How to Configure Quarantine Scenarios with EWM

Applicable Releases:
SAP EWM 7.02 and higher

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# Document History

<table>
<thead>
<tr>
<th>Document Version</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.00</td>
<td>First official release of this guide</td>
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</tbody>
</table>
# Typographic Conventions

<table>
<thead>
<tr>
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<tbody>
<tr>
<td><em>Example Text</em></td>
<td>Words or characters quoted from the screen. These include field names, screen titles, pushbuttons labels, menu names, menu paths, and menu options. Cross-references to other documentation</td>
</tr>
<tr>
<td><strong>Example text</strong></td>
<td>Emphasized words or phrases in body text, graphic titles, and table titles</td>
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<tr>
<td><strong>Example text</strong></td>
<td>File and directory names and their paths, messages, names of variables and parameters, source text, and names of installation, upgrade and database tools.</td>
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<tr>
<td><strong>Example text</strong></td>
<td>User entry texts. These are words or characters that you enter in the system exactly as they appear in the documentation.</td>
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<tr>
<td><code>&lt;Example text&gt;</code></td>
<td>Variable user entry. Angle brackets indicate that you replace these words and characters with appropriate entries to make entries in the system.</td>
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<tr>
<td><strong>EXAMPLE TEXT</strong></td>
<td>Keys on the keyboard, for example, F2 or ENTER.</td>
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</tbody>
</table>

# Icons

<table>
<thead>
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<th>Description</th>
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<td>Caution</td>
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<tr>
<td><img src="image" alt="Important" /></td>
<td>Important</td>
</tr>
<tr>
<td><img src="image" alt="Note" /></td>
<td>Note</td>
</tr>
<tr>
<td><img src="image" alt="Recommendation or Tip" /></td>
<td>Recommendation or Tip</td>
</tr>
<tr>
<td><img src="image" alt="Example" /></td>
<td>Example</td>
</tr>
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1. Quarantine Scenarios

1.1 Introduction

In the original sense, quarantine means “a term during which a ship arriving in port and suspected of carrying contagious disease is held in isolation from the shore”. In addition, the term indicates “a restraint upon the activities or communication of persons or the transport of goods that is designed to prevent the spread of disease or pests”\(^1\).

In logistics, quarantine may also refer to a time period after production or goods receipt during which the newly received stock cannot be sold to a customer. It can be similar to a maturation time in which a good cannot be sold to customers yet. Stock under quarantine is usually blocked. In addition, it can be subject to quality inspection or special containment might be necessary for the stock.

In warehousing, quarantine may be integrated into the inbound process in the following scenarios:

1. Inbound with Quarantine Storage / Quarantine Step
2. Inbound with Quarantine in Final Storage Bin
3. Quarantine with Inspection Documents

\(^1\) http://www.merriam-webster.com/medical/quarantine
1.2 Inbound with Quarantine Storage / Quarantine Step

After the goods receipt, the stock relevant to quarantine is put away to a quarantine storage type. It stays in that storage type until the quarantine period is over.

This variant of the inbound process suits cases where a strict separation between stock under quarantine and unrestricted-use stock is necessary. Usually, the quarantine storage would be physically separated from the rest of the warehouse. The quarantine storage type may have different physical conditions as the final storage type (e.g. different temperature). Additional activities could be required during quarantine (e.g. disinfection or fumigation).

**Example – Medical Quarantine**

Imported stock that poses medical risks or could carry pests has to be kept under quarantine in a separate warehouse dedicated to quarantine. After the quarantine period passed, the stock is brought into the warehouse for unrestricted-use stock and put away to the final bin.

**Example – Quarantine for Maturation**

Bananas are harvested before they are ripe. After import of the bananas, the fruits cannot be sold yet. They are stored in maturation chambers for 4-8 days. During maturation, bananas are exposed to ethylene gas for ripening.
1.3 Inbound with Quarantine in Final Storage

This process variant is suitable for cases where stock under quarantine doesn’t have to be separated from the unrestricted-use stock and it is suitable if the stock under quarantine doesn’t need storage conditions that vary from the conditions for the unrestricted-use stock.

The advantage of this scenario is putting away the stock under quarantine into the same storage as the unrestricted-use stock. After the quarantine period is finished, the stock is posted to unrestricted-use stock. A physical movement of the stock is not needed because it is already in final storage. However, a relabeling might be needed. No further effort is needed for internal transfers because the stock is already in its final bin.

However, this scenario is not suitable if quarantine stock has to be separated from other stock for safety reasons.
1.4 Quarantine with Inspection Document

The processes are basically the same as in the previous sections. The main addition is that quality inspection documents are used as a documentation of quarantine.

This has several advantages:

- Activities necessary during quarantine (e.g. disinfection, fumigation, preparation of certificates or import papers) can be documented in the inspection document as well.

