 **SRS** for JMeter Testing of **Microsoft Teams:**

**1. Introduction:**

This document defines the Software Requirements Specification (SRS) for Microsoft Teams 2023.

It covers functional and non-functional requirements, including detailed testing objectives, types

of testing, and the tools used to perform those tests. The focus is on validating core features,

performance, security, scalability, mobile compatibility, and user experience.

**2. Scope:**

This SRS document covers the following functionalities:

Cross-Platform Compatibility: Ensuring that Microsoft Teams works seamlessly across platforms (Windows, macOS, iOS, Android, Web).

Core Features: Including messaging, video calls, meetings, file sharing, and app integrations.

Performance & Load Testing: Ensuring scalability and optimal performance under load.

Security and Compliance: Ensuring data protection and adherence to security standards.

Mobile Testing: Verifying mobile-specific functionalities such as notifications, background tasks, and syncing.

**3. Objectives:**

The objectives of this SRS document include:

Verify Core Functionality: Ensure the key features of Teams (messaging, calling, meetings) work reliably across platforms.

Validate Performance and Scalability: Ensure that Teams can handle high loads and perform well under stress conditions.

Ensure Security and Compliance: Validate the system’s compliance with security standards like encryption and authentication.

Mobile & Cross-Platform Testing: Test seamless synchronization and user experience across devices.

Test App Integrations: Ensure Microsoft 365 apps and third-party integrations function as expected.

Optimize User Experience: Ensure the UI/UX is intuitive and consistent.

**4. Testing Overview:**

Testing for Microsoft Teams 2023 will be conducted in several phases to ensure that all functional and non-functional requirements are met. Testing will include:

* Functional Testing: Verifying that each feature works as expected (e.g., sending messages, making calls).
* Performance Testing: Verifying system performance under varying load conditions.
* Security Testing: Verifying that the system is secure, including data encryption, access control, and compliance with regulations.
* Usability Testing: Ensuring that the user interface is intuitive and provides a smooth user experience.
* Compatibility Testing: Ensuring that the app works on all supported devices and browsers.
* Regression Testing: Verifying that new updates don’t negatively affect existing functionality.

**5. Testing Types:**

**5.1 Functional Testing**

Objective: Verify that core functionalities such as messaging, calling, video conferencing, and file sharing work as intended.

Test Focus:

Verify that messages, group chats, and threads are sent and received correctly.

Test video and audio call functionality (one-on-one and group calls).

Test file upload, download, sharing, and collaboration features.

Verify meeting scheduling, joining, and permissions.

**5.2 Performance Testing**

Objective: Assess the performance of Microsoft Teams under different load conditions.

Test Focus:

Validate response times for sending messages, making calls, and uploading files.

Measure system resource consumption (CPU, memory, network usage) under heavy loads.

Stress tests the system to ensure it can handle high numbers of concurrent users.

**5.3 Security Testing**

Objective: Ensure that data is securely transmitted and stored, and user access is properly controlled.

Test Focus:

Verify data encryption in transit (TLS) and at rest (AES-256).

Test role-based access control (RBAC) and guest user permissions.

Validate multi-factor authentication (MFA) during login and account recovery.

Verify that audit logs are functioning properly for tracking user activities.

**5.4 Usability Testing:**

Objective: Ensure that the user interface (UI) and overall user experience (UX) meet usability standards.

Test Focus:

Evaluate ease of use of the Teams interface (sending messages, setting up meetings, etc.).

Verify that UI elements are properly aligned and the layout is responsive across different devices.

Ensure that push notifications and alerts are functional and timely.

**5.5 Compatibility Testing**

Objective: Ensure Microsoft Teams works across different devices, operating systems, and browsers.

Test Focus:

Test Teams on Windows, macOS, iOS, Android, and Web.

Verify compatibility with different web browsers (Chrome, Firefox, Safari, Edge).

Test for feature consistency across platforms (e.g., message sync, meeting participation).

**5.6 Regression Testing**

Objective: Ensure that new updates or features do not break existing functionality.

Test Focus:

Re-test previous features after each new release or update to ensure existing functionality remains intact.

**6. Testing Tools**

Below are the testing tools that will be used for different types of testing for Microsoft Teams 2023:

**6.1 Functional Testing Tools**

Manual Testing (Excel & Jira):

Excel: Used for tracking test cases, test scenarios, and logging results manually during functional testing. Test cases will be documented in Excel sheets, and test progress and defects will be tracked using Jira.

Jira: Used for managing test cases, defect tracking, and project management. Test cases are logged in Jira and linked to respective issues or features. Testers will use Jira to report issues encountered during testing, track test execution, and manage the overall progress of the testing phases.

**6.2 Automation Testing Tools**

**Eclipse:**

Eclipse is an integrated development environment (IDE) used for developing and running Java-based automation scripts. It will be used to develop and execute Appium automation scripts for testing the mobile versions of Microsoft Teams (iOS/Android).

**Android Studio:**

Android Studio will be used for mobile-specific testing and automation. It's used to create Android-specific test environments and run automated tests on Android devices or emulators. The integration with Appium will allow automated testing of the Teams app for Android.

**Appium:**

Appium is an open-source tool for automating mobile applications on Android and iOS. It will be used to automate UI tests for Microsoft Teams, such as testing messaging, calling, and meeting features on mobile devices (both Android and iOS).

**Appium Server:** The Appium server will be set up to facilitate automation by creating and managing sessions for testing across mobile platforms.

**Appium Inspector:** Appium Inspector will be used for inspecting and interacting with the mobile app’s UI elements in order to create and refine automated test scripts.

**6.3 Performance Testing Tools**

**JMeter:**

JMeter will be used for performance and load testing of Microsoft Teams 2023. It will simulate a large number of virtual users to test how the application performs under different load conditions, such as sending messages, joining video calls, and uploading files. Key performance metrics such as response time, throughput, and error rates will be monitored during testing.

**7. Conclusion**

This SRS document outlines the key testing objectives, testing types, and tools to be used for validating Microsoft Teams 2023. The testing approach includes a blend of functional, performance, security, usability, and compatibility testing, ensuring that the application meets the required quality standards across all supported platforms.