**Software Testing Assignment Module 4 – Testing on live application**

**Q-1** What is Automation Testing ?

**Ans** Test automation is the use of software to control the execution of tests, the comparison of actual outcomes to predicted outcomes, the setting up of test preconditions, and other test control and test reporting functions.

-> Test automation is a process of writing a computer program to do testing that would otherwise need to be done manually.

**Q-2** What are the benefits of Automation Testing?

-> 70% faster than the manual testing  
-> Wider test coverage of application features  
-> Reliable in results & Ensure Consistency  
-> Saves Time and Cost  
-> Improves accuracy  
-> Human Intervention is not required while execution  
-> Increases Efficiency  
-> Better speed in executing tests & Re-usable test scripts  
-> Test Frequently and thoroughly  
-> More cycle of execution can be achieved through automation  
-> Early time to market  
  
**Q-3** What are the advantages of Selenium?

-> An open source software  
-> Supports various programming languages  
-> Supports various operating systems

-> Supports various browsers(Google Chrome, Mozilla Firefox, and Microsoft Edge)

-> Supports parallel test execution

-> Uses fewer hardware resources

-> Test case execution time is faster

-> Test cases can be executed while browser window is minimized

**Q-4** Advantages of Selenium over QTP

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| Selenium | QTP |
| -> Open source, free to use, and free of charge. | -> RDBMS stores data in tabular form. Stored data are related to each other. |
| -> Highly extensible & Supports mobile devices | -> Limited add-ons & Supports mobile devise using 3rd party software |
| -> Supports various operating systems | -> Can only be used in Windows |
| -> Can execute tests while the browser is minimized | -> Needs to have the application under test to be visible on the desktop |
| -> Can execute tests in parallel. | -> Can only execute in parallel but using Quality Center which is again a paid product. |

**Q-5** Which components have you used in Load Runner?

-> Virtual user generator  
-> Controller  
-> Analysis

**Q-6** How can you set the number of Vusers in Load Runner?

-> Steps

1) Open load runner - virtual user generator

2) Select File -> Create new script

3) Select Tools -> Create controller scenario

4) Set number of Vusers

**Q-7** What is Correlation ?

**Ans** Correlation term refers to the handling of dynamic values coming from the server. These dynamic values are the unique values which are generated by the server for security purpose like the session ID, authorization token etc.

-> In some cases, dynamic values also refer to the web content like values in a drop-down list, calendar date, item ID, product ID, order number etc. Through correlation, you can capture these dynamic values and pass in the subsequent requests.

**Q-8** What is the process for developing a Vuser Script

-> Steps

1) Open load runner - virtual user generator

2) Select File -> Create new script

3) Select record & perform recording

4) Select Correlation after recording

5) Select Action option to see generated script

**Q-9** How Load Runner interacts with the application

**Ans** LoadRunner simulates user activity by generating messages between application components or by simulating interactions with the user interface such as key presses or mouse movements.

-> The messages and interactions to be generated are stored in scripts. LoadRunner can generate the scripts by recording them, such as logging https requests between a client web browser and an application's web server.

**Q-10**  How many VUsers are required for load testing

**Ans** The number of VUsers required depends on your system under test, network configurations, hardware settings, memory, operating system, software applications objective of a performance test.

**Q-11**  What is the relationship between Response Time and Throughput ?

**Ans** The Throughput shows the amount of data in bytes that the Vusers received from the server in a second. When It is compared with transaction response time, throughput and response time get decreased.

**Q-12**  What is the difference between hits/second and requests/second?

**Ans** Hits per second mean the number of hits the server receives in one second from the vuser. Request per second is the number of request the vuser will request from the server.

**Q-13**  create a normal script of above website with correlate using hp default website

**Ans** Script :-

Action()

