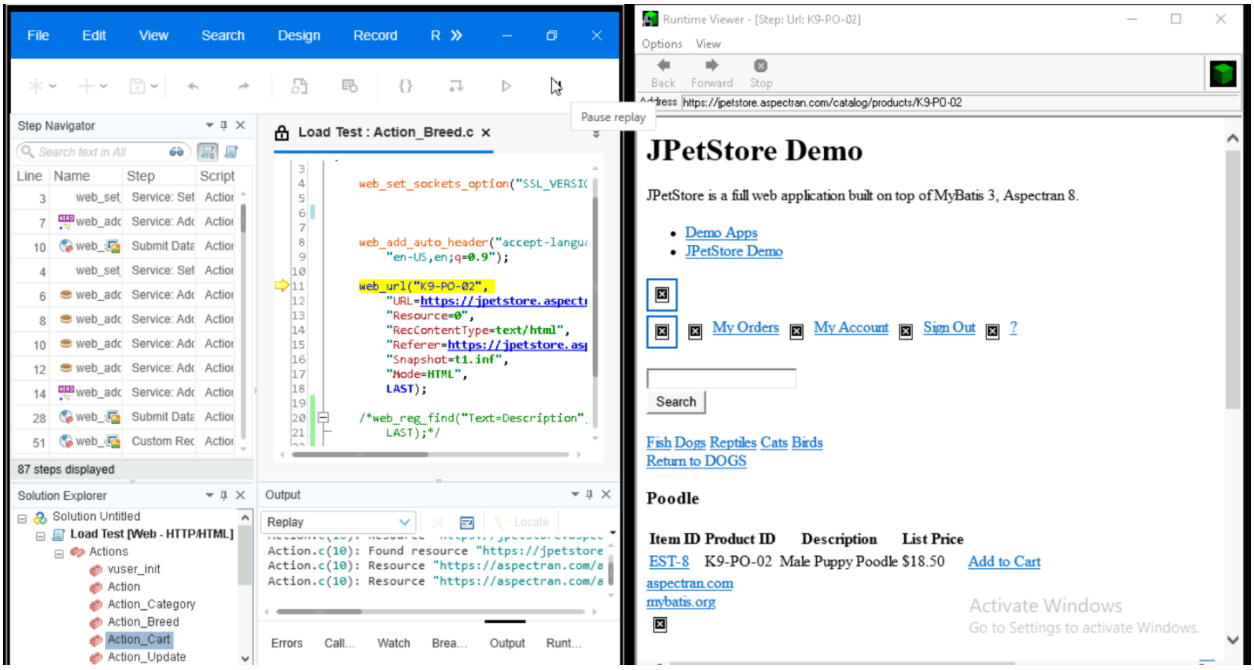


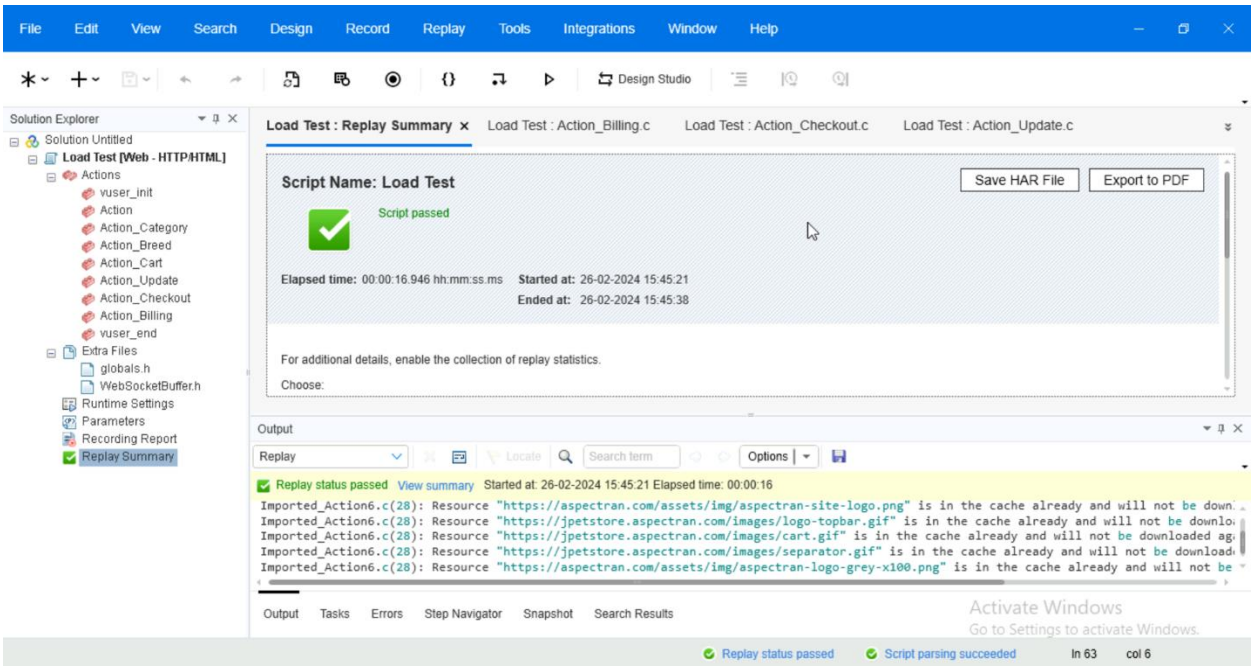
Billing Details :-





❖ Replay the Script





File Edit View Search Design Record Replay Tools Integrations Window Help

Solution Explorer

- Solution Untitled
  - Load Test [Web - HTTP/HTML]
    - Actions
      - vuser_init
      - Action
      - Imported_Action1
      - Imported_Action2
      - Imported_Action3
      - Imported_Action4
      - Imported_Action5
      - Imported_Action6
      - vuser_end
    - Extra Files
      - globals.h
      - WebSocketBuffer.h
    - Runtime Settings
    - Parameters
    - Recording Report
    - Replay Summary

Load Test : Runtime Settings | **Load Test : Replay Summary** | Load Test : vuser_init.c | Load Test : Imported_Action6.c

Script Name: Load Test — Script passed — Save HAR File — Export to PDF

Parameterization

Output — Replay — Replay status passed — View summary

```
Action.c(5): web_add_cookie start
Action.c(5): web_add_cookie was successful
Action.c(7): web_add_cookie started     [MsgId: MMSG-26355]
Action.c(7): web_add_cookie was successful     [MsgId: MMSG-26392]
Action.c(9): web_add_cookie started     [MsgId: MMSG-26355]
Action.c(9): web_add_cookie was successful     [MsgId: MMSG-26392]
Action.c(11): web_add_cookie started     [MsgId: MMSG-26355]
Action.c(11): web_add_cookie was successful     [MsgId: MMSG-26392]
Action.c(13): web_add_auto_header("accept-language") started     [MsgId: MMSG-26355]
Action.c(13): web_add_auto_header("accept-language") was successful     [MsgId: MMSG-26392]
Action.c(16): web_submit_data("signon") started     [MsgId: MMSG-26355]
Action.c(16): Notify: Parameter Substitution: parameter "username" =  "j2ee"
Action.c(16): Notify: Parameter Substitution: parameter "password" =  "j2ee"
Action.c(16): Redirecting "https://jpetstore.aspectran.com/account/signon" (redirection depth is 0)     [MsgId: MMSG-26694]
Action.c(16): To location "https://jpetstore.aspectran.com/catalog/"     [MsgId: MMSG-26693]
```

Load Test [Web - HTTP/HTML]
Actions
vuser_init
Action
Imported_Action1
Imported_Action2
Imported_Action3
Imported_Action4
Imported_Action5
Imported_Action6
vuser_end
Extra Files
globals.h
WebSocketBuffer.h
Runtime Settings
Parameters
Recording Report
Replay Summary

Script Name: Load Test — Script passed — Save HAR File — Export to PDF

Output — Replay — Replay status passed — View summary — Started at: 26-02-2024 15:14:16 Elapsed time: 00:00:12

```
Imported_Action4.c(6): web_add_cookie was successful     [MsgId: MMSG-26392]
Imported_Action4.c(8): web_add_cookie started     [MsgId: MMSG-26355]
Imported_Action4.c(8): web_add_cookie was successful     [MsgId: MMSG-26392]
Imported_Action4.c(10): web_add_cookie started     [MsgId: MMSG-26355]
Imported_Action4.c(10): web_add_cookie was successful     [MsgId: MMSG-26392]
Imported_Action4.c(12): web_add_cookie started     [MsgId: MMSG-26355]
Imported_Action4.c(12): web_add_cookie was successful     [MsgId: MMSG-26392]
Imported_Action4.c(14): web_add_auto_header("accept-language") started     [MsgId: MMSG-26355]
Imported_Action4.c(14): web_add_auto_header("accept-language") was successful     [MsgId: MMSG-26392]
Imported_Action4.c(17): web_submit_data("updateCartQuantities") started     [MsgId: MMSG-26355]
Imported_Action4.c(17): Notify: Parameter Substitution: parameter "quantity" =  "2"
```

