

SAP Logistics Business Network, Global Track and Trace Option Track PO Fulfillment Template App

SAP Business Network March 2021

PUBLIC



About GTT Template Apps

GTT template apps* stand for codes, scripts, and associated documentation published by SAP to show GTT customers and partners how to use the global track and trace option of SAP Logistics Business Network. They can also accelerate customers' and partners' development of applications that are intended to work with the option.

GTT template apps include:

- Track PO Fulfillment
- Track SO Fulfillment
- Track Shipments

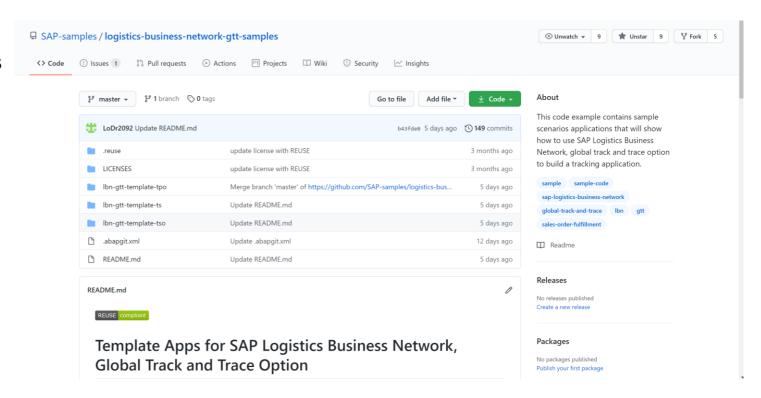


Delivery Channel and Contents

The following contents are provided in SAP Samples GitHub for users to build template apps or do the customization:

GTT Model

- Processes / events modeling
- ERP integration / VP integration mapping
- Event to Action script
- Fiori App Code (Java and JavaScript)
- ERP Extractor (ABAP)
 - Processes
 - Actual events



Template apps for global track and trace option:

https://github.com/SAP-samples/logistics-business-network-gtt-samples

Implementation Steps

The following describes how to use the delivered contents in SAP Sample GitHub. For detailed steps, refer to the document link on this page:

Environment Configuration

- Enable cloud foundry and create space
- Maintain roles and users
- Maintain technical users

Implement Template App

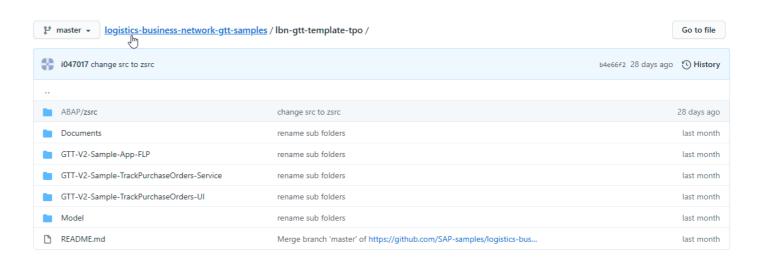
- Deploy model
- Package and deploy
- Maintain destination

Implement ERP Extractor

- Activate SAP Event Manager Integration
- Configuration and Implementation Basic
- Download and implement ABAP Code from GitHub

Other Configurations

- Obtain Here Map license
- Maintain location master
- Maintain business partner



Implementation guide for *Track PO Fulfillment* template app:

https://github.com/SAP-samples/logistics-business-network-gtt-samples/blob/master/lbn-gtt-template-tpo/Documents/01 Implementation Guide-TPOF.pdf

