# Implementing Programmatic Transaction Management

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# Overview

- Programmatic transaction management
- Explicitly coded transaction management
- Transaction template
- Platform transaction manager
- Benefits of transaction template

# Programmatic Transaction Management

# Programmatic Transaction Management

## Transaction template

Similar to Spring templates like JdbcTemplate and other available templates

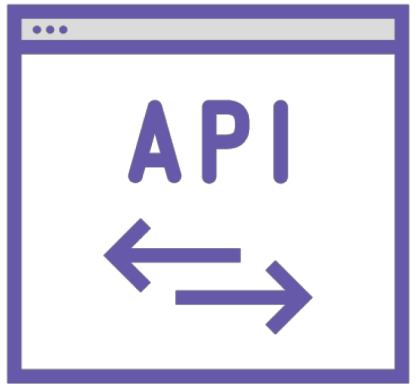
## Platform transaction manager

Handles transactions across Hibernate, JDBC, JPA, JMS, etc.

# Transaction Template

# Spring Support

**Transaction template**




Transaction
API

Transaction
boundary

**Callback method**

```
doInTransactionWithResult(...)
{
   . . .

}
```

```
public void
doInTransactionWithoutResult
(TransactionStatus status)

{

  ...

}
```

- Callback method
- Doesn’t have a return type

```
public Object
doInTransactionWithResult(Tran
sactionStatus status)

{

  ...
  return object;

}
```

- Callback method
- Has a return type

# Trackzilla Example

```
public void doInTransactionWithoutResult(TransactionStatus
status) {

  try{

      createTickets(release);

      assignTicketsToRelease(release.getId(),
          release.getTickets());

  } catch (NoSuchElementException exception) {

      exception.printStackTrace();

   }
}
```

# Transaction Settings

```
public ReleaseService(PlatformTransactionManager
transactionManager) {

  this.transactionTemplate = new
   TransactionTemplate(transactionManager);

  this.transactionTemplate.
   setPropagationBehaviorName("PROPAGATION_REQUIRES_NEW");

  this.transactionTemplate.setReadOnly(true);

}
```

# Transaction Settings

**Propagation mode, isolation level, and timeout**

# Rollback

```
public void doInTransactionWithoutResult(TransactionStatus
status) {

  try{

      createTickets(release);

      assignTicketsToRelease(release.getId(),
         release.getTickets());

  } catch (NoSuchElementException exception) {

       status.setRollbackOnly();

  }
}
```

# Demo

**Trackzilla**

- Enhance to implement programmatic transaction management
- Transaction template
- Rollback transactions

# Summary

**Transaction template**

- Advantages
- Enhanced Trackzilla