File Edit View Search Design Record Replay Tools Integrations Window Help

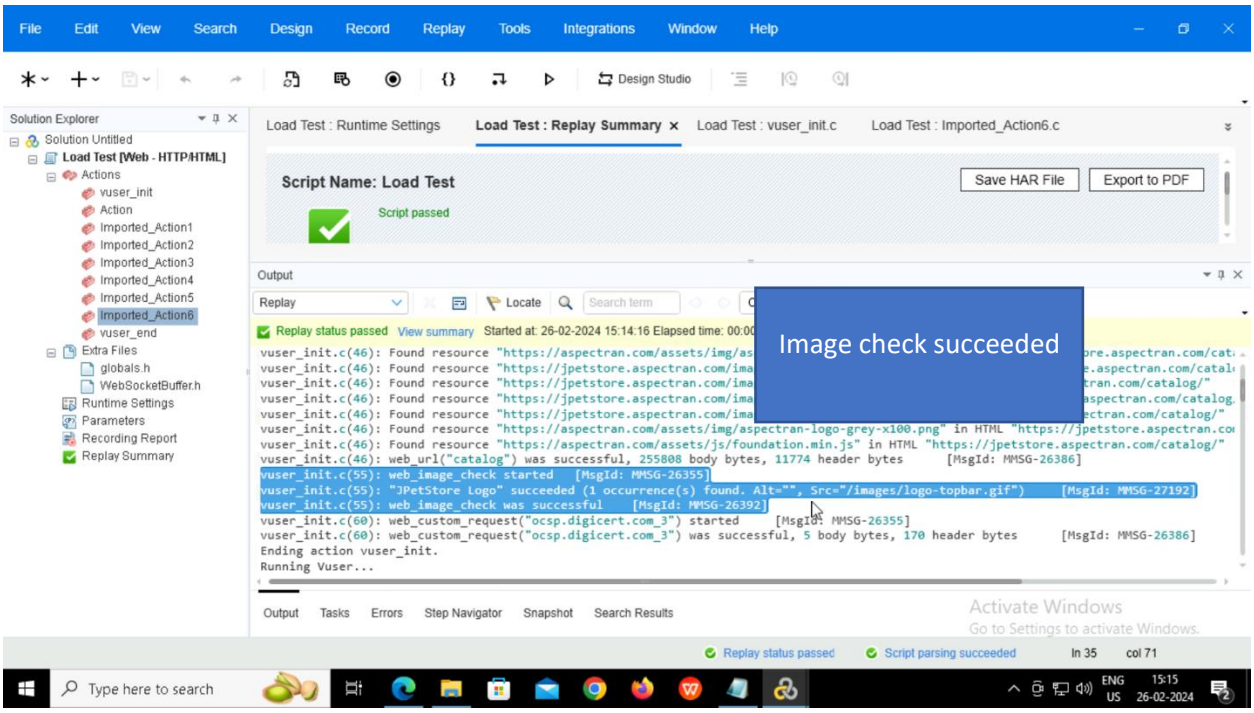
Solution Explorer
Solution Untitled
Load Test [Web - HTTP/HTML]
Actions
vuser_init
Action
Imported_Action1
Imported_Action2
Imported_Action3
Imported_Action4
Imported_Action5
Imported_Action6
vuser_end
Extra Files
globals.h
WebSocketBuffer.h
Runtime Settings
Parameters
Recording Report
Replay Summary

Load Test : Runtime Settings | Load Test : Replay Summary | Load Test : vuser_init.c | Load Test : Imported_Action6.c

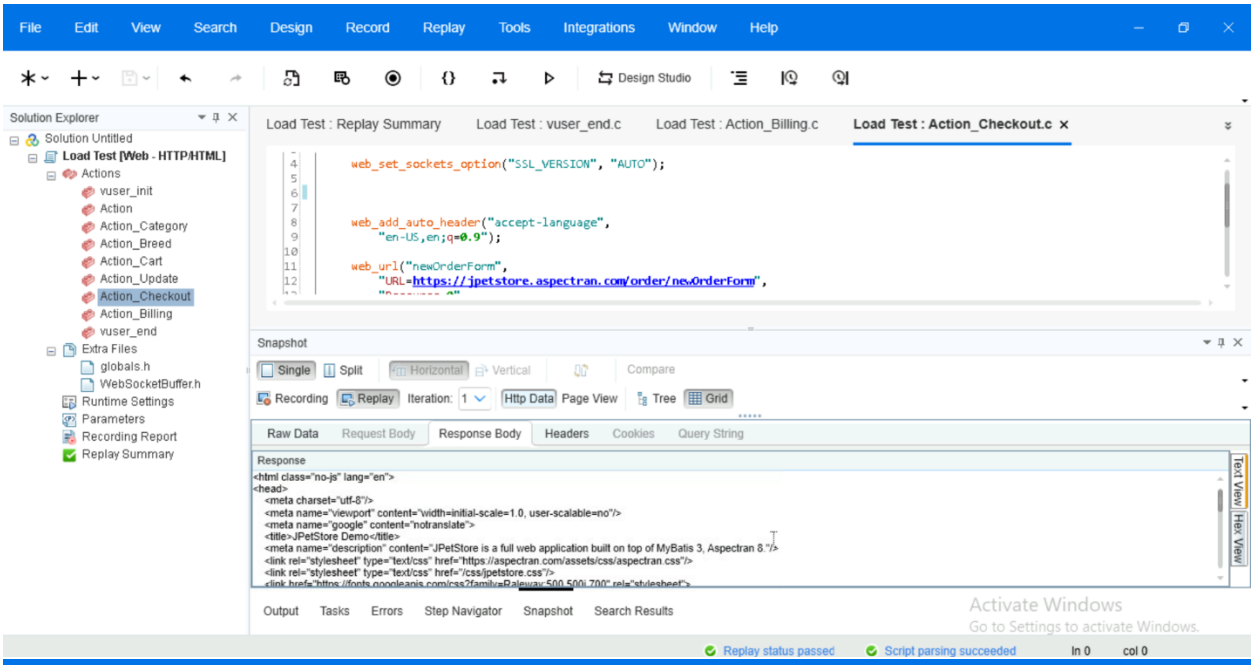
Script Name: Load Test — Script passed — Save HAR File — Export to PDF

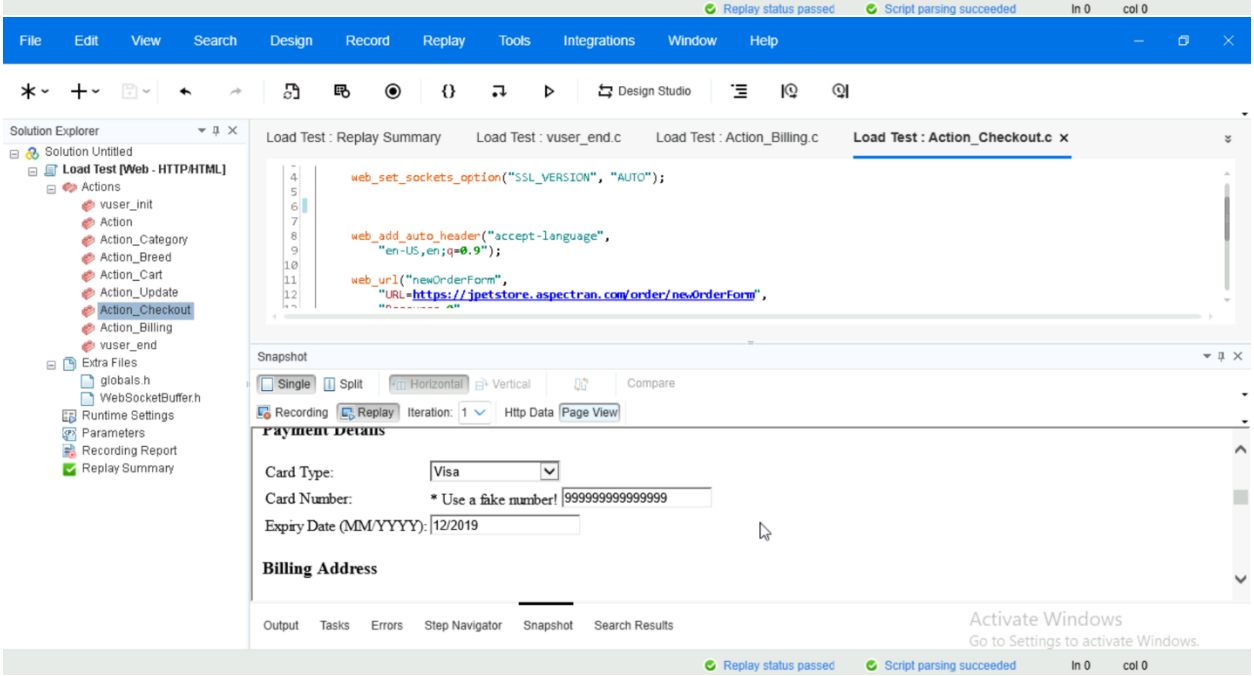
Output — Replay — Replay status passed — View summary — Started at: 26-02-2024 15:14:16 Elapsed time: 00:00:12

```
Imported_Action6.c(14): web_add_auto_header("accept-language") started     [MsgId: MMSG-26355]
Imported_Action6.c(14): web_add_auto_header("accept-language") was successful     [MsgId: MMSG-26392]
Imported_Action6.c(17): web_submit_data("newOrder") started     [MsgId: MMSG-26355]
Imported_Action6.c(17): Notify: Parameter Substitution: parameter "CardType" =  "Visa"
Imported_Action6.c(17): Notify: Parameter Substitution: parameter "creditCard" =  "999999999999999"
Imported_Action6.c(17): Notify: Parameter Substitution: parameter "expiry" =  "12/2019"
Imported_Action6.c(17): Notify: Parameter Substitution: parameter "firstName" =  "Marcelo"
Imported_Action6.c(17): Notify: Parameter Substitution: parameter "lastName" =  "Marcelo"
Imported_Action6.c(17): Notify: Parameter Substitution: parameter "address1" =  "Gral Flores 1234"
Imported_Action6.c(17): Notify: Parameter Substitution: parameter "address2" =  "Gral Flores 1234"
Imported_Action6.c(17): Notify: Parameter Substitution: parameter "city" =  "Montevideo"
Imported_Action6.c(17): Notify: Parameter Substitution: parameter "state" =  "Montevideo"
Imported_Action6.c(17): Notify: Parameter Substitution: parameter "zip" =  "1212"
Imported_Action6.c(17): Notify: Parameter Substitution: parameter "country" =  "Uruguay"
Imported_Action6.c(17): Redirecting "https://jpetstore.aspectran.com/order/newOrder" (redirection depth is 0)     [MsgId: MMSG-26694]
```

