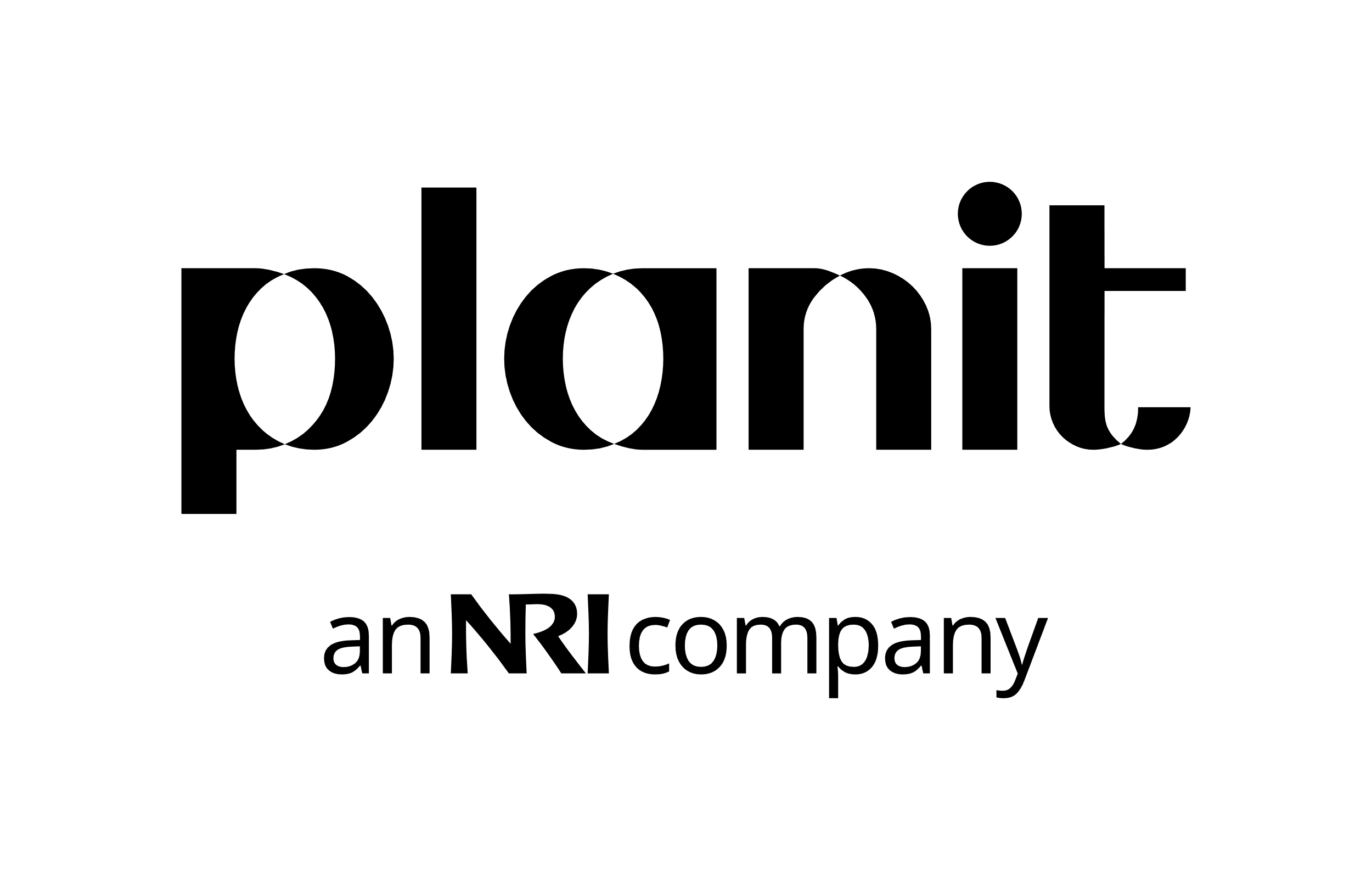
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**Module 1 - Assessment**

Performance Fundamentals

# Overview

Please complete the below assessment as promptly as possible.

Submissions must be in a private Github repository name matching your name. For example, *github\_username/john.smith*

Please provide access to the below email accounts (Settings > Manage Access > Invite Collaborator): [gojeah@planittesting.com](mailto:gojeah@planittesting.com) ; [jwhittaker@planittesting.com](mailto:jwhittaker@planittesting.com) ; << INSERT ADDITIONAL REVIEWERS >>

We will review your response and respond with feedback within 5 days.

# Questionnaire

1. What is the purpose of performance testing?

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| Performance testing is conducted to evaluate how a system performs in terms of responsiveness, stability, scalability, and reliability under a particular workload. The primary purpose of performance testing is to ensure that software applications, websites meet the expected performance benchmarks and requirements. |

1. What could the impacts be on a business of not conducting performance testing or allowing know performance issues into production?

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| 1. Poor User Experience: This can frustrate users, reduce customer satisfaction, and damage the reputation of the business. 2. Loss of Customers: Users have plenty of alternatives, and if they encounter performance issues with a particular application or website, they may switch to competitors. 3. Decreased Revenue: Performance problems can directly impact revenue generation, especially for businesses that rely on online transactions or ad revenue. 4. Legal and Compliance Risks: Depending on the nature of the business, performance issues could lead to legal consequences or compliance violations. For example, if an e-commerce site experiences downtime during a peak sales period, it may violate service level agreements or consumer protection laws. |

1. Name the types of performance tests

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| Types of performance testing are,   1. Load testing. 2. Stress testing. 3. Endurance/soak testing 4. Spike testing. 5. Scalability testing 6. Volume testing 7. Capacity testing. |

1. What test type would be used to pick up memory leaks and establish long term stability

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| Endurance testing helps monitor the system's performance and resource usage over time, while volume testing helps simulate realistic data scenarios to uncover potential memory management issues.  Combining endurance testing with volume testing provides a comprehensive approach to detecting memory leaks and establishing long-term stability in a system |

1. What Test type(s) would be used to test expected black Friday traffic? This is not a simple answer.

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| Load Testing  Stress Testing  Scalability Testing  Volume Testing  By combining these performance testing types, businesses can ensure that their systems are well-prepared to handle the expected Black Friday traffic without performance degradation, downtime, or other issues that could impact user experience and revenue generation during this critical sales event. |

1. Explain HTTP response code groups purpose. A description for the following groups: 1XX, 2XX, 3XX 4XX 5XX

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| HTTP response codes are standardized status codes returned by web servers in response to a client's request to indicate the outcome of the request. These codes are grouped into different categories based on their ranges, each serving a specific purpose. Here's an explanation of the purpose and general meaning of each group:  1XX - Informational Responses: These status codes indicate that the server has received the request and is continuing the process. They provide informational responses to indicate that the request is being processed or further action is required by the client.  2XX - Success Responses: These status codes indicate that the request was successfully received, understood, and accepted by the server. They signify that the client's request was processed successfully.  3XX - Redirection Responses: These status codes indicate that further action needs to be taken by the client to complete the request. They are used for redirection and indicate that the client should take action to access a different resource or URL.  4XX - Client Error Responses: These status codes indicate that there was a problem with the client's request. They are returned when the server understands the request but cannot fulfill it due to client-side errors such as invalid syntax, unauthorized access, or missing resources.  5XX - Server Error Responses: These status codes indicate that there was an error on the server's side while processing the request. They are returned when the server encounters an unexpected condition that prevents it from fulfilling the request. |

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