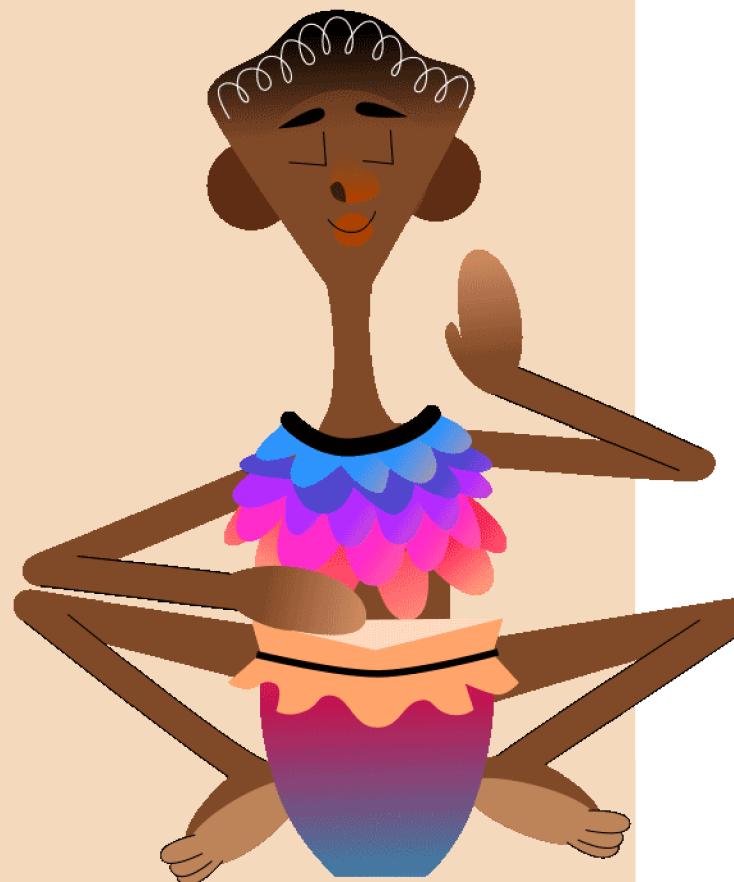
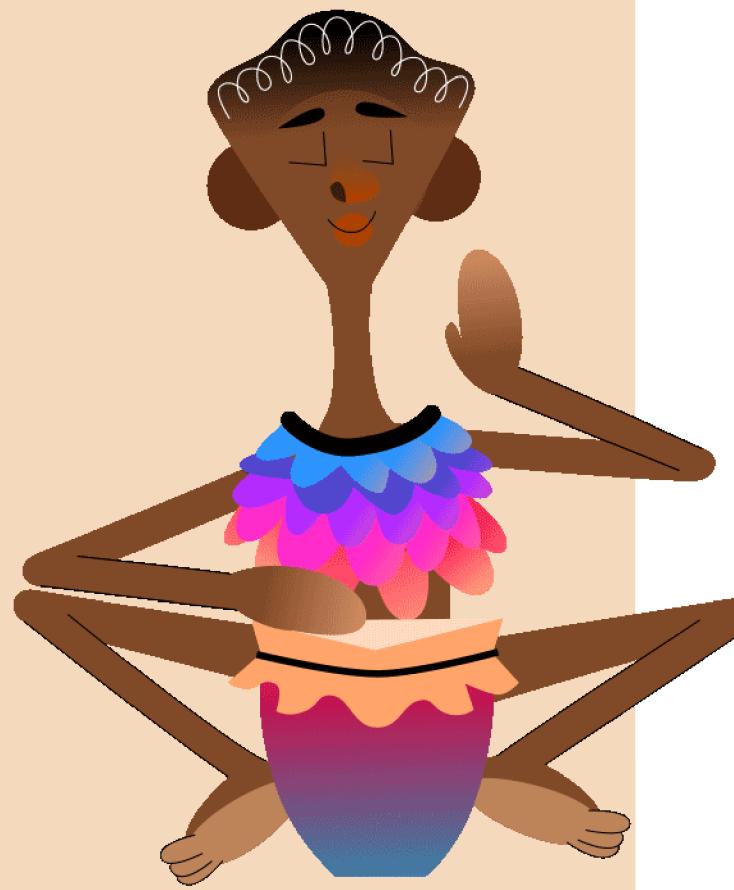


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PERFORMANCE TESTING



PERFORMANCE TESTING

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PERFORMANCE TESTING

WHAT TO EXPECT



- 1** Definition
- 2** Scenarios
- 3** Process
- 4** Advantages
- 5** No Performance Testing - Side Effects

What is Performance Testing ?

