

Variant Configuration (VC)

The case study describes the creation of a configurable product and its use in an integrated discrete manufacturing process for a make-to-order customer. It shows the possibilities of simplifying master data by adding characteristics, which allows a product to have different characteristics.

Product

S/4HANA 2022
Global Bike

Fiori 3.0

Level

Undergraduate
Graduate
Beginner

Focus

Variant Configuration

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Version

4.2

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MOTIVATION

After you have only displayed data such as bills of materials and routings in the -control exercises, this case study is about creating a configurable product and using it in an integrated process from sales order to production.

You will create new characteristics, classes, and material master records and relate them to each other to ensure configurability from product selection to BOM explosion.

PREREQUISITES

Before you use this case study, you should be familiar with navigation in the SAP system.

In order to successfully work through this case study, it is not necessary to have finished the PP exercises (PP 1 through PP 6). However, it is recommended.

NOTES

This case study uses the Global Bike data set.



Process Overview

Learning Objective Create and understand variant configuration and make-to-order production.

Time 120 min

Scenario To handle a complete customer make-to-order process, you will take on different roles within Global Bike, such as warehouse worker and production manager. Overall you will work in the departments Production Planning (PP), Materials Management (MM) and Sales and Distribution (SD).

Employees involved

Jun Lee (Production Manager)
 Lars Iseler (Shop Floor Worker 2)
 Susanne Castro (Goods Receipt Clerk)
 Sanjay Datar (Warehous Employee)
 Jamie Shamblin (Controller)

You start preparing the variant configuration by defining characteristics and classes. These are used to create a configurable product that is supplemented by a maximum bill of material and a routing. Once variant configuration is complete, the configurable material is ordered as part of a sales order and produced as make-to-order.

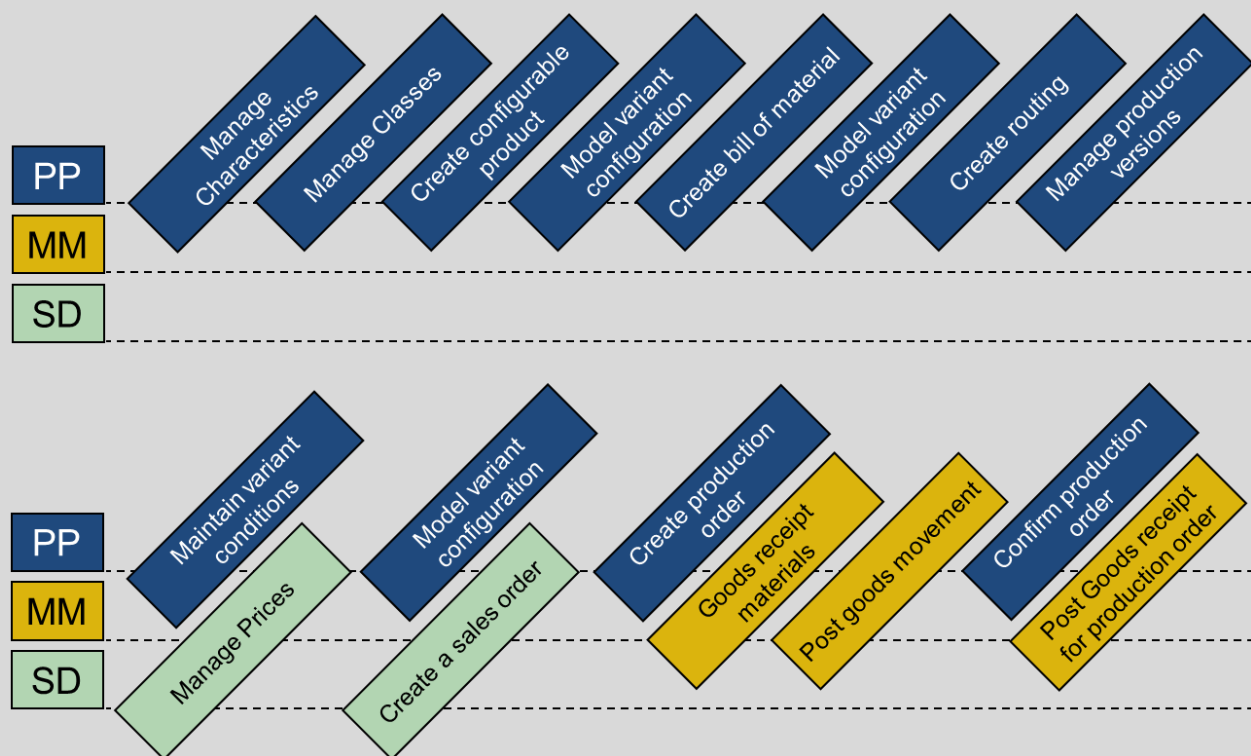


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Step 1: Manage Characteristics

Task Prepare a characteristic for variant configuration.

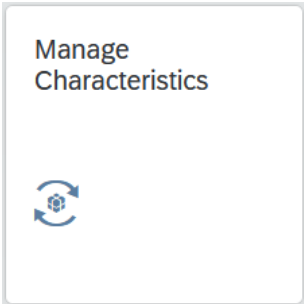
Time 10 min

Short Description To be able to configure a Global Bike's Deluxe Touring Bike, features must be prepared. These can then be assigned to a product.

Name (Position) Jun Lee (Production Manager)

To create a new characteristic, use the *Manage Characteristics* app in the *Production Planning and Execution* area on the *Variant Configuration* page in the *Production Manager* role.

Manage Characteristics



Enter **TRFRP###** (replace ### with your three-digit number) as the new Characteristic.

TRFRP###

< SAP Characteristics

Menu

Characteristic: TRFRP600

Change Number:

Valid From:

Press to create the Characteristic.

In the *Basic data* tab, enter **Frame color** as a *Description* Check that **Released** is selected as the *Status*. Then select **CHAR** as the *data type*, enter **8** as the *number of Chars* and select the options **Entry required**.

Frame color
Released
Char
8
Entry required

Basic data Descriptions Values Addnl data Restrictions

Basic data

Description:

Char. Group:

* Status:

Auth.Group:

Format

* Data Type:

Number of Chars:

☐ Case Sensitive

Template:

Value Assignment

☒ Single Value

☐ Multiple Values

☐ Restrictable

☒ Entry Required

Switch to the *Descriptions* tab. Add the *description* **Rahmenfarbe** for the **DE** language.

DE
Rahmenfarbe

Basic data **Descriptions** Values Addnl data Restrictions

Descriptions and headings

| | Langu... | Description | |
|--------------------------|----------|-------------|--|
| <input type="checkbox"/> | EN | Frame color | |
| <input type="checkbox"/> | DE | Rahmenfarbe | |

Switch to the *Values* tab. For the Char.Value, we will use the existing Touring Bike frames as a guide:

- Touring Bike Frame - Black - TRFR1###
- Touring Bike Frame - Silver - TRFR2###
- Touring Bike Frame - Red - TRFR3###

The different colors can be recognized by the consecutive number. This principle is supernumerary. To do this, enter the following characteristic values:

| Char. Value | Description |
|-------------|-------------|
| TRFR1### | Black |
| TRFR2### | Silver |
| TRFR3### | Red |

Black
Silver
Red

Note The characteristic values and the material numbers of the frames are identical in this example. However, they are two values that are detached from each other and can also differ from each other.

Navigate to *menu* → *Extras* → *Change language*. A popup will open, select **DE** and press ☒ to accept the selection.


DE

Now enter the German Description:

| Char. Value | Description |
|-------------|-------------|
| TRFR1### | Schwarz |
| TRFR2### | Silber |
| TRFR3### | Rot |

Schwarz
Silber
Rot

Press to save your entries.

Click  to return to the SAP Fiori Launchpad.



Step 2: Manage Classes

Task Create a class and assign a characteristic.

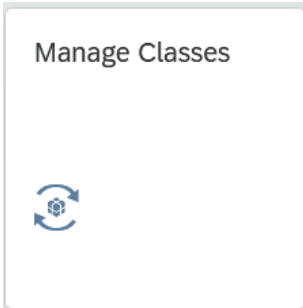
Time 5 min

Short Description Classes are used to group one or more characteristics together and can then be assigned to a material. It is also possible to use classes in BOMs to then select linked materials depending on the selection.

Name (Position) Jun Lee (Production Manager)

To create a class, use the *Manage Classes* app in the *Production Planning and Execution* area on the *Variant Configuration* page in the *Production Manager* role.

Manage Classes



Enter **TRFRC###** as the *class* and **300** as the *class type*.

TRFRC###
300

< SAP Class

Menu

Change Language

Class: TRFRC600

* Class type: 300

Change Number:

Valid from: 09/01/2023

Validity

Press to create the Characteristic.

In the *Basic data* tab, enter **Frame class** as the *description*. Check that **1** is selected as the *status*.

Frame class
1

Basic data Keywords Char. Texts Document Std Addnl data

Basic data

* Description: Frame class

* Status: 1

Class group:

Organizational area:

Valid From: 09/01/2023

Local class: ☐

Valid to: 12/31/9999

Switch to the *Char.* tab and enter the newly created characteristic **TRFRP###**. Press Enter.

TRFRP###

Basic data Keywords Char. Texts Document Std Addnl data

| Char. | Description | Data ... | Nu... | De... | Unit | Re... |
|-----------------------------------|-------------|----------|-------|-------|------|-------------------------------------|
| <input type="checkbox"/> TRFRP600 | Frame color | CHAR | 8 | 0 | | <input checked="" type="checkbox"/> |

Switch to the *Additional data* tab. Enter **EA** for *Base unit of measure* and **L** for *Res. item category*. Then select **Required component**.

