

The ISTQB Foundation Level – Model Based Testing Extension

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Agenda

What is Model Based Testing

The different types of models

Summary and questions

Introduction to Model-Based Testing

Business Outcomes

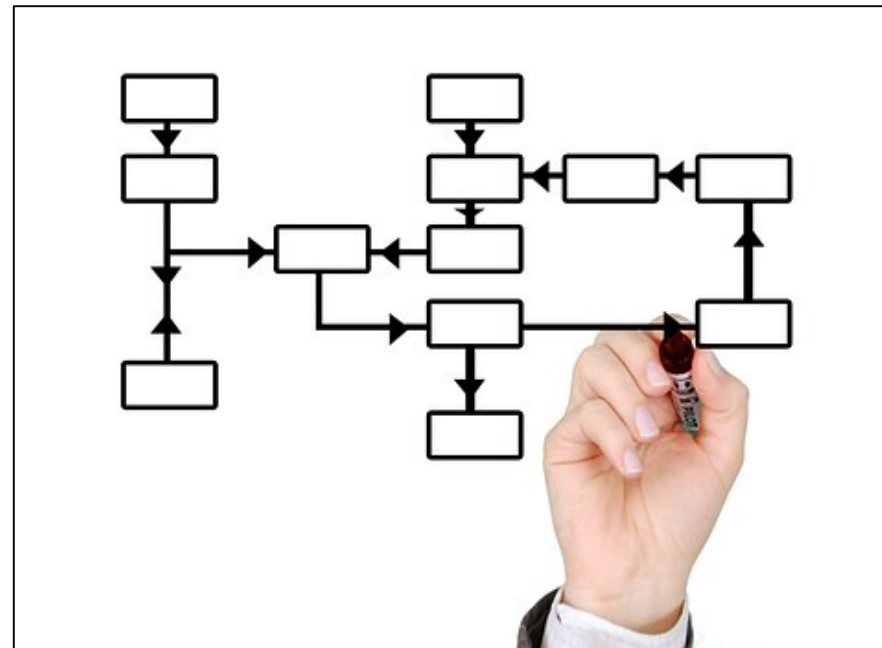
1. Collaborate as part of a team
2. Apply and integrate
3. Create MBT models
4. Select and maintain test artifacts
5. Support the organisation to improve its QA processes





