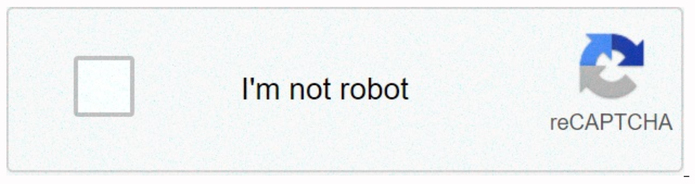

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Loadrunner controller tutorial pdf

Controller, as the name suggests, is a program to control overall load testing. It's responsible for helping you run your performance design using the VUGen scripts you previously created. It lets you on-the-ride run-time settings, enable or disable unconventional time, rendezvous points, add load generators and monitor the number of users each generator can simulate. It automatically creates a dump of execution results, giving you a live view of current state of running load. In this tutorial, you'll learn- How to Launch Controller Simulating a Manual Scenario Simulating a Purpose-Oriented Scenario Configure Generator Loader Schedule a Group Set-up SLA (Agreement Level Service) Let's Learn More About Controlling HP. How to launch Controller HP Controller, go to Start menu ->HP Software ->HP LoadRunner ->Controller as demonstrated below : After you have launched, you will see a splash screen appears momentary. A quick snap has been displayed below: the snapshot will automatically lead to the main window of HP controller. Let's have a look at it before we discuss the main element of the screen. If the New Scenario screen does not come automatically, (after you have changed the preference) you can click New button under File Menu or click button from the toolbar. Alternatively, you can click on the Ctrl + N. Menu displayed below for reference. Similarly, to open an existing or previously created scenario you can use Ctrl+O or icon, and it will open a standard dialog box to browse files. The extension of a Runner Runner file is *.lrs There are two types of scenarios in Controller. Manual purpose-oriented scenario Manual scenario scenarios may be more or may not be Rate Mode. We will discuss each in detail. Simulating a Manual Scenario A manual scenario is static and provides more control over the situation. You can decide which transactions execute, for how many times, for how long. Based on the composition of test mixture, you can see application behavior such as hit quantity, response time, etc. You'll find how a manual scenario differs from Objective Oriented scenarios later. In order to create a Manual Scenario, select Manual Scenarios from Select Scenario Type To Now, let's use non-percentage mode, to start with. Have a look at the snapshot shown as below: You can select the scripts you want to add to the right scenario from the screen above. However, it is generally practicing to add the scripts later. Click the OK button to continue. This will create an empty scenario and load it into the main screen. You will notice the Save button is enabled now. Have a look at the snapshot below: Similarly, if you choose Percent Mode while selecting type scenario, the screen will appear slightly different. Instead of number of users, it will display the distribution at rates. Monitor distributed users for each assigned percentage automatically. The rest is the same. Look at the snapshot below: If you don't create a scenario at the beginning, you'll notice the toolbar in as below: You can click button to create a new blank scenario. Once a scenario has been created, you can click buttons to save a scenario or click Ctrl+S. Similarly, you can click button to open an existing scenario from your local drive. The remaining button simply invokes the other LoadRunner element. The button invoking VUGen and buttons invoking HP scans. Once you add a VUSer script or cluster, you'll notice the subject toolbar will display more icons. The new toolbar will look like this: the new toolbar has 2 additional controls. The button opens the list of all load generators. In our case, we are using localhost as a generator. This means that your local machine will be used by the Controller as well as virtual user load generators. Network Virtualization Settings can be opened by clicking on icon. Network Virtualization requires Shunra NV for HP Software Version 8.6 or higher installed to your machine. This integration improves test accuracy by virtualizing production network requirements in the load test environment and performance. To incorporate Shunra NV for HP software in your test environment, contact your HP service representative. Now that you have created a new, empty LoadRunner scenario, please make a note of Default configuration in a new scenario: Scheduled by: Scenario Running Mode: Real World Schedule since a Script Vusers will be run by a group of Vusers, hone what it calls a Group as well. The Group Name column will display the name of VUser Script once added. Let's add our VUsers scripts in this scenario. When a scenario is fully created, you will see below toolbar under Group Scenarios: You can click the icon in the toolbar to add a Vuser group. When you click a cell under Group Name column, it will open a prompt box i.e. – here you can see a quick list of latest Vuser scripts as well as Browse button. Refer to the below screenshot. You can choose from the list or simply browse from desired directory. If you click the browse button, it opens a dialog box similar to MS Common dialog box. See the below snapshot: As you can see, you can browser VUser scripts, GUI scripts or QTP scripts here. Please note, a GUI or QTP script may only single user intensity and cannot be used for load simulations. Can you tell yourself why a QTP script is available in Load Scenario? The correct answer is, QTP scripts can be added to Load Scenarios to extract information: Since LoadRunner script works based on requests and responses, this does not include UI and data rendering duration. A QTP script will provide Sample 1 of real user experiences under load. course, the QTP script needs to have all the transactions applied to program description. If you right-click the gray area on the left, you will see a small menu is displayed as in the below screenshot: You can click the Add Group to browse your vuser script. To remove a group, click button in the toolbar or right click the group and select Remove Group – as shown as below: Tip: You can also click button to see Run Time Settings specific to the selected group. You can select multiple groups (by holding Ctrl + Click) to apply Run Time Settings to select group at a time. From the toolbar, you can click Details button[] in the toolbar to see all details related to a Vuser Group. If you click More, it will show you a panel with 3 tabs. 1st tab, Rendezvous, will be opened by default: You can also see the Vusers