EA
L
Required component

Basic data Keywords Char. Texts Document Std Addnl data

Use of class

Allowed in BOMs: ☐

Low-level code:

Default data for component

Base Unit of Measure:

Res. item category:

Organizational area:

Required Component: ☒

Multiple Selection: ☐

Press **Save** to save your entries.

Click **SAP** to return to the SAP Fiori Launchpad.



Step 3: Create configurable product

Task Create a configurable product.

Time 10 min

Short Description Based on a Deluxe Touring Bike, a configurable material will be created that includes the previously defined class. This product will then map all possible Deluxe Touring Bike versions. However, for the sake of simplicity, the new product will only be created in the HD00 plant.

Name (Position) Jun Lee (Production Manager)

To create a configurable product, use the *Manage Product Master Data* app in the *Production Planning and Execution* area on the *Variant Configuration* page in the *Production Manager* role.

Manage Product Master Data

Enter **DXTR1##** in the *Product* field and press **Go**. The corresponding data record is displayed.

DXTR1###

SAPManage Product Master Data

Standard

Editing Status:All

Product:Deluxe Tourin... x

Product Description:

GTIN:

Product Group:

Product Category:

GoAdapt Filters (1)

Products (1)

CreateCopyMass ProcessingShow in HierarchyDelete

| Image | Description / ID | Group / Type | GTIN | Product Category |
|-------|---|---|------|------------------|
| | Deluxe Touring Bike (black) DXTR1600 | Finished Bikes (BIKES) Finished Product (FERT) | | Product |

Select the entry and press **Copy**, the *Select organizational data to copy* popup opens.

Click on the entry *Plants*, all plants defined for DXTR1## are listed. Deselect all entries and select only the entry **Plant Heidelberg (HD00)**.

<

Select Organizational Data to Copy

| Plants | | |
|-------------------------------------|---|-------|
| <input type="checkbox"/> | Plant | Total |
| <input type="checkbox"/> | Plant Dallas (DL00) No item selected | 1 > |
| <input checked="" type="checkbox"/> | Plant Heidelberg (HD00) No item selected | 1 > |
| <input type="checkbox"/> | DC Hamburg (HH00) No item selected | 1 > |
| <input type="checkbox"/> | DC Miami (MI00) No item selected | 1 > |
| <input type="checkbox"/> | DC San Diego (SD00) No item selected | 1 > |

Press < to navigate back and then press *Distribution Chains*.

Deselect all entries again and select only the entry **Germany South (DS00) - Wholesale (WH)**.

<

Select Organizational Data to Copy

| Distribution Chains | | |
|-------------------------------------|----------------------|----------------------|
| <input type="checkbox"/> | Sales Organization | Distribution Channel |
| <input type="checkbox"/> | US West | Wholesale |
| <input type="checkbox"/> | UW00 | WH |
| <input checked="" type="checkbox"/> | Germany South | Wholesale |
| | DS00 | WH |
| <input type="checkbox"/> | Germany North | Wholesale |
| | DN00 | WH |
| <input type="checkbox"/> | US East | Wholesale |
| | UE00 | WH |
| <input type="checkbox"/> | Germany North | Internet |
| | DN00 | IN |
| <input type="checkbox"/> | US West | Internet |
| | UW00 | IN |

Press < to navigate back. In the overview, exactly one position is now selected for each entry.

Select Organizational Data to Copy

| | | |
|-----------------------------|---------------------|-----|
| Deluxe Touring Bike (black) | | |
| DXTR1600 | | |
| <input type="checkbox"/> | Plants | |
| | 1 item selected | 5 > |
| <input type="checkbox"/> | Distribution Chains | |
| | 1 item selected | 6 > |

Press OK to accept the selection.

Enter **DXTRV###** for *product number*, select **Configurable Materials (KMAT)** as *product type* and change *description* to **Deluxe Touring Bike (Variants)**.

DXTRV###
KMAT
Deluxe Touring Bike
(Variants)

Create Master Data Record

Product Number:
DXTRV600

Base Unit: *
Each (EA)

Change Number:

Product Type: *
Finished Product (KMAT)

GTIN:

Revision Level: [Create Revision Level](#)

Product Category:
Product

GTIN Category:

Product Group:
Finished Bikes (BIKES)

Description: *
Deluxe Touring Bike (Variants)

Confirm your entries with **OK**. The copied master data record is now displayed.

In the *Descriptions* section, delete the entry for the languages *RU* and *FR* by selecting them and clicking on **Delete**. Then change the entry for the *DE* language to **Deluxe Touring Bike (Varianten)**.

Deluxe Touring Bike
(Varianten)

Descriptions

Descriptions (2)

| Language | Product |
|------------------------------------|---------------------------------|
| <input type="radio"/> DE | Deluxe Touring Bike (Varianten) |
| <input type="radio"/> English (EN) | Deluxe Touring Bike (Variants) |

Select the *Classification* area, the window will automatically scroll to the correct position.

Click on **Click here to assign a class.**, a selection window opens. Search for your class **TRFRC###**.

TRFRC###

Select: Class

TRFRC600

Go Show Filters

Items

| Class Type | Name | Description | Status |
|----------------|----------|-------------|--------|
| Variants (300) | TRFRC600 | Frame class | |


Select your class, it will be added to the master record.

Classification


Variants (300)

Class: TRFRC600

Frame color:

So that a selection can be made later, the desired values of the characteristic must still be selected. To do this, press  to open the input help. Then select all the predefined values.

Frame color




Selected: 3

Predefined Values

☒ Black

☒ Silver

☒ Red

Press  to accept the values.

Classification

Variants (300) Class: TRFRC600

Frame color:

Black 

Silver 

Red 
















Select the *Distribution Chains* section, the window will automatically scroll to the correct position.


Only the pre-selected distribution lchains *DS00 - WH* was taken over.

Distribution Chains

Distribution Chains (1)


| Sales Organization | Distribution Channel | Sales Unit | Variable Sales... | Delivery Plant | Delivery Unit |
|--|--|---|-------------------|--|---|
|  DS00  | WH  |  | | HD00  | 0.000   |

Click on  at the end line to open the details.


Select the *Grouping terms* area and choose **Configuration (0002)** as the *item category group*.


Configuration (0002)

Product Pricing Group:



Item Category Group: *

Configuration (0002) 

Press , you will return to the general record.

Open the details of the HD00 plant. The *Plants* area is located directly below the *Distribution Chains* area. To do this, click  at the end line.

Select the *MRP Data* area. Change the *MRP type* to **Planned Disposition (PD)** and select **Make-to-order for configurable material (25)** as the *strategy group*.

Planned Disposition
Make-to-order for
configurable material

MRP Data

MRP Data

| | | |
|--|--|--|
| MRP Type: * | Availability Check: * | MRP Group: |
| <input type="text" value="MRP (PD)"/> | <input type="text" value="Individ. Requirement (02)"/> | <input type="text"/> |
| MRP Controller: | ABC Indicator: | Strategy Group: |
| <input type="text" value="HD MRP Controller (000)"/> | <input type="text"/> | <input type="text" value="Make-to-order for configurable materi ..."/> |

Scroll down a bit to the *Procurement* section. Select **In-house production (E)** as the *procurement type*. This is mandatory and can no longer be changed, since configurable material is always created in in-house production.

In-house production

Procurement

Procurement Type:

In-House Production (E)

Press **Apply**, you will return to the general record.

To create the new material press **Create**.

Click **SAP** to return to the SAP Fiori Launchpad.



Step 4: Model variant configuration

Task Create a configuration profile.

Time 5 min

Short Description The configurable product requires a configuration profile to resolve the characteristics of the class at runtime and offer them as choices.

Name (Position) Jun Lee (Production Manager)


To model variant configuration, use the *VC Modeling Environment* app in the *Production Planning and Execution* area on the *Variant Configuration* page in the *Production Manager* role.

VC Modeling Environment

Enter your configurable material **DXTRV###** for *Material* and verify that **300** is selected as the *class type*.

DXTRV###
300

< SAP Initial Screen of Variant Configuration Modeling Environment

Menu 

* Material:


Date:

Change No.:

* Class Type: Variants

Plant:






BOM Application:






Press  to enter the model.







You will be shown the configuration for your configurable material.

The *DXTRV##* object represents the Configurable product. The class (*300 TRFRC##*) is located below it. You can also expand the individual elements to view their structure.







< **SAP** Configuration for DXTRV600 09/01/2023

Menu ▾     

| Object | Description | Status | Over |
|---|--------------------------------|--------|------|
| <input type="checkbox"/>   DXTRV600 | Deluxe Touring Bike (Variants) | | |
| <input type="checkbox"/>   300 TRFRC600 | Frame class | | |
| <input type="checkbox"/>   TRFRP600 | Frame color | | |

Right-click on the *DXTRV###* entry to open the corresponding context menu.

| Object | Description |
|---|--------------------------------|
| <input type="checkbox"/>   DXTRV600 | Deluxe Touring Bike (Variants) |
| <input type="checkbox"/>   300 TRFRC600 | |
| <input type="checkbox"/>   TRFRP600 | |

Expand subtree

Collapse subtree

Find

Create Table Constraint Using Wizard...

Assign Class...

Create Configuration Profile...

Create Config. Profiles with Template...

Create or Assign KB object...

Select *Create configuration profile*, a new window opens. Enter **DXTRV000-P** for *Configuration profile*.

DXTRV000-P

Create Configuration Profile ✕

Material: DXTRV600

Class Type: 300

* Configuration Profile: DXTRV000-P

Engineering Change Management

☒ Without Change No.