K3 elements of this course

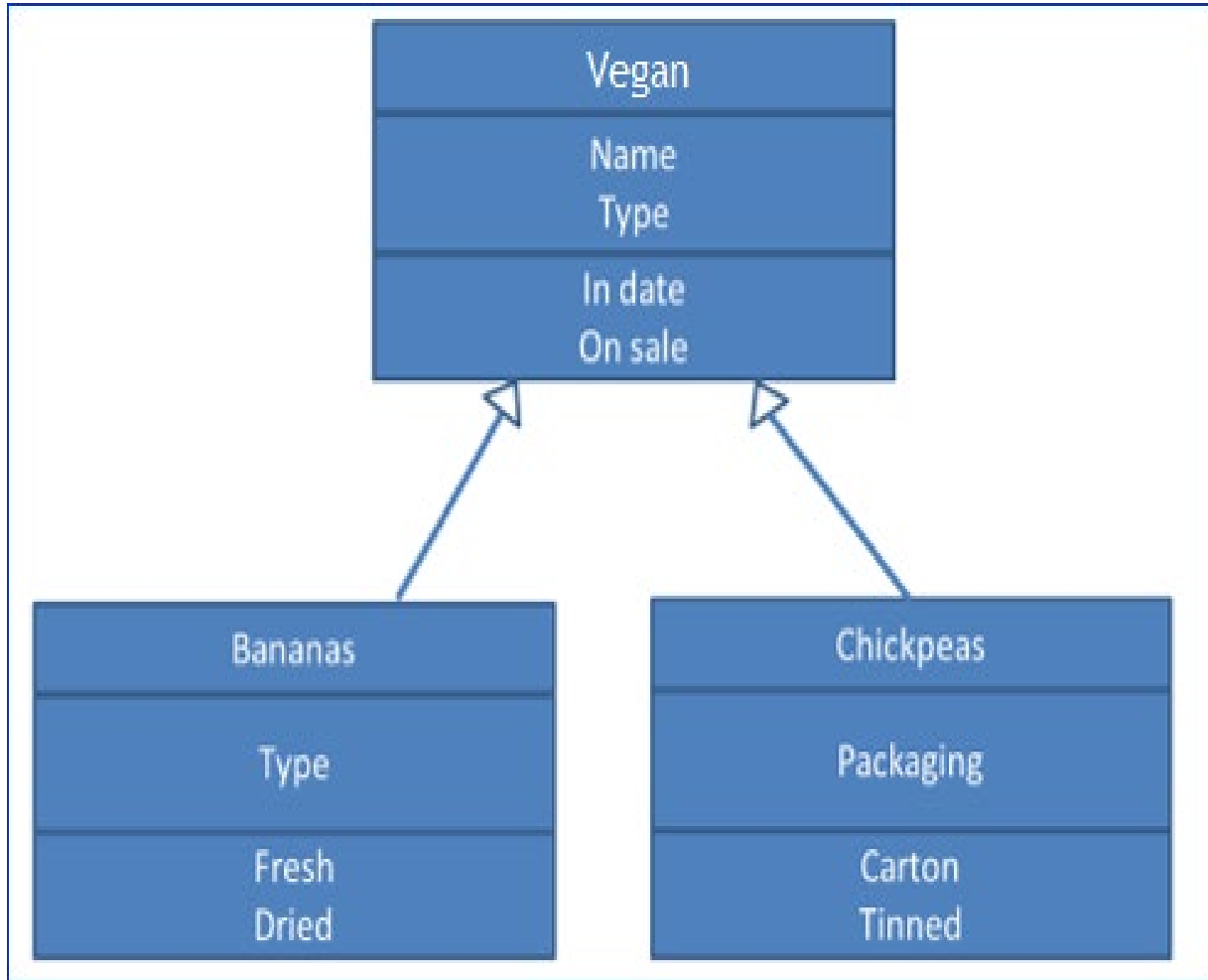
1. Develop simple models
2. Generate test cases from the model