a list of Vusers tab. If you've assigned the Vusers ID, you'll see them here. You can also view the list of all files in the Script folder. This helps navigate all the way to the end directory and view only relevant files. We will study how to take a group separately. Once your scenario is ready, you can click buttons to start executing your scenario. Once you click the Play button, you'll notice the Controller switches from Design tab to Run tab. Controlling the design view also provides view a script as you run the scenario. This is useful when facing errors. However, any changes you make to the script will not reflect the running scenario. Even when the scenario is not running, you need to see the details and click REFRESH button for the changes to take effect. You can see a script directly in controls by clicking on button. Similarly, you can see the current Vusers (yes, you can actually view them) by clicking button. Once you're good and setup, you can hit the button or go to Run tab and click button. At the beginning of execution of the scenario, Controller will implicitly create a temporary directory to dump the results. If the directory already exists, you'll get a prompt: If you choose Yes, the dump before they will be lost. If you select No, you will see below pane. You can choose to create a new directory for each optional result. However, consider running out of space shortly after that. As soon as you hit OK, your scenario will start running. You'll see users moving from Pending to Unity column and so on. This is how an example execution will look like: You can click on the passed transactions that opens a new window. Here you can check the status of transactions which you have applied to all your scripts. Similarly, you can click any graph name on the left to open any graph. At the bottom of the window, you can see which transactions are spent, the minimum time taken by any user so far, the maximum time, average time and standard deviation. can choose to collaborate side-by-side results or only after the end of scenario ends. To active, click the Result menu and you will get below menu. If you wanted them to enable collages, you can keep it checked. Simulating a purpose-oriented scenario a purpose-oriented scenario is dynamic in nature – i.e., it keeps changing the overall payload being simulation on the server. You set a goal, for example, the maximum number of hits you would want to achieve for the target server, maximum response time against a transaction etc. Based on the above numeric, you can trace analytics such as a maximum number of users your application supports while staying between acceptable response times. Similarly, the maximum number of users connected to applications until X numbers of the server hit occurs. In such a case, HP Controller automatically varies the number of users in the server, so you have little control over how many times or for how long a user runs. Click New to create a new scenario and select Goal-Oriented Scenario. This screen will appear: Process for adding Vuser Groups is exactly the same as in manual case scenario. The key differences in Scenario Goal Oriented, as the name suggests, is to create a goal. The controller will automatically while most of the cornea is very similar to Manual Scenarios, certain screens appear a different way, although performing the same actions. For example, to add a Vuser Group or a Vuser Script, click the button. This will lead to below window: Here you can select recent scripts, browser a script or hit the Folder button to create a new script. Click OK to close the pane. For each need, you can click button to view the details of selected group/Vuser Script. Click button will remove the selected Vuser group in current scenario. These changes will be saved only if you save. Clicking button will open the Run Time Settings, as we study at VUGen. However, if you override (or modify) the Run Time Settings here, these changes will be effective only for the current scenario. If you remove the script and reload, or hit refresh (in Details view), you will lose any changes that are made. This will reload Run Time Settings saved while creating the script. You can also click button to open selected Vuser Group in VuGen. If you wish to configure the Load Generator (our next topic) you can click button. Execution of a purpose-oriented scenario is similar to Manual Scenarios. Configure Load Generator There are two ways to configure load generators. When you click on Add Group (add a Vuser Script), you will see below window: You can click Add corresponding to Load Generator Name and browse your load generator, or alternative, you can simply be a localhost type and start using your Managed Machine as Load Generator. If you click on add..., you will see below window: You can click Add..., you will see below pane: that the fact that on more to see more environments related to load generators. Navigate to different tabs to build more understanding: Above being setup in Run-Time Settings. As you can see, a maximum of 50 users can be initialized at one time. Below is the Vuser limit setup. Click Defaults if you wish to return to default settings and lose any changes you made. Click OK button to save changes and close window. Another way to add and configure load generators is by clicking Scenario menu and clicking Load Generator. This will lead to main window of generators. Here you can view the status of all load generators. The name refers to the name of the generator. The status is the current status, whether the generator is ready to be used. The platform says the system operates in the generator that Can Windows or Unix only. The type says whether it's local or Cloud based generators. Have a look at the snapshot below: To add another generator, you need to click Add button. Once you click on Add, you'll see the same screen as previously discussed above. Once generator has been configured, click Close button to close the screen. To schedule a Group Before you run your scenario, you need to configure scheduling. Either you schedule not scenarios or by Group. Each of these, can be further categorized by Real World Schedule or Basic Schedule, called Run Mode. If you schedule no scenarios and create a real-world schedule, you will see below option displayed in Global Schedule area: However, if you take a scenario and create a basic schedule, you will see below window. Can you find difference? You can also schedule by Group. This will implement the configuration at group level. This