☐ With Change No.

BOM Explosion

☒ BOM Must Not Be Exploded for Material

☐ BOM Must Be Exploded

* BOM Application:

Press  to apply the profile.







The new configuration profile opens automatically and is also visible in the navigation on the left side of the screen with a green status.







<









SAP

Configuration for DXTRV600 09/01/2023

Search In: "Apps"

Menu      

| Object | Description | Status | Ov |
|---|--------------------------------|---|----|
| <input type="checkbox"/>  DXTRV600 | Deluxe Touring Bike (Variants) | | |
| <input type="checkbox"/>  DXTRV000-P | |  | |
| <input type="checkbox"/>  300 TRFRC600 | Frame class | | |
| <input type="checkbox"/>  TRFRP600 | Frame color | | |
| <input type="checkbox"/>  TRFR1600 | Black | | |
| <input type="checkbox"/>  TRFR2600 | Silver | | |
| <input type="checkbox"/>  TRFR3600 | Red | | |

Material: DXTRV600

Configuration Profile: DXTRV000-P

Basic Data

Dependencies

Interface Design


Class Type: 300


Org. Areas:

* Status: 1 Released

Valid From:

Further settings in the configuration profile are not necessary.

Press  to save your changes.

Click  to return to the SAP Fiori Launchpad.



| | | |
|--------------------------|--|-------------------|
| Task | Create maximum bill of material. | Time 5 min |
| Short Description | For the configurable Deluxe Touring Bike, a maximum bill of materials must be defined that includes all possible components. | |
| Name (Position) | Jun Lee (Production Manager) | |

| | | |
|--------------------------|--|-------------------|
| Task | Create maximum bill of material. | Time 5 min |
| Short Description | For the configurable Deluxe Touring Bike, a maximum bill of materials must be defined that includes all possible components. | |
| Name (Position) | Jun Lee (Production Manager) | |

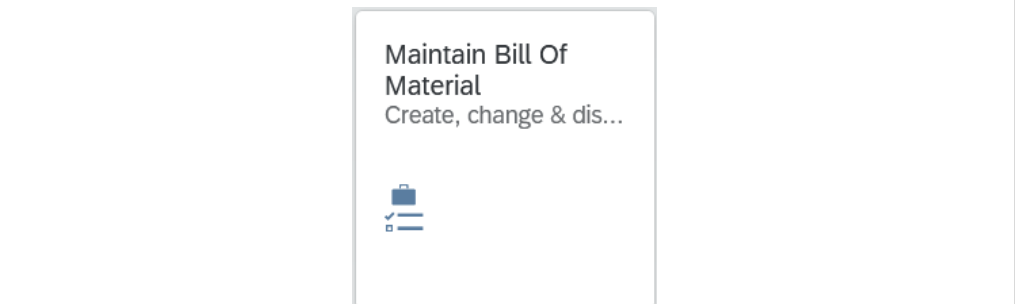
Short Description For the configurable Deluxe Touring Bike, a maximum bill of materials must be defined that includes all possible components.

Name (Position) Jun Lee (Production Manager)

Name (Position) Jun Lee (Production Manager)

| | |
|---|---------------------|
| <p>To customize the BOM, use the <i>Maintain BOM</i> app in the <i>Production Planning and Execution</i> area on the <i>Variant Configuration</i> page in the <i>Production Manager</i> role.</p> | <p>Maintain BOM</p> |
|---|---------------------|

| | |
|---|---------------------|
| <p>To customize the BOM, use the <i>Maintain BOM</i> app in the <i>Production Planning and Execution</i> area on the <i>Variant Configuration</i> page in the <i>Production Manager</i> role.</p> | <p>Maintain BOM</p> |
|---|---------------------|



Enter **DXTR1###** in the *Material* field and **HD00** in the *Plant* field. Press  **Go**, the corresponding bill of material will be displayed.

DXTR1###
 HD00

Enter **DXTR1###** in the *Material* field and **HD00** in the *Plant* field. Press  **Go**, the corresponding bill of material will be displayed.

DXTR1###
 HD00

SAP Maintain Bill of Material

Standard


Editing Status: All Material: Deluxe Tourin... Plant: Plant Heidelb... BOM Usage: Alternative BOM:


BOM Version: Versioning Relevant: BOM Version Status:

Go Enter Adapt Filters (2)

| Bills of Material (1) | | | | | | | | | |
|--------------------------------|-----------------------------|--------------------|-------------------------|----------------|---------------------------|-----------------|--------------|--------------|-----|
| | Create BOM | Create Version BOM | Create Alternative | Create Version | Handover to Manufacturing | Copy BOM | Assign Plant | Remove Plant | ... |
| Material | Material Description | | Plant | BOM Usage | | Alternative ... | | | |
| <input type="radio"/> DXTR1600 | Deluxe Touring Bike (black) | | Plant Heidelberg (HD00) | Production (1) | | 1 | > | | |

BOM Version:
BOM Version Status:
Change Number:

Select the entry and press . In the window that opens, enter **DXTRV###** for *material* and **HD00** for *plant* and select **1 (Production)** as the *BOM usage*.

Select the entry and press . In the window that opens, enter **DXTRV###** for *material* and **HD00** for *plant* and select **1 (Production)** as the *BOM usage*.

Copy BOM

Material:*

DXTRV600

Plant:

HD00

BOM Usage:*

1 (Production)

Alternative BOM:

Change Number:

Copy Components:

☒

Valid From:

09/01/2023

Selected Alternative:

1

Change Record:

OK

Cancel

Press **OK** to accept the entries.

You will see the bill of materials with its components.

| <input type="checkbox"/> | Item Nu... | Item Category | Component | Preliminary Component | Component Quantity | |
|--------------------------|------------|----------------|-----------|-----------------------|--------------------|----|
| <input type="checkbox"/> | 0010 | Stock item (L) | TRWA1600 | | 2.000 | EA |
| <input type="checkbox"/> | 0020 | Stock item (L) | TRFR1600 | | 1.000 | EA |
| <input type="checkbox"/> | 0030 | Stock item (L) | DGAM1600 | | 1.000 | EA |
| <input type="checkbox"/> | 0040 | Stock item (L) | TRSK1600 | | 1.000 | EA |
| <input type="checkbox"/> | 0050 | Stock item (L) | TRHB1600 | | 1.000 | EA |
| <input type="checkbox"/> | 0060 | Stock item (L) | PEDL1600 | | 1.000 | EA |
| <input type="checkbox"/> | 0070 | Stock item (L) | CHAN1600 | | 1.000 | EA |
| <input type="checkbox"/> | 0080 | Stock item (L) | BRKT1600 | | 1.000 | EA |
| <input type="checkbox"/> | 0090 | Stock item (L) | WDOC1600 | | 1.000 | EA |
| <input type="checkbox"/> | 0100 | Stock item (L) | PCKG1600 | | 1.000 | EA |

To match this to the configurable product, change the free positions *0110* and *0120* to **0020**, then **TRFR2###** and **TRFR3###** as *component* with a component quantity of **1 EA** each.

0020

TRFR2###

1 EA

0020


TRFR3###

1 EA

| <input type="checkbox"/> | Item Nu... | Item Category | Component | Preliminary Component | Component Quantity | |
|--------------------------|------------|----------------|-----------|-----------------------|--------------------|----|
| <input type="checkbox"/> | 0010 | Stock item (L) | TRWA1600 | | 2.000 | EA |
| <input type="checkbox"/> | 0020 | Stock item (L) | TRFR1600 | | 1.000 | EA |
| <input type="checkbox"/> | 0030 | Stock item (L) | DGAM1600 | | 1.000 | EA |
| <input type="checkbox"/> | 0040 | Stock item (L) | TRSK1600 | | 1.000 | EA |
| <input type="checkbox"/> | 0050 | Stock item (L) | TRHB1600 | | 1.000 | EA |
| <input type="checkbox"/> | 0060 | Stock item (L) | PEDL1600 | | 1.000 | EA |
| <input type="checkbox"/> | 0070 | Stock item (L) | CHAN1600 | | 1.000 | EA |
| <input type="checkbox"/> | 0080 | Stock item (L) | BRKT1600 | | 1.000 | EA |
| <input type="checkbox"/> | 0090 | Stock item (L) | WDOC1600 | | 1.000 | EA |
| <input type="checkbox"/> | 0100 | Stock item (L) | PCKG1600 | | 1.000 | EA |
| <input type="checkbox"/> | 0020 | Stock item (L) | TRFR2600 | | 1.000 | EA |
| <input type="checkbox"/> | 0020 | Stock item (L) | TRFR3600 | | 1.000 | EA |

Press **Create** to save the new parts list. After saving, the new entries are also displayed sorted by item number.

| <input type="checkbox"/> | Item Nu...  | Item Category | Component | Preliminary Component | Component Quantity | | Subitems |
|--------------------------|--|----------------|--------------------------|-----------------------|--------------------|----|--------------------------|
| <input type="checkbox"/> | 0010 | Stock item (L) | TRWA1600 | | 2.000 | EA | Maintain |
| <input type="checkbox"/> | 0020 | Stock item (L) | TRFR1600 | | 1.000 | EA | Maintain |
| <input type="checkbox"/> | 0020 | Stock item (L) | TRFR2600 | | 1.000 | EA | Maintain |
| <input type="checkbox"/> | 0020 | Stock item (L) | TRFR3600 | | 1.000 | EA | Maintain |
| <input type="checkbox"/> | 0030 | Stock item (L) | DGAM1600 | | 1.000 | EA | Maintain |
| <input type="checkbox"/> | 0040 | Stock item (L) | TRSK1600 | | 1.000 | EA | Maintain |
| <input type="checkbox"/> | 0050 | Stock item (L) | TRHB1600 | | 1.000 | EA | Maintain |
| <input type="checkbox"/> | 0060 | Stock item (L) | PEDL1600 | | 1.000 | EA | Maintain |
| <input type="checkbox"/> | 0070 | Stock item (L) | CHAN1600 | | 1.000 | EA | Maintain |
| <input type="checkbox"/> | 0080 | Stock item (L) | BRKT1600 | | 1.000 | EA | Maintain |
| <input type="checkbox"/> | 0090 | Stock item (L) | WDOC1600 | | 1.000 | EA | Maintain |
| <input type="checkbox"/> | 0100 | Stock item (L) | PCKG1600 | | 1.000 | EA | Maintain |

Click  to return to the SAP Fiori Launchpad.