Track PO Fulfillment Template App

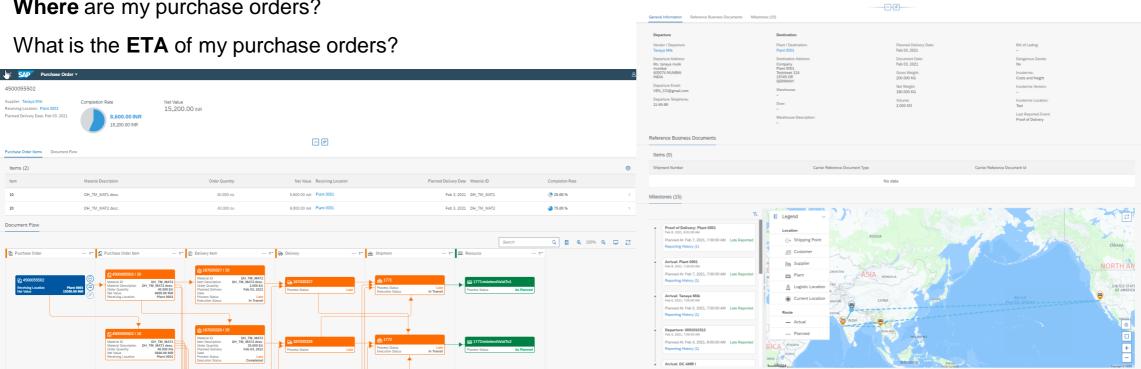


Introduction

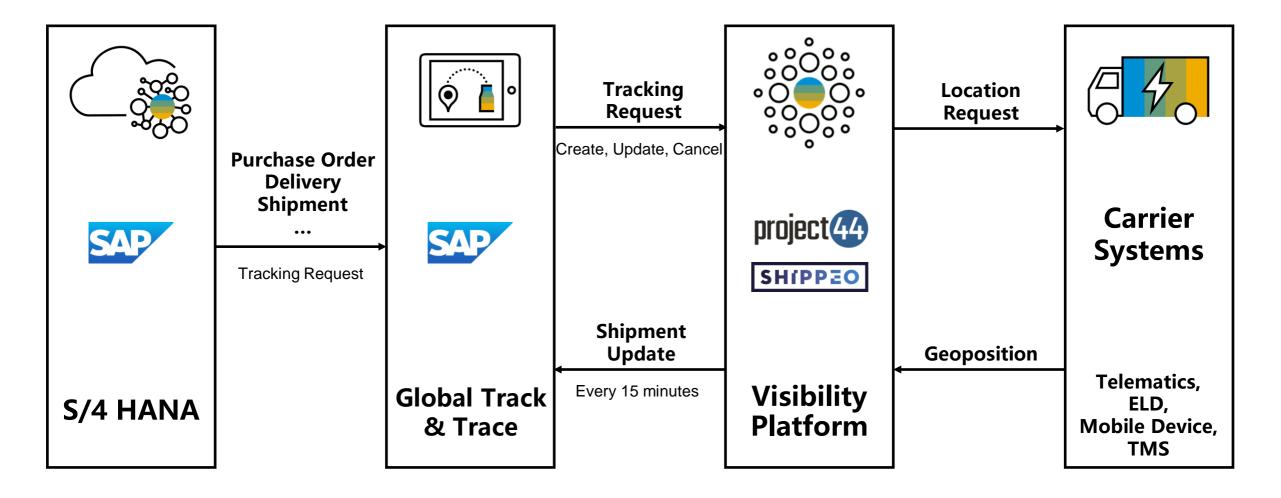
Track PO Fulfillment template app is one of the template apps for SAP Logistics Business Network, global track and trace option. It is designed for purchase representatives to monitor the purchase order fulfillment status when the procuring party manages the delivery transportation. It mainly answers the following questions:

187020327 / 20 Proof of Delivery Late

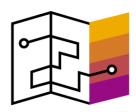
- How many deliveries in my purchase order are **delayed**?
- How many deliveries in my purchase order are **completed**?
- Where are my purchase orders?



System & Integration Overview



Highlights



Standardized, easy-to-use app for status and milestone tracking



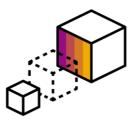
Comprehensive Overview & Event Aggregates



