SoftServe

Empowering your Business through Software Development

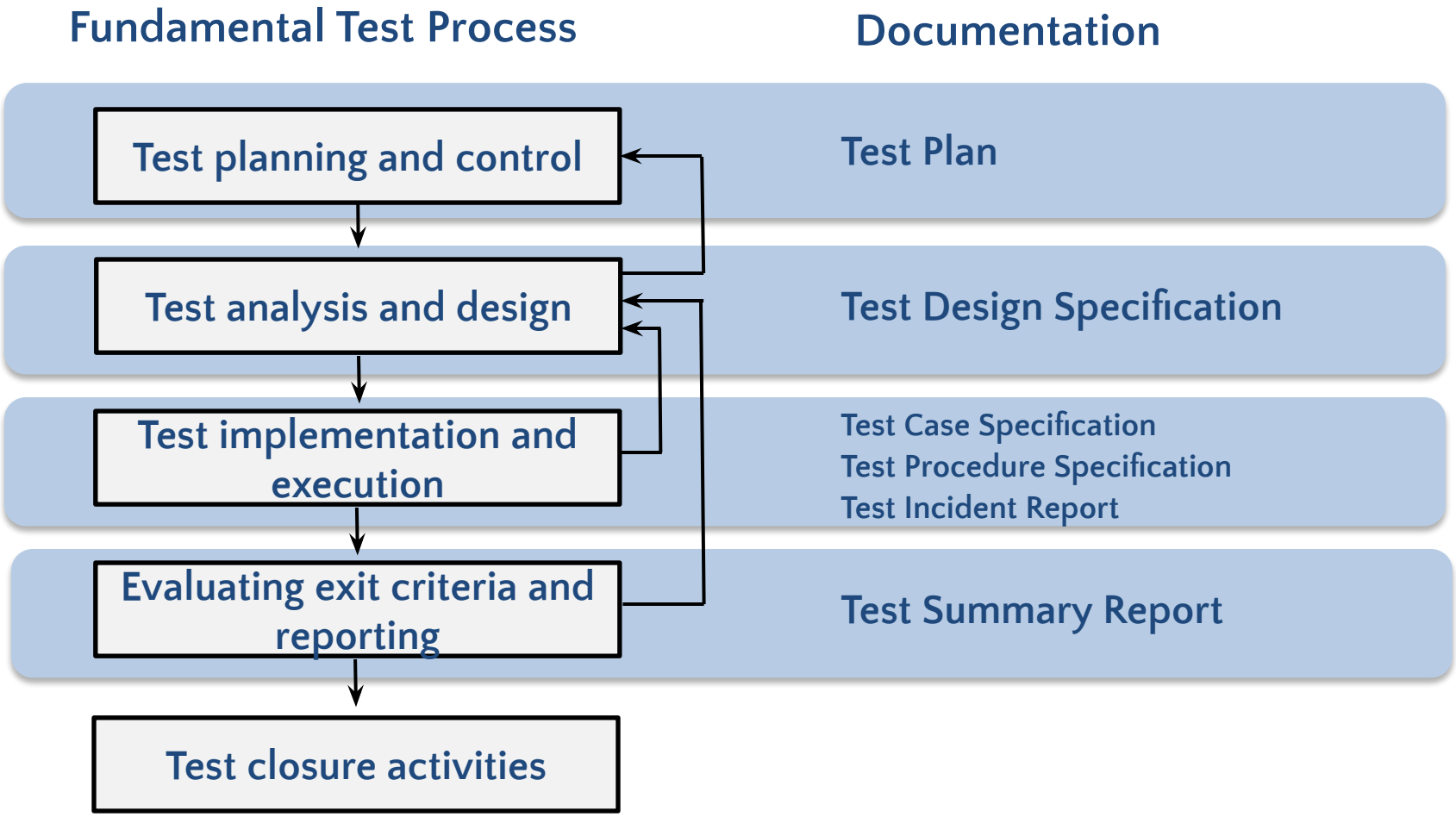
Test Documentation Overview

October 2014

Agenda

- *Test Policy*
- *Test Strategy*
- *Test Plan*
- *Test Design Specification*
- *Test Case, Test Scenario, Checklist*
- *Test Case Specification*
- *Test Procedure Specification*
- *Test Incident Report*
- *Test Summary Report*
- *Level of formality for Test Documentation*