Step 6: Model variant configuration

Task Create object dependencies for the super bill of material..

Time 15 min

Short Description In order for the characteristic selection to have a dynamic effect on the maximum bill of material, the characteristic values must be linked to the components of the bill of material. Depending on the selected characteristic, the appropriate touring bike frame is then used.

Name (Position) Jun Lee (Production Manager)

To model variant configuration, use the *VC Modeling Environment* app in the *Production Planning and Execution* area on the *Variant Configuration* page in the *Production Manager* role.

VC Modeling Environment

Enter your configurable material **DXTRV###** for *Material*. Check that **300** is selected as the *class type* and enter **HD00** for *Plant*, and **PP01** for *BOM Application*.

DXTRV###
300
HD00
PP01

< SAP

Initial Screen of Variant Configuration Modeling Environment

Menu ▾

* Material:

DXTRV600

Date:

09/01/2023

Change No.:

* Class Type:

300

Variants

Plant:

HD00

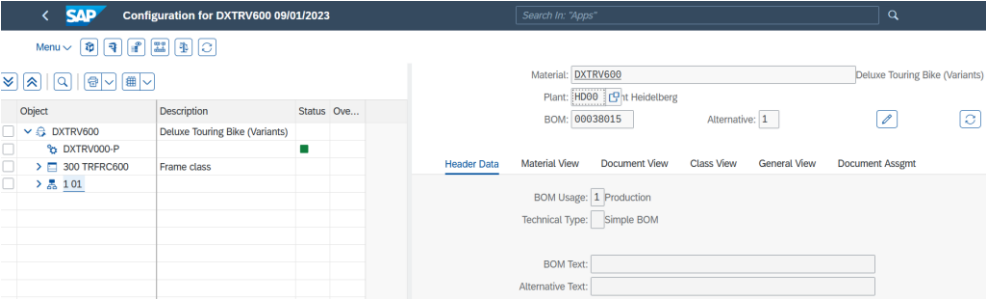
BOM Application:


PP01


Press to enter the model.

The configuration for your configurable material is displayed. In addition to the frame class and the configuration profile created, the list (1 01) is now also displayed.

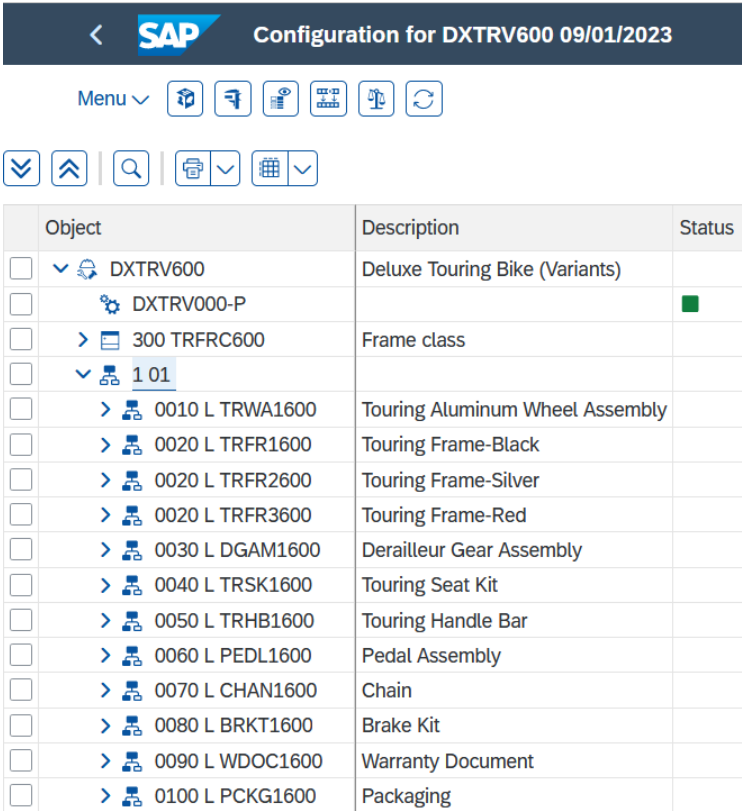
Double-click on the list (1 01) in the object list to open its details.



Press  to activate the edit mode.

A message appears. Leave the selection at *Without change no.* and confirm with .

Now expand the list (1 01) in the object list to see the individual items.



Double-click on 0020 L TRFR1### in the object list to open the details of the position.

Material: DXTRV600Deluxe Touring Bike (Variants)

Plant: HD00Plant Heidelberg

BOM: 00038015Alternative: 1

Item: 0020Component: TRFR1600Touring Frame-Black

Basic Data

Dependencies

Status/Lng Text

Purchasing

Administr.

Document Assgmt

BOM Item

Item Category: L Stock item

Item ID: 00000001

Item Group:

Sort String:

☐ Sub-item Indicator

Class Type:

☐ Object Dps. exist

☐ as Selection Cond.

Switch to the *Dependencies* tab. There are currently no entries there. Press Local to create a local object dependency.

Note Object dependencies are used to link information and objects with each other, to make them dependent on each other, or to exclude each other. In this way, for example, conditions can be ensured during configuration or derivations can be made. Local dependencies apply only to one object, whereas global dependencies can be reused.

The *Create Dependency on BOM Item* window opens.

Create Dependency on BOM Item

Dependency Type: ☒ Selection Condition

☐ Procedure

✓

✗

Confirm with ✓ the *dependency type* **Selection conditions**.

Selection conditions

The still empty dependencies editor opens. The first relationship is created piece by piece to develop an understanding of it. You can then enter the other relationships directly.

Basic Data

Dependencies

Status/Lng Text


Purchasing

Administr.




Document Assgmt

Dependencies



Dependency: 0000000001

The dependencies editor provides context-sensitive input help to create dependencies. Press  to access the syntax help.


Syntax Help




- > = Operators
- >  Punctuation
- >  Keywords
- >  Symbolic characteristics






You will see the different options Operators, Punctuation, Keywords and Symbolic characteristics. Expand the entry for the Symbolic characteristics.

- ▼  Symbolic characteristics
 -  TRFRP600


You will see your characteristic *TRFRP##*. Select it by double-clicking, it will be transferred to the dependency editor.

 Dependencies

Dependency:











TRFRP600


Press again  to call the syntax help. This time you will be offered a small selection of possibilities, since at the point only an operator or a keyword can follow for a syntactically correct relationship.




Syntax Help






- > = Operators
- >  Keywords

Expand operators and insert  = (equal sign) by double-click.


Basic Data
 Dependencies
 Status/Lng Text
 Purchasing
 Administr.
 Document Assgmt

 Dependencies

Dependency:




TRFRP600 =

Press again  to call the syntax help. In addition to the options listed at the beginning, symbolic values are now available. Expand them.

Syntax Help


- > Punctuation
- > Keywords
- > Operators
- > Symbolic characteristics
- ▼ Symbolic values
 - TRFR1600
 - TRFR2600
 - TRFR3600

You will see characteristic values *TRFR1###*, *TRFR2###* and *TRFR3###*. Select *TRFR1###* by double-clicking it to take it over to the dependency editor.

Basic Data **Dependencies** Status/Lng Text Purchasing Administr. Document Assgmt

 Dependencies

Dependency: 0000000001   


    




TRFRP600 = 'TRFR1600'


The rule is now complete. If the characteristic TRFR1## is used, the component TRFR1## is selected for the BOM.

Press  to switch to the basic data of the dependencies.

Enter **Frame - Black** as the *description* and select **1 Released** as the *status*.

 Dependencies

Dependency: 0000000001   


Description: ☐ Documentation 

Processing Mode: Classic

Dependency Type


☒ Selection Condition

☐ Procedure

* Status: 1 Released 

Group:

Maintenance Authority:

Note With  you can switch back to the editor.

Repeat the procedure for 0020 L TRFR2## and 0020 L TRFR3##.

Use the following rules and description:

0020 L TRFR2###


Rule: TRFRP### = 'TRFR2###'.


Description: Frame - Silver

0020 L TRFR3###

Rule: TRFRP### = 'TRFR3###'.

Description: Frame - Red

Press  to save your changes.

Click  to return to the SAP Fiori Launchpad.



Step 7: Create routing

Task Create a work plan for the new product.

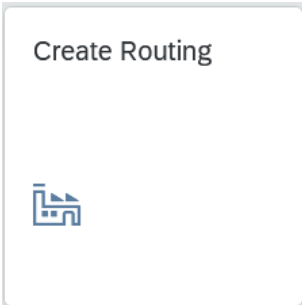
Time 5 min

Short Description For production, the configurable Deluxe Touring Bike requires a work plan. This is created on the basis of the existing routings of other Deluxe Touring Bikes.