can be further categorized as real-world and Basic running Mode. Similarly, you can change the mode to Run Basic Schedule. Use your designing testing skills to find the difference between the two. Here is a reference: Have you noticed a new icon appeared in the Scenario Schedule toolbar? Here it is for your reference: the Rendezvousous icon is displayed only in case of Group setup. Set-up the SLA (Service Level Agreement) You may have signed a Service Level Agreement with your customers. The SLA at LoadRunner or Controller gives you an opportunity to test your application against an SLA. Keep in mind, a regular scenario (non-SLA) gives you the opportunity to run various scenarios in order to find the problems and root cause of problems; whereas, your client might like to simply test your application under an SLA to see whether it's working in contracts or not. From the main design view of Controller, find the SLA toolbar; which is on the top top corner and looks like this: Click on the button and these windows will open up: Click the button. Notice the new window. Here you can select the measurement of the SLA. In our example, we will take Response time. Have a look: Click the button. In the next window, you can select the transactions where will be applied above Measure. We are using only main transaction i.e. 01_Signup this will help remove opening main pages and other not so important transactions to be excluded. Have a look at the window: Click the button. In the new window, you can select the percentile at the doorstep value. If you have selected multiple transactions, you can click Button. Have a look at the following window: Click the button. The next screen is a plain closure. Click the button to close the SLA. After you click, you will see the main view, the Windows Design of Controls and an SLA appears. Have a look: You can click button to view SLA details. This window will open up: Click button to close the above pane. If you wish to delete an existing SLA, you can click the button. When you click, you'll get to see below confirmation messages: If you click on the button, you'll see advanced options in an SLA. It is recommended that you work with default options i.e. Internally Calculate Tracking period. Have a look at the snapshot: If you work with Internally Calculated Period Tracking, Analysis automatically sets the tracking period to which SLA status will be determined. This option has minimum tracking period set to 5 seconds. On the other hand, you select Tracking Period of the desired number in seconds. Simply select the next radio button. When implementing an SLA-based scenario, the execution process remains exactly the same. Video on Controller Click here if the video is not accessible Page 2 in this tutorial, we will study the topics - 1. How to use analysis in LoadRunner 2. ChaadRunner Analysis Summary 3. Analysis Graphs 4. Merging Graphs 5. Add New Graphs 6. Crossings with 7 results. Saving a session let's start- How to use the LoadRunner HP Analysis analysis, as the name suggests, a program is done detailed (literally, very detailed) analysis on the performance test you carried out. HP Analysis takes the dump created by Controller, during execution of your load test. The waste contains all the information in a previous format all editing that is passed by HP Analysis to generate various graphs. Let's learn more about HP analysis. To launch HP Analysis, go to Start menu =>HP Software =>HP LoadRunner =>Scan as demonstrated below: This will launch Analysis. As usual, at first a splash screen is opening as shown as below: After a moment, the following splash screen will automatically lead to the main screen of HP Analysis. The main screen is opening in restore mode. See the below snapshot: Click the File menu and you will see a menu list as in below snapshot: Click the File menu or use Ctrl +N to open Create Session Analysis. This will open a dialog box to help you find out the .lrr file. The file extension, LRR for loadRunner result. Remember HP Controller creates a repositatory of results in a folder? This folder contains the .lrr file. Find the rest folder of the scenario for which you wish to create analysis session. A snapshot provided below for reference: As soon as you select the correct file, HP Analysis will first check for available disk space to ensure you do not run out of space during the process. This is because the size of a session can be very large specifically for complex scenarios where you've included several VUScripts and run for long hours. Under the opening momentum pane: Immediately after affirming availability of disk space, HP Analysis will come into action and you will see a now analytical window, as shown as below: The time taken by above window depends on the size of result folder (or statistics contained in this folder) if it takes way too long , or gets stuck, you can opt cancel by clicking on the Cancel button. Once finished, this will automatically lead to a quick window where format templates will be applied: This should quickly lead you to main window in Session Explorer. However, if you are using some custom complex templates with the operation halfway for any purpose, you can click the Stop button to cancel the operation and start on .2. LoadRunner Analysis Summary Report Once the operations are completed, you will see the main session window which looks something like this: Here you can see the directory where you pick up the results from. You can also view full information about your scenarios in analysis sessions. In the Summary Report tab, you can see the duration of the scenario that has been run to get the following results. Percentile of the terms used in almost analysis with each graph. You can define the value for percentile in the Properties panel. The default is set to 90. Notice the graph section in Session Explorer: Some graphs appear already. You can click on the graph name and you'll see its detail appearance detail details. From the Summary Report, you can click the button to open its related SLA information, if available. When clicked, you will see the following window: You can get the toolbar at just below File menu on the top, it looks like this: All of the buttons in the toolbar do some actions from the File menu. HP Analysis contains every bit of information about your scenarios, including Run Time Settings. As you'll know by now that Run Time Environment has significant impact on performance, you can see the settings of analysis that are used to run the scenario. To view the Run Time Settings, click from the File menu or button from the toolbar. Run Time Settings are displayed as below: As you can see, not only all settings can be viewed in this pane, you can also open the Schedule by click button or view script by click button. To close click button. 