Test Documentation



Test Policy

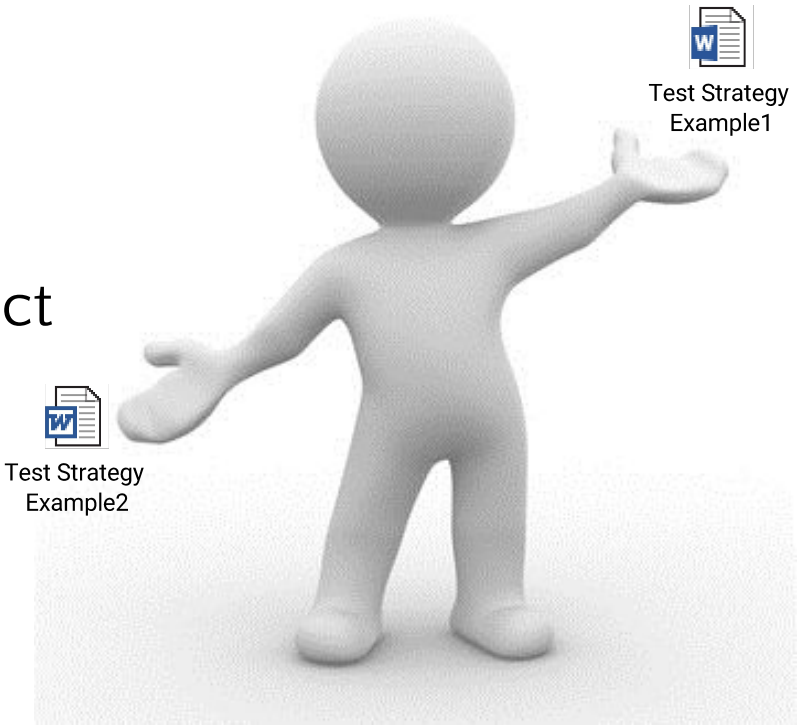
Test Policy it's a high level document describing the principles, approach and major objectives of the organization regarding testing.

- ✔ What "Testing" means for organization
- ✔ High-level rules for testing
- ✔ How organization measures test success
- ✔ Quality Level to be achieved

Test Strategy

Test Strategy it's a high-level description of the test levels to be performed and the testing within those levels for an organization or program (one or more projects).

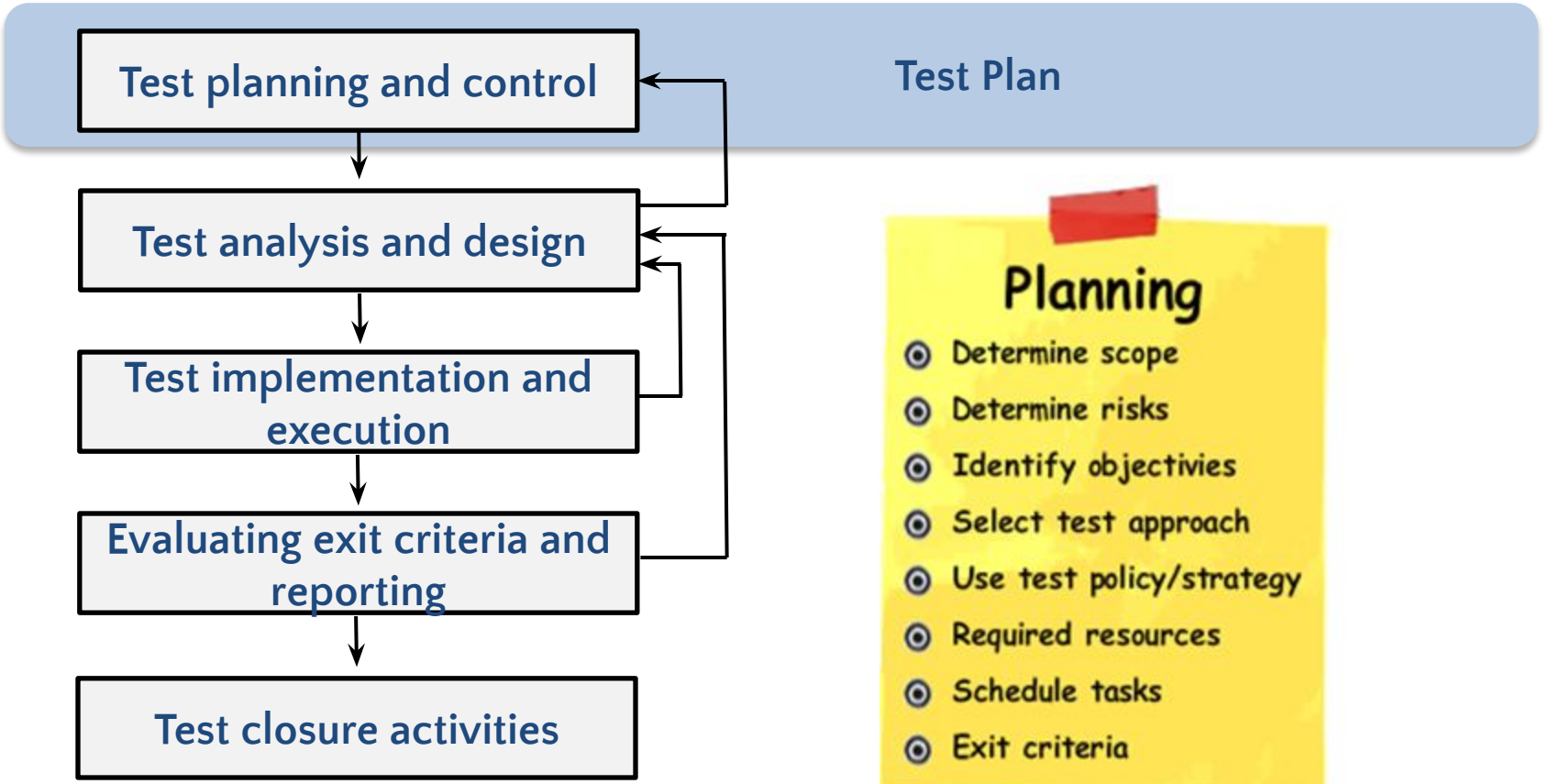
- ✔ Testing objectives
- ✔ Methods of testing
- ✔ Total time for testing
- ✔ Resources required for the project
- ✔ Testing environment