Name (Position) Jun Lee (Production Manager)

To create a routing, use the *Create routing* app in the *Production Planning and Execution* area on the *Variant Configuration* page in the *Production Manager* role.

Create routing



Enter **DXTRV###** for *material* and **HD00** for *plant*.

DXTRV###
HD00

< SAP Create Routing: Initial Screen

Menu ▾

 Copy from Routings Sequences Operations

Material:

Plant:

Press **Copy from** and select **Routing**. Confirm your selection by clicking on .

Routing

In the Select object to be copied, enter **DXTR1###** for *Material*. The **HD00** *plant* should already be prefilled.

DXTR1###
HD00

Create Using Copy Function: Select Object to be Copied

×

Material:

Plant:

Click on to continue.

In the header data check, add **4** for *Overall status*, all other entries can be accepted.

4

Menu 

Group:

Group Counter:

Material:

Deluxe Touring Bike (Variants)

Task List

Group:

* Group Counter:

* Plant:

Long Text Exists: ☐

Production line

Line Hierarchy

General Data

Deletion Flag: ☐


* Usage: Production


* Overall Status:

Press Enter, you will get to the *operation overview*.

Operation Overview

| Ope... | SOp | Work Ce... | Plant | * C... | Standard... | Description | Lo... | PRT | Cl... | O... | Pe... | Cu... | Su... | Base Quantity | Un... |
|--------------------------|------|------------|-------|--------|-------------|---------------------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|---------------|-------|
| <input type="checkbox"/> | 0010 | ASSY1000 | HD00 | ASSY | | Material staging | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | 15 | EA |
| <input type="checkbox"/> | 0020 | ASSY1000 | HD00 | ASSY | | Attach seat to frame | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | 1 | EA |
| <input type="checkbox"/> | 0030 | ASSY1000 | HD00 | ASSY | | Attach handle bar assembly | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | 1 | EA |
| <input type="checkbox"/> | 0040 | ASSY1000 | HD00 | ASSY | | Attach derailleur gear asm. to wheel | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | 1 | EA |
| <input type="checkbox"/> | 0050 | ASSY1000 | HD00 | ASSY | | Attach front and rear wheels to chain | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | 1 | EA |
| <input type="checkbox"/> | 0060 | ASSY1000 | HD00 | ASSY | | Attach brakes | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | 1 | EA |
| <input type="checkbox"/> | 0070 | ASSY1000 | HD00 | ASSY | | Attach peddles | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | 1 | EA |
| <input type="checkbox"/> | 0080 | INSP1000 | HD00 | ASSY | | Test bike | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | 1 | EA |
| <input type="checkbox"/> | 0090 | PACK1000 | HD00 | ASSY | | Disassemble | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | 1 | EA |
| <input type="checkbox"/> | 0100 | PACK1000 | HD00 | ASSY | | Pack bike | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | 1 | EA |
| <input type="checkbox"/> | 0110 | PACK1000 | HD00 | ASSY | | Move to storage | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | 15 | EA |

Since no changes are necessary here, the work plan can be accepted with a click on .

Click  to return to the SAP Fiori Launchpad.



Step 8: Manage production versions

Task Create a manufacturing version for your configurable Deluxe Touring Bike.

Time 5 min

Short Description After the maximum BOM and routing are created, a production version is created for the configurable Deluxe Touring Bike. This combines the maximum BOM and the routing so that they are used for production.

Name (Position) Jun Lee (Production Manager)

To create a production version, use the *Manage Production Versions* app in the *Production Planning and Execution* area on the *Variant Configuration* page in the *Production Manager* role.

Monitor
Stock/Requirements List



Press **Create** to create a new production version.

Enter **0001** as *Production version* and **Production Version DXTRV###** for *Prodn Version Text*.

0001
Production Version
DXTRV###

A screenshot of the SAP 'Production Version' creation form. The form has a dark blue header bar with the SAP logo and the text 'Production Version'. Below the header, the form is divided into several sections. The first section is 'Header Data', which contains fields for 'Production Version' (set to '0001'), 'Prodn Version Text' (set to 'Production Version DXTRV600'), 'REM Allowed' (unchecked), 'Change Number' (empty), 'BOM Check Status' (set to 'Not yet checked'), 'Routing Check Status' (set to 'Not yet checked'), and 'Use Different Master Data for Planning and Execution' (unchecked). The second section is 'Selection Criteria', which contains fields for 'Material' (set to 'DXTRV600'), 'Plant' (set to 'Plant Heidelberg (HD00)'), 'Validity Start Date' (set to '09/01/2023'), 'Validity End Date' (set to '12/31/9999'), 'Minimum Lot Size' (set to '1.000'), and 'Maximum Lot Size' (set to '99,999,999.000'). The form also has a 'Check' button in the top right corner.

In the *Selection Criteria* area, add **DXTRV###** for *Material*, **HD00** for *Plant*, and **1** for *Minimum Lot Size*.

DXTRV###
HD00
!

A screenshot of the 'Selection Criteria' section of the SAP form. It shows a table with columns for 'Material', 'Plant', 'Validity Start Date', 'Validity End Date', 'Minimum Lot Size', and 'Maximum Lot Size'. The 'Material' column contains 'DXTRV600', the 'Plant' column contains 'Plant Heidelberg (HD00)', the 'Validity Start Date' column contains '09/01/2023', the 'Validity End Date' column contains '12/31/9999', the 'Minimum Lot Size' column contains '1.000', and the 'Maximum Lot Size' column contains '99,999,999.000'. There is a 'Lock Status' dropdown menu at the bottom left.

In the subsequent *Production* area, select **1** as the *Alternative BOM*, **Production** is automatically added for *BOM Usage*.

Select **Routing** as the *task list type*. For the *task list group*, use the possible entries help to select **your task list group**, the task list group counter is automatically supplemented with **1**.

Production

Alternative BOM:
1

Apportionment Struct:

Task List Type:
Routing

BOM Usage:
Production

Group:
50000004

Group Counter:
1

Note Loading animations that occur in some fields do not affect the result and you can continue working.

Press **Create** to save the production version.

Then look again at the header data of your production version. Both the *BOM check status* and the *Routing check status* should now both show *last check OK*.

Header Data

Selection Criteria

Production

Version Details

Component Supply & Product Putaway

Repetitive Manufacturing

Administration

Production Version:
Production Version DXTRV600 (0001)

REM Allowed:
No

BOM Check Status:
Last check o.k.

Prod'n Version Text:
Production Version DXTRV600

Change Number:
-

Routing Check Status:
Last check o.k.

Use Different Master Data for Planning and Execution:
No

Click **SAP** to return to the SAP Fiori Launchpad.



1
Production

Routing
your task list group
1

Step 9: Maintain variant conditions

Task Create variant keys.

Time 5 min

Short Description Variant keys are required so that variant prices can be created. The variant keys are then also needed to link the variant prices with the characteristic values.

Name (Position) Jun Lee (Production Manager)

To create variant keys, use the *Maintain Variant Conditions* app in the *Production Planning and Execution* area on the *Variant Configuration* page in the *Production Manager* role.

Maintain Variant
Conditions



Press **New Entries** to create your own variant closures.

Now enter the following variant key and associated discription:

| Variant key | Description |
|-------------|-----------------------------|
| TRFR1### | Touring Bike Frame - Black |
| TRFR2### | Touring Bike Frame - Silver |
| TRFR3### | Touring Bike Frame - Red |

Note Although the variant keys are named like the associated raw materials, they are independent of each other. However, this makes assignment easier both technically and mentally.

Press **Save** to save the entries.

Click **SAP** to return to the SAP Fiori Launchpad.



Step 10: Manage Prices

Task Set prices for the product and its variants.

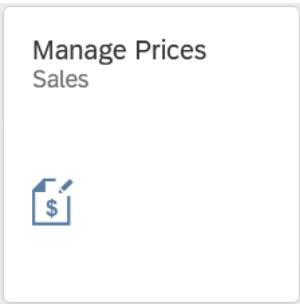
Time 10 min

Short Description A price is assigned for the configurable Deluxe Touring Bike, but additional variant prices are defined. This calculates the total price from the sum of the product price and the price of the selected feature.

Name (Position) James Shamblin (Head of Sales)

To set sales prices, use the *Manage Prices* app in the *Production Planning and Execution* area on the *Variant Configuration* page in the Head of Sales role.

Manage Prices



Press **Create** to create new condition records.

The first step is to create the condition record for the new Deluxe Touring Bike (variants).

Enter **PR00** for *condition type*, **304** for *condition table*, **DS00** for *sales organization*, **WH** for *distribution channel*, and **DXTRV###** as *product*.

PR00
304
DS00
WH
DXTRV###

The *condition amount or ratio* is set at **3,000.00 EUR**.

3,000.00
EUR



Press **Save** to save the condition record.

Repeat the process to create the condition records for the individual frame colors (the variants). For variant prices, the previously created variant keys are also required.

Use the following table for the individual entries:

| Cond.Type ¹ | Con.tbl ² | Variant Key | Sales.org ³ | Dis.Channel ⁴ | Produkt | Amount ⁵ |
|------------------------|----------------------|-------------|------------------------|--------------------------|----------|---------------------|
| VA00 | 057 | TRFR1### | DS00 | WH | DXTRV### | 100 EUR |
| VA00 | 057 | TRFR2### | DS00 | WH | DXTRV### | 60 EUR |

| | | | | | | |
|------|-----|----------|------|----|----------|--------|
| VA00 | 057 | TRFR3### | DS00 | WH | DXTRV### | 80 EUR |
|------|-----|----------|------|----|----------|--------|


¹ = Condition Type


² = Condition Table

³ = Sales Organization

⁴ = Distribution Channel

⁵ = Condition Amount or Ratio

Press  to save the condition record.