3. Analysis Graphs HP Analysis will load the most important graphs at the time of analysis. You can click any graph name from the Session Explorer to view graph account details that are available. Let's discuss some graphs one by one. 3.1 Average Response Time Graph: This graph shows the number of hits made on the web server by Vusers during every second of the load test. The following graph helps you assess the amount of charge VUsers generate, in terms of hit quantity. Have a look at our scenario graph: When looking at a graph, it pivotal understands the legendary side of the graph beside. The legend displays the transaction name, its color, minimum value, average value, maximum value and standard deviation (variances around the mean). The colors in the graph can be recognized in the legend. 3.2 Hits per second graph: This graph shows the number of hits made on the web server by Vusers during every second of the load test. The following graph helps you assess the amount of charge VUsers generate, in terms of hit quantity. Have a look at our scenario graph: As can be seen from graphs as well as legends, where there were no hits to the server.3.3 Running Vusers graph: This graph shows the number of Vusers that executed Vuser scripts, and their status, during each second of a load test. This graph is useful for determining the VUser load on your server at any given moment. 3.4 In this graph shows the amount of input (in bytes) on the web server during the load test. Through represents the amount of data that the Vusers received from the server at any second. The following graph helps you assess the amount of load VUsers generate, in terms of server popped up. Here is the description of some more graphs: 3.5Vuser Summary: This graph shows the number of Vusers that are completed to run successfully, stopped running them, or ended with errors. This is how it looks: 3.6 Rendezvous this graph: This graph indicates when the Vusers were released to rendezvous points and how many Vusers were released at each point. This is how it looks: 3.7 transactions For second graph: This graph shows the number of complete transactions (both successful and unsuccessful) done during every second of a load test. The following graph helps you determine the actual transaction charge on your system at any given moment. This is how it looks: 3.8 Total transactions per second graph: This graph shows the total number of complete transactions (both successful and successful) done during every second of a load test. The following graph helps you determine the actual transaction charge on your system at any given moment. This is how it looks: 3.9 Transaction Graph: This graph shows the number of transactions that have passed, failed, stopped, or ended with errors. This is how it looks: 3.10am Performance Graph Summary: The following graph shows the minimum, average, and maximum response times for all transactions in the load test. This is how it looks: 3.11% Transaction response time under graph charge: Show average transaction response times relative to the number of VUsers running at any given point during the load test. The following graph helps you see the general impact of VUser load on performance time and is more useful when analyzing a load test that is run with a gradual load. This is how it looks: 3.12% Transaction Time Percentile Graph: This graph shows the percentage of transactions that occurred in a given time range. The following graph helps you determine transaction rates that meet the performance criteria defined for your system. This is how it looks: 3.13 Transaction Response Time Distribution Graph: This graph shows the number of times a transaction ends on a distribution in time ranges. Note that this graph only displays information for a single transaction at a time. This is how it looks: 3.14 In Views (MB) This graph shows the amount of views (in megabytes) on the web server during the load test. Through represents the amount of data that the Vusers received from the server at any second. The following graph helps you assess the amount of load VUsers generate, in terms of server popped up. This is how it looks: 3.15 HTTP Status Code Summary: This graph shows the distribution of various HTTP protocol codes back from the web server during the load test. This is how it looks: 4 3.16 HTTP responses per second graph: This graph shows the number of different HTTP status codes returned from the web server during every second of the load test. This is how it looks: 3.17 Download Pages For every second graph: This graph shows the number of pages received from the web server during the load test. This is how it looks: 3.18 graph connection: This graph shows the number of Connections. This is how it looks: 3.19 Connections per second graph: This graph shows the number of Connections per Second. This is how it looks: 3.20 Page Element Breakdown (Over time) This graph shows the average response time (in seconds) per web page and its elements during every second of the scenario run. This is how it looks: 3.21 Page Download Time Breakdown (Over time) This graph shows an outage at each time download the page during every second of the scenario run. This graph shows each server the web page/network time (in seconds) during the first buffer graph: This graph shows each server relative to the web page/network time (in seconds) during every second of the scenario running, for the period of time until the first sufferer successfully got back from the web server. This is how it looks: 4. Graphs of the two graphs may be required to merge to be carried out more significant information. For example, as we discussed above in graph that when there was no hit to the server, there was no bandwidth on the network. This can be easier to draw when merging. Let's see how the graphs are merged. Before opening the merged graph option, ensure you have at least one open graph already, which you want to merge. The utility will assume you want to add another graph to the previously opened graph. To open the Merge Graph window, go to View menu and click Merge Graphs. Here is how the menu looks: Click above menu will open the main window of merging graphs, here is a snapshot: Here, we are merging transaction response