{

/\*Correlation comment - Do not change! Original value='136354.285297691HAVDHcDpfftcAicpDtVD' Name ='userSession' Type ='ResponseBased'\*/

web\_reg\_save\_param\_regexp(

"ParamName=userSession",

"RegExp=name=\"userSession\"\\ value=\"(.\*?)\"/>\\\n<table\\ border",

SEARCH\_FILTERS,

"Scope=Body",

"IgnoreRedirections=No",

"RequestUrl=\*/nav.pl\*",

LAST);

web\_url("welcome.pl",

"URL=http://127.0.0.1:1080/cgi-bin/welcome.pl?signOff=true",

"Resource=0",

"RecContentType=text/html",

"Referer=http://127.0.0.1:1080/WebTours/index.htm",

"Snapshot=t13.inf",

"Mode=HTML",

EXTRARES,

"Url=http://pki.goog/repo/certs/gts1c3.der", "Referer=", ENDITEM,

"Url=http://pki.goog/repo/certs/gtsr1.der", "Referer=", ENDITEM,

LAST);

lr\_save\_string(lr\_decrypt("645505e87a0a1939"), "PasswordParameter");

web\_submit\_data("login.pl",

"Action=http://127.0.0.1:1080/cgi-bin/login.pl",

"Method=POST",

"RecContentType=text/html",

"Referer=http://127.0.0.1:1080/cgi-bin/nav.pl?in=home",

"Snapshot=t14.inf",

"Mode=HTML",

ITEMDATA,

"Name=userSession", "Value={userSession}", ENDITEM,

"Name=username", "Value=jojo", ENDITEM,

"Name=password", "Value={PasswordParameter}", ENDITEM,

"Name=login.x", "Value=68", ENDITEM,

"Name=login.y", "Value=7", ENDITEM,

"Name=JSFormSubmit", "Value=off", ENDITEM,

LAST);

web\_image("Search Flights Button",

"Alt=Search Flights Button",

"Snapshot=t15.inf",

LAST);

web\_image("Itinerary Button",

"Alt=Itinerary Button",

"Ordinal=1",

"Snapshot=t16.inf",

LAST);

web\_image("Home Button",

"Alt=Home Button",

"Ordinal=1",

"Snapshot=t17.inf",

LAST);

