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**Test Case Execution Process  
FOR**

**Testing Department**

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**Approving Authority:**

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# Purpose

1. 100% Defect free Code.

# Glossary

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| **Words** | **Meaning** |
| FS | Functional Specifications |
| CR | Change Request |
| ASQAE | Assistant Software Quality Assurance Engineer |
| SQAE | Software Quality Assurance Engineer |
| SSQAE | Senior Software Quality Assurance Engineer |
| TTL | Testing team lead of the Project |
| QAM | Quality Assurance Manager |
| PM | Project Manager |
| DEV | Development |
| Tester | The member who is writing Test Cases. The Member can be any Designation from following List:   * ASQAE * SQAE * SSQAE |
| Test Point | Testable functions identified against requirements |
| Test Case | A set of input values, execution precondition, expected results and executed post condition, developed to cover certain test condition. |
| Test Plan | A document describing the scope, approach, resources and schedule of intended test activities. |
| Defect | Defect is the difference between expected and actual result in the context of testing |
| TFS | Team Foundation Server |

# Process Owner

* QAM

# Entry Criteria

It includes followings:

## Input(s)

* SDLC state is set to ‘Ready for Testing’.
* Branch Configured (Code is checked in on TFS against Branch)

## Control(s)

|  |  |
| --- | --- |
| Test Cases | Test Cases written against FS/CR |
| Test Cases Execution Guideline | Mentioned in ‘Test Case Execution Guidelines’ Document |
| **Defect Reporting Guidelines** | Mentioned in ‘Test Case Execution Guidelines’ Document |
| **Defect Reason Guidelines** | Mentioned in ‘Test Case Execution Guidelines’ Document |

## Mechanism (Tool & Techniques)

* Quality Center Tool (QC)

# Process

1. Tester changes the SDLC state ‘Ready for Testing’ to ‘QA Acceptance Testing’.
2. Tester executes ‘Acceptance’ Test Cases.
3. Tester logs the Defects against failed Test Cases under ‘Acceptance Cycle’.
4. Tester verifies the fixes provided by DEV.
5. Tester continues Test Case execution if all Acceptance Test Cases passed.
6. Tester changes the SDLC state ‘QA Acceptance Testing’ to ‘Testing’.
7. Tester executes all Test Cases step by step under ‘Test Cycle 1’.
8. Tester marks the Test Case status as Pass/Fail.
9. Tester logs the Defects against failed Test Cases.
10. Tester sends ‘Test Cycle 1’ completion report to TTL.
11. TTL reviews the Test Cases execution and provides feedback.
12. Tester logs the Defects, identified during TTL review.
13. Process steps 10 to 12 continue till finalized by TTL.
14. Tester shares the ‘Test Cycle 1’ report with DEV team.
15. DEV fixes Defects and select the appropriate Defect Reason.
16. DEV sends the fixes to Tester.
17. Tester deploys the provided code in the hosted Branch.
18. Tester verifies the fixed Defects and mark their status ‘Closed’.
19. Tester executes all Test Cases step by step under ‘Test Cycle 2’.
20. Process steps 7 to 19 continue till all Defects closed.
21. Tester gives go ahead for CR to be Baselined.

# Procedure

### Tester moves the CR state from ‘Ready for Testing’ to ‘QA Acceptance Testing’ in TFS.

1. Tester creates Test Case hierarchy in Test Lab w.r.t Test Plan.

### Tester executes ‘001-Acceptance’ Test Cases and marks the status as per ‘Test Case Execution Guideline’.

1. Tester logs the Defect in QC if any Acceptance Test Case fails by following ‘Defect Reporting Guidelines’.
2. Tester shares the ‘Acceptance Cycle’ status with the respective DEV, TTL, PM and QAM.
3. DEV provides the Defects fixes to Tester.
4. Tester deploys the latest package on the hosted environment.
5. Tester verifies ‘Acceptance Cycle’ defects and marks all verified Defects as ‘Closed’.
6. Tester proceeds with ‘Test Case Execution’ if all Acceptance Test Cases passed.