Test Planning

Test Planning

Test Plan it's a document describing the scope, approach, resources and schedule of intended test activities.



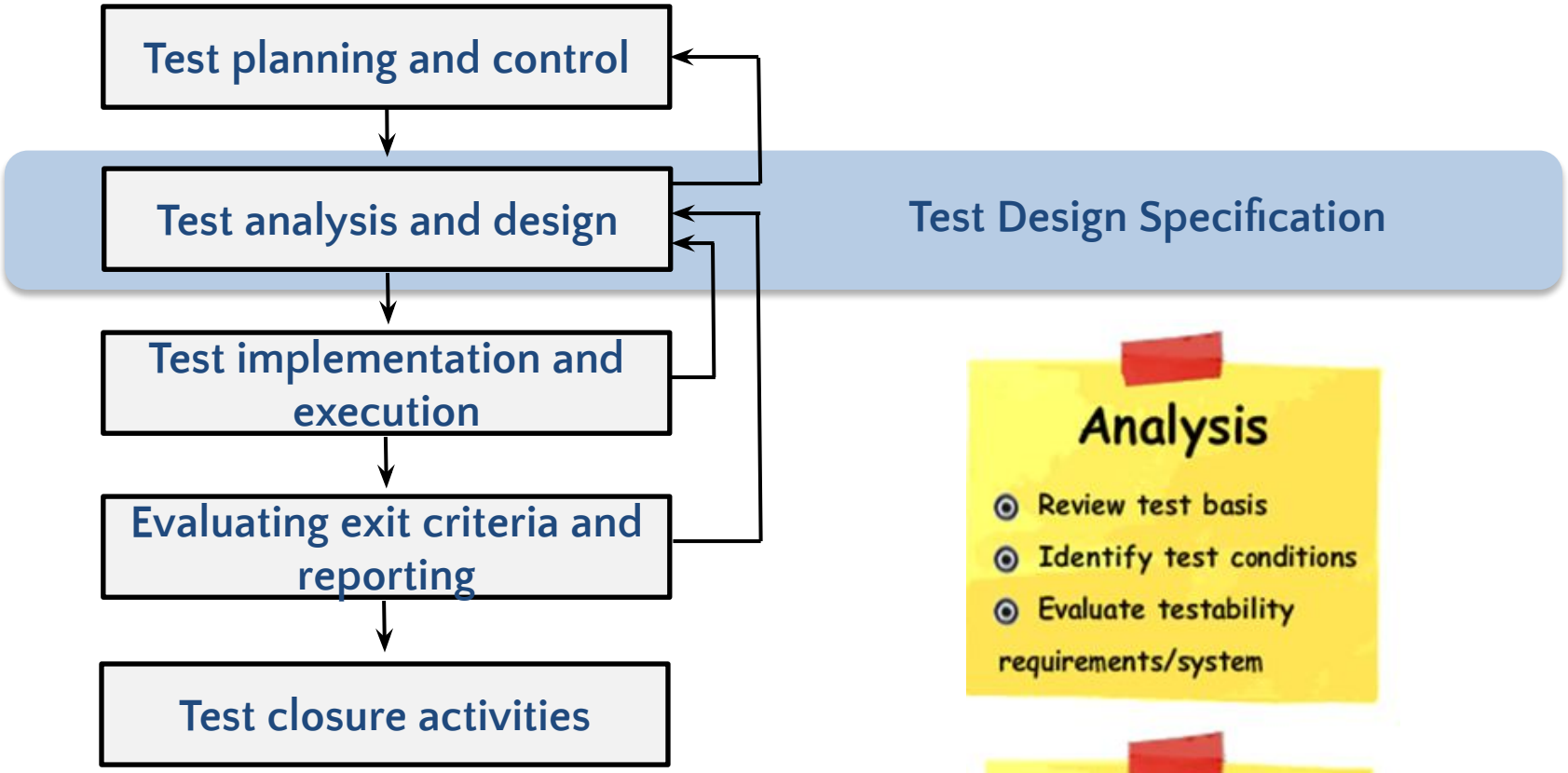
Test Plan

According to IEEE 829 Test Plan consists of:

- ✔ Test Plan identifier
- ✔ Introduction
- ✔ Test items
- ✔ Features to be tested
- ✔ Features not to be tested
- ✔ Approach
- ✔ Item pass/fail criteria
- ✔ Suspension criteria and resumption requirements
- ✔ Test deliverables
- ✔ Testing tasks
- ✔ Environmental needs
- ✔ Responsibilities
- ✔ Staffing and training needs
- ✔ Schedule
- ✔ Risks and contingencies
- ✔ Approvals

Test Analysis and Design

Test Analysis and Design



Analysis

- Review test basis
- Identify test conditions
- Evaluate testability requirements/system

Design

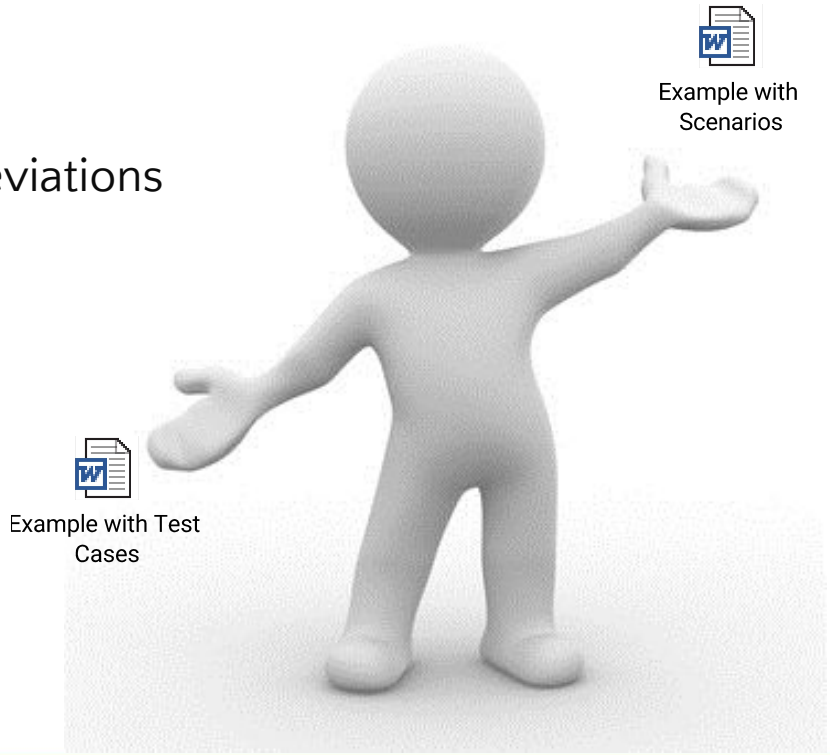
- Design tests
- Design test environment

Test Design Specification

Test Design Specification it is a document that describes features to be tested and specifies list of all test scenarios or test cases, which should be designed for providing the testing of software