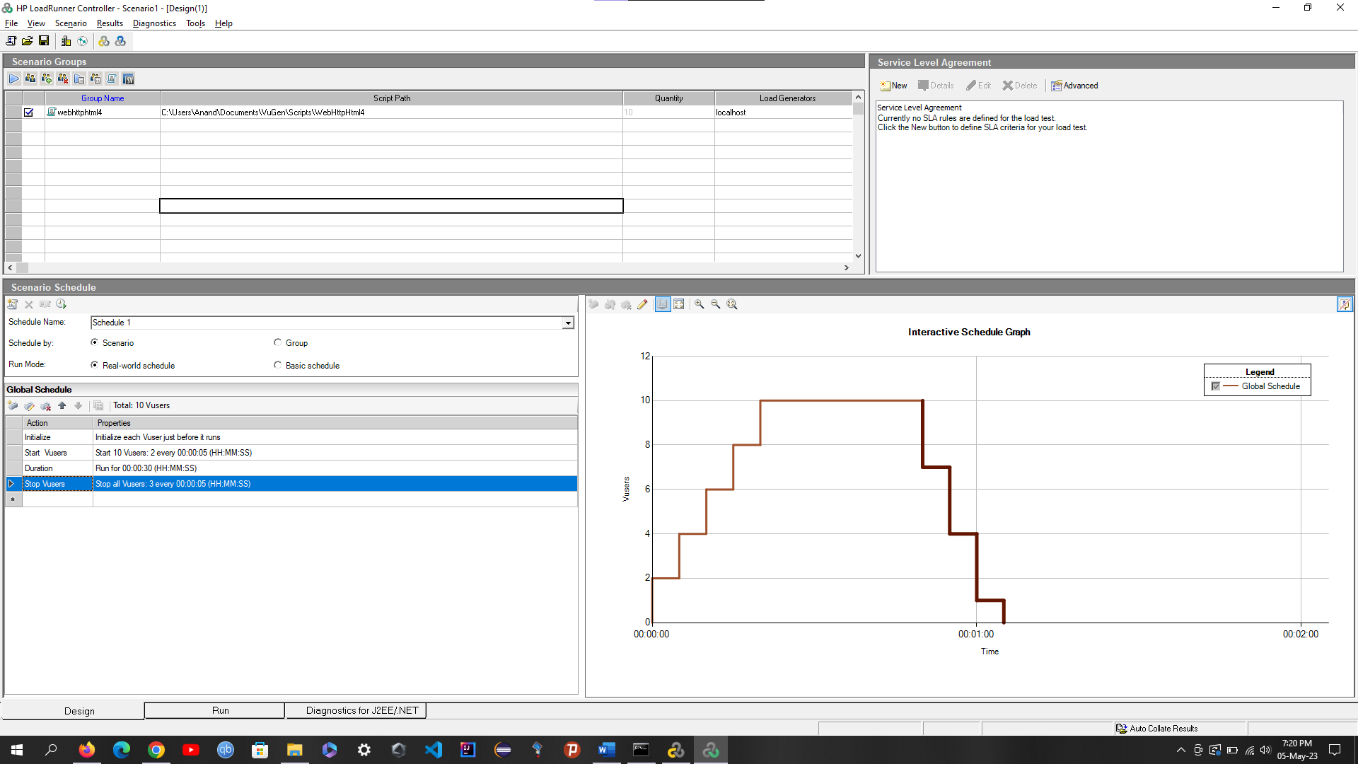
web\_image("SignOff Button",

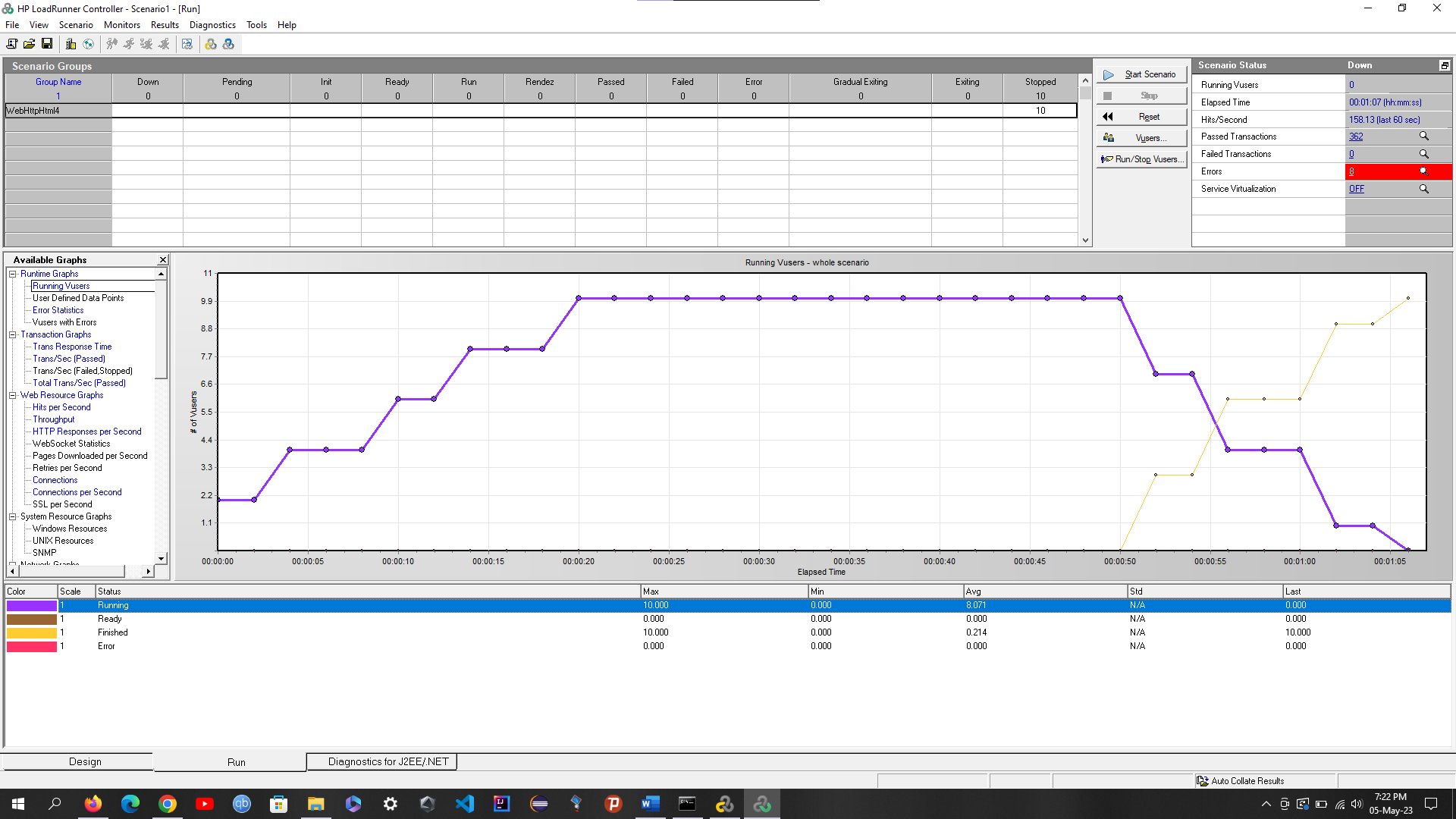