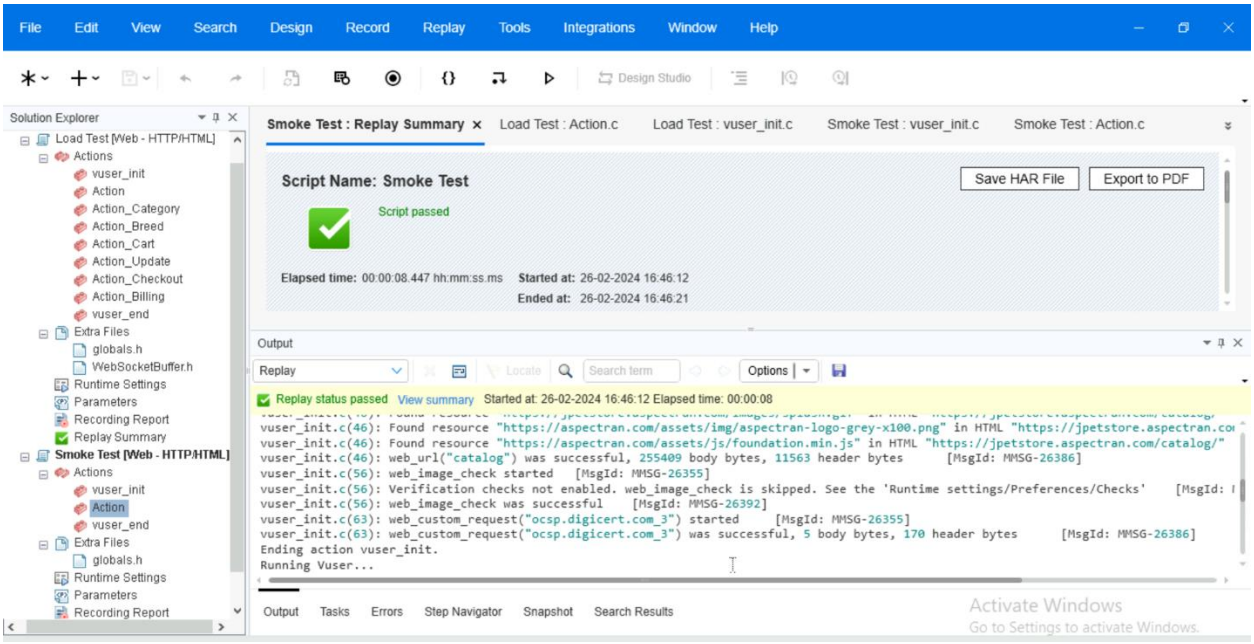

File Edit View Search Design Record Replay Tools Integrations Window Help
Design Studio
Solution Explorer
Solution Untitled
Load Test [Web - HTTP/HTML]
Actions
vuser_init
Action
Imported_Action1
Imported_Action2
Imported_Action3
Imported_Action4
Imported_Action5
Imported_Action6
vuser_end
Extra Files
globals.h
WebSocketBuffer.h
Runtime Settings
Parameters
Recording Report
Replay Summary
Load Test : Runtime Settings
Load Test : Replay Summary
Load Test : vuser_init.c
Load Test : Imported_Action6.c
Script Name: Load Test
Script passed
Save HAR File
Export to PDF
Output
Replay
Locate
Replay status passed
View summary
Image check succeeded
vuser_init.c(46): Found resource "https://aspectran.com/assets/img/aspectran-logo-grey-x100.png" in HTML "https://jpetstore.aspectran.com/catalog/"
vuser_init.c(46): Found resource "https://aspectran.com/assets/js/foundation.min.js" in HTML "https://jpetstore.aspectran.com/catalog/"
vuser_init.c(46): web_url("catalog") was successful, 255808 body bytes, 11774 header bytes [MsgId: MMSG-26386]
vuser_init.c(55): web_image_check started [MsgId: MMSG-26355]
vuser_init.c(55): "JPetStore Logo" succeeded (1 occurrence(s) found. Alt="", Src="/images/logo-topbar.gif") [MsgId: MMSG-27192]
vuser_init.c(55): web_image_check was successful [MsgId: MMSG-26392]
vuser_init.c(60): web_custom_request("ocsp.digicert.com_3") started [MsgId: MMSG-26355]
vuser_init.c(60): web_custom_request("ocsp.digicert.com_3") was successful, 5 body bytes, 170 header bytes [MsgId: MMSG-26386]
Ending action vuser_init.
Running Vuser...
Output Tasks Errors Step Navigator Snapshot Search Results
Activate Windows
Go to Settings to activate Windows.
Replay status passed
Script parsing succeeded
ln 35 col 71
Type here to search
ENG US
15:15 26-02-2024

❖ Then the Snapshot view become.