Graphical Milestone Visualization



Embedded Map

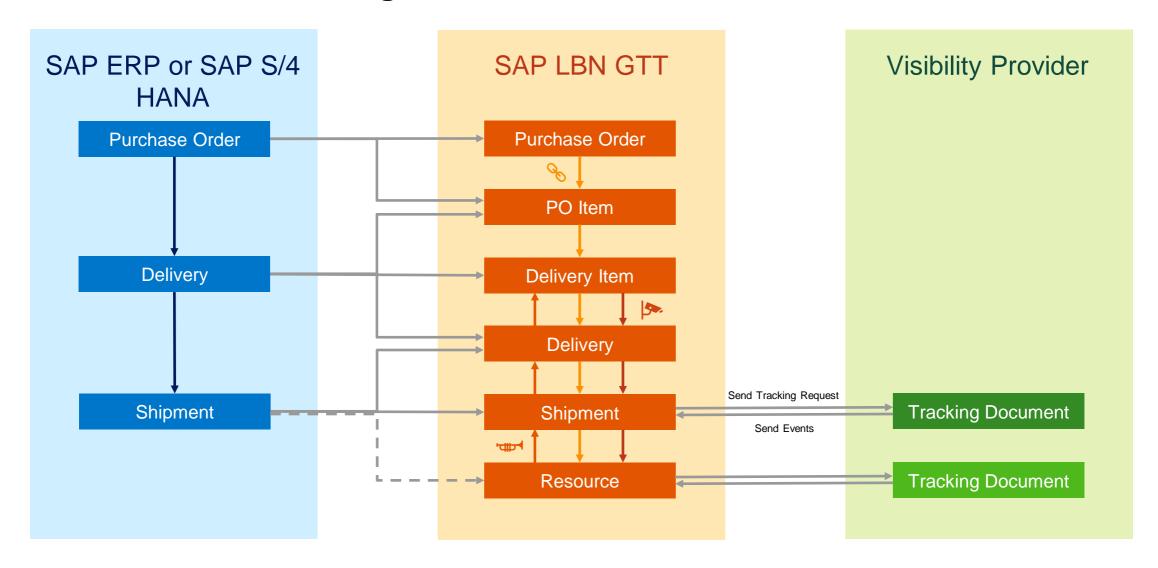


Out-of-the-box connectivity to Project44

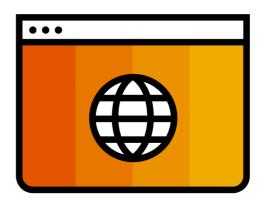


Allows for real-time geo location and ETA updates for full truck load shipments

Tracked Process Modeling in Track PO Fulfillment



Let's see the features

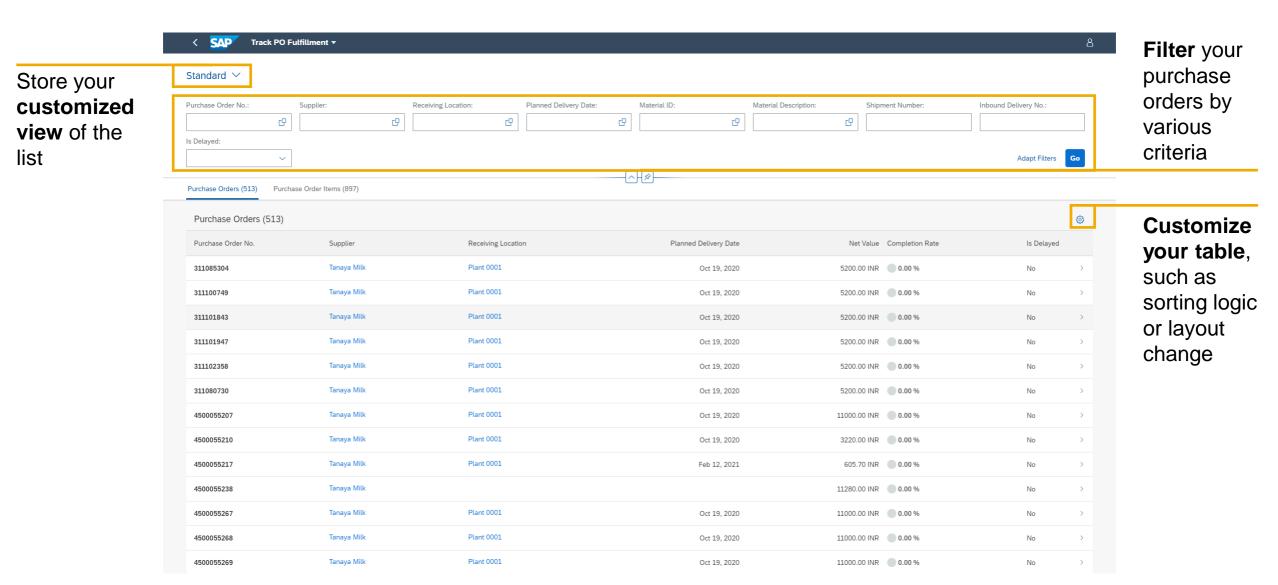


Fiori Launchpad

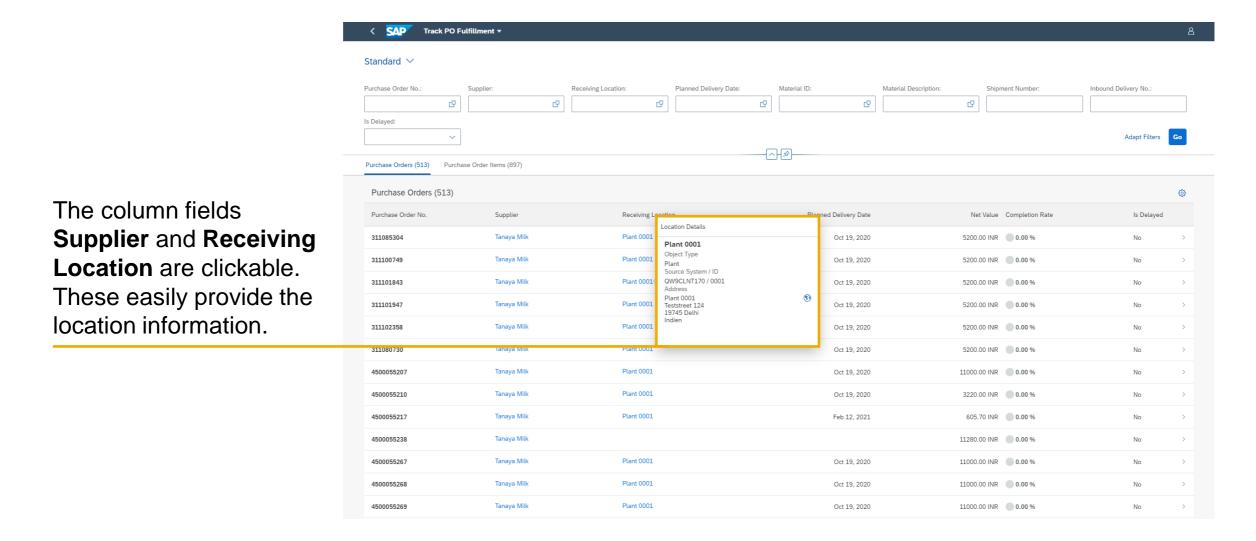


Enter the **Track PO**Fulfillment app on the
Fiori Launchpad of GTT
template apps

Purchase Orders List



Purchase Orders List Popover

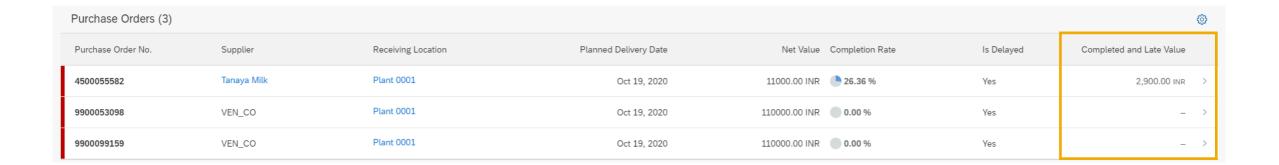


Purchase Orders List Completed and Late Value

Completed and Late Value of the purchase order equals the sum of **PO Item Completed and Late Values**.

PO Item Completed and Late Values equals the:

Net Price / Price Unit * sum of the order quantity of delivery items which process status are 'Delayed' or 'Late' and execution status are 'Completed'