"Alt=SignOff Button",

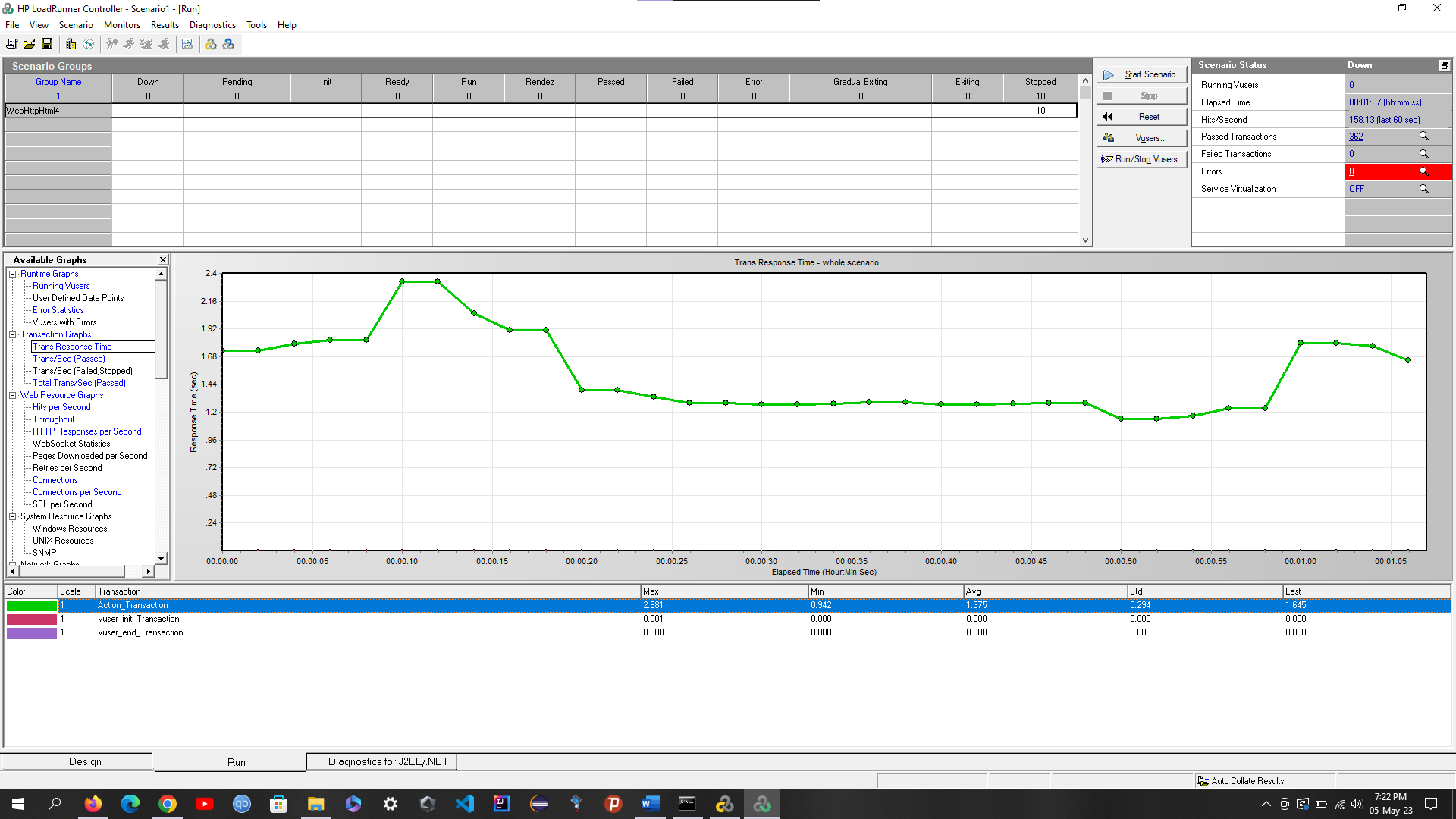
"Ordinal=1",

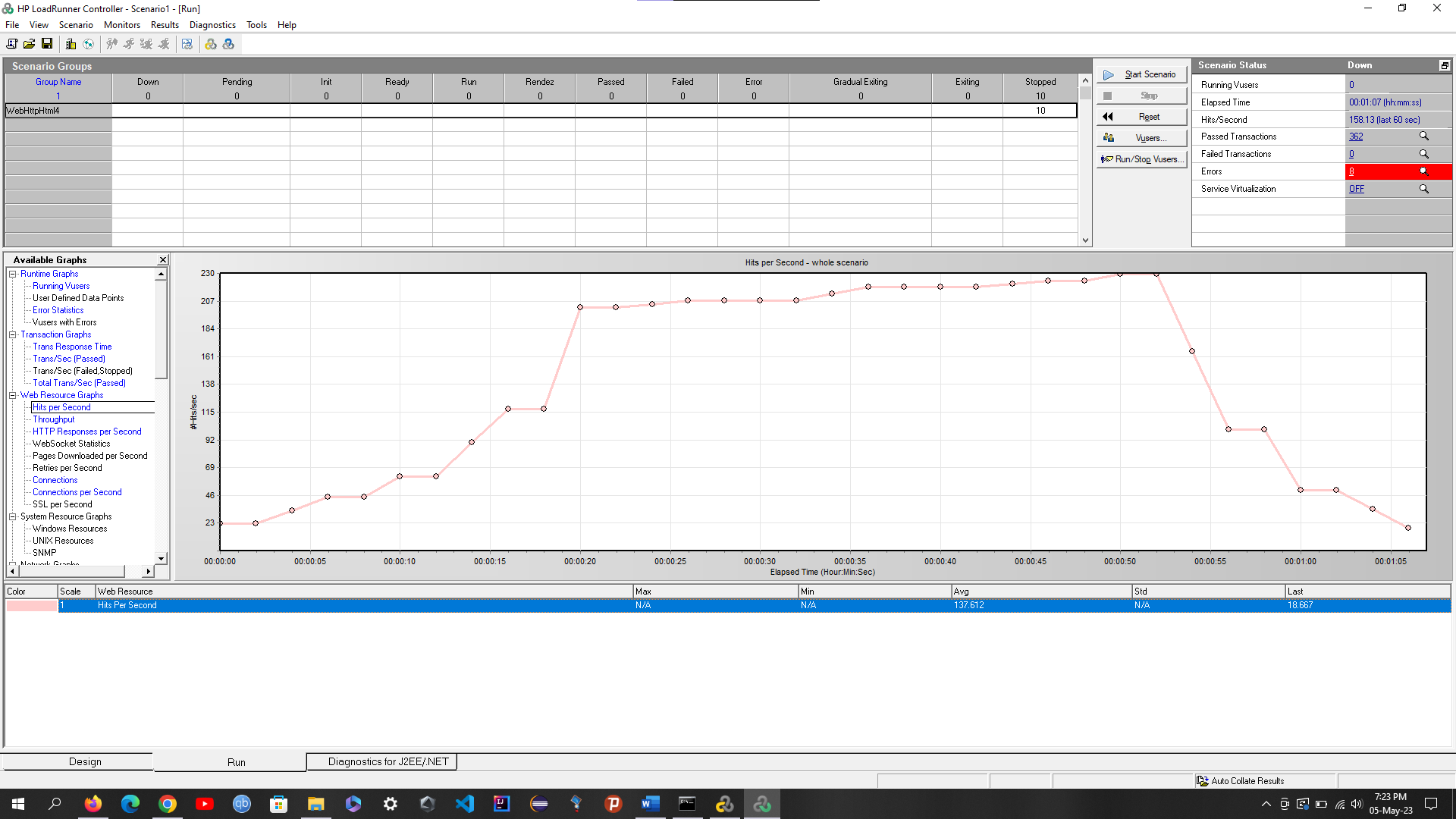
"Snapshot=t18.inf", LAST);return 0;}

-> Design and Graphs for 10 Vusers

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