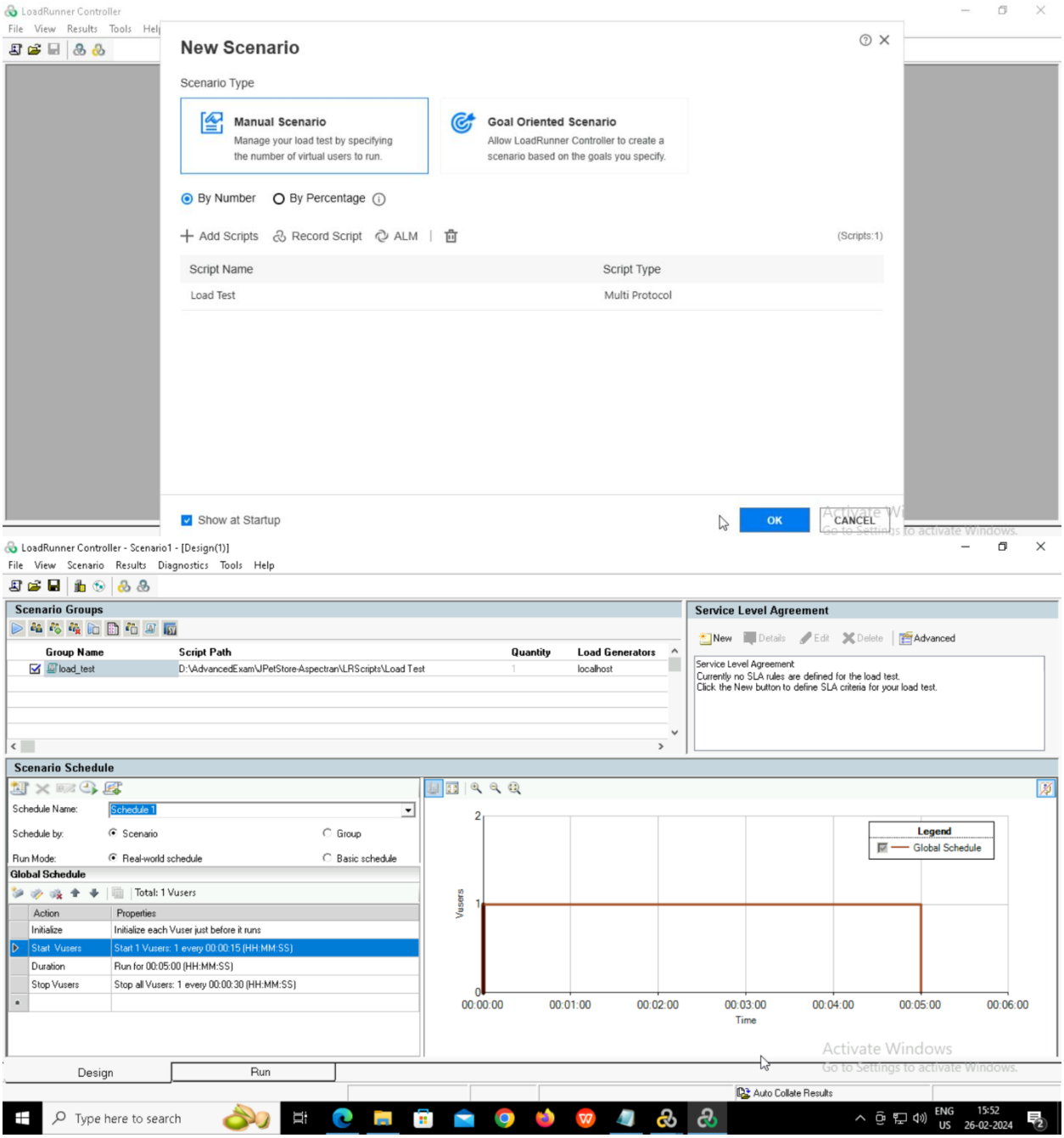


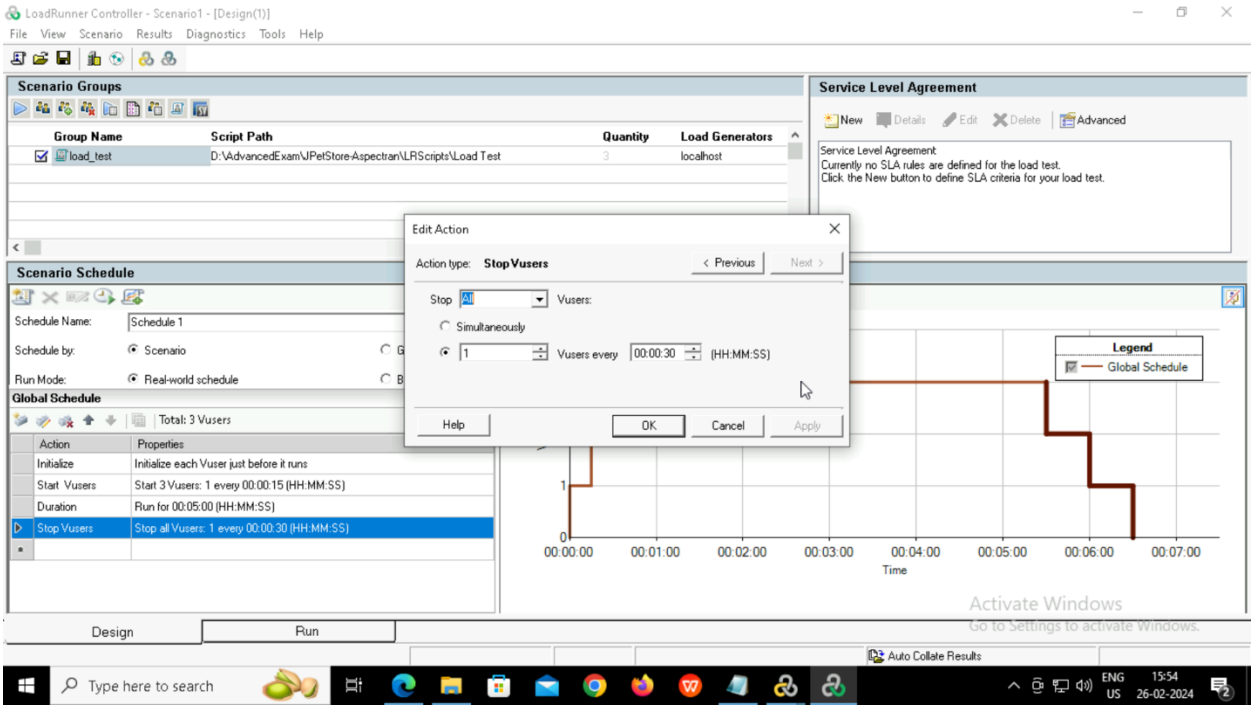


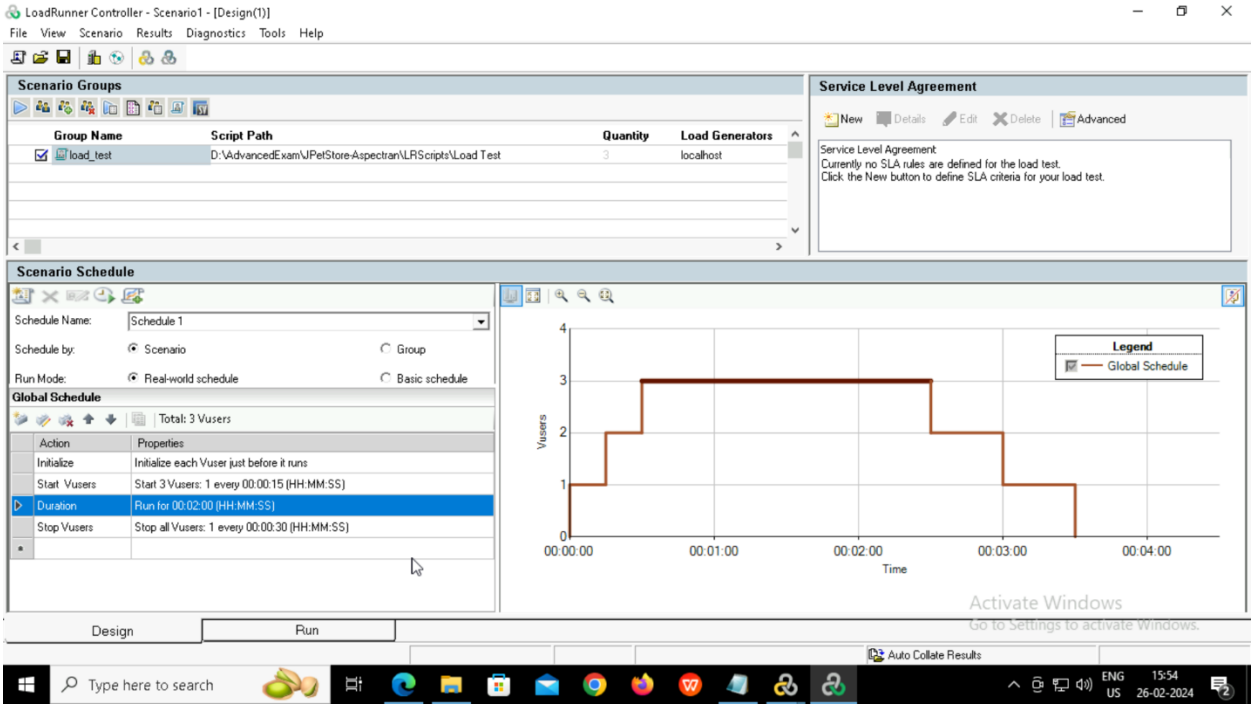
- Also done a smoke test with image check and text check on home page and login of JpetStore

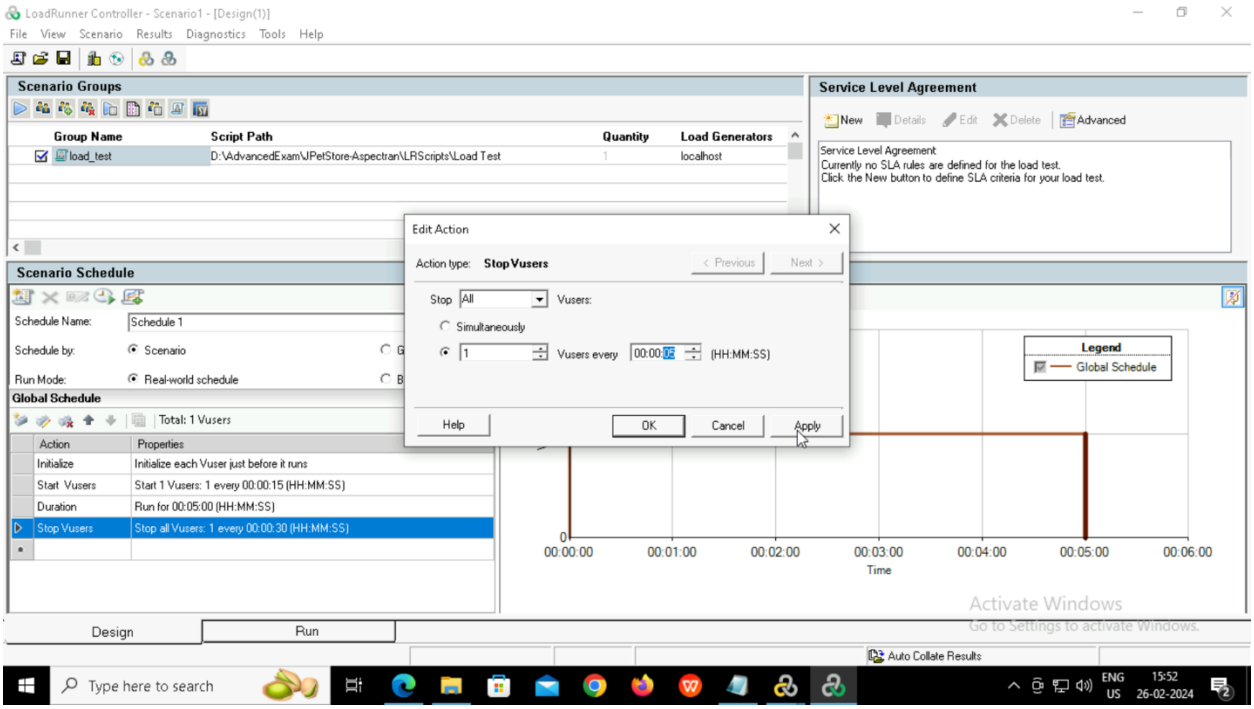


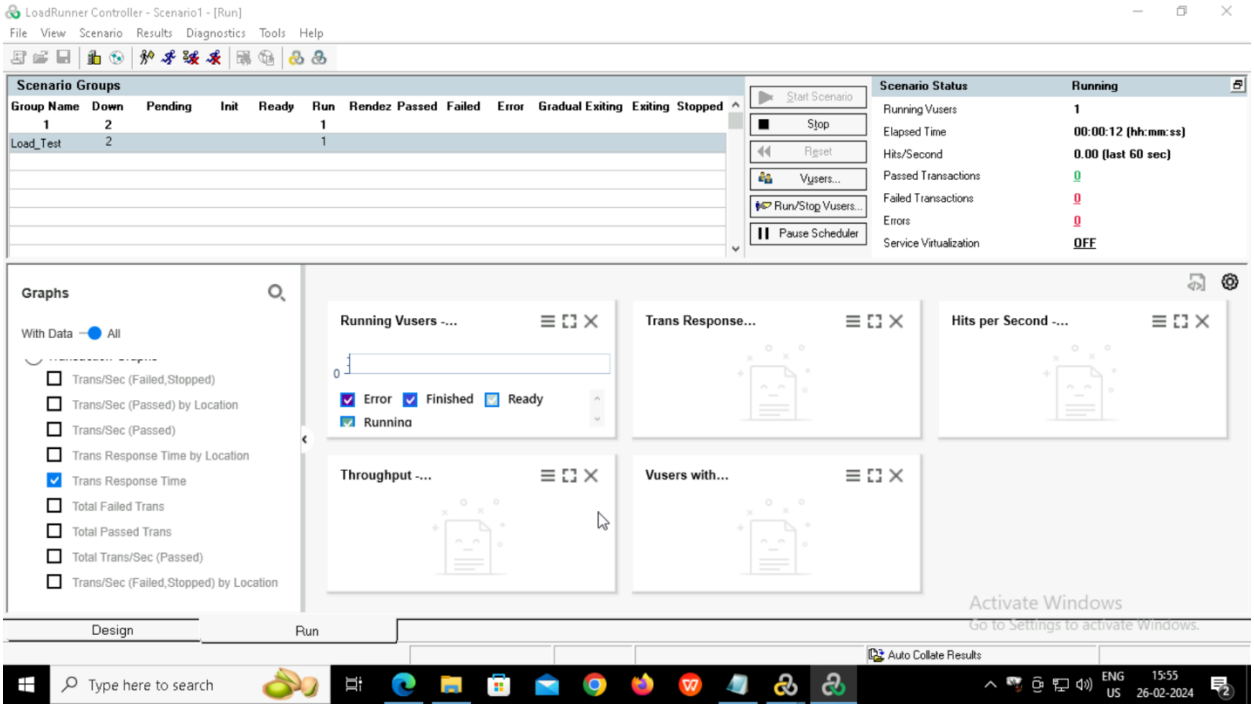
- **Open LoadRunner's Controller**
- Add Script