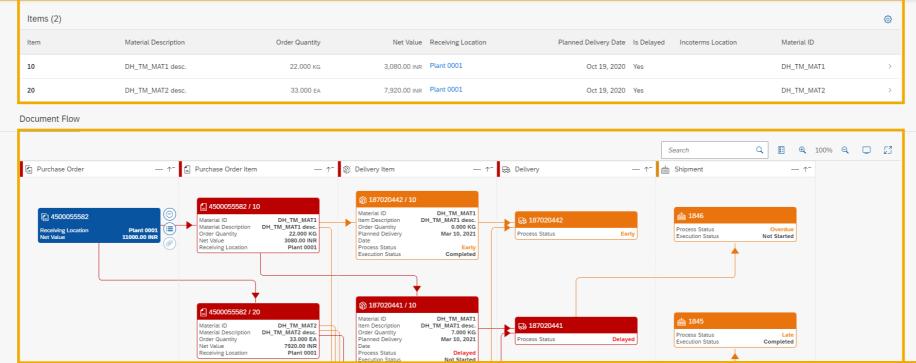


Purchase Orders Details

Sum of the completion values of the undeleted PO items



Table of the purchase order items with column fields that can be customized



Relevant processes based on the purchase order

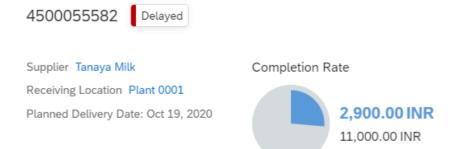
Purchase Orders Details Overall Delay Impact

The percentage of Overall Delay Impact equals the:

Overall Delayed Value / Sum of the Undeleted PO Items' Net Values

- Overall Delayed Value equals the sum of the PO Item Delayed Values.
- PO Item Delayed Values equals the:

Net Price / Price Unit * Item Delayed Quantity



Net Value **11,000.00** INR

Overall Delay Impact 32.91 % (3,620.00 INR)

Purchase Orders Details Document Flow

There is a maximum of six milestones:

- Purchase Order *
- Purchase Order Item *
- Delivery Item *
- Delivery
- Shipment
- Resource

^{*} You can navigate to the Details page by the box marked with *.