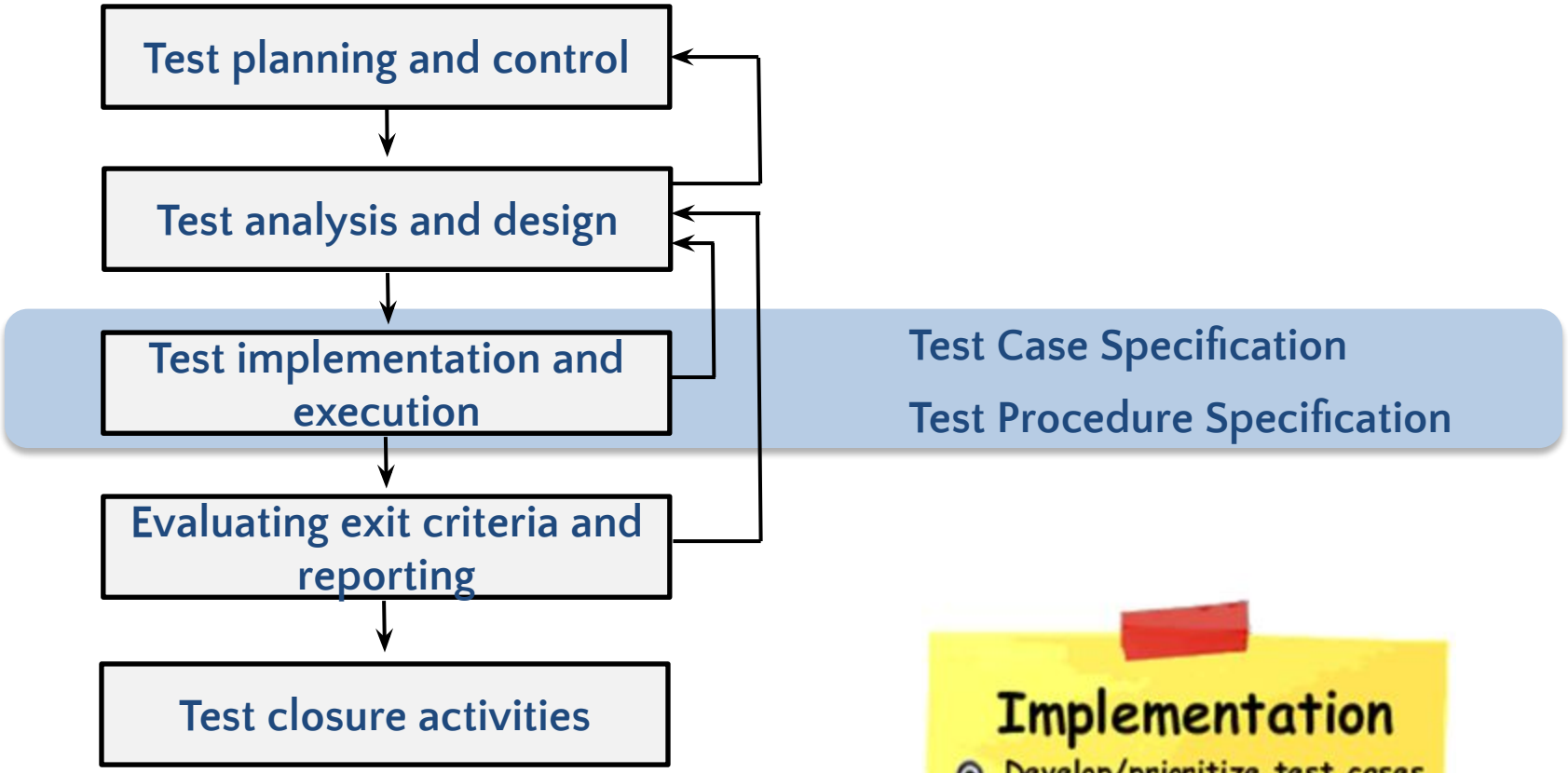
According to IEEE-829 Test Design Specification consists of:

- ✔ Test Design Specification Identifier
  - ✔ Purpose
  - ✔ References
  - ✔ Definitions, acronyms and abbreviations
- ✔ Features to be Tested
- ✔ Approach Refinements
- ✔ Test Identification
  - ✔ <Test Item 1>
  - ✔ <Test Item ...>
  - ✔ <Test Item N>
- ✔ Feature Pass/Fail Criteria



