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| 1. What is Load/Stress/Performance testing?  Ans:  Performance testing is a non-functional [software testing](https://www.microfocus.com/products/performance-engineering/overview) technique that determines how the stability, speed, scalability, and responsiveness of an application holds up under a given workload  Load tests help you understand how a system behaves under an expected load.  Stress tests help you understand the upper limits of a system's capacity using a load beyond the expected maximum.  2. Why we do the Performance testing.  Ans:  Performance testing is a very good platform because of the following reason:.   * It is used to verify the application's response time for the user's numbers which is intended. * It also provides the capacity of load testing of the application to its maximum level. * It also provided the facility for managing the transaction quantity. * Under both the unexpected and expected load of the user, application stability is provided. * It also makes sure that response time is provided to the users properly during production.   3. Different tools through which we can do the performance testing.  Ans:  Apache JMeter:   * It is an important open source tool used to test the performance of both static and dynamic applications. * It is a Java-based application used for [load and performance testing](https://www.testingxperts.com/services/performance-testing/), which is used to test Web applications, SOAP & REST web services, FTP, databases and more. * JMeter is also a widely used performance testing tool, which is effectively used to load test web and mobile applications and measure their performance.   LoadRunner:  * It is the most widely used tool to test applications, measure system behaviour and their performance under varying loads. * The tool is used to simulate thousands of concurrent users and record the variations in system performance   WebLOAD:  * This is a widely used tool by enterprises for [testing web and mobile applications](https://www.testingxperts.com/blog/mobile-app-testing-factors). * It is an effective tool as it combines performance, scalability, and integrity as a single process for testing applications. * It is an alternative to LoadRunner.   LoadView:  * It is used for cloud-based load testing and empowers DevOps teams to efficiently test websites, web-apps, and application programming interfaces (API’s) with thousands of concurrent users   4. What are environments?  Ans:  A software development environment (SDE) is the collection of hardware and software tools a system developer uses to build software systems.  When you are developing software, you probably don’t want your users to see every messy part of your application creation process. In order to make sure you control what people see and when they have access to it, development teams use environments to create “stages” of the app which they consider good for releasing.  Each environment has its own unique purpose. There are different standards of environments which are used in the industry, although almost every process starts at the ‘development’ stage and ends with ‘production’. For a successful performance test, the Performance test environment should be an exact replica of the production environment.  5. What is the workload model?  Ans:   * Workload modelling in performance testing is the process of identifying the number of users or TPH ( transaction per hour) for a load test. * Workload helps us to study the behavior of the system under various identified workload models * Workload models can be designed by predictability, repeatability and scalability. * Example: consider a website which provides online seasonal greeting cards. During festival seasons, the number of visitors will be high, whereas during non-seasonal time, visitors will be minimal. By predicting the number of visitors, one can design workload models accordingly. * Before designing a workload model, it is important to collect relevant data which helps us to create an effective workload model. * Following items are required, in order to design an effective workload model. * Number of concurrent users * Total Transactions to be achieved * Scenario and its Actions * % of total user for an action   6. What is the use of the workload model?  Ans:  The information obtained by workload model helps us in  i) Identifying the performance scenarios.  ii) Test data preparation.  iii) identifying the required number of load generators.  7. What is a User's journey.  Ans:   * A user journey is a path a user may take to reach their goal when using a particular website. * User journeys are used in designing websites to identify the different ways to enable the user to achieve their goal as quickly and easily as possible.   8. What is Thread?  Ans:   * Threads are a way for a program to split itself into two or more simultaneously running tasks. * A thread is contained inside a process and different threads in the same process share some resources while different processes do not. * A Thread Group is the starting point of any Jmeter Test Plan. All the elements of a Test plan must be defined under Thread Group. * A thread group stores the configuration required for Jmeter script execution.   9. What are samplers  Ans:   * *Samplers in JMeter* allow JMeter to send different types of requests to a server. * Samplers are the actual requests, JMeter sends to the web server under test * Some samplers are:  HTTP Request HTTP Request Sampler is used to send HTTP/HTTPS requests to the web server 2: FTP Request FTP Request Sampler allows an FTP “*retrieve/download file*” or “*upload file*” request to an FTP server. 3: JDBC Request JDBC Request Sampler is useful for database testing. It sends JDBC requests consisting of SQL queries to a database. 4: SMTP Sampler SMTP Sampler is used to test a Mail Server where it sends email messages by using SMTP/SMTPS protocol.  10. What is a listener?  Ans:   * Listener allows us to view and analyze the Sampler request and response in the form of tables, graphs, trees etc. * You can also save results in a file and read saved results later. * You can access the sampler result in an ongoing load/stress test without waiting till end. * Listener can be added anywhere in the test plan. It will gather data only from elements defined in its scope.   *List of listeners is as follows:*   * Aggregate Graph * Aggregate Report * Assertion Results * Backend Listener * BeanShell Listener * BSF Listener   11. Why do we use Request Defaults?  Ans:   * When we need to categorize http request under single configuration * When we need to use a configuration for multiple fragment( test request segments) * When we need to dedicate a particular sampler set following a specific http/https request setting   .  12. Create a user journey using the following details.  Load of 10 users.  Ramp up time 10 sec.  Hold time 10 sec.  Request defaults.  View result tree. | | |