Purchase Orders Details Document Flow

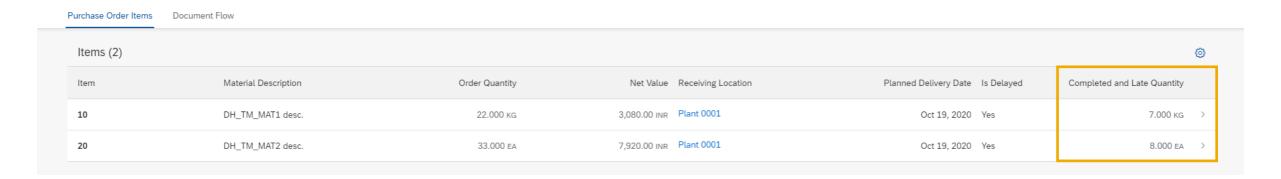
Coloring Logic by Process Status:

- Every milestone node in the document flow has its own process status, indicated by a box color.
 And each status has its own weight:
 - Delayed (Weight: 3)
 - Overdue (Weight: 2)
 - Early (Weight: 2)
 - Late (Weight: 2)
 - As planned (Weight: 1)
- To color each node, if the sub node's process status weight is LARGER than its own status weight, the node will be colored by the sub node's status color.
- Otherwise, the node's color is determined by its own process status.

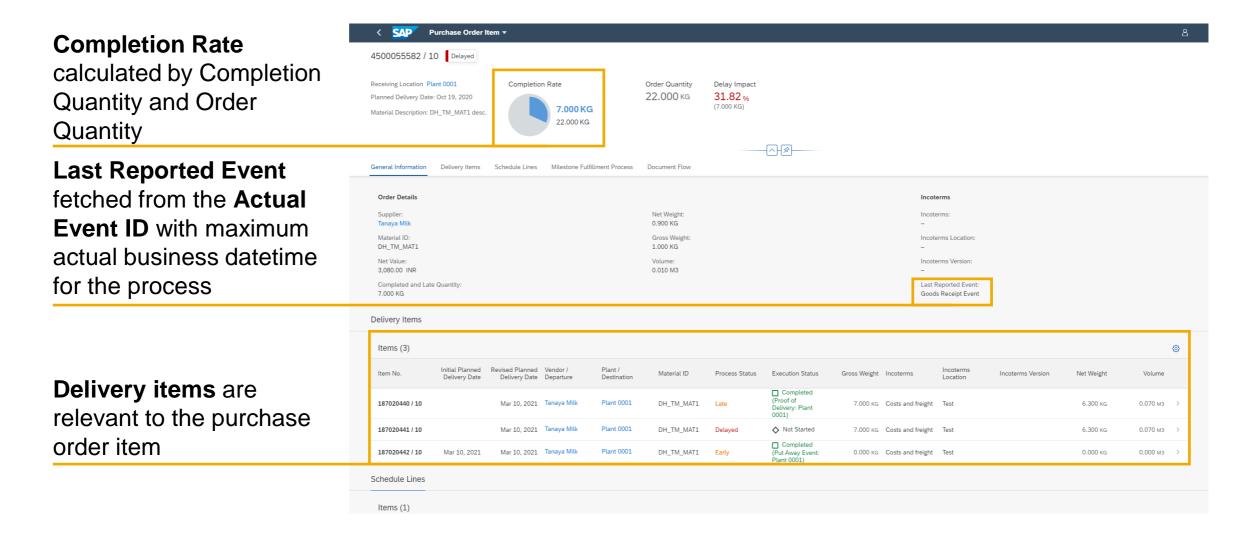
Purchase Order Items List Completed and Late Quantity

The Completed and Late Quantity of PO items equals the:

Sum of the order quantity of delivery items with process status being 'Delayed' or 'Late' and execution status being 'Completed'.



Purchase Order Item Details



Completion Rate of PO Header and PO Item

PO Header

Sum of the Completion Values of undeleted PO items

PO Item

- If the PO item is deleted, both the Completion Value & the Net Value are set to zero (0)
- If the PO item is not deleted, both the Completion Value & the Net Value are calculated as below:
 - Net value always equals the Net Value of the undeleted PO items
 - Completion Value is calculated by the following logic…

Completion Rate of PO Item

- If no inbound delivery exists, the Completion Value equals the:
 Net Price / Price Unit * sum of the Goods Receipt quantity for this PO item
- If at least 1 subsequent inbound delivery item exists, the Completion Value equals the:
 Net Price / Price Unit * Completion Quantity

Completion Quantity equals the:

- 1. Sum of the Goods Receipt quantities for not POD-relevant delivery items
- 2. Sum of the item POD quantities for the POD-relevant delivery items

TIP: POD-relevant means POD is a planned event for the inbound delivery item, which is fed by subsequent shipments for the delivery.

TIP: Item POD quantities mean all the subsequent shipments for this delivery item have all the planned POD events reported.

Purchase Order Item Details Delay Impact

- The percentage of Delay Impact equals the Delayed Quantity / Order Quantity
- Delayed Quantity equals the:

Sum of the order quantity of the delivery items with process status being 'Delayed'.