time and running VUsers graphs. Merge the graph window requires you to provide the name of the newly formed merged graph. Here is how this merged graph looks like: 5. Add new graphs to add new graphs, click the Graph menu and select Add New Graph. See the below snapshot of the menu: Once clicked, it will open a list of all available graphs from LoadRunner (HP Analysis) You can select any graph by double-clicking its name. This will load the graph with values/statistics in the main pane of HP analysis. Click the Close button to go back to the main window. Let's have a look at the window: 6. Cross and result If you have had multiple running scenarios already, you can use the folder results to cross the statistics. This process helps to directly compare both results and generate a cumulative report. In order to make Cross results, click Onicon from the toolbar or click Cross and result from the File menu. This will open window: The result list showing your current results folder (for which the analysis has been performed) You can click the Add button to add another result folder and which a cross will be analyzed. Select the other results folder and click Open. The results before the List pane will be opened again. This time, you will have two record results in the list. Have a look at the window: Click the OK button. A new window is open that has side side comparison side in both results. Here is a snapshot: You can add as many folder results to the cross list as you want, however, this will become complicated to understand and analyze. So it suggests keeping the list short. 7. Saving a working session with HP analysis can take significant time. Since you may have merged graphs or now study some new graphs, it is a good idea to keep your session information saved. To save your session, click the File menu and click Save. Below the dialog window will open: Clicking the Save button will start the Save process which might be instant or time-consuming, depending on the size of session. Here is what the window looks like: 7.1 Opening a session you can open an existing session in the same way. click Open under File menu and select the folder to save sessions. Remember, HP Analysis won't open the latest folder; instead it will open the folder itself. This will open the main window of Analysis where you can summarize your tasks. 8. Export to HTML Report: HP Analysis provides a feature to export all data in a properly formatted HTML or doc report format. To export, click the Report menu and select HTML Report. Have a look at the following menu: This will open a Find directory dialog box where the HML report will be placed. Have a look at the below screen snapshot: As soon as you click the Save button, HP Analysis will start exporting results and preparing a report in HTML format. A splash screen will appear for a short period, depending on the size of report you are exporting: After the export finishes, it will immediately open the recently exported file in Internet Explorer or your default browser. Here read how your 1st performance test looks like: Video on Analyzer Click here if the video is not accessible Page 3 Details Last Update: 19 November 2020 1) What protocols are supported by LoadRunner? As of LoadRunner 9.5 the following protocols are supported. This will increase and future releases. The interview isn't looking for you to name all but a few (say 5-7 protocol). Application Deployment Solution: For the Citrix protocol. Client / Server: For DB2 CLI, DNS, MS SQL, ODBC, Oracle (2-tier), Sybase Ctlib, Sybase Dblib, and Windows socket protocols. Custom: For template C, visual basic templates, Java templates, Javascript and VBScript type scripts. Distributed components: For COM / DCOM, Corba-Java, and RMI -Java protocols. E-Business: For FTP, LDAP, Palm, Internet (HTTP/HTML), Web Services, and the web / Winsocket protocols. Enterprise Java Weight: For EJB testing and Rmi-Java protocols. ERP / CRM: For Baan, Oracle NCA, Mounsoft-Tuxedo, Mounsoft 8, SAPGUI, SAP-Web, and Siebel-DB2CLI, Siebel-MSSQL, Siebel-Web, and Siebel-Oracle) protocols. Legacy: For Emulator Terminal (RTE). Mailing Services: Internet Messaging (IMAP), MS Exchange (MAPI), POP3, and SMTP. Middleware: Jakada and Tuxedo (6, 7) protocols. Streaming: For mediaPlayer protocols and RealPlayer protocols. 2) What element have you used in LoadRunner? Vuser Generator – For generating Controller Scripts – To create and execute Analyzer scenarios – To analyze the results. Learn more about LoadRunner and its architecture in this video lesson.3) What is load running agent? The agent is keenly between host and controlled vehicles. 4) What is the process of developing a Vuser script? There are four steps to develop a vuser script. 1 - Write the Vuser Script. 2-Playback / Enhances the registered script. 3- Define the various run-times settings & check 4- Place the script in a LoadRunner scenario Learn more about Vuser's script development Video tutorial here. 5) How many Vusers are required to test charge? This is essentially a trick question. The number of Vusers required depends on your system under testing, network configuration, hardware settings, memory, operating systems, task software applications in a performance test. There can be no generic value for Vuser. 6) What is the difference in running the Vuser as a process and as a thread? Which is the most advantageous way to run Vuser? When Vuser is run as a process, the same driver program is loaded into memory per Vuser. This will take a large amount of memory and will limit the number of Vusers you can run on a single generator. When Vuser runs as a thread, only one instance of driver program does not provide the number of Vusers. You can run a number of Vusers on a single generator by using the multi-wire mode. 7) What is the meaning of Vuser-init? The Vuser-init pre-operation file also calls the initialization operations before the current application is run. 8) What is log? An extended log will store information such as data returned by an advanced track, substitution parameter and many other information depending on the options you selected in run-time settings. 9) Why create parameters? To create a parameter you will replace the hard-code value in the script and replace it with a parameter. This allows a single Vuser to be run many times, and to use different data on each run. It helps in stimulating server requests more real life as it prevents a server from caching results. Learn more about the parameteration of this Video Tutorial 10) How will you divide your script into Multiple Actions? Why? I will divide the script into Actions based on the functionality. For example, Once Action for Logining in application, another Action for booking and so on. Action increases code resistance, decreases maintenance time and compelling, reducing costs. 