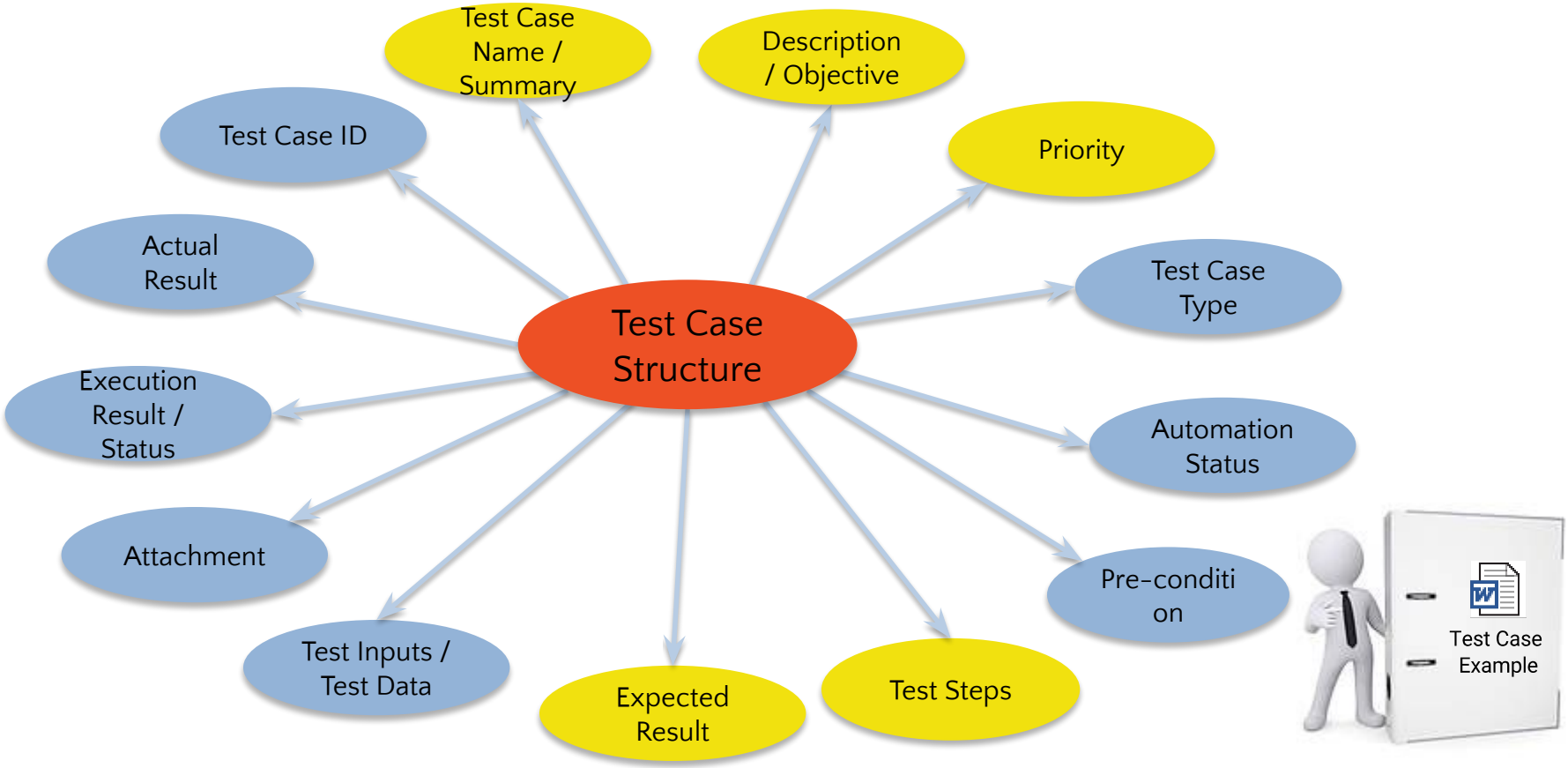
Test Implementation

Test Implementation



Test Case

Test Case it's a set of input values, execution preconditions, expected results and execution post conditions, developed for a particular objective or test condition, such as to exercise a particular program path or to verify compliance with a specific requirement.



Test Scenario

Test Scenario (high level test case) it's a test case without concrete values for input data and expected results. Logical operators are used; instances of the actual values are not yet defined and/or available.

Example: Validation on the Login page

Test Scenario	Test Case
User receives an error message when he enters invalid parameters in the login page	TC 1: User receives an error message when he enters valid user_id and invalid password.
	TC 2: User receives an error message when he enters invalid user_id and valid password
	TC 3: User receives an error message when he enters invalid user_id and invalid password

Checklist

A **Checklist** is a catalog of items/tasks that are recorded for tracking.

- ✔ It is versatile – can be used for anything
- ✔ Easy to create/use/maintain
- ✔ Analyzing results (task progress/completion status) is super easy
- ✔ Very flexible – you can add or remove items as needed

Checklist Example

Test Case Specification

Test Case Specification – a document specifying a set of test cases (objective, inputs, test actions, expected results, and execution preconditions) for a test item.

According to IEEE 829 Test Case Specification consists of:

- ✔ Test Case Specification identifier
- ✔ Test items
- ✔ Input and Output specifications
- ✔ Environmental needs
- ✔ Special procedural requirements
- ✔ Inter-case dependencies

Test Case
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Test Procedure Specification