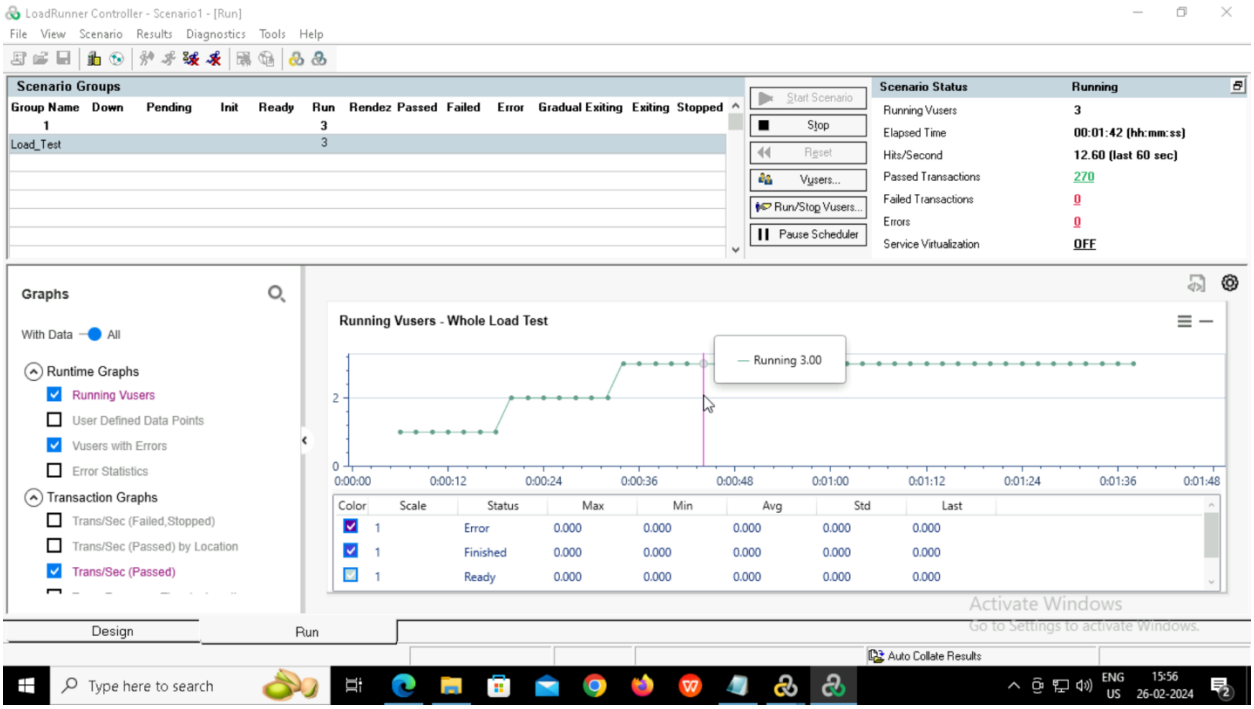


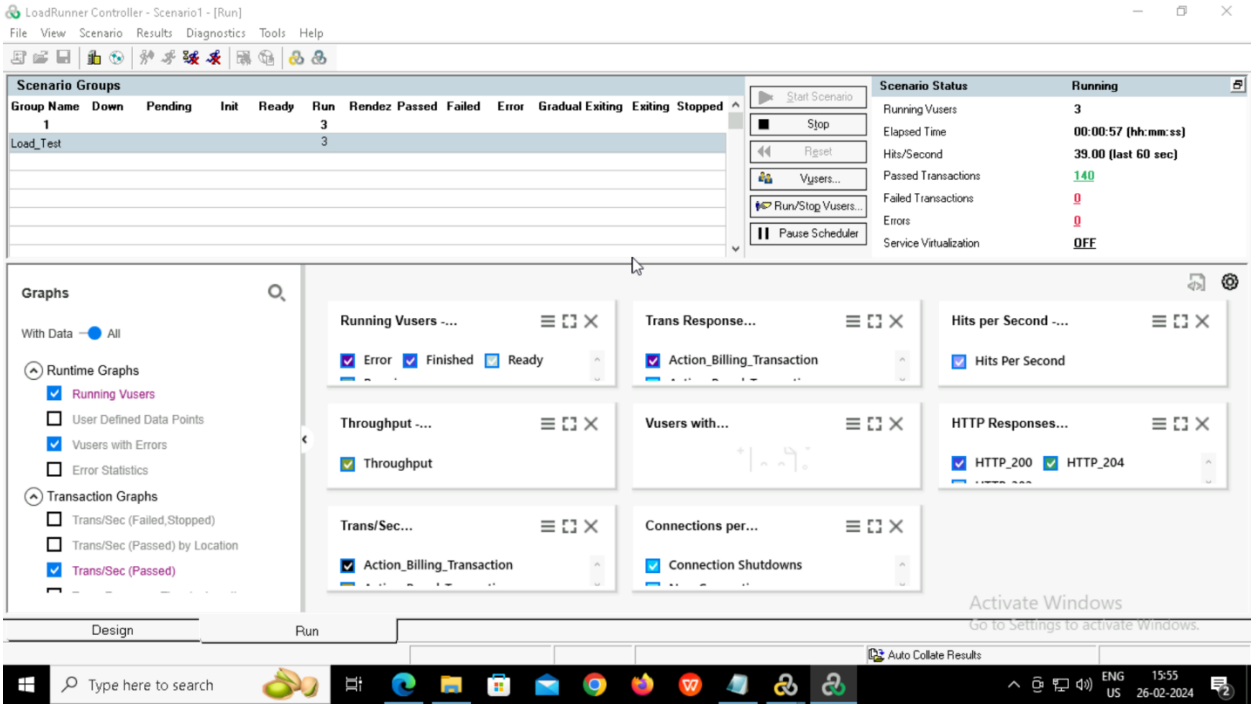

LoadRunner Controller - Scenario1 - [Design(1)]
File View Scenario Results Diagnostics Tools Help
Scenario Groups
Group Name Script Path Quantity Load Generators
load_test D:\AdvancedExam\JPetStore-Aspectran\LRScripts\Load Test 3 localhost
Service Level Agreement
New Details Edit Delete Advanced
Service 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: Stop Vusers
Previous Next
Stop All Vusers:
Simultaneously
1 Vusers every 00:00:30 (HH:MM:SS)
Help OK Cancel Apply
Scenario Schedule
Schedule Name: Schedule 1
Schedule by: Scenario
Run Mode: Real-world schedule
Global Schedule
Total: 3 Vusers
Action Properties
Initialize Initialize each Vuser just before it runs
Start Vusers Start 3 Vusers: 1 every 00:00:15 (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 00:07:00
Time
Activate Windows
Go to Settings to activate Windows.
Design Run
Auto Collate Results
Type here to search
ENG US 15:54 26-02-2024