3. Apply given test selection criteria
4. Perform updates of an MBT model



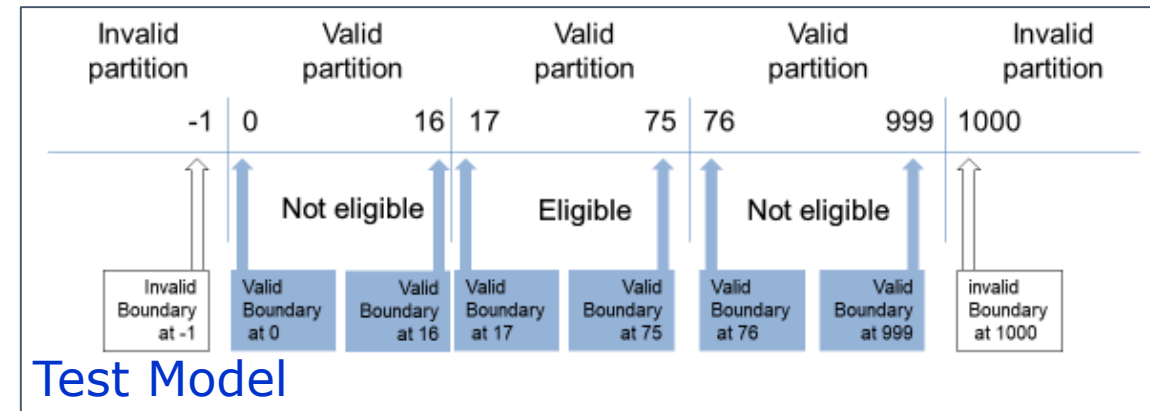
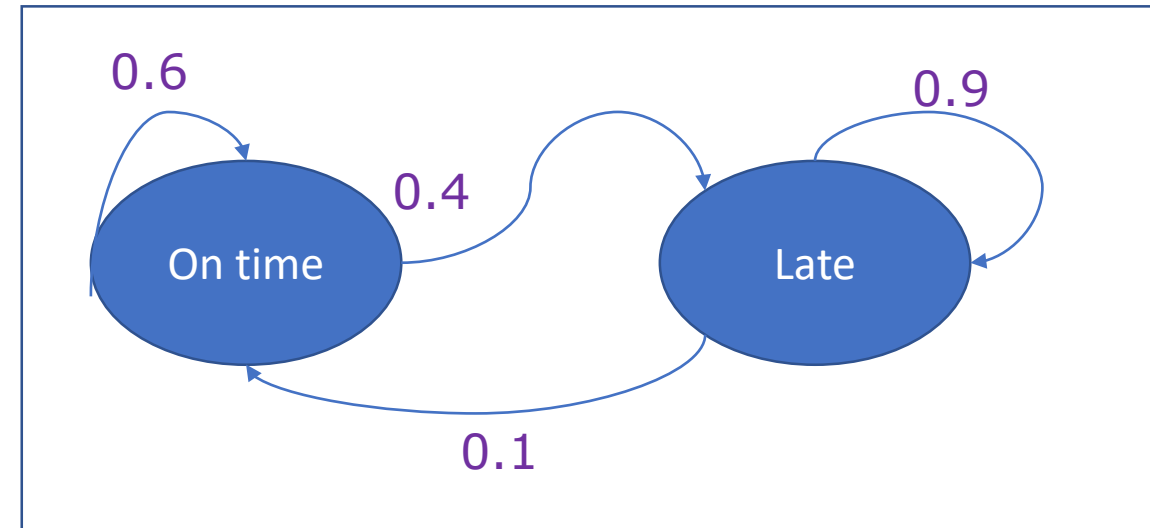