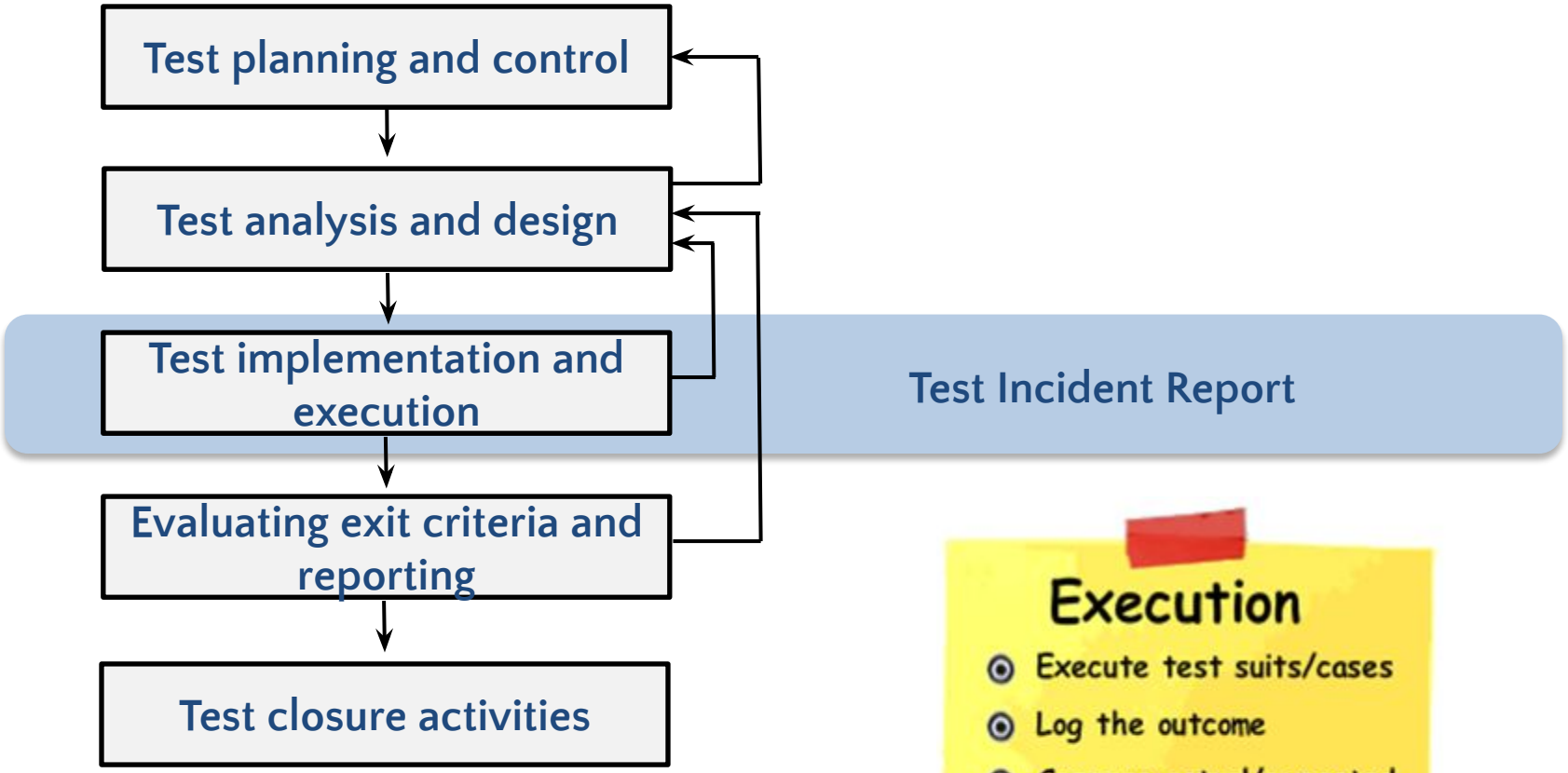
Test Procedure Specification (Test Script) it's a document specifying a sequence of actions for the execution of a test.

According to IEEE 829 Test Case Specification consists of:

- ✔ Test Procedure Specification identifier
- ✔ Purpose
- ✔ Special requirements
- ✔ Steps

Test Execution

Test Execution



Execution

- Execute test suits/cases
- Log the outcome
- Compare actual/expected results
- Report discrepancis
- Confirmation/re-testing

Test Incident Report

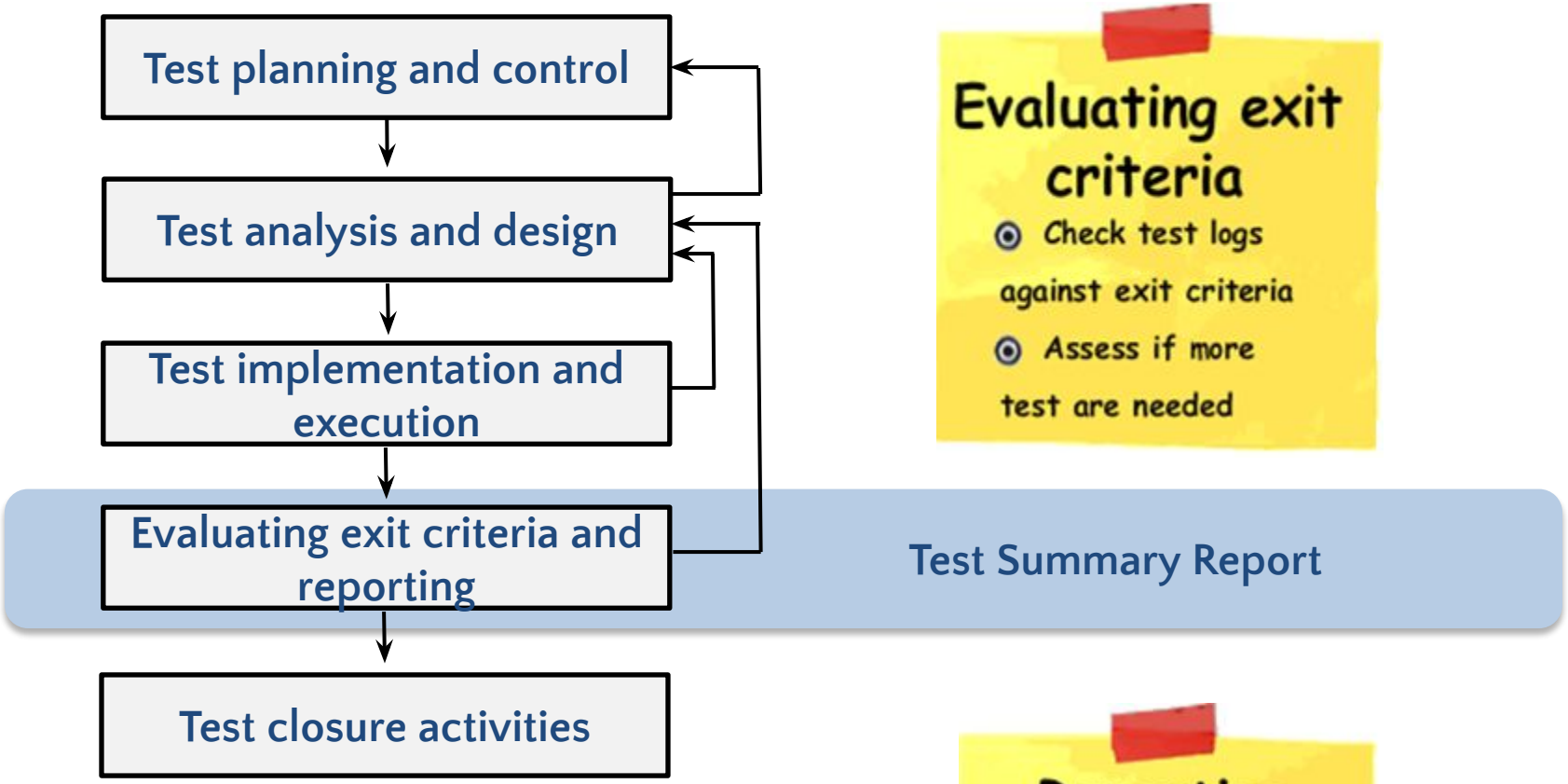
Defect Report it's a document reporting on any flaw in a component or system that can cause the component or system to fail to perform its required function.