Click  to return to the SAP Fiori Launchpad.



Step 11: Model variant configuration

Task Define variant pricing..

Time 5 min

Short Description After variant prices have been created for the configurable Deluxe Touring Bike, they are linked to the characteristic values via the variant keys.

Name (Position) Jun Lee (Production Manager)

To model variant configuration, use the *VC Modeling Environment* app in the *Production Planning and Execution* area on the *Variant Configuration* page in the *Production Manager* role.

VC Modeling Environment

Enter your configurable material **DXTRV###** for *Material*. Check that **300** is selected as the *class type* and enter **HD00** for *Plant*, and **PP01** for *BOM Application*.

DXTRV###
300
HD00
PP01

< SAP

Initial Screen of Variant Configuration Modeling Environment

Search In: "Apps"

Menu

* Material: DXTRV600

Deluxe Touring Bike (Variants)

Date: 09/01/2023

Change No.:

* Class Type: 300

Variants

Plant: HD00

Plant Heidelberg

BOM Application: PP01

Production - General

Press to enter the model.

You will be shown the configuration for your configurable material.

Double-click on *DXTRV###* to open the details on the right-hand side of the screen and switch to the *Variant pricing* tab.

To display values in the table, press Expand List in the lower area. You will then see your characteristic TFRP### and the associated characteristic values.

Material: DXTRV600

Description: Deluxe Touring Bike (Variants)

Basic Data


Descriptions

Variant Pricing

KB objects


Profiles

| | Characteristic | Char. Value | Variant Cond. |
|-----------------------|----------------|-------------|---------------|
| <input type="radio"/> | TRFRP600 | TRFR1600 | |
| <input type="radio"/> | TRFRP600 | TRFR2600 | |
| <input type="radio"/> | TRFRP600 | TRFR3600 | |

Press  to switch to edit mode. Then enter the variant conditions matching the characteristic values.

| Characteristic | Char. Value | Variant Cond. |
|----------------|-------------|---------------|
| TRFRP### | TRFR1### | TRFR1### |
| TRFRP### | TRFR2### | TRFR2### |
| TRFRP### | TRFR3### | TRFR3### |

Press Save to save your changes.

Click  to return to the SAP Fiori Launchpad.

Step 12: Create a sales order

Task Create a sales order.

Time 10 min

Short Description After the new configurable Deluxe Touring Bike has been fully created, you create a sales order to order the product. Here you will see both the configuration options and the associated prices.

Name (Position) James Shamblin (Head of Sales)

To create a sales order, use the *Manage Sales Orders* app in the *Production Planning and Execution* area on the *Variant Configuration* page in the *Head of Sales* role.

Manage Sales Orders



Click **Create** and select *Create sales order VA01*.

Enter **OR1** to create an Standard Order order and press **Continue**.

OR1

Enter **137###** for *Sold-to Party* and *Ship-to Party*, **137##-001** as the *Customer Reference*, and the **current date** for *Customer Ref.Date*. In the *Sales* tab, change the *requested delivery date* to **two weeks from today** and enter **HD00** as the *delivery plant*.

137###
137###-001

Current date
Two weeks from today
HD00

< SAP

Create Standard order: Overview

Search In: "Apps"

Menu

68

Standard order:

Net Value:

0.00

Sold-to Party:

137600

Ship-to Party:

137600

Cust. Reference:

137600-001

Cust. Ref. Date:

09/01/2023

Sales

Item Overview

Item detail

Ordering party

Procurement

Shipping

Reason for rejection

* Req. Deliv.Date:

D

09/15/2023

Deliver.Plant:

HD00


Press Enter, a window will open to specify the sales area. Select the combination *DS00 / WH / BI - Germany South / Wholesale / Bicycles* and click **✓**. The system will automatically add various fields.

On the *Sales* tab, in the *All Items* area, enter **DXTRV###** for *Material* and **10** as the *Order Quantity* in the first line.

DXTRV###
10

| All Items | | | | | |
|--------------------------|------|----------|--------------|----------------|----|
| | Item | Material | Req. Segment | Order Quantity | Un |
| <input type="checkbox"/> | | DXTRV600 | | 10 | |

Press Enter. The *Create Standard order: Characteristic Value Assignment* screen appears.

Click on the value help icon  in the *Characteristic value* field. Here you can see all available characteristic values and the associated condition.

Frame color ✕


Frame color

| S... | Char. Value | Description | Condition | |
|----------------------------------|-------------|-------------|-----------|--|
| <input checked="" type="radio"/> | | No Entry | | |
| <input type="radio"/> | TRFR1600 | Black | TRFR1600 | |
| <input type="radio"/> | TRFR2600 | Silver | TRFR2600 | |
| <input type="radio"/> | TRFR3600 | Red | TRFR3600 | |

Select **3 - Red** and press  to confirm the selection.

3



Press to perform pricing. This time the condition for the Touring Bike Frame - Blue is used for the calculation.

 Net Value

Val . EUR Conditions...


Click Conditions... on to display the condition.

| Overview of Resulting Variant Conditions | | |
|--|--------------------------|-----------|
| 000010 | Touring Bike Frame - Red | 80.00 EUR |

Click on  to close the window and then click .

Press Save to save your order.

Confirm the information that the delivery groups consists of one item.

Click  to return to the SAP Fiori Launchpad.

Step 13: Create production order

Task Create a production order based on the sales order.

Time 5 min




Short Description Since the configurable Deluxe Touring Bike is a custom build, no quantities are produced in advance. Accordingly, a production order must be created for the order placed.

Name (Position) Lars Iseler (Shop Floor Worker)

To create a production order, use the *Production Order with Sales Order* app in the *Production Planning and Execution* area on the *Variant Configuration* page in the *Shop Floor Worker* role.

Production Order with Sales Order



Click in the *Sales order* field and select the value help . Enter **137###** for Sold-to Party and press . Your sales order is listed. Select the entry and press  to accept the sales order.


137###


Enter **10** in the second field of the sales order, this is the position in the order.

10

Enter **HD00** for *production plant* and **PP01** for *order type*.

HD00
PP01

<  Production Order Create: Initial Screen

Menu 

* Sales Order:

43

10

Material:

Production Plant:

HD00


Plant Heidelberg

Planning Plant:

Order Type:

PP01

Order:

Press , the Production Order Create: Header screen appears.

< SAP

Production order Create: Header

Search In: "Apps"

Menu ▾

...

Order:

Type:

PP01

Material:

DXTRV600

Deluxe Touring Bike (Variants)

Plant:

HD00

Status:

General

Assignment

Goods Receipt

Control

Dates/Quantities

Master Data

Long Text

Administration

Items

Fast Entry

Quantities

* Total Qty: 10 EA

Scrap Portion: 0.00 %

Delivered: 0

Short/Exc. Rcpt: 0

Press Components to display the parts list.

Component Overview

| Item | * Component | Description | Reqmt Qty | UoM | It... | Ope... | Seq... | Plant |
|-------------------------------|--------------------------|---------------------------------|-----------|-----|-------|--------|--------|-------|
| <input type="checkbox"/> 0010 | TRWA1600 | Touring Aluminum Wheel Assembly | 20 | EA | L | 0010 | 0 | HD00 |
| <input type="checkbox"/> 0020 | TRFR3600 | Touring Frame-Red | 10 | EA | L | 0010 | 0 | HD00 |
| <input type="checkbox"/> 0030 | DGAM1600 | Deraillleur Gear Assembly | 10 | EA | L | 0010 | 0 | HD00 |
| <input type="checkbox"/> 0040 | TRSK1600 | Touring Seat Kit | 10 | EA | L | 0010 | 0 | HD00 |
| <input type="checkbox"/> 0050 | TRHB1600 | Touring Handle Bar | 10 | EA | L | 0010 | 0 | HD00 |
| <input type="checkbox"/> 0060 | PEDL1600 | Pedal Assembly | 10 | EA | L | 0010 | 0 | HD00 |
| <input type="checkbox"/> 0070 | CHAN1600 | Chain | 10 | EA | L | 0010 | 0 | HD00 |
| <input type="checkbox"/> 0080 | BRKT1600 | Brake Kit | 10 | EA | L | 0010 | 0 | HD00 |
| <input type="checkbox"/> 0090 | WDOC1600 | Warranty Document | 10 | EA | L | 0010 | 0 | HD00 |
| <input type="checkbox"/> 0100 | PKG61600 | Packaging | 10 | EA | L | 0010 | 0 | HD00 |

As you can see, the maximum BOM has been adjusted to the selected configuration and now contains only one item 0020, namely the selected Touring Bike Frame - Red.

Press Save to save the production order.

Order number 1000025 saved

Click to return to the SAP Fiori Launchpad.

Step 14: Goods receipt materials

Task Post the goods receipt for your production.

Zeit 10 Min.

Short Description The necessary materials for production must first be procured and posted. Since this is make-to-order production, it should be noted that a special stock must be created. The special stock reserves the materials for the sales order.

Name (Position) Susanne Castro (Goods Receipt Clerk)

To perform the goods receipt, use the *Post Goods Receipt Without Reference* app in the *Production Planning and Execution* area on the *Variant Configuration* page in the *Goods Receipt Clerk* role.

Post Goods Receipt
Without Reference

Post Goods Receipt
without Reference



When you start the app, one empty item is already available. Press [Create](#) until you have 10 empty items available.

