# Persistent State Using Clustered Oracle Database

To ensure availability of the persistent state database, you can install a clustered database setup and enable cluster failover handling.

> This is available for clustered **Oracle** databases only.

**On this Page:**



**Related Pages:**

- Persistent State Components
- Creating a Component Diagram

## Concepts

Important services should not hang, if the persistent state database is not available. So, in case the persistent state database becomes inoperative in a clustered setup, it will automatically be replaced by a compensatory database of the cluster.

Steps:

1. **Install Oracle cluster setup**
   Before you can enable cluster failover handling, you need to install a clustered setup on your Oracle database.
2. **Enable cluster failover handling**
   Enable the failover handling as described below.

## Enabling Cluster Failover Handling

You can enable cluster failover handling in the xUML service composite of the persistent state service. It is governed by to tagged values:

| Tagged Value | Type | Description | Value | Description |
|---|---|---|---|---|
| **Switch Over Enabled** | Boolean | This flag enables the automatic fail over mechanism for clustered persistent state databases. If the persistent state database becomes inoperative, the E2E xUML Runtime will try to open a connection to compensatory database of the cluster. See also option **Switch Over Retry Timeout**.<br>ⓘ This option is available for clustered Oracle databases only. | **false** (default) | failover mechanism not enabled |
| | | | true | failover mechanism enabled |
| **Switch Over Retry Timeout** | Integer | During fail over, the E2E xUML Runtime will try to create a new database connection to a compensatory database (see **Switch Over Enabled**). If this fails, the xUML Runtime will try to open a new connection every second until the timeout (in seconds) is reached. Default is **600 seconds**. | | |

Refer to Persistent State Components for more information on persistent state settings on the composite.