11) How can you set the number of Vusers in LoadRunner? You can set the number of Vusers in the Monitor section while creating your scenario. Many other advanced options like ramp-up, ramp-down of Vusers are also available in the Monitor section. Learn more about Controller & Creation Scenarios 12) Which monitors are? Monitoring is used to monitor log performance. Used in section Controller of Charge 13) What type of check is available at LoadRunner? LoadRunner gives two types of points a) Check Image: Check this will verify the presence of an image on one page during run-time b) Text Check: Check this will verify the presence of a text-string on one page during run-time both of the above checks can be added to Vugen. Learn more about Checkpoints 14) What kinds of problems can we face regarding the toolkit, software, network and memory logs during the performance test? possible problems among others might - 1. Lack of Material 2. Memory Color 3. Network related issues. 4. Application/Software Error 15) What Would Your Recommendations Improve Performance Measurements? Fine tuning of network, database, and app with the recommended web server. In the network, level try to optimize the latency and bandwidth. At the database level, verify all indexes and sequences by running their profiles. You can also optimize your database requests. At the App Server level, running the profiles to get the memory leaks of the application at the web server level, you can use monitors with the corporate optimization and other related metric in the server.16) What is rendezvous point? The Rendezvous point is synchronization / wait point. Rendezvous Vusers' teacher points wait during test executions for multiple Vusers to reach a certain point, in order that they can simultaneously do a job. Meaning this is to emulate some heavy load only in the particular portion of the scenario and test the behavior of the application.17) What is correlation? Correlation is used to find data that is unique for each run of your test script (ex: id session). While recording, these dynamic values are hard-coded in your script causing the script to fail during playback. Correlation is a technique where dynamic values are not hard-coded in your script, but are extracted at run-time to avoid failures. Learn more about Correlation in this video tutorial. 18) What is Manual Correlation? It's correlation techniques that use functions Web_reg_save_param() to identify dynamic values in your script. It's important for your script playback to verify that correlation performs successfully. Learn Manual Correlation. 19) How do you identify the performance bottles? - Performance bottlenecks can be detected using monitors. These monitors could monitor application server, monitors web server, monitors database server and network monitors. They help in finding the troubled area in our scenario resulting in increased response time. Measurements made are usually a performance response time, disables, hits/circles, network graph delays, etc. 20) What function is used at the end of a nest transaction? The function is – lr_end_sub_transaction learn more about transactions in this video.21) What is the difference between transaction and instance transaction of LoadRunner? They use a transaction that is used to measure time between executions of certain statements A transaction instance is used for 22 performance analysis) while the script is running we find some values that may need correcting? Is it possible to make manual correlation for these values? No. It is not possible to make correlation when a script is run but you can make changes once a script has stopped. 23) What time does that happen in charge run? Design Time Passes much time has passed since the launch of the current event and is measured a different way for different screens as provided below – In Status Scenario – Elapsed window is measured at the moment you hit Start scenario or Initialize / Run Vuser? Rash. In the Vuser time window that is passed measured from the moment Vuser entry runs state. 24) Does caching have a negative effect on the results of your load tests? Yes. Caching has a negative effect. Cache is a temporary memory that stores your browsing history. When you visit a page for the second time, the time required to load the page will be less than required to load the page for your first visit since much of the information necessary to load the page must be out of the cache instead of the server. This will effect the response times of your test. Alone, he recommends turn-off caching. 25) What is the difference between the Cover Graph and Corlate Graph? Cover graph: It will cover the content of two graphs that share one graph x-axis Correlate: It will Slap the axis in two graphs against each other. Learn more about Analyzer 26) What is the difference between lr_error_message and lr_debug _message? lr_error_message – Send an error message in the LoadRunner's Controller Output window in lr_debug _message – Send a debugging message in the LoadRunner's Output Controller window to 27) What's the difference between load, performance test? The purpose of performance test is to check whether an application charges/updates in stupid time limit (says 2 seconds). It uses metric such as response time, Request per second. It is carried out under production – such as load conditions. The purpose of load testing is to check the system's scalability. For example, finding out the maximum number of users supported by the system in certain specifications. 28) You have created several Auto-Correlation rules. A new test of your team is preparing to register a group of scripts on the same application on its workstation. What can you do to provide the test and correlation policies? I would export the Auto-Correlation rules to a correlation file, and then have the new team member import the .cor file into its Auto Correlation rule 29) You want to emulate a call center for an airline. All representatives connected in the morning, doing business processing and bottles outside at night. On the one day, a representative will Create 40 flight reservations, Modify 10 flight reservations, and Search for 20 flight reservations. A representative cannot perform a Modify without performing a Query first. How would you design the running logic? Create – 67% Search – 16% Block0 – 17% Search Modified 30% Where Should You Add a web_reg_save_param function to a script? Before the step that retrieve the dynamic 31 value) You want to have each step in your script measured as a transaction in the Controller and display in Log replay in VuGen. How can you accomplish this? This can be done by enabling the automatic transaction in the run-time settings. 