**Test Case 1**: Connection Establishment

**Objective**: Verify the successful connection establishment between Publisher (server) and Subscriber (client).

**Acceptance Criteria (AC):**

* Publisher and Subscriber are operational.
* DDS middleware is successfully initialized on both sides.
* Both Publisher and Subscriber join the DDS domain without errors.

**Expected Result:**

* Both Publisher and Subscriber applications run without any errors.
* DDS middleware successfully establishes domain participant connections.

**Test Case 2**: Server-to-Client Display Transmission

**Objective**: Validate that the server-side display data reaches the client side accurately.

**Acceptance Criteria (AC):**

* The Publisher (server) display data is successfully transmitted to the Subscriber
* The Subscriber displays exactly match the server-side displays.

**Expected Result:**

* Client-side display reflects server-side display data accurately and promptly.
* Test Case Result: Test Case 3: Event-Driven Data Synchronization

**Testcase – 3**

**Objective:** Ensure any server-side display changes reflect immediately on the client side through DDS.

**Acceptance Criteria (AC):**

* Publisher detects event-driven changes (like temperature threshold).
* Publisher immediately publishes updated data.
* Subscriber accurately and immediately reflects the updated data without acknowledgment.