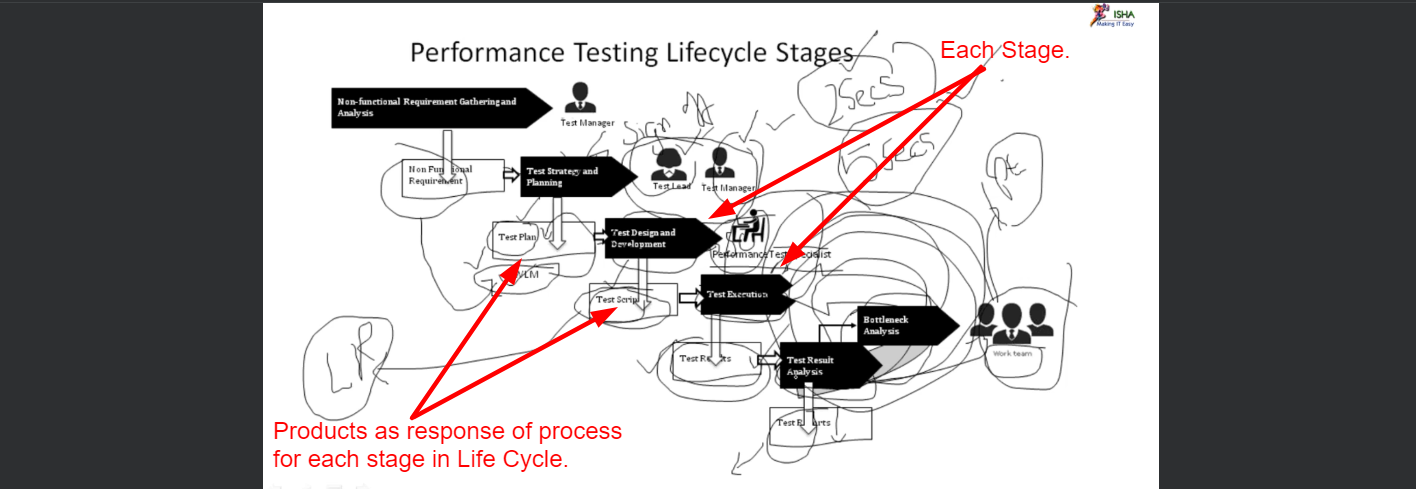
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| --- | --- |
| SDLC | Software Development Life Cycle 🡺 For Developers |
| STLC | Software Testing Life Cycle 🡺 For Manual, System or System Integration Tester. |
| SPLC | Performance Testing Life Cycle. |

As SPLC is part of Software testing, so the life cycle of Performance Testing is as STLC (Software Testing Life Cycle).

It means the stages will be same but the activities in the stages will vary.

Performance Testing Life Cycle:

1. 
2. **Stage 01: Non-Functional Requirement Gathering & Analysis**:
   1. We not only gather system Non-Functional Requirements but also do the analysis along the way like this is possible and this is not possible.  
      Also when analyzing the requirements, we along the way understand those requirements.
   2. **From whom do we gather the requirements (NFR)?**
   3. From stakeholders, Business Team, Client, BA.  
      **BA**: Business Analysist is representative of Stakeholders.  
      They represent stakeholders, business, client (all mean the same).
   4. **Who is responsible to gather this NFR from Stakeholder**?
   5. Ideally, it is Performance **Test Manager**.  
      Sometimes, **Test Lead** will step up to gather NFR.
   6. **What is the output of this Stage?**
   7. Non-Functional Requirement Documents.  
      So, not only gather NFR but also document in a particular Document.  
        