Putting your software through a wild and crazy workout session to see if it can handle the digital equivalent of

1. running a marathon,
2. doing a hundred push-ups,
3. and solving a Rubik's Cube all at once.



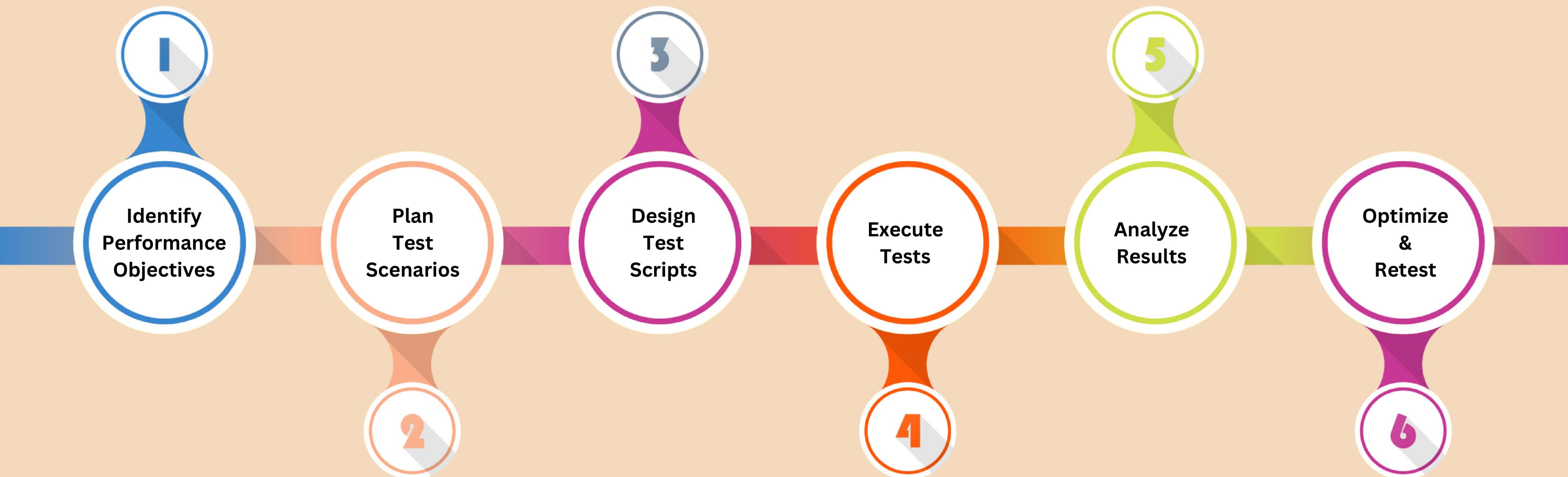
What is Performance Testing ?

Performance testing is a vital software testing process that evaluates the speed, responsiveness, stability, and scalability of a system under specific workload conditions. It ensures that software applications can perform optimally and meet user expectations in real-world scenarios.

Performance Testing Scenarios

- **Load Testing:** Simulating real-world user loads to assess the system's behavior under expected and peak usage conditions.
- **Stress Testing:** Applying extreme workloads to determine the system's breaking point and understand how it recovers from failures.
- **Soak Testing:** Monitoring the system's performance over an extended period to identify any potential performance degradation or resource leaks.
- **Spike Testing:** Evaluating how the system handles sudden, significant increases in workload to ensure it can cope with unexpected traffic surges.
- **Scalability Testing:** Measuring the system's ability to handle increased workload by adding resources, such as servers or bandwidth.