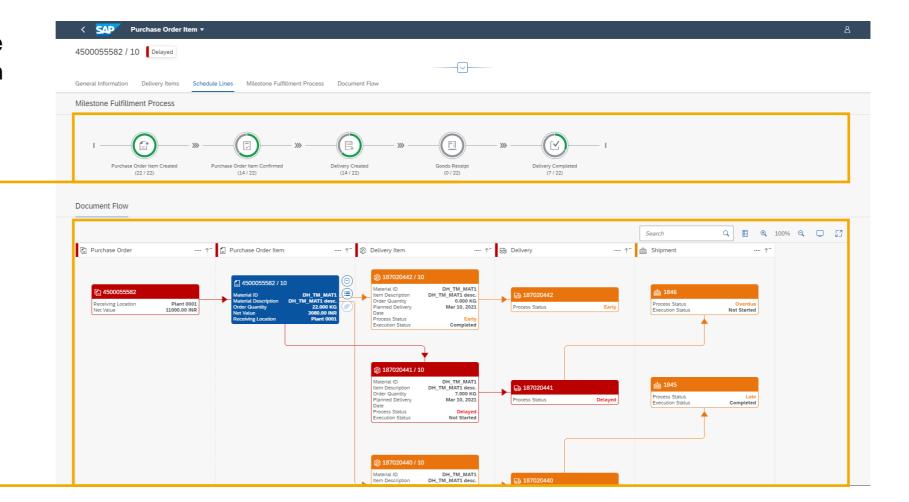


Purchase Order Item Details Milestone & Document Flow

Milestone Fulfilment
Process of the purchase
order item, depending on
whether the inbound
delivery process is
required.

Document Flow of the

Purchase Order Item



Purchase Order Item Details Milestone Fulfillment Process Case 1

- Purchase Order Item Created
- Purchase Order Item Confirmed: Displayed when CONFIRMATION is of a planned event
- Goods Receipt: GR by Purchase Order, displayed when GR is of a planned event and no inbound delivery is created
- Delivery Created: Displayed when at least 1 inbound delivery is created
- Goods Receipt: GR by Inbound Delivery, displayed when at least 1 inbound delivery is created
- Delivery Completed: Displayed when at least 1 inbound delivery is created



Purchase Order Item Details Milestone Fulfillment Process Case 1

How to tell if the Purchase Order Item is confirmed:

- Priority 1st: If at least 1 inbound delivery is created, then use the sum of the delivery order item
 quantities as the confirmed quantity / purchase order item quantity.
- Priority 2nd: Regard it as ALL confirmed when the confirmation table is empty while confirmation control key is not initial. The same applies when the confirmation table is fully filled for the order quantity. When the confirmation table is partially filled, then regard it as PARTIALLY confirmed.

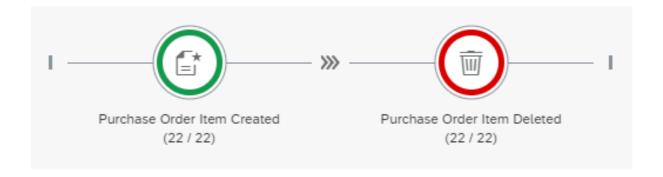
How to tell if the Delivery is completed:

- Not POD-relevant Deliveries: Sum of the delivery received quantities / purchase order item quantity.
- POD-relevant Deliveries: Sum of the item POD quantities / purchase order item quantity.

Purchase Order Item Details Milestone Fulfillment Process Case 2

How to tell if the Purchase Order Item is deleted:

If the latest event reported is DELETION, then the Purchase Order Item is deleted. And the milestones are shown as follows:



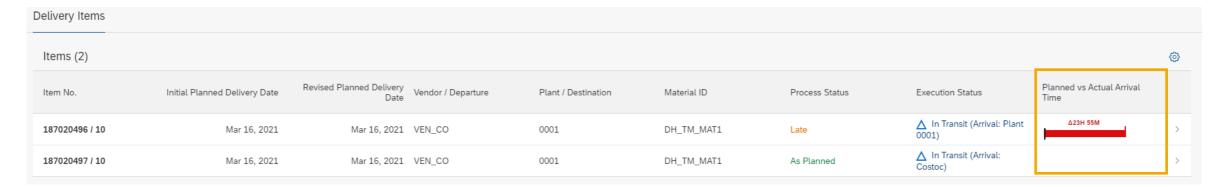
If no DELETION event is reported or an actual event UNDELETION is reported later than the last event DELETION, then the milestone fulfillment process is as Case 1.

Delivery Items List Planned vs Actual Arrival Time

When the planned event 'Arrival at Destination' under the delivery item has been reported for the receiving plant with location type 'Plant', use the Actual Business Datetime to compare with the time window between the Early Business Datetime and Latest Business Datetime of the planned event:

If the Actual Business Datetime is out of the time window: color RED with time gap between the Actual Business Datetime and Planned Business Datetime.

If the Actual Business Datetime is in the time window: color GREEN with time gap between the Actual Business Datetime and Planned Business Datetime.



