



# Testing Software Quality Characteristics – Part 1

## Performance Testing

# Objective

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## Objective

Utilize strategies  
for performance  
testing

# Performance Testing



## | Objective

| **Verify that the system meets its performance requirements for specified load conditions including stress and volume scenarios.**

# Entry Criteria for Performance Testing



| Quantitative and measurable performance requirements

| Reasonably stable system

| Test environment representative of customer site

| Tools

- Load generator
- Resource monitor

# Test Data Management



| Growing complexity and volume of data in today's applications requires emphasis on test data management

| Full data sets replicating real data from operational system is ideal

# Exercise



- | Assume you are a system tester for a new airline reservation system.
- | Discuss how to improve the following performance requirement:
  - “The airline reservation system shall have excellent response time.”

# Load Specification



**| For relevant use-cases it is important to specify performance requirements in terms of load**

**| Load may reflect:**

- Different volumes of activity
  - Busy hour in a cell phone system
  - Same call profile used
- Different mixes of activity
  - Earthquake or tornado in a cell phone area
  - Different call profile

# Varying Load During Performance Testing



| For relevant use-cases the load should be varied and response time tracked

- Verify performance requirements

| Resource usage can also be tracked as the load is varied to identify potential bottlenecks or sources of performance problems



# Summary