32) What is the internet recording protocol level generates the function web_submit_form? The HTML based on recordings generates this function.33) What is the load test? Load testing is testing that if the application works properly and loads them from large numbers of simultaneous users and transactions. It was also used to determine whether he can handle his period shacks. 34) What charges run? Load Runner is a performance testing tool from HP. This tool supports all aspects such as load, Stress, Endurance, data volume and spike tests. 35) What are all the elements of LoadRunner? Following are the components of the LoadRunner User virtual controller generator, and the LoadRunner process loadRunner process scans and monitoring LoadRunner Book online 36) What element of loadRunner is used to record a script? The Virtual User Component (VuGen) is component used to record a script, and it allows you to develop Vuser scripts for a variety of application types and communication protocols. 37) What is a rendezvous point? Rendezvous points are introduced in Vuser scripts to simulate more users on the server. Rendezvous points instruct Vusers to wait during test executions in order to do their work together. For example, in a banking application, Rendezvous points are inserted for 100+ multiple users deposit money simultaneously. 38) What is a scenario? A scenario is nothing but an event that occurs for each test session. For example, a scenario defines the number of users to be designed Virtual Machine System 39) How can we debugging a LoadRunner script? VuGen has two options to debogue Vuser scripts. Run Step by Command Step with Breakpoints. We can manually insert the message class into your script by using the function lr_set_debug_message. 40) How can we perform functional test under load? Foncénie under load can be tested by running multiple concurrent Vusers. By increasing the Vusers, it is necessary to determine how much charge the server can sustain. 41) What is the relationship between Answer Time and Congressman? Through displays the amount of data in bytes that the Vusers received from the server to a second. When it compares with transaction response times, input and response time get decreased. Through and higher response times would happen roughly at the same time.42) What vuser_init and vuser_end the action? Vuser_init action contains procedures to log in to a server and Vuser_end section has logo logo procedures. 43) What is the difference between standard log and log? The standard log sends a subsets of functions and messages to the output log and subsets of functions depending on the Vuser type. Extended log forward a detailed script execution in the output log. It is mostly used during debugging when a user needs information about Substitution Parameters. 44) What are the all kinds of objectives of purpose-oriented scenarios in Charge Runner? Load Runner provides you with five different types of targets: Number of concurrent Vusers number in hits per second Amount of transactions per second number of pages for 45 minute response time) What is a function to take dynamic values in the web script? Web_reg_save_param is the function that saves dynamic data information to a parameter. 46) What is runner's load test process? After the testing process at LoadRunner: Test Load Plan Create Vuser Scripts Defined Scenario Run Scenario Analyze 47 results) What is remote command launch? The remote launcher allows the controller to initiate applications in the host machine. 48) How can we develop the database vuser script? Vuser scripts can be developed either by recording with the vuser load generator script or by using the grey template to run vuser load. 49) How do you charge an agent running charges? While running the scenario, Controller LoadRunner instructs the dispatcher of remote agent to launch LoadRunner agent. The controller instructs the LoadRunner agent to initialize, run, pause and stop the vuser. 50) What is the difference between hit/second and request/second? Hitting per second means the number of hits the server receives to one second from the vuser. Asking per second is the number of vuser requests requested at the server.51) What is the advantage of running charges? Following are the advantages of running charges: Reduces human intervention Minimizes the requirement of systems to assist in better use of time and money effective utilization of single automation execution 52) What is the vuser in the scenario? The vuser is the virtual users who can simulate the real users. The virtual users who take the place of client software operate the real user, such as IE send requests using the HTTP protocol to IIS or Apache web servers. 53) How do we write a User Defined Function at LoadRunner? Use should create the external library that contains the function. This library must then be added to the directory of VuGen. Then the User Defined Function can be assigned as a parameter. 54) What changes in settings run time? There are four run-time settings that can be performed: Ranking: This has iteration counts. Log: Logging can be set standard or disabled. Think Time: Capable of setting think time to be ignored or replaced. General: Enables the setting of Vusers for processing or multi-wires. 55) How can we find related database problems? Monitoring and Graph of Data Resources can be used to find related database problems. LoadRunner allows the test to specify resources that need to be measured before the controller is 56) How many graph types are available at LoadRunner? There are five types of graphs: Network delay time graph – shows the time spent between request and response of transaction response time – one graph time translation response time for charges and another 90 percent Hit/Second Graph - Show application volume download / second graph - shows the percentage at which pages are downloaded per second 57) How can log performance be identified? Monitors can be used to detect a performance log. These include networking, web server, application server, and database server monitors. These monitors can be used to find problem assignments in scenarios that cause an increase in response time and costs, network delays, performance response times, hit/second, etc. 58) What is a ramp up and how can it be set? Ramp up is gradually increasing the load on a server and can be simulated by gradually increasing the number of Vusers. This feature can be found in the Scheduling Options scenario. 