      **Interview Questions**:
   8. What are the challenges you have faced when gathering NFR? 🡸 This Question especially in US.
      1. Sometimes, BA, Stakeholders themselves are not much sure about the Non-Functional Requirements even though they share Business requirement (functional requirement). This is because NFR is new to them.  
         So, this is when as a Performance Testing Expert, you guide them saying that this is what I am expecting from you so that I can do performance Testing.   
         This is the information we need to know:
         1. The peak load.
         2. SLA (Service Level Agreement) = Expected Response Time
         3. Performance Critical Transactions.  
            If not getting that much of info, and still if we are doing Performance Testing, whatever we are doing **it is on my own whim**.  
            So we as performance testers have to educate them to get the information.
      2. **Second Challenge**:
         1. Not single person is responsible for assigning such NFR.  
            Actually, we want one single person responsible but whenever we approach them, they will say okay you want peak load, go to that person, you want SLA, go to that person, you want Performance Critical Transactions, go to that person.  
            So, there is no single person and therefore we have to talk to the gamut of people.  
            Sometimes, it is so stressful as lot of coordination with a lot of people to extract the NFR.
      3. **3rd Challenge**:
         1. Stakeholders want everything related to performance testing to be done but as being performance expert, you have to decide and discuss what is possible and what is not possible.
   9. **Sign-off**: Once we have created the NFR document, we have to send it for sign-off.
      1. Once it is signed off, we will not entertain any changes in general.
      2. Before the sign off, client must think it is what it is needed or do we make some changes.
      3. Once sign-off is given, we will freeze the NRF.
      4. The sign-off is required, as this doc will go into next stage as input.
3. **Stage 02**: Test Strategy and Planning
   1. **Who are involved in this stage?**
      1. **Test Lead**
      2. **Test Manager (Sometimes)  
         No hard and fast rule as it changes from company to company and project to project but this is a general ballpark(:estimation).  
         There are many occasions noticed by mentor where test plans are created by Test Manager or many times by Test Lead and Test Manager will do a peer review.  
         Test Manager helps Test Lead where he has to get a particular info and final doc is reviewed by Test Manager.  
         So, sometimes combined efforts of them or sometimes efforts from one of them.**
   2. So, in this stage, we plan how to go ahead and do your performance testing. Like🡺
      1. What kinds of tools we will use.
      2. How many resources we need.
      3. What are the environments we need like what should be in “Production like environment” for performance testing.  
         Who are the people who will make environment available to you.
      4. What is the **contingency plan** like if a tool fails, then what is the plan B.
      5. What is the exist and entry criteria.
      6. **WLM**: Work Load Modelling is also very important part of Test Plan.  
         WLM becomes an input for your test plan.
   3. Once this stage docs are prepared, they are sent for sign-off.
4. **3rd Stage:** Test Design and Development.
   1. This is the time when Performance Test Specialist (some people call it as test analyst or non-functional tester) come into picture.
   2. They will go through the Test Plan Docs created in Stage 2 and then will start writing Test Script.
   3. If Load Runner was planned in Stage 2, then they will start writing script for Load Runner and they need to be good at LoadRunner.  
      If you are good, you can call yourself as Performance Test Specialist.
5. **4Th Stage**: Test Execute
   1. The same Performance Test Specialist will execute the script.
   2. We will get Test Results as output.
   3. The foremost important thing is what is speed for all transactions.
      1. Basically, what is end-to-end transaction response time.
      2. There are other things we will check which we will discuss later on.
   4. If SLA 2 and but in actual it is 5, then we are not happy.
6. **5th Stage**: Test Analysis
   1. If happy, we create a report 🡺 Test Results and close the testing.
   2. If not happy,
      1. **6th Stage**: If not happy
         1. We will do bottleneck analysis?
            1. If performance engineer is there, they will do but a lot of companies do not afford them.  
               So, a whole team will do it like Developers, Performance Testers, Network Administrator, DB Guys.
            2. If the problem is with DB, then DB Admin will look into this,   
               if with network, then networking team etc.   
               Usually, Developers will take the lead. They are the ones who will coordinate with all the guys.  
               If there is performance engineer, they will take the lead.