Then add the following values:

| Material | Quantity | Unit | Plant | Storage |
|----------|----------|------|-------|---------|
| TRWA1### | 20 | EA | HD00 | SF00 |
| TRFR3### | 10 | EA | HD00 | RM00 |
| DGAM1### | 10 | EA | HD00 | RM00 |
| TRSK1### | 10 | EA | HD00 | RM00 |
| TRHB1### | 10 | EA | HD00 | RM00 |
| PEDL1### | 10 | EA | HD00 | RM00 |
| CHAN1### | 10 | EA | HD00 | RM00 |
| BRKT1### | 10 | EA | HD00 | RM00 |
| WDOC1### | 10 | EA | HD00 | RM00 |
| PCKG1### | 10 | EA | HD00 | RM00 |

Note Since the selected strategy provides for make-to-order production, the stock must be shown as order stock. In make-to-order production, only material that is explicitly scheduled for the corresponding order is used.

Click on > at the end of *item 01* to open the details.

In the *Plant Options* section, select **Orders on Hand** for *Special Stocks*.

Orders on Hand

Item 01

Material

Plant Options

Additional Information

Material: * TRWA1600

Quantity / Unit: * 20.000 EA

Plant Options

Plant: * Plant Heidelberg (HD00)


Storage Location: * Semi-Fin. Goods (SF00)

Stock Type: Unrestricted-Use

Special Stocks: Orders on Hand

Supplier:

Sales Order / Item: *

Then use the value help  in the *Sales order / Item* field. A window will open.

Geben Sie Ihre Kundennummer **137###** als Suchbegriff ein und drücken Sie **Go**. Der entsprechende Kundenauftrag wird angezeigt.

137###

Select: Sales Order

137600

Go

Items

| Sales Order | Item | Material | Plant | Sold-To Party | Customer | Sales Orga... | Distributio... | Division | Sales Order |
|-------------|--------|----------|-------|---------------|----------|---------------|----------------|----------|-------------|
| 43 | 000010 | DXTRV600 | HD00 | 137600 | 137600 | | | | OR1 |

Select it, it will be applied automatically.

Plant Options

Plant: * Plant Heidelberg (HD00)

Storage Location: * Semi-Fin. Goods (SF00)

Stock Type: Unrestricted-Use

Special Stocks: Orders on Hand

Supplier:

Sales Order / Item: * 43 000010

Press **Apply**, you will return to the position overview.

Repeat the process to show all other items as special stock with reference to the sales order.

Using the Special Stocks column, you can finally check whether all items are shown as Orders on Hand.

Goods Receipt without Reference

General Information

Items

Attachments

| | | | | | | | | |
|--------------------------|----|----------|--------|----|-------------------------|------------------------|------------------|----------------|
| <input type="checkbox"/> | 01 | TRWA1600 | 20.000 | EA | Plant Heidelberg (HD00) | Semi-Fin. Goods (SF00) | Unrestricted-Use | Orders on Hand |
| <input type="checkbox"/> | 02 | TRFR3600 | 10.000 | EA | Plant Heidelberg (HD00) | Raw Materials (RM00) | Unrestricted-Use | Orders on Hand |
| <input type="checkbox"/> | 03 | DGAM1600 | 10.000 | EA | Plant Heidelberg (HD00) | Raw Materials (RM00) | Unrestricted-Use | Orders on Hand |
| <input type="checkbox"/> | 04 | TRSK1600 | 10.000 | EA | Plant Heidelberg (HD00) | Raw Materials (RM00) | Unrestricted-Use | Orders on Hand |
| <input type="checkbox"/> | 05 | TRHB1600 | 10.000 | EA | Plant Heidelberg (HD00) | Raw Materials (RM00) | Unrestricted-Use | Orders on Hand |
| <input type="checkbox"/> | 06 | PEDL1600 | 10.000 | EA | Plant Heidelberg (HD00) | Raw Materials (RM00) | Unrestricted-Use | Orders on Hand |
| <input type="checkbox"/> | 07 | CHAN1600 | 10.000 | EA | Plant Heidelberg (HD00) | Raw Materials (RM00) | Unrestricted-Use | Orders on Hand |
| <input type="checkbox"/> | 08 | BRKT1600 | 10.000 | EA | Plant Heidelberg (HD00) | Raw Materials (RM00) | Unrestricted-Use | Orders on Hand |
| <input type="checkbox"/> | 09 | WDOC1600 | 10.000 | EA | Plant Heidelberg (HD00) | Raw Materials (RM00) | Unrestricted-Use | Orders on Hand |
| <input type="checkbox"/> | 10 | PCKG1600 | 10.000 | EA | Plant Heidelberg (HD00) | Raw Materials (RM00) | Unrestricted-Use | Orders on Hand |

Press **Post** to perform the goods receipt.

✔ Success

1 document(s) created:
Material Document [4900038093/2023](#)

OK

Click **SAP** to return to the SAP Fiori Launchpad.



Step 15: Post goods movement

Task Post the goods movement for the production order.

Time 5 min

Short Description After the materials for the production order are available in the warehouse, they can be booked out for the production order.


Name (Position) Sanjay Datar (Warehouse Employee)

To transfer the raw materials to the production order, use the *Post Goods Movement* app in the *Production Planning and Execution* area on the *Variant Configuration* page in the *Warehouse Employee* role.

Post goods movement



Select **A07 Goods issue** as *movement type* and **R08 Order**.

Then click in the third field and click on the value help icon .

Select the entry *E: Production orders using the info system* in the upper dropdown.

A screenshot of the SAP "Search and Select" dropdown menu. The menu is open, showing a list of search criteria. The first option, "A: Search by controlling area / processing group", is selected. Below it, a list of search criteria is shown, with "E: Production Orders using the Info System" highlighted. The background shows the "Order Number (1)" field and the "Go" button.

The *Order Info System – Input Help for Order Number* screen opens. Enter **DXTRV###** for material.

DXTRV###

A screenshot of the SAP "Order Info System - Input Help for Order Number" screen. The screen has a dark blue header with the SAP logo and the title "Order Info System - Input Help for Order Number". Below the header, there are buttons for "Menu", "Save", and "Services for Object". A dropdown menu is open, showing "List: PPIOH000 Order Headers". Below this, there are fields for "Production Order:" and "Material:". The "Material:" field contains the value "DXTRV600". There are also "to:" fields and value help icons.

Execute

Double press on the order to accept it. You will automatically return to the *Goods Issue Order* screen.

Menu Hide Overview ⋮



General

Document Date:

09/04/2023

Material Slip:

Posting Date:

09/04/2023

Doc.Header Text:











☐

1 Individual Slip

▼

| Line | Mat. Short Text | Wa... | OK | Qty in UnE | EUn | S... | SLoc | Order |
|------|---------------------------------|--------------------------|--------------------------|------------|-----|------|------|---------|
| 1 | Touring Aluminum Wheel Assembly | <input type="checkbox"/> | <input type="checkbox"/> | 20 | EA | | | 1000025 |
| 2 | Touring Frame-Red | <input type="checkbox"/> | <input type="checkbox"/> | 10 | EA | | | 1000025 |
| 3 | Derailleur Gear Assembly | <input type="checkbox"/> | <input type="checkbox"/> | 10 | EA | | | 1000025 |
| 4 | Touring Seat Kit | <input type="checkbox"/> | <input type="checkbox"/> | 10 | EA | | | 1000025 |




| Line | Mat. Short Text | Wa... | OK | Qty in UnE | EUn | S... | SLoc | Order |
|------|---------------------------------|--------------------------|--------------------------|------------|-----|---|------|---------|
| 1 | Touring Aluminum Wheel Assembly | <input type="checkbox"/> | <input type="checkbox"/> | 20 | EA |  | | 1000025 |
| 2 | Touring Frame-Red | <input type="checkbox"/> | <input type="checkbox"/> | 10 | EA |  | | 1000025 |
| 3 | Derailleur Gear Assembly | <input type="checkbox"/> | <input type="checkbox"/> | 10 | EA |  | | 1000025 |
| 4 | Touring Seat Kit | <input type="checkbox"/> | <input type="checkbox"/> | 10 | EA |  | | 1000025 |
| 5 | Touring Handle Bar | <input type="checkbox"/> | <input type="checkbox"/> | 10 | EA |  | | 1000025 |
| 6 | Pedal Assembly | <input type="checkbox"/> | <input type="checkbox"/> | 10 | EA |  | | 1000025 |
| 7 | Chain | <input type="checkbox"/> | <input type="checkbox"/> | 10 | EA |  | | 1000025 |
| 8 | Brake Kit | <input type="checkbox"/> | <input type="checkbox"/> | 10 | EA |  | | 1000025 |
| 9 | Warranty Document | <input type="checkbox"/> | <input type="checkbox"/> | 10 | EA |  | | 1000025 |
| 10 | Packaging | <input type="checkbox"/> | <input type="checkbox"/> | 10 | EA |  | | 1000025 |

Check **OK** for each destination.