Types of MBT Models

System model – e.g. Class diagrams

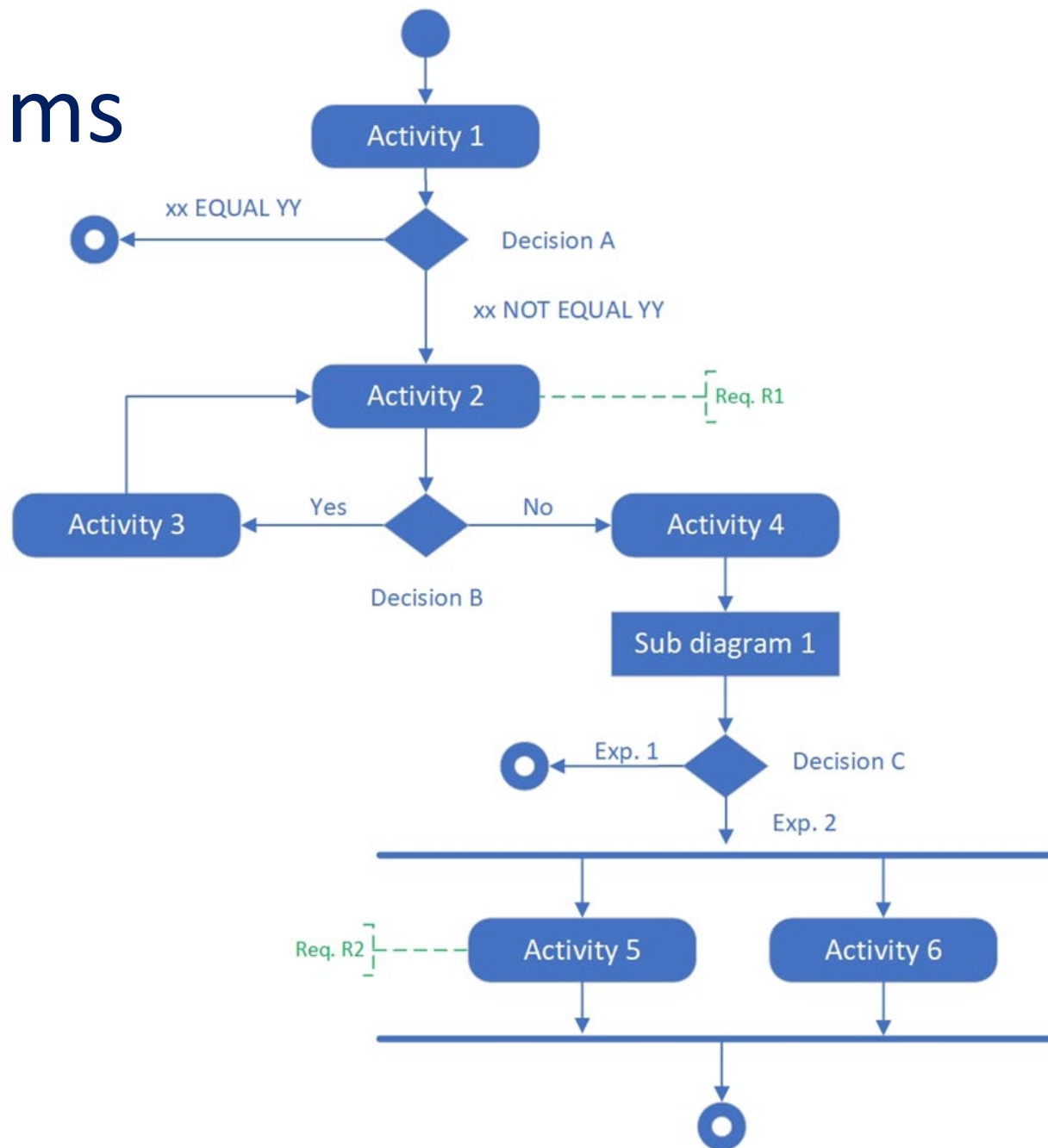


Environmental model – e.g. Markov Chain

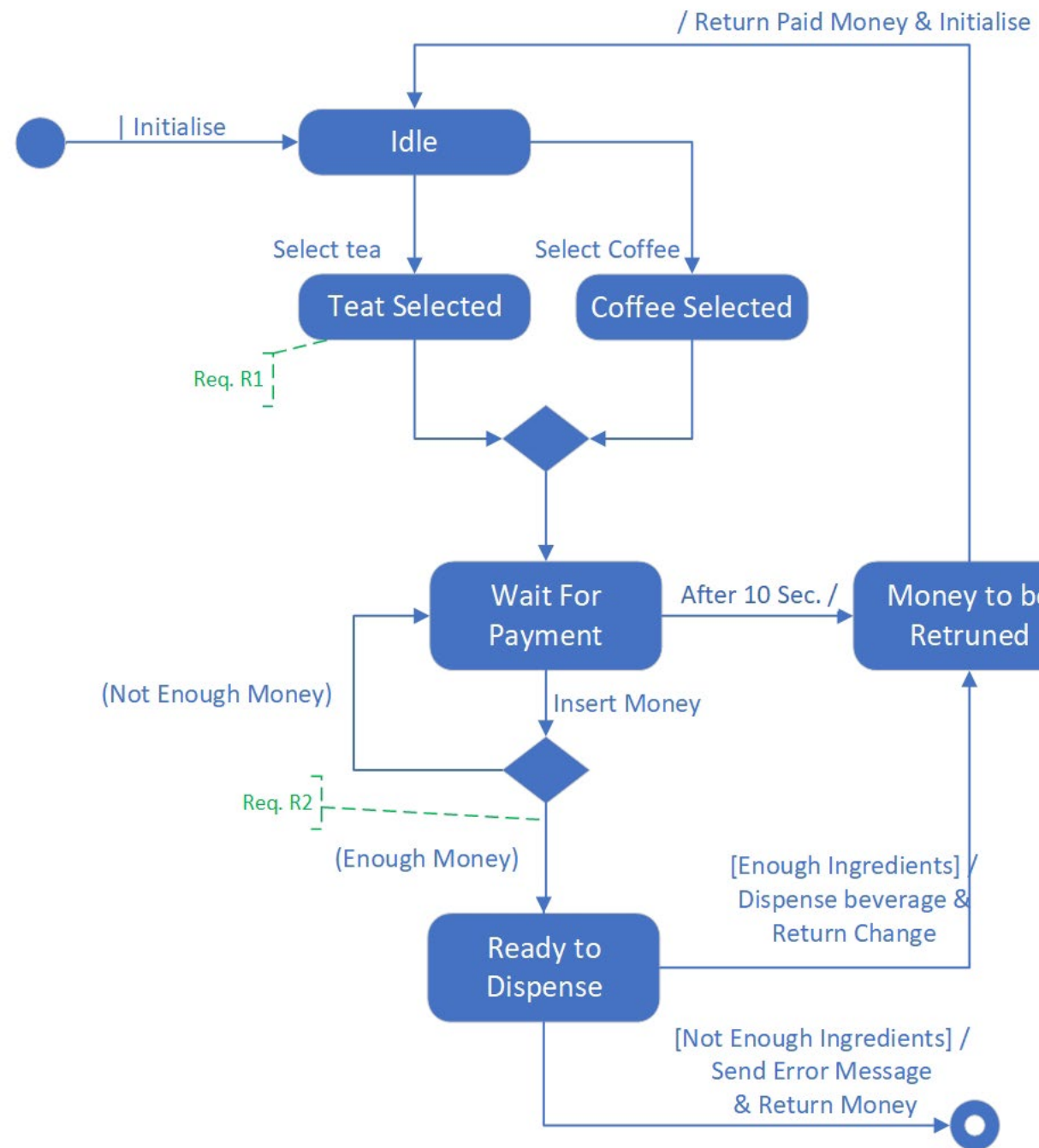


Test Model

Activity Diagrams



State Transition Diagrams







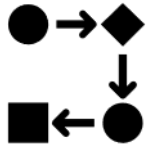



Languages for MBT Models

- Concepts
- Syntax
- Semantics
- Formalism
- Presentation
- Languages
- Integration





Selection Criteria for Test Case Generation

- Requirements..... 
- MBT model elements..... 