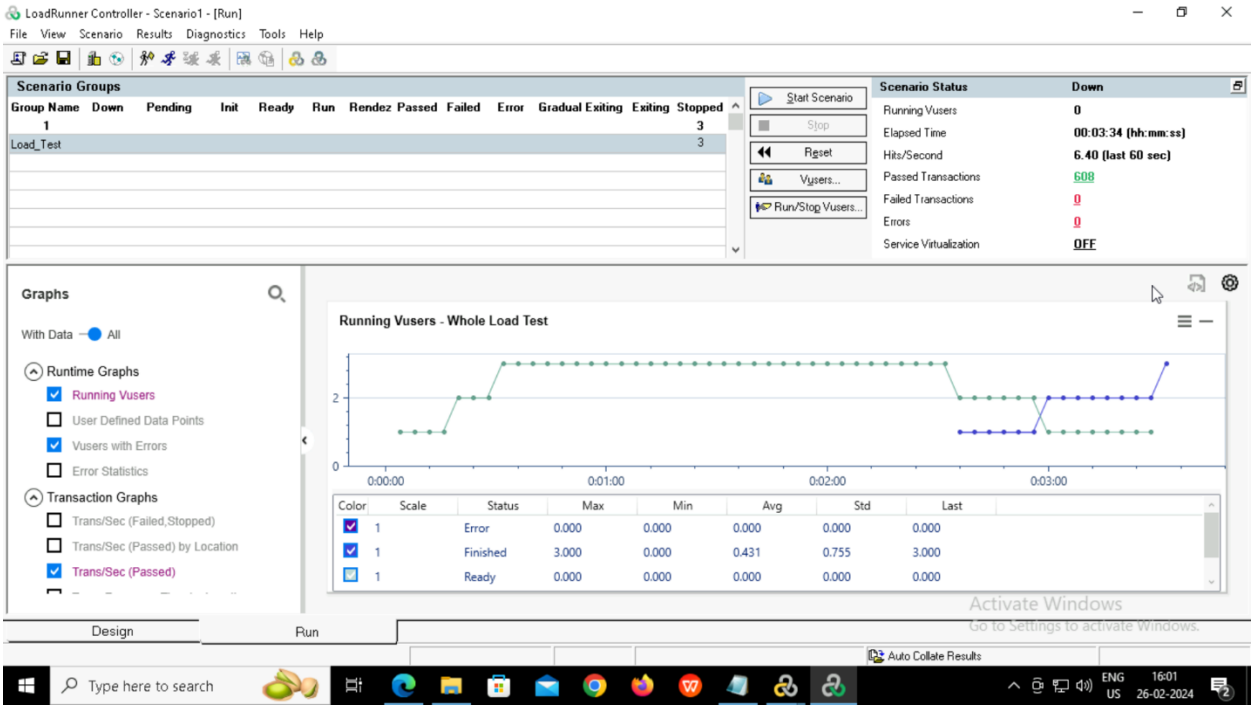

LoadRunner Controller - Scenario1 - [Design(1)]
File View Scenario Results Diagnostics Tools Help
Scenario Groups
Group Name Script Path Quantity Load Generators
load_test D:\AdvancedExam\JPetStore-Aspectran\LRScripts\Load Test 3 localhost
Service Level Agreement
New Details Edit Delete Advanced
Service Level Agreement
Currently no SLA rules are defined for the load test.
Click the New button to define SLA criteria for your load test.
Scenario Schedule
Schedule Name: Schedule 1
Schedule by: Scenario Group
Run Mode: Real-world schedule Basic schedule
Global Schedule
Total: 3 Vusers
Action Properties
Initialize Initialize each Vuser just before it runs
Start Vusers Start 3 Vusers: 1 every 00:00:15 (HH:MM:SS)
Duration Run for 00:02:00 (HH:MM:SS)
Stop Vusers Stop all Vusers: 1 every 00:00:30 (HH:MM:SS)
Legend
Global Schedule
Vusers
0 1 2 3 4
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
Auto Collate Results
Type here to search
ENG US 15:54 26-02-2024


LoadRunner Controller - Scenario1 - [Design(1)]
File View Scenario Results Diagnostics Tools Help
Scenario Groups
Group Name Script Path Quantity Load Generators
load_test D:\AdvancedExam\JPetStore-Aspectran\LRScripts\Load Test 1 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: Stop Vusers
Previous Next
Stop All Vusers:
Simultaneously
1 Vusers every 00:00:30 (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 00:00:15 (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
0
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
Auto Collate Results
Type here to search
ENG US 15:52 26-02-2024


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
1 2 1
Load_Test 2 1
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 0
Failed Transactions 0
Errors 0
Service Virtualization OFF
Graphs
With Data All
Trans/Sec (Failed,Stopped)
Trans/Sec (Passed) by Location
Trans/Sec (Passed)
Trans Response Time by Location
Trans Response Time
Total Failed Trans
Total Passed Trans
Total Trans/Sec (Passed)
Trans/Sec (Failed,Stopped) by Location
Running Vusers -...
Error Finished Ready
Running
Trans Response...
Hits per Second -...
Throughput -...
Vusers with...
Activate Windows
Go to Settings to activate Windows.
Design Run
Auto Collate Results
Type here to search
ENG US 15:55 26-02-2024

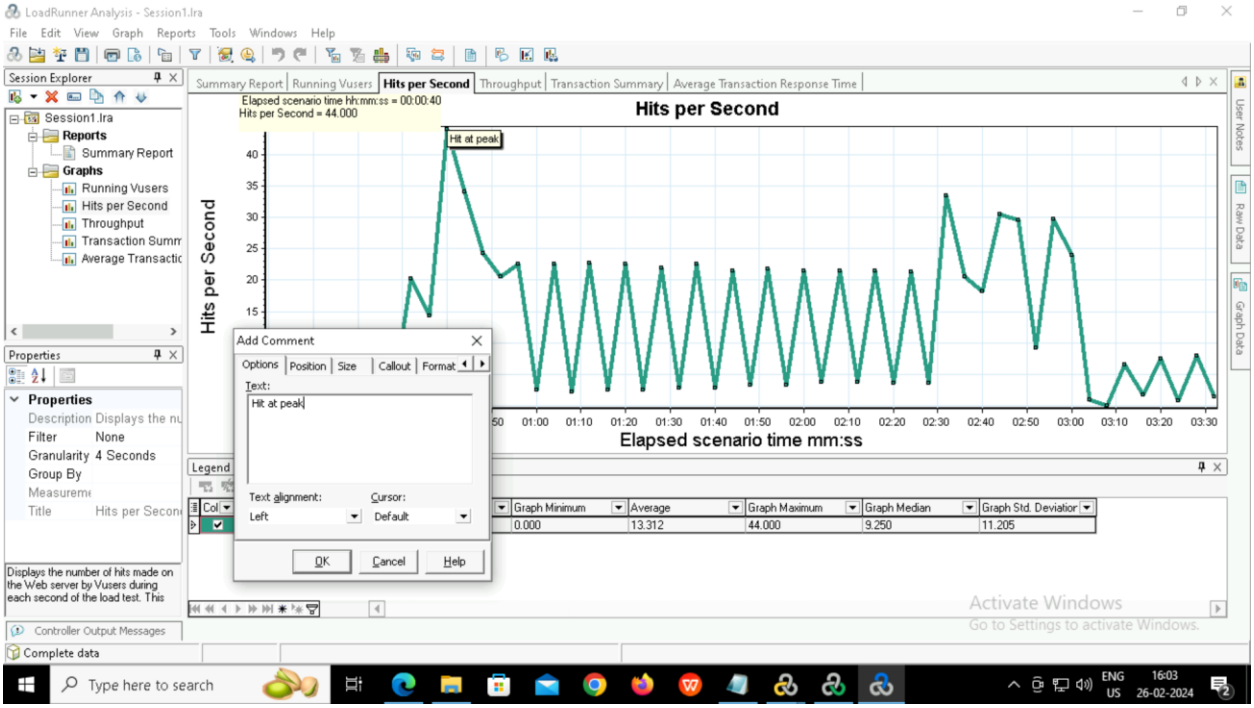

LoadRunner Controller - Scenario1 - [Run]
File View Scenario Results Diagnostics Tools Help
Scenario Groups
Group Name Down Pending Init Ready Run Rendez Passed Failed Error Gradual Exiting Exiting Stopped
1 3
Load_Test 3
Start Scenario
Stop
Reset
Vusers...
Run/Stop Vusers...
Pause Scheduler
Scenario Status Running
Running Vusers 3
Elapsed Time 00:01:42 (hh:mm:ss)
Hits/Second 12.60 (last 60 sec)
Passed Transactions 270
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
Running 3.00
0:00:00 0:00:12 0:00:24 0:00:36 0:00:48 0:01:00 0:01:12 0:01:24 0:01:36 0:01:48
Color Scale Status Max Min Avg Std Last
1 Error 0.000 0.000 0.000 0.000 0.000
1 Finished 0.000 0.000 0.000 0.000 0.000
1 Ready 0.000 0.000 0.000 0.000 0.000
Design
Run
Auto Collate Results
Type here to search
ENG US 15:56 26-02-2024

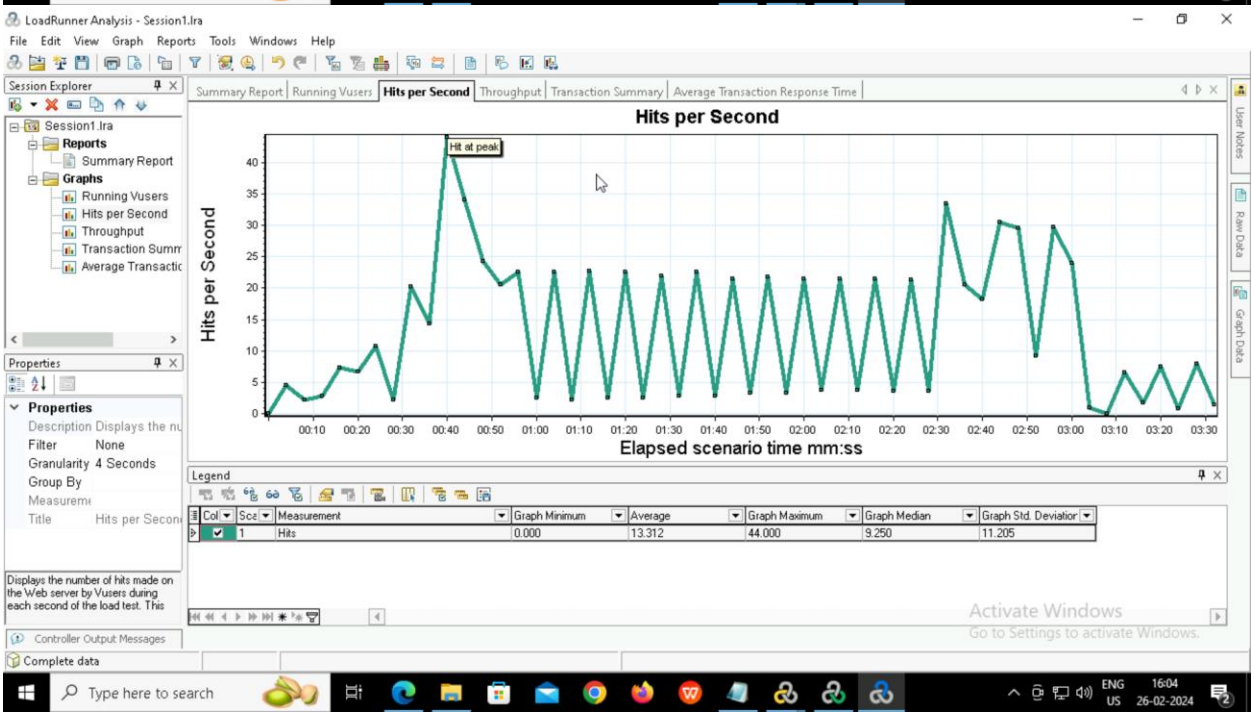

LoadRunner Controller - Scenario1 - [Run]
File View Scenario Results Diagnostics Tools Help
Scenario Groups
Group Name Down Pending Init Ready Run Rendez Passed Failed Error Gradual Exiting Exiting Stopped
1 3
Load_Test 3
Start Scenario
Stop
Reset
Vusers...
Run/Stop Vusers...
Pause Scheduler
Scenario Status Running
Running Vusers 3
Elapsed Time 00:00:57 (hh:mm:ss)
Hits/Second 39.00 (last 60 sec)
Passed Transactions 140
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...
Action_Billing_Transaction
Hits per Second -...
Hits Per Second
Throughput -...
Throughput
Vusers with...
HTTP Responses...
HTTP_200 HTTP_204
Trans/Sec...
Action_Billing_Transaction
Connections per...
Connection Shutdowns
Design
Run
Auto Collate Results
Type here to search
ENG US 15:55 26-02-2024

