

TABLE OF CONTENTS

Executive Summary	7
Glossary	10
Define QA Ownership and Accountability	12
Step 1 Assign Clear QA Ownership	12
Step 1.1 Identify Decision-Makers and Approvers.....	12
Step 1.2 Clarify Everyone’s Role in Testing	12
Step 1.3 Map Responsibilities with a QA RACI Matrix.....	12
Set the Foundation for Testing Excellence	14
Step 2 Define Measurable Testing Goals.....	14
Step 2.1 Document Your Test Policy and Guiding Principles	14
Step 2.4 Establish QA KPIs and Reporting Rhythm	20
Ensure Reliable Test Data and Aligned Environments	21
Step 3 Prepare Test Data and Environments for Real-World Scenarios.....	21
Step 3.1 Apply Data and Environment Core Principles	21
Step 3.2 Implement a Secure Test Data Management Plan.....	23
Step 3.3 Maintain Test Environment Consistency and Parity	26
Step 3.4 Build Your Data and Environment Roadmap.....	27
Plan QA Activities for Every Release	30
Step 4 Plan each release or sprint.....	30
Step 4.1 Document the Release Test Plan.....	30

Step 4.2 Prioritize by Risk and Business Impact	30
Step 4.3 Align Test Types with Risks and Goals	30
Step 4.4 Build a QA Resource and Schedule Plan (optional).....	30
Design Effective Tests and Manage QA Assets.....	31
Step 5 Develop and Organize Test Assets	31
Step 5.1 Standardize Test Asset Naming and Formats.....	31
Step 5.2 Link Tests to Requirements with a Traceability Matrix	31
Step 5.3 Define Clear Defect Reporting Rules	31
Execute Tests and Manage Defects Effectively.....	32
Step 6 Execute tests and manage defects.....	32
Step 6.1 Plan Execution Cycles and Test Environments.....	32
Step 6.2 Execute tests and record results	33
Step 6.3 Control the Defect Lifecycle and Triage Efficiently	33
Automation Strategy	34
Step 7 Automate wisely.....	34
Step 7.1 Build an Automation Roadmap.....	34
Step 7.2 Launch and Validate a Pilot Automation Project	38
Step 7.3 Implement Unit Testing Foundations.....	40
Step 7.4 Automate Integration-Level Tests	43
Step 7.5 Build End-to-End Test Cases Automation	45
Step 7.6 Nightly Automated Regression Testing Process	47
Step 7.7 Create and Maintain a Regression Suite.....	52
Step 7.8 Performance and Security Test Automation.....	56

Step 7.9 Scale Automation and Continuously Improve.....	63
NON-FUNCTIONAL Testing.....	66
Step 8 Validate Performance, Security, and Reliability	66
Step 8.1 Define and Enforce Non-Functional Standards.....	66
Step 8.2 Implement performance testing plan	66
Step 8.3 Integrate Security Checks into Each Cycle	67
Release and Deployment Strategy	73
Step 9 Plan Safe and Controlled Releases	73
Step 9.1 Define release types and rules.....	73
Step 9.2 Prepare Rollback and Canary Procedures.....	73
Step 9.3 Build a Production Verification Checklist.....	73
Monitor, Learn, and Improve After Release	74
Step 10 Measure and Learn from Every Release	74
Step 10.1 Set Post-Release KPIs and Alerts.....	74
Step 10.2 Establish Incident Response and Post-Mortems.....	74
Step 10.3 Feed incidents into the backlog.....	74
Drive Continuous QA Evolution.....	75
Step 11 Continuously Improve QA Maturity	75
Step 11.1 Conduct QA-Focused Retrospectives	75
Step 11.2 Perform Regular QA Audits.....	75
Step 11.3 Keep QA Skills and Onboarding Updated	75
Implement QA in 30, 60, 90 Days	76
Launch the Minimum Viable QA Framework in 30 days.....	76

Stabilize Processes and Begin Automation in 60 days	76
Scale QA Operations and Optimize Performance in 90 days.....	77