Delivery Item Details

The delivery item's execution status and process status

Show **aggregated status** by planned events' status of the delivery item

Item Description: DH_TM_MAT2 desc.

Material ID: DH_TM_MAT2
Order Quantity: 11.000 EA

Fulfillment Status

Pelayed 1

Overdue 4

Reported 0

Planned 0

< SAP

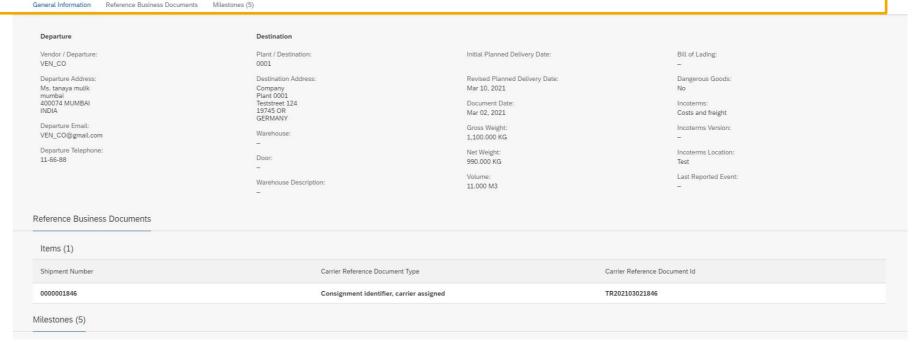
Delivery Item ▼

187020441 / 20 Not Started Delayed

Plant / Destination

Planned Arrival At Mar 10, 2021, 7:00:00 AM

Enable to trigger **refresh** and show **last refresh time**



Last Refreshed at Mar 16, 2021, 5:45:22 PM C

Delivery Item Details Execution Status



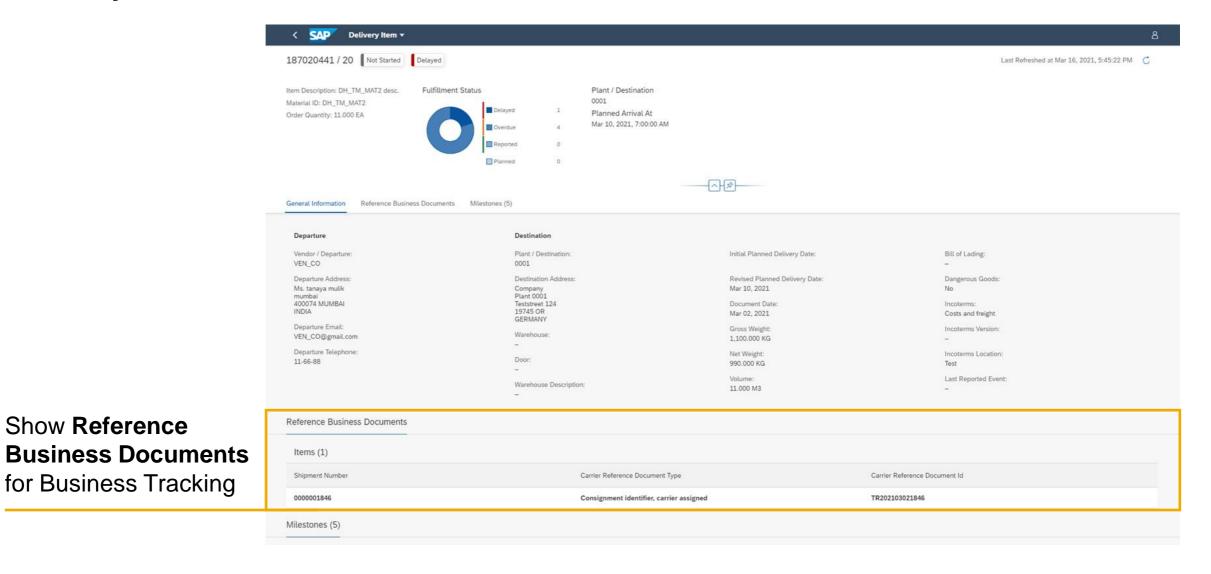
On the Delivery Item Details page, the delivery item's execution status is displayed. So the user can quickly see the latest change that happened to this delivery item.