- The stock type change and also creation of warehouse task for stock transfer to final storage bin can be done with the follow-up action of the inspection document.
In cases where quarantine stock has to be released manually, the decision of an inspection document is the trigger for stock type change and creation of warehouse tasks for internal stock transfers.

On the other hand, the inspection document is an overhead in cases that don’t require documentation of quarantine.

### 2. Background Information

#### 2.1 Quarantine Setup in Product Master

There is no functionality in EWM dealing with the quarantine period defined in the product master (fields QTIME and QTIMEUOM). This period is entered in the ERP material master and transferred to EWM via Core Interface (CIF).

![Figure 5 – Quarantine Period in EWM Product Master (Transaction /SCWM/MAT1)](image)

**Note**

Currently (up to EWM release 9.0), no standard function uses the information entered for quarantine period. It can be used in a custom coding, e.g. in a report for the actual quarantine release in EWM.

**Important**

This guide describes the setup for the scenarios mentioned in chapter 1. The guide describes how to configure stock types in EWM to handle quarantine stock in inbound. This guide focuses on settings in EWM. Settings in ERP (e.g. storage location, blocked stock type for quarantine stock) are not explained in detail.

Custom coding for the release of quarantine stock is not included in this guide since the situation in an EWM implementation project varies by industry requirements for quarantine release.

### 3. Prerequisites

This guide only describes settings in EWM dedicated to quarantine functions.
The warehouse structure, integration with ERP, and the inbound process should be configured before using this guide.

Configuration could be done with the guides for the preconfigured processes in standard warehouse W001:

- Integration of SAP ERP with SAP EWM
- Configuration of Warehouse Structure and Master Data for SAP EWM

Inbound Process with Repacking for Putaway
Inbound Process Without Packing Information (Manual GR)
Inbound Process Without Packing Information (Manual WT)
4. **Step-by-Step Procedure**

4.1 **Common Settings**

The settings described in this section can be used in all scenarios (with and without dedicated quarantine storage).

For quarantine stock, the non-location dependent stock type BB (blocked) is used. ERP will also display the quarantine stock as blocked stock. This guide describes how to setup the quarantine processes with dedicated stock types for quarantine. If you want to use the existing blocked stock types (B5 and B6) for quarantine, you need not follow the steps in this guide to configure own stock types.

**Recommendation**

Using dedicated stock types for quarantine has the advantage that the quarantine stock can be differentiated from stock that was blocked for other reasons than quarantine.

Customer-specific Blocked Stock Types for Quarantine Scenarios:

<table>
<thead>
<tr>
<th>Stock Type</th>
<th>Scenarios</th>
</tr>
</thead>
<tbody>
<tr>
<td>A5 – Quarantine Block in Putaway</td>
<td>• Inbound with Quarantine in Final Storage</td>
</tr>
<tr>
<td></td>
<td>• Inbound with Quarantine Storage</td>
</tr>
<tr>
<td>A6 – Quarantine Block in Warehouse</td>
<td>• Quarantine with Inspection Document</td>
</tr>
</tbody>
</table>

1. Create a custom append to the domain /SCWM/DO_CAT_ROLE (use transaction SE11). This domain is used for the stock type role in customizing for configuration of the stock types. A new fixed value has to be added to distinguish between blocked stock under quarantine and blocked stock that is not under quarantine.

![Figure 6 - Creation of Fixed Value Appends for a Domain](image)

On the next screen, enter the custom append.
In our example, we add a fixed value append called ZPM_QUARANTINE with the new fixed value ‘1’ – Quarantine. You can name the fixed value according to your naming guidelines (but the customer namespace should be used).

2. Setup stock types for quarantine:
   *Customizing → EWM → SCM Basic → Logistics Inventory Management Engine (LIME) → Basic Settings → Application-Specific Settings → Determine Stock Type.*
   Enter the following new values:

<table>
<thead>
<tr>
<th>Stock Type</th>
<th>Descr. Of Stock Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>A5</td>
<td>Quarantine Block in Putaway</td>
</tr>
<tr>
<td>A6</td>
<td>Quarantine Block in Warehouse</td>
</tr>
</tbody>
</table>

3. Configure stock types for quarantine stock in the existing availability groups (001 and 002):
   *Customizing → EWM → Goods Receipt Process → Configure Availability Group for Putaway → Configure Stock Type*

   Create new entries for the stock types ‘A5’ and ‘A6’

<table>
<thead>
<tr>
<th>Stock Type</th>
<th>Availability Group</th>
<th>Non Location-Dep. Stock Type</th>
<th>Storage Type Role</th>
</tr>
</thead>
<tbody>
<tr>
<td>A5 – Quarantine Block in Putaway</td>
<td>001</td>
<td>BB</td>
<td>1 Quarantine</td>
</tr>
<tr>
<td>A6 – Quarantine Block in Warehouse</td>
<td>002</td>
<td>BB</td>
<td>1 Quarantine</td>
</tr>
</tbody>
</table>