Performance Testing Process

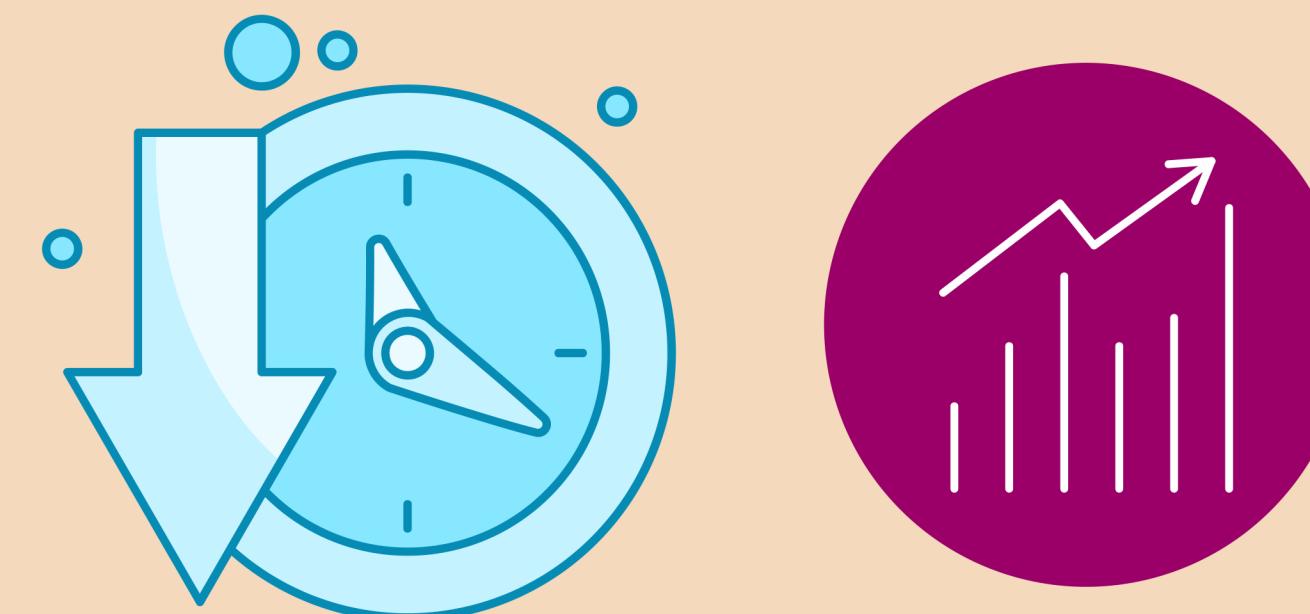


Performance Testing Process

1. **Identify Performance Objectives:** Define measurable performance goals and expectations based on user requirements.
2. **Plan Test Scenarios:** Determine the workload models, test environment, and performance metrics to be measured.
3. **Design Test Scripts:** Create scripts that simulate user interactions and define data sets for realistic test scenarios.
4. **Execute Tests:** Run performance tests, monitor system behavior, measure response times, and collect performance metrics.
5. **Analyze Results:** Analyze performance data, identify bottlenecks, and make recommendations for optimization and improvements.
6. **Optimize and Retest:** Implement suggested enhancements, retest the system, and compare results with previous performance tests.