According to IEEE 829 Test Incident Report consists of:

- ✔ Test Incident Report identifier
- ✔ Summary
- ✔ Incident Description
  - ✔ Inputs
  - ✔ Actual and Expected Results
  - ✔ Anomalies
  - ✔ Date and Time
  - ✔ Procedure Step
  - ✔ Attempts to Repeat
  - ✔ Testers, Observers
- ✔ Impact
  - ✔ Severity
  - ✔ Priority

Evaluating Exit Criteria and Reporting

Evaluating Exit Criteria and Reporting

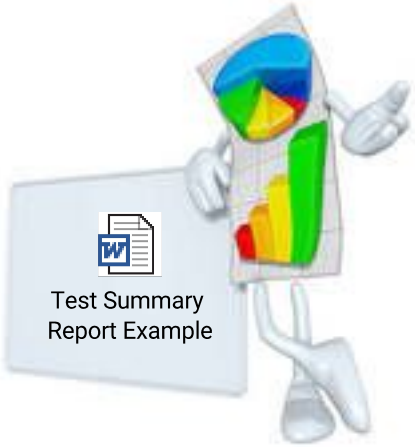


Test Summary Report

Test Summary Report it's a document summarizing testing activities and results. It also contains an evaluation of the corresponding test items against exit criteria.

According to IEEE 829 Test Summary Report consists of:

- ✔ Test Summary Report identifier
- ✔ Summary
- ✔ Variances
- ✔ Comprehensiveness Assessment
- ✔ Summary of Results
- ✔ Evaluation
- ✔ Summary of Activities
- ✔ Approvals



Level of Formality

Level of formality

Testing may be performed with varying degrees of formality. As well as Test Documentation can be tracked with varying degrees of formality.

The right level of formality depends on:

- ✔ Context
- ✔ Organization
  - ✔ Culture
  - ✔ People
  - ✔ Development process maturity
  - ✔ Testing process maturity
- ✔ Time constraints

Contents described in the IEEE 829 Standard for Test Documentation don't all have to be separate physical documents. But the standard's list of what needs to be kept track of is a good starting point, even if the test conditions and test cases for a given functionality or feature are all kept in one physical document.

Level of formality

	Test Case	Test Scenario	Checklist
What it is	Detailed information what to test, steps to be taken and expected result of the same	One-line information about what to test.	Catalog of items/tasks that are recorded for tracking
It's about	It's more about documenting details	It's more about thinking and discussing details.	It's more about listing actions not to forget about.
Advantages	• Useful for offshored and distributed testing • Detailed tests are helpful while bug reporting. • Lifeline for new tester	• A time saver and idea generation activity. • Modification and addition is simple and not specific to a person • Allow creative test execution	• A time saver activity • Easy to create/use/maintain • Analyzing results is super easy
Disadvantages	Time and money consuming as it requires more resources to detail out everything about what to test and how to test.	If created by specific person, the reviewer or the other user might not sync the exact idea behind it. Need more discussions and team efforts.	Does not contain any details what can be bad for complex functionality and not skilled QCs.

Level of formality

Agile manifesto:
Working software over comprehensive documentation

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Agile suggests **no** documentation

How much documentation is enough, and when should you write it?

- Essential – Document what we actually need.
- Valuable – Document what will be valuable for other.
- Timely – Documentation should be done in a just-in-time manner, when we need it.

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Thank you

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