59) How correlation can be accomplished? Correlation case can be performed in two ways: Use the scan function to search for correlation and select a value from the result. Write a pair of scripts and then compare them to each other. 60) Where are automatic correlation options set? The automatic correlation is set to option recording area on the Correlation tab. Correlation can allow for the full script and rules for correlation can be defined. Automatic correlation can be performed on a database by viewing the output window, scanning for correlation, and selecting the value that will be used. 61) What is the benefit of running a Vuser script as a thread? The asset runs a Vuser script as a thread that allows more Vusers to be used for a load generator. Run Vuser scripts as processes use a lot of memory because all of the loaded scripts use the same driver. This limits the number of Vuser scripts that can run on one generator. 62) What is the difference between the Cover Graph and Corlate Graph? Cover graph: Graph cover has one X-axis and 2 Y-axis. Left Y-axle on the merged graph displays the current graph value & Right Y-axle to display the value of Y-axle in the graph that was merged. Corlate Graph: There are two graphs, and the active graph becomes the X-axis of merged graphs. The axle of the graph that was merged gets the merged graph Y-axle. 63) What are three sections of a Vuser script and what is the purpose of each one? Following are the three sections of Vuser script, and are as follows: Vuser_init – Used to record the connection. Action – Used for recording the business process. Vuser_end – Used for recording the logo. 64) What are the four selection methods when selecting data from a data file? Following are the four selection methods: Random Sequence Unique Parameters 65) What should be done to view substitution parameters of Log execution? Substitution parameters can be viewed in the extended log at the run-time settings. 66) What are the necessary tools to analyze Vuser's running results? These tools are required to analyze Vuser running results: Execution Log Run-time Viewer and Mercury Test Result Windows 67) What is the difference between manual scenarios and goal-oriented scenarios? Following are differences between goal scenarios and objectives: Manual Goal Scenario Main Objectives is to learn how many Vuser can run concurrent goals can be demonstrated, response time, or number of concurrent Vusers Give you manual control over how many Vusers run and at how many Vusers run managed Vusers automatically 68) What are all the reasons to use the Server Resource Monitors? Server resources monitor is used to get how much data is coming from Cache and it helps find out what are all the parts of the system having botlenecks. 69) What is the purpose of choosing 'Show browsers' during replay of the General Options settings? 'Show Browser' settings are used to view the pages that appear during playback. This is useful for debugging Vuser during the first steps of Vuser web creation. 70) For What Purpose, Will Users Use 'Proceed On' Error? Continued activation should be set only when performing Execution Logs more descriptive or adding logic to the Vuser. 71) What is the purpose of a transaction LoadRunner? The purpose of a runner charge transaction is to measure one or more steps/user actions in a business process. 72) Why create parameters? Parameters are like script variables, and are used to vary input in the server to emulate real users. Sets different sets of data to send to the server each time the script is run. Better simulate the usage model for more accurate testing from the controller, and one script can emulate many different users on the system. 73) What is lr_output_message? The lr_output_message is a function that sends notifications to the Managed Output window and to the Vuser log file. 74) In a web server, Databases and Networks are all working fine and now, where could the problem be? The problem might be in the system itself or to the application server or in the code written for the application.75) What is VuGen Recording and Scripting? LoadRunner script code is found in recordings of the CSI language syntax and it can be seen in the script view. 76) What is the LoadRunner performance test? Performance test instances must be performed by calculating the distribution for both read and update transactions and checking whether function systems were performed within an acceptable time frame. In a multi-user environment, it is necessary to determine the effect of multiple transactions on the distribution of a single transaction.77) What is the Setup of systems when using Runner Charge? 19 of system refers to the contents of the client machines in which we will run Vusers. The configuration of client machines includes its hardware environment, memory, operating system, software applications, development tools, etc. This system configuration should match the overall system configuration so as to achieve the load testing goals. 78) What function do lr_abort use? The function lr_abort is used to perform the execution of a Vuser script. It instructs the Vuser to stop implementing the actions section, implementing the vuser_end and end of the execution.79) When thinking? Think time is the time where a real user awaits between actions. When a user receives data from a server or other application, the user can wait several seconds to review the data before they respond. Delay this time is referred to as think time. 80) How Does Runner Load Achieve With The Application? Protocols are used to load Runner to communicate with the application.81) What is the latest version and language used in Runner Load? As of 20-Feb-2013 Load Runner 11.5 is the latest version and Vuser script is used like a language C. After the languages supported by LoadRunner: C Visual Basic Language Scripting Visual Basic for Java Scripting82 applications) What are all the important protocols that load runner support? Following are the protocols that charges running can be supported

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