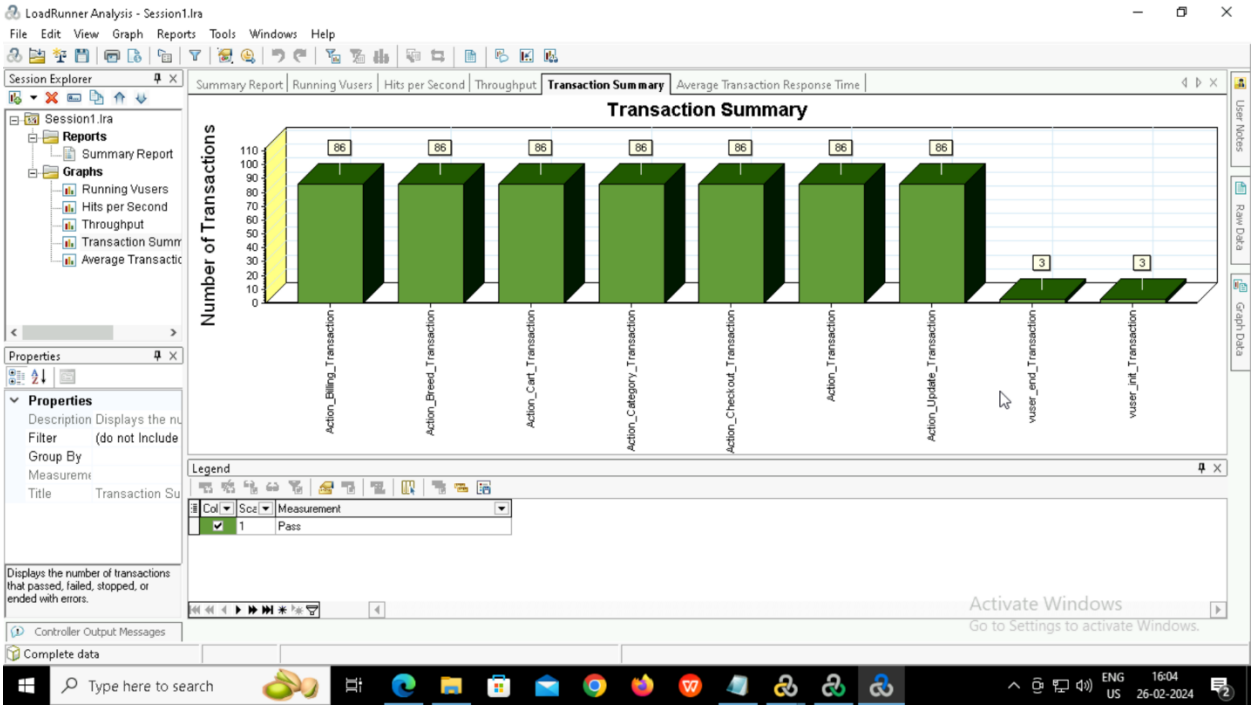

LoadRunner Controller - Scenario1 - [Run]
File View Scenario Results Diagnostics Tools Help
Scenario Groups
Group Name Down Pending Init Ready Run Rendez Passed Failed Error Gradual Exiting Exiting Stopped
1 3
Load_Test 3
Start Scenario
Stop
Reset
Vusers...
Run/Stop Vusers...
Scenario Status Down
Running Vusers 0
Elapsed Time 00:03:34 (hh:mm:ss)
Hits/Second 6.40 (last 60 sec)
Passed Transactions 608
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
2
0
0:00:00
0:01:00
0:02:00
0:03:00
Color Scale Status Max Min Avg Std Last
1 Error 0.000 0.000 0.000 0.000 0.000
1 Finished 3.000 0.000 0.431 0.755 3.000
1 Ready 0.000 0.000 0.000 0.000 0.000
Activate Windows
Go to Settings to activate Windows.
Design
Run
Auto Collate Results
Type here to search
ENG US
16:01
26-02-2024

❖ Then Analyze the Result on LoadRunner Analysis

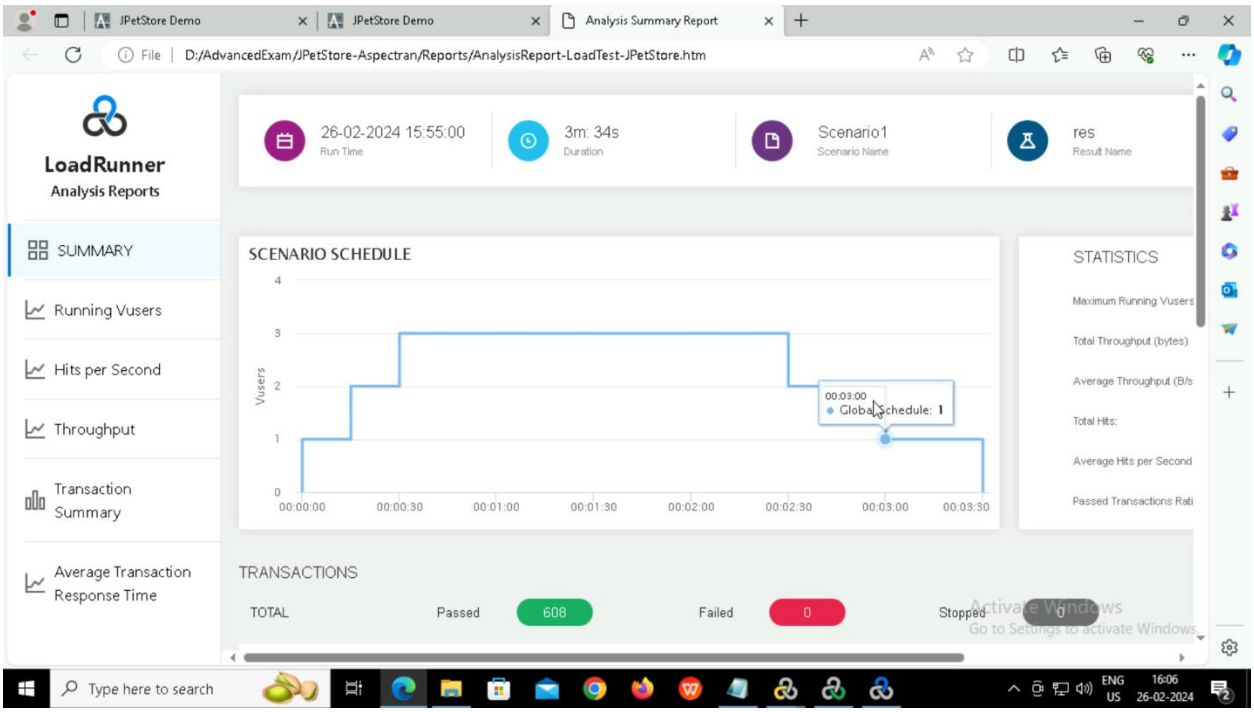
Give Comment in the graph like annotations.