For the material *Touring Aluminum Wheel Assembly* (TRWA1##) enter **SF00** (Semi-Finished Products) and for all other materials enter **RM00** (Raw Materials) for Storage Location.

| Line | Mat. Short Text | Wa... | OK | Qty in UnE | EUn | S... | SLoc | Order |
|------|---------------------------------|--------------------------|-------------------------------------|------------|-----|------|------|---------|
| 1 | Touring Aluminum Wheel Assembly | <input type="checkbox"/> | <input checked="" type="checkbox"/> | 20 | EA | | SF00 | 1000025 |
| 2 | Touring Frame-Red | <input type="checkbox"/> | <input checked="" type="checkbox"/> | 10 | EA | | RM00 | 1000025 |
| 3 | Derailleur Gear Assembly | <input type="checkbox"/> | <input checked="" type="checkbox"/> | 10 | EA | | RM00 | 1000025 |
| 4 | Touring Seat Kit | <input type="checkbox"/> | <input checked="" type="checkbox"/> | 10 | EA | | RM00 | 1000025 |
| 5 | Touring Handle Bar | <input type="checkbox"/> | <input checked="" type="checkbox"/> | 10 | EA | | RM00 | 1000025 |
| 6 | Pedal Assembly | <input type="checkbox"/> | <input checked="" type="checkbox"/> | 10 | EA | | RM00 | 1000025 |
| 7 | Chain | <input type="checkbox"/> | <input checked="" type="checkbox"/> | 10 | EA | | RM00 | 1000025 |
| 8 | Brake Kit | <input type="checkbox"/> | <input checked="" type="checkbox"/> | 10 | EA | | RM00 | 1000025 |
| 9 | Warranty Document | <input type="checkbox"/> | <input checked="" type="checkbox"/> | 10 | EA | | RM00 | 1000025 |
| 10 | Packaging | <input type="checkbox"/> | <input checked="" type="checkbox"/> | 10 | EA | | RM00 | 1000025 |

Press  to check the document. The status of each line should be highlighted in green. Otherwise, check your entries or whether the stocks have also been correctly posted as special stocks with reference to the sales order.

| Line | Status | Mat. Short Text | Wa... | OK | Qty in Unt | EUn | SLoc | Order |
|------|--------|---------------------------------|--------------------------|-------------------------------------|------------|-----|-----------------|---------|
| 1 | | Touring Aluminum Wheel Assembly | <input type="checkbox"/> | <input checked="" type="checkbox"/> | 20 | EA | Semi-Fin. Goods | 1000025 |
| 2 | | Touring Frame-Red | <input type="checkbox"/> | <input checked="" type="checkbox"/> | 10 | EA | Raw Materials | 1000025 |
| 3 | | Derailleur Gear Assembly | <input type="checkbox"/> | <input checked="" type="checkbox"/> | 10 | EA | Raw Materials | 1000025 |
| 4 | | Touring Seat Kit | <input type="checkbox"/> | <input checked="" type="checkbox"/> | 10 | EA | Raw Materials | 1000025 |
| 5 | | Touring Handle Bar | <input type="checkbox"/> | <input checked="" type="checkbox"/> | 10 | EA | Raw Materials | 1000025 |
| 6 | | Pedal Assembly | <input type="checkbox"/> | <input checked="" type="checkbox"/> | 10 | EA | Raw Materials | 1000025 |
| 7 | | Chain | <input type="checkbox"/> | <input checked="" type="checkbox"/> | 10 | EA | Raw Materials | 1000025 |
| 8 | | Brake Kit | <input type="checkbox"/> | <input checked="" type="checkbox"/> | 10 | EA | Raw Materials | 1000025 |
| 9 | | Warranty Document | <input type="checkbox"/> | <input checked="" type="checkbox"/> | 10 | EA | Raw Materials | 1000025 |
| 10 | | Packaging | <input type="checkbox"/> | <input checked="" type="checkbox"/> | 10 | EA | Raw Materials | 1000025 |

Press  to perform the goods issue.

Click  to return to the SAP Fiori Launchpad.



Step 16: Confirm production order

Task Report back the completed production.

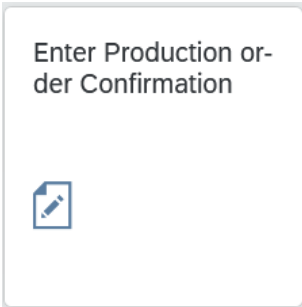
Zeit 5 Min.


Description After the Deluxe Touring Bike is produced in the desired configuration, its completion is reported back.

Name (Position) Lars Iseler (Shop Floor Worker)

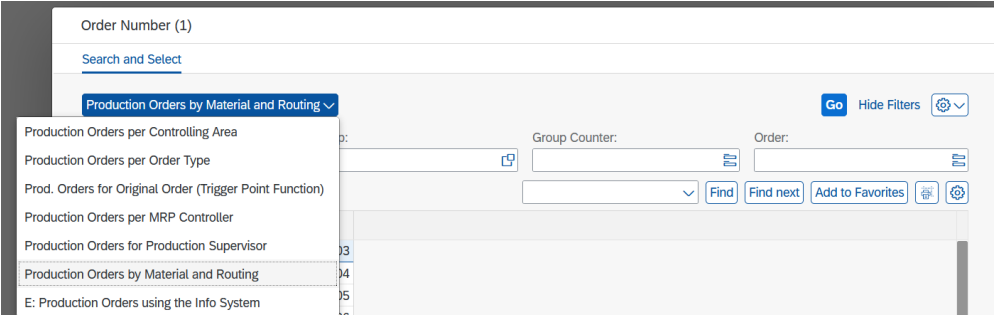
To confirm a production order, use the *Enter Production Order Confirmation* app in the *Shop Floor Worker* role on the *Variant Configuration* page in the *Production Planning and Execution* area.

Enter Production Order Confirmation



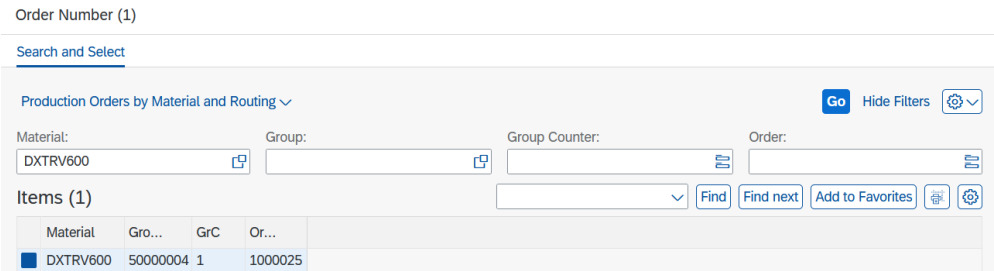
Click in the *Order* field and press the value help icon .

Select the *Production orders by material and routing* entry in the upper dropdown.



Enter **DXTRV###** for *material* and press **Go**. Your production order is displayed.


DXTRV###



Select the order and press **OK**.


Back in the *Enter production order Confirmation : Initial screen*, press **Enter**.

The displayed settings can be accepted without further adjustments.

< 

Confirmation of Production Order Enter : Actual Data

Search In: "Apps"

Menu 

Order: 1000025

Status: REL PRC GMPS MACM SETC

Material: DXTRV600

Material Descr.: Deluxe Touring Bike (Variants)

Confirmation Type

Partial confirmation: ☐

Clear Open Reservs.: ☒


Final Confirmation: ☒

Autom. Final Conf.: ☐

Actual Data

| | Curr. t/b Conf. | Unit | Confirmed to Date | Planned t/b Conf. | Unit |
|------------------|-----------------|------|-------------------|-------------------|------|
| Yield Quantity: | 10 | EA | 0 | 10 | EA |
| Scrap Quantity: | | 0 | | 0 | |
| Rework Quantity: | | 0 | | | |
| Reason for Var.: | | | | | |
| Personnel no.: | | | | | |

Press **Save** to capture the confirmation.

Click  to return to the SAP Fiori Launchpad.



Step 17: Post Goods receipt for production order

Task Post the goods receipt from the production order .

Time 5 min


Short Description After the production order has been completely confirmed, you post the manufactured Deluxe Touring Bikes to the stock of goods. This stock is also tied to the sales order.

Name (Position) Susanne Castro (Goods Receipt Clerk)

To enter the goods receipt for the production order, use the *Post Goods Receipt for Production Order* app in the *Production Planning and Execution* area on the *Variant Configuration* page in the *Goods Receipt Clerk* role.

Post Goods Receipt for
Production Order



Press the value help icon  in the *Production Order* field.

In the window that opens, enter **DXTRV####*** and press  to determine your order.

DXTRV####*

Select: Production Order

DXTRV600*

X

Q

Go

Items (1)

| Order | Material | Material Short ... | Production Plant | Production Pla... | Planning Plant | Planning Plant ... | Order Type |
|---------|----------|--------------------|------------------|-------------------|----------------|--------------------|------------------|
| 1000025 | DXTRV600 | Deluxe Touring... | HD00 | Plant Heidelberg | HD00 | Plant Heidelberg | Standard prod... |

Click on the line to accept the order. The information about the goods receipt is displayed.

SAP

Post Goods Receipt for Production Order

Search in: "Apps"

Q

U

LI

Production Order: 1000025

Deluxe Touring Bike (Variants)

DXTRV600

Production Order: 1000025

Order Type: Standard production order PP01

General Information

Items

Attachments

Printing: No print

Note:

Document Date: 09/04/2023

Delivery Note:

Posting Date: 09/04/2023

Add the missing storage location in the *Items* section. Enter **Finished Goods (FG00)** for *storage location*.

FG00


Items

Items (1)

Search

| <input checked="" type="checkbox"/> Material | Open Quantity | Delivered | Distribution | Plant | Storage Location | Stock Type |
|---|---------------|---|----------------------------------|--|---|--|
| <input checked="" type="checkbox"/> Deluxe Touring Bike (Variants) DXTRV600 | 10.000 EA | <input type="text" value="10.000"/> EA <input type="button" value="⌵"/> | <input type="button" value="+"/> | <input type="text" value="Plant Heidelberg (HD00)"/> | <input type="text" value="Finished Goods (FG00)"/> <input type="button" value="⌵"/> | <input type="text" value="Unrestricted-Use"/> <input type="button" value="⌵"/> |

Press to make the goods receipt. You will receive a success message which you can confirm with .

Click  to return to the SAP Fiori Launchpad.

☐