- Data-related..... 
- Random..... 
- Scenario and Pattern-based..... 
- Project-driven..... 



Examples of Test Selection Criteria

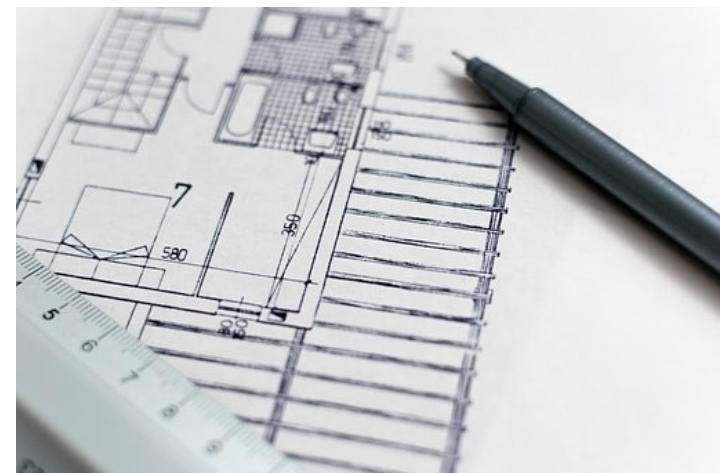
- State Transition coverage
- Decision Table condition/action/rule coverage
- Equivalence Partition/BVA coverage
- Statement/Decision coverage/condition
- Pairwise testing
- Activity coverage





MBT Test Implementation and Execution

- Abstract/concrete test cases
- Manual/automated test execution
- Impact of changes on MBT artefacts





