

## 1.4.2\_5 Test implementation

During test implementation, the testware necessary for test execution is created and/or completed, including sequencing the test cases into test procedures. So, test design answers the question “how to test?” while test implementation answers the question “do we now have everything in place to run the tests?”

Test implementation includes the following major activities:

- Developing and prioritizing test procedures, and, potentially, creating automated test scripts
- Creating test suites from the test procedures and (if any) automated test scripts
- Arranging the test suites within a test execution schedule in a way that results in efficient test execution (see section 5.2.4)
- Building the test environment (including, potentially, test harnesses, service virtualization, simulators, and other infrastructure items) and verifying that everything needed has been set up correctly
- Preparing test data and ensuring it is properly loaded in the test environment
- Verifying and updating bi-directional traceability between the test basis, test conditions, test cases, test procedures, and test suites (see section 1.4.4)

Test design and test implementation tasks are often combined.

In exploratory testing and other types of experience-based testing, test design and implementation may occur, and may be documented, as part of test execution. Exploratory testing may be based on test charters (produced as part of test analysis), and exploratory tests are executed immediately as they are designed and implemented (see section 4.4.2).