4. The delivery items should be posted to quarantine stock when the inbound delivery is replicated to EWM. The latest point in time for posting the item to quarantine stock is when the goods receipt is posted for the delivery item. To ensure the posting change to quarantine stock, the inbound delivery in ERP should already contain the items for quarantine in blocked stock. In addition, the delivery items relevant for quarantine need a stock mapping to quarantine stock type. Therefore, the delivery items should be in blocked stock when the inbound delivery is transferred from ERP to EWM.
ERP has to be configured to set delivery items relevant for quarantine into blocked stock when the inbound delivery is replicated to EWM.

To automatically write the correct stock type into the delivery item, the BAdI for mapping of ERP inbound delivery information to EWM inbound delivery notification can be used. The method MAPIN_BADI has to be implemented. The coding should check whether a delivery item is relevant for quarantine and adjust the stock type of the item to A5 – Quarantine Block in Putaway.

5. A storage location in ERP dedicated to quarantine is optional. In this document, there will be no new storage location created in ERP. If stock is under quarantine, the stock will appear as blocked stock in the existing storage locations ROD and AFS.

### 4.2 Settings Process 1 – Inbound with Quarantine Storage

1. Create storage type for quarantine.
   
   Customizing → EWM → Master Data → Define Storage Type
Figure 8 Setup for Quarantine Storage Type QQ

**Important**

In putaway control, the putaway rule “5 Empty Bin” is optional. The putaway rule “2 Addition to Stock/Empty Bin” could be used as well. However, quant additions have to be avoided unless the stock items relevant for addition have the same goods receipt date, BBD/SLED, and certificate number.

Problems arise when allowing quant additions: Stock items with different end dates for quarantine might be merged. This might lead to an earlier or later release of quarantine stock.

**Note**

The quarantine storage type has initial stock type role and initial Non-Dep. Stock Type. Therefore, stock that is blocked for quarantine and also stock for unrestricted-use can be stored in this storage type. This is useful if the quarantine release already posts the stock into unrestricted use before it is moved to the final storage type.

2. Create bins for this storage type by using transaction /SCWM/LS01 or create them with a bin structure and transaction /SCWM/LS10.
4.3 Settings Process 2 – Inbound with Quarantine in Final Storage

The final storage type should be set up to prevent quant addition. Addition to stock is possible under the same circumstances as mentioned above in storage type for quarantine; i.e. no addition of quants with different GR dates, different BBD/SLED, or different certificate numbers (values for quant addition should be set to 1 – not allowed or to 3 – Product decides).

![Figure 9 Excerpt from "Putaway Control" for Final Storage Type]

If quarantine stock is batch-relevant, quant addition will not happen for different batches. To determine the storage type, you could use the preconfigured storage type search sequence. Optionally, you could configure a storage type search sequence that includes the warehouse process type indicator for quarantine.

4.4 Settings Process 3 – Quarantine with Inspection Document

1. The easiest way to get the initial customizing for quality management is by activating the BC Set /SCWM/QM
2. Setup of quality inspection in Customizing → EWM → Cross-Process Settings → Quality Management → Basics
   a. Activate and configure inspection object type 4 for your warehouse (Customizing activity Warehouse-Dependent Activation of Inspection Object Type)
b. If the resulting inspection documents can be decided with auto-code and automatic follow-up code, the posting change and warehouse task creation to next storage can be done automatically. Configure your code group accordingly:

Customizing → EWM → Cross-Process Settings → Quality Management → Result → Define Decision Codes

![Code Group for Quarantine](image)

Figure 11 Code Group for Quarantine

c. Configure follow-up action for putaway.

Customizing → EWM → Cross-Process Settings → Quality Management → Result → Maintain Follow-Up Action

![Follow-Up Action for Putaway](image)

Figure 12 - Follow-Up Action for Putaway

Also assign the follow-up action to your code group for quarantine.

d. (optional) Configure other follow-up actions needed for inspection of quarantine stock. For example, follow-up for scrapping.

Customizing → EWM → Cross-Process Settings → Quality Management → Result → Maintain Follow-Up Action

![Follow-Up Action for Putaway](image)

Figure 12 - Follow-Up Action for Putaway

e. Create an inspection rule for the products under quarantine with transaction /SCWM/QRSETUP
3. (Optional) Set up error codes and efforts to configure activities during quarantine as effort.

   Customizing → EWM → Cross-Process Settings → Quality Management → Result →
   Determine Error Codes and Efforts

4. Process-oriented storage control can either be configured to put away into quarantine storage or into final storage (depending on the process you want to realize).