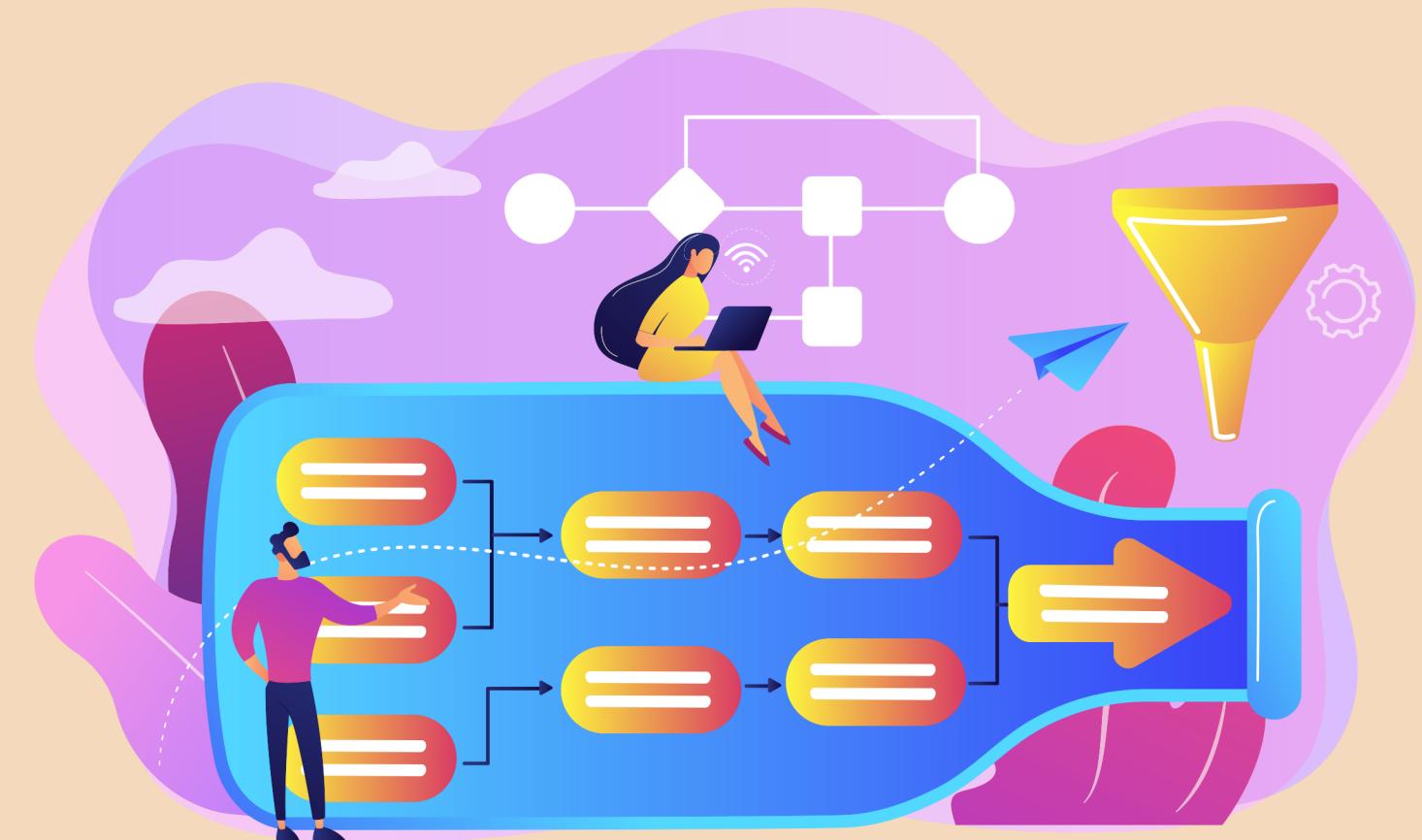
Advantages of Performance Testing (1/3)

- **Prevents Downtime and Revenue Loss:** Performance testing helps identify system weaknesses, ensuring proactive measures are taken to prevent potential downtime, financial losses, and reputation damage.
- **Supports Scalability Planning:** Performance testing assists in evaluating the system's capacity and scalability to handle future growth, allowing for effective resource planning.



Advantages of Performance Testing (2/3)

- **Enhances User Experience:** Performance testing ensures that applications respond quickly and provide a seamless user experience, leading to higher satisfaction and engagement.
- **Identifies Bottlenecks:** By stress testing and load testing, performance testing identifies performance bottlenecks and helps optimize the system for better efficiency.



Advantages of Performance Testing (3/3)

Improves Software Quality: By addressing performance issues early in the development cycle, performance testing contributes to overall software quality and reliability.



No Performance Testing - Side Effects (1/3)

- **Poor User Experience:** Without performance testing, applications may suffer from slow response times, crashes, or unresponsiveness, leading to frustrated users and loss of credibility.
- **Lost Business Opportunities:** Inadequate performance can result in lost customers, as users may abandon slow or unresponsive applications and turn to competitors.



No Performance Testing - Side Effects (2/3)

- **Increased Support and Maintenance Costs:** Without performance testing, hidden performance issues may go unnoticed, requiring costly troubleshooting and frequent maintenance



No Performance Testing - Side Effects (3/3)

- **Missed Scalability Potential:** Neglecting performance testing can lead to scalability limitations, hindering the system's ability to handle increasing user loads or business growth.
- **Potential Reputation Damage:** Performance problems can tarnish a brand's reputation, impacting customer trust and loyalty, ultimately resulting in long-term negative consequences.





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See you in Next Video