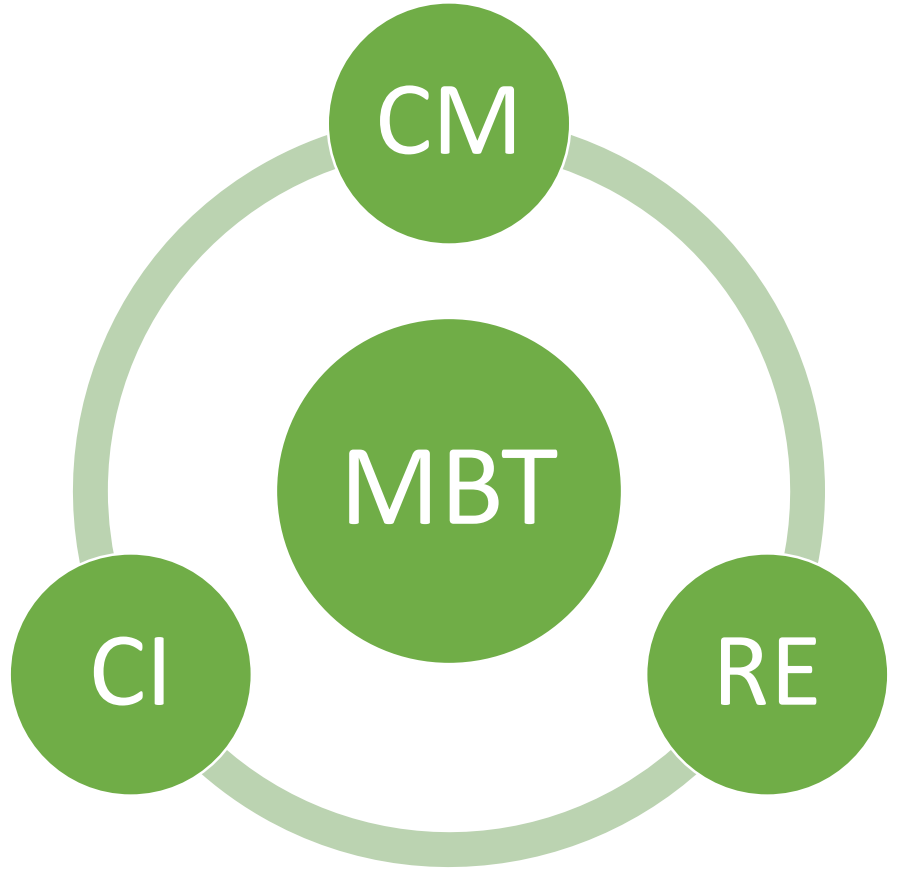
Activities of Test Adaptation in MBT

- Tests generated to fill the gap between abstract and concrete test cases.
- Keyword-driven testing
 - Export test cases
 - Implement keywords
- Data-driven testing
 - Provide concrete input data
 - Link test data

- Provide post-conditions inside the test scripts to be used as the preconditions for the next one.
- Set up the precondition at the beginning of each test script.

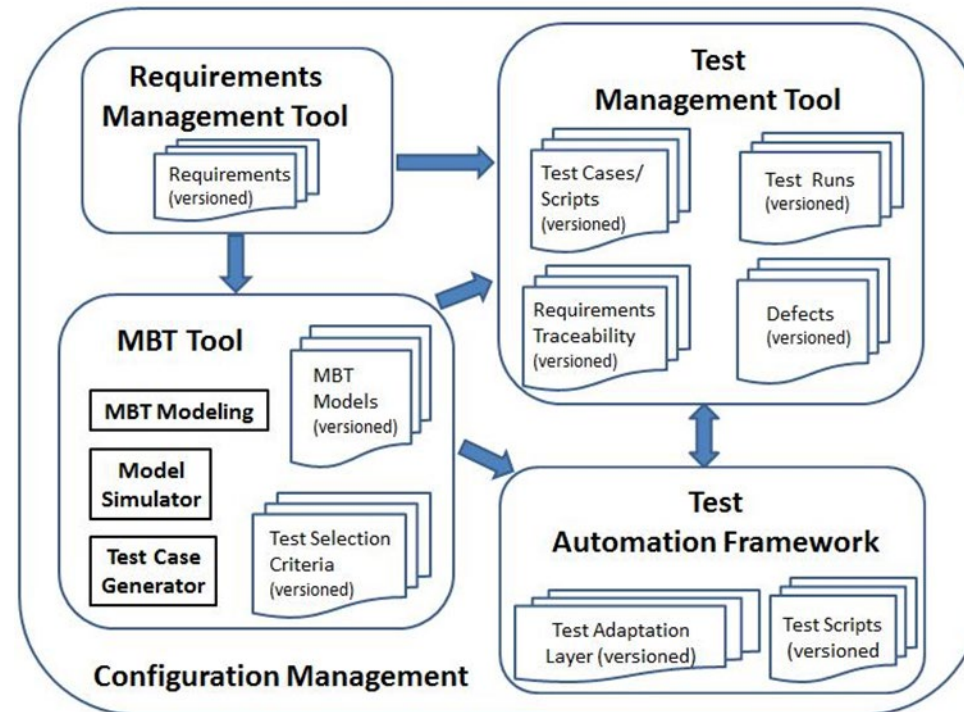


Good Practices when using MBT





Integration of the MBT Tool





Summary – Model Based Testing

- A serious competency based programme that is designed to:
 - Give you multiple competencies to increase your value
 - Develop specialisms that are aligned to your talents
 - Give organisations increased utilisation rates and reduced costs
 - Engage employees with a real and compelling career growth plan
 - Reduce organisational attrition rates