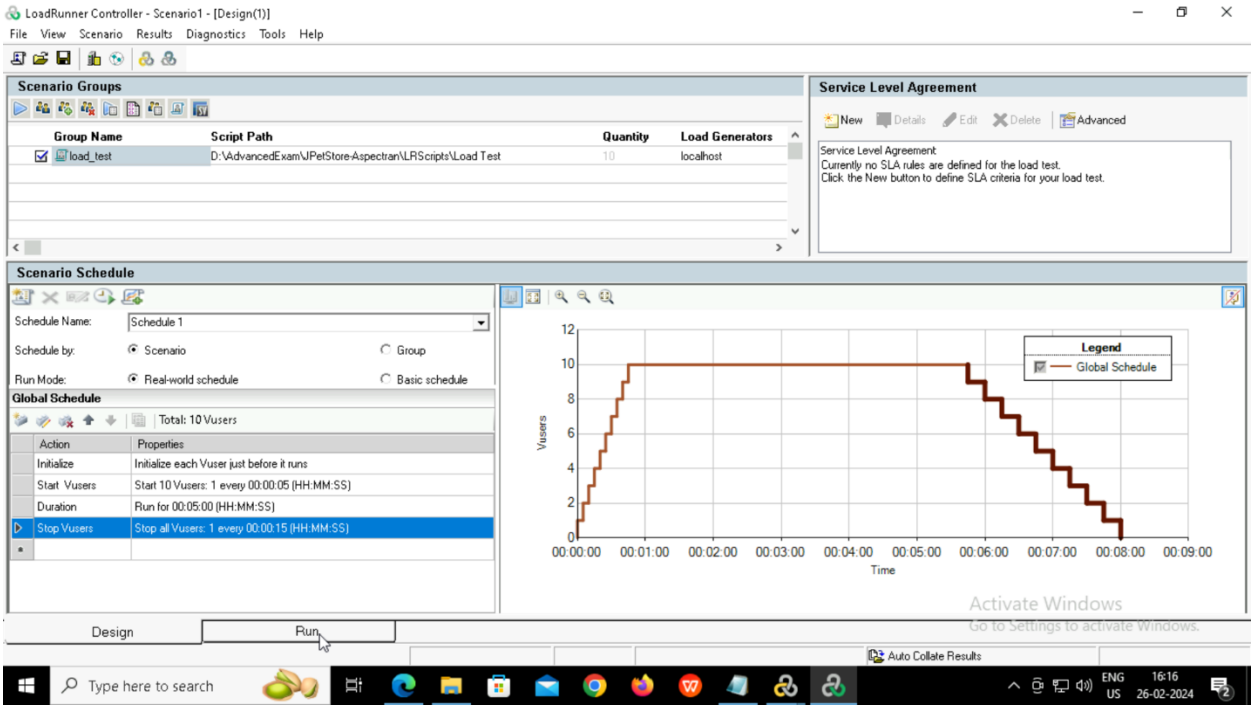


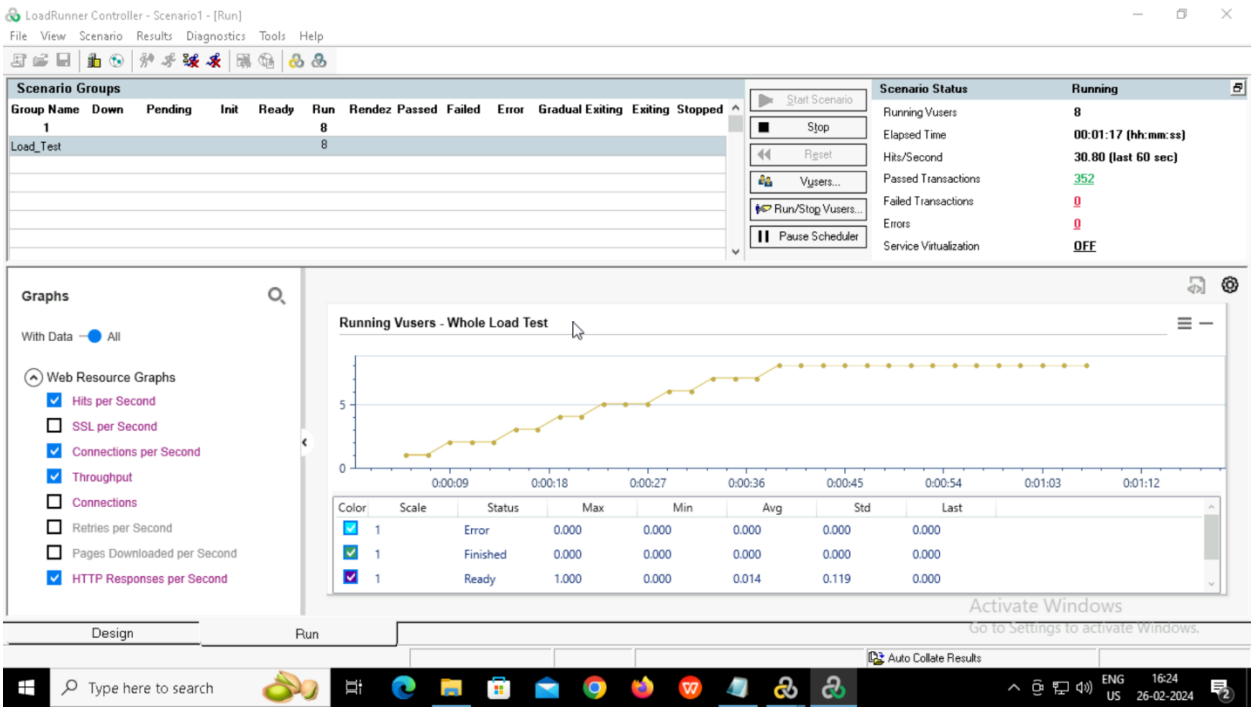

LoadRunner Analysis - Session1.lra
File Edit View Graph Reports Tools Windows Help
Session Explorer
Session1.lra
Reports
Summary Report
Graphs
Running Vusers
Hits per Second
Throughput
Transaction Summr
Average Transactic
Properties
Description Displays the nu
Filter (do not Include
Group By
Measurem
Title Transaction Su
Displays the number of transactions that passed, failed, stopped, or ended with errors.
Summary Report
Running Vusers
Hits per Second
Throughput
Transaction Summary
Average Transaction Response Time
Transaction Summary
Number of Transactions
110
100
90
80
70
60
50
40
30
20
10
0
86
86
86
86
86
86
86
3
3
Action_Billing_Transaction
Action_Breed_Transaction
Action_Cart_Transaction
Action_Category_Transaction
Action_Checkout_Transaction
Action_Transaction
Action_Update_Transaction
vuser_end_Transaction
vuser_init_Transaction
Legend
Measurement
1
Pass
Controller Output Messages
Complete data
Activate Windows
Go to Settings to activate Windows.
Type here to search
ENG
US
16:04
26-02-2024

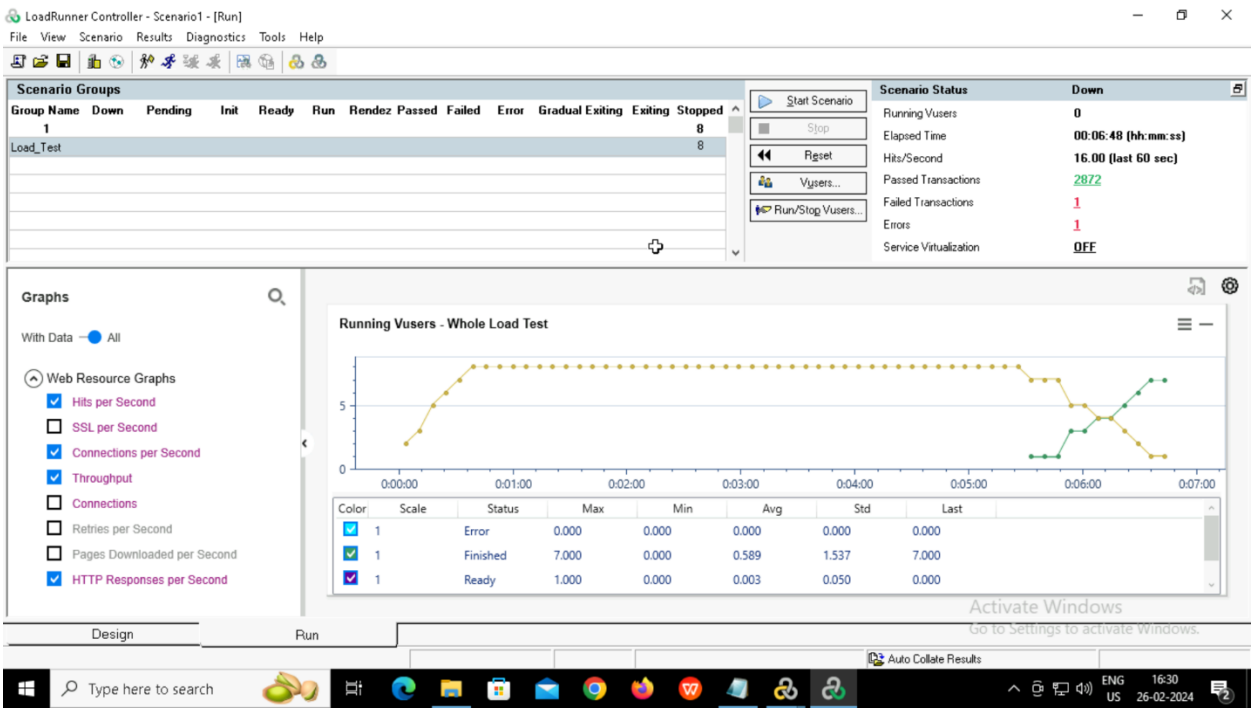
❖ Then Generate Report



Stress Test


LoadRunner Controller - Scenario1 - [Design(1)]
File View Scenario Results Diagnostics Tools Help
Scenario Groups
Group Name Script Path Quantity Load Generators
load_test D:\AdvancedExam\JPetStore-Aspectran\LRScripts\Load Test 10 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.
Scenario Schedule
Schedule Name: Schedule 1
Schedule by: Scenario Group
Run Mode: Real-world schedule Basic schedule
Global Schedule
Total: 10 Vusers
Action Properties
Initialize Initialize each Vuser just before it runs
Start Vusers Start 10 Vusers: 1 every 00:00:05 (HH:MM:SS)
Duration Run for 00:05:00 (HH:MM:SS)
Stop Vusers Stop all Vusers: 1 every 00:00:15 (HH:MM:SS)
Legend
Global Schedule
Vusers
Time
Design Run
Auto Collate Results
Activate Windows
Go to Settings to activate Windows.
Type here to search
ENG US 16:16 26-02-2024


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
1 8
Load_Test 8
Start Scenario
Stop
Reset
Vusers...
Run/Stop Vusers...
Pause Scheduler
Scenario Status Running
Running Vusers 8
Elapsed Time 00:01:17 (hh:mm:ss)
Hits/Second 30.80 (last 60 sec)
Passed Transactions 352
Failed Transactions 0
Errors 0
Service Virtualization OFF
Graphs
With Data All
Web Resource Graphs
Hits per Second
SSL per Second
Connections per Second
Throughput
Connections
Retries per Second
Pages Downloaded per Second
HTTP Responses per Second
Running Vusers - Whole Load Test
Color Scale Status Max Min Avg Std Last
1 Error 0.000 0.000 0.000 0.000 0.000
1 Finished 0.000 0.000 0.000 0.000 0.000
1 Ready 1.000 0.000 0.014 0.119 0.000
Design Run
Auto Collate Results
Activate Windows
Go to Settings to activate Windows.
Type here to search
ENG US 16:24 26-02-2024



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.