### Tester moves the CR state from ‘QA Acceptance Testing’ to ‘Testing’ in TFS.

1. Tester executes all Test Cases step by step under ‘Test Cycle 1’.
2. Tester marks the Test Case status as **Pass/Fail**.
3. Tester logs the Defect in QC if any Test Case fails against ‘Test Cycle 1’.
4. Tester sends ‘Test Cycle 1’ completion report to TTL via email.

### TTL reviews the Test Case Execution report and provides feedback.

1. Tester logs the Defects in QC, identified during TTL review.
2. Process steps 14 to 16 are repeated till finalized by TTL.
3. Tester shares the ‘Test Cycle 1’ status report with respective DEV, TTL, PM and QAM.
4. DEV fixes Defects and selects the appropriate Defect Reason.
5. DEV provides the Defects fixes to Tester.
6. Tester deploys the latest package on the hosted environment.
7. Tester verifies ‘Test Cycle 1’ Defects and updates the status accordingly.
8. Tester ensures the Defect Reason provided by the DEV is appropriate as per the Defect Reason Guidelines.
9. Process steps 13 to 23 are repeated for ‘Test Cycle 1’, till the status of all Defects is updated to Closed/Future Release/Tool Limitation.
10. Process steps 13 to 24 are repeated for ‘Test Cycle 2’.

### Test Cycles are repeated till all defects are Closed or a Management decision is taken as per Defect Reason Guidelines.

1. If Management doesn’t decide to put the CR ‘On Hold’ then following steps (28 to 31) would be taken.
2. Tester closes the Test Case Execution activity.
3. Tester shares the final Testing status report with respective DEV, TTL, PM and QAM.
4. Tester prepares BAF for CR to be Baselined with QAM approval.
5. Tester moves the CR state from ‘Testing’ to ‘Ready for Deployment’ in TFS.

# Duration

This process shall be completed when ‘Ready for Deployment’ status is set in TFS.

# Related Processes

*Hint: Mention the dependent process in this area.*

Followings are the dependent processes:

1. Testing-Test Points
2. Testing-Test Case
3. Defect Reporting guidelines

# Notes

1. Tester changes the SDLC to ‘Ready for deployment’ by selecting ‘100% Done’ in ‘QA Status’ drop down menu in TFS. Tester has to make sure that all bugs are ‘Closed’ in QC when selecting this option.
2. Tester changes the SDLC to ‘Ready for deployment’ by selecting ‘In Progress’ in ‘QA Status’ drop down menu in TFS. Tester chooses this option when testing is still in progress and Tester is enforced to merge CR on Baseline code because of any constraint approved by QAM/PM. It may include ‘Known Issues’.
3. Tester changes the SDLC to ‘Ready for deployment’ by selecting ‘Known issues’ in ‘QA Status’ drop down menu in TFS. Tester chooses this option when testing is completed with issues still open on QC and Tester is enforced to merge CR on baseline because of any constraint approved by QAM/PM.

# Exceptions

QAM/PM may bypass a Process/Process-step by stamping and providing a rationale in TFS. In addition, QAM/PM may provide alternate approach.

# Output

1. Defect-free code; ready to be shipped.

# Metrics

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| --- | --- | --- |
| **Sr.** | **Points** | **Consideration** |
|  | Number of Test Cycles. | * The lesser the number of Cycles, the higher the DEV quality. |
|  | Number of Defects identified in TTL review. | * This will provide Tester Quality. |
|  | Test Cycle wise Number of Defects. | * It will indicate the quality of Development work. |
|  | ‘Severity’ wise Number of Defects. | * It will indicate the quality of Development work. * It will indicate the efficiency of Tester. |
|  | ‘Category’ wise Number of Defects. | * It will indicate the quality of Development work. |