Execution Status:

- Default status: 'Not Started' when the tracked process is created
- Change status to 'In Transit' when the delivery item's planned event has been reported
- Change status to 'Completed' when:
 - All planned PODs related to this delivery item are reported if POD is a planned event for the inbound delivery item
 - If POD is not a planned event for the inbound delivery item, then the sum of the Goods Receipt Quantity reported equals or is greater than the order quantity

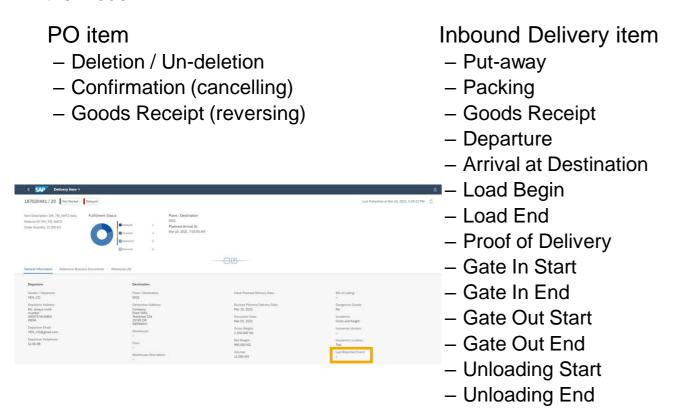
You can set your own logic in Event-to-Action script.

Delivery Item Details



Delivery Item Details Last Reported Event

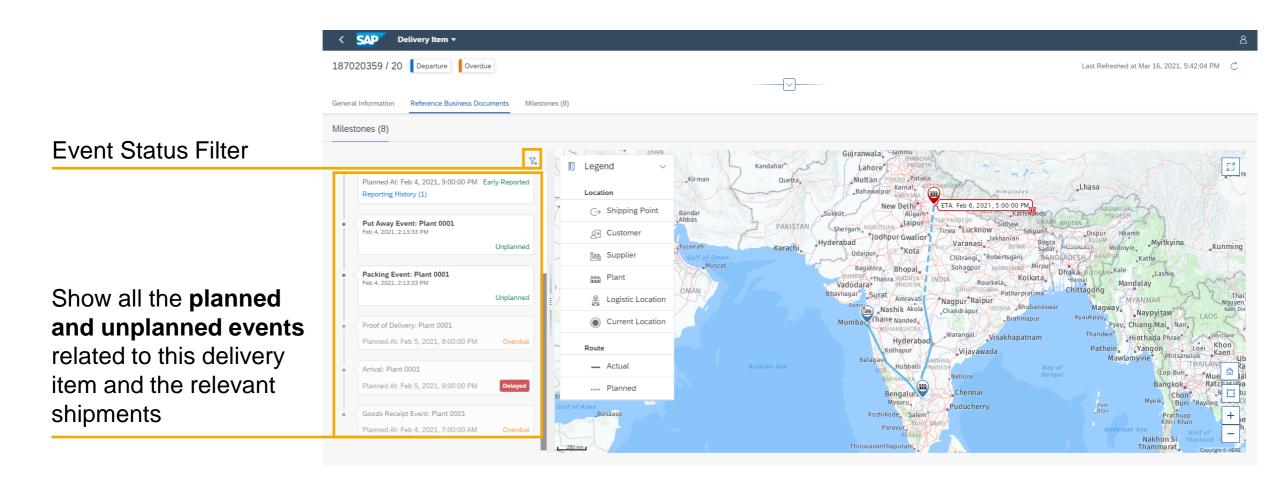
- Display the Event Description, fetched from the Actual event ID with maximum actual business datetime for the process (PO item or Inbound Delivery item).
- Only consider the following lists that need to be included in the admissible planned or unplanned event list of the process types in the model.



- Stuffing
- Unstuffing
- Return
- Proof of Pickup
- Check In
- Receive
- Delivered
- Coupling
- Decoupling
- Out For Delivery
- Flight Booked
- Manifest Ready
- Received from Shipper
- Consignee Notified

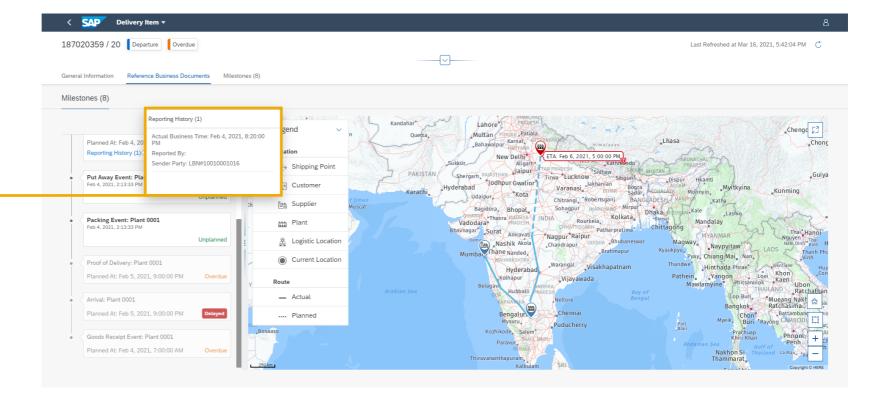
You can set your own logic in Event-to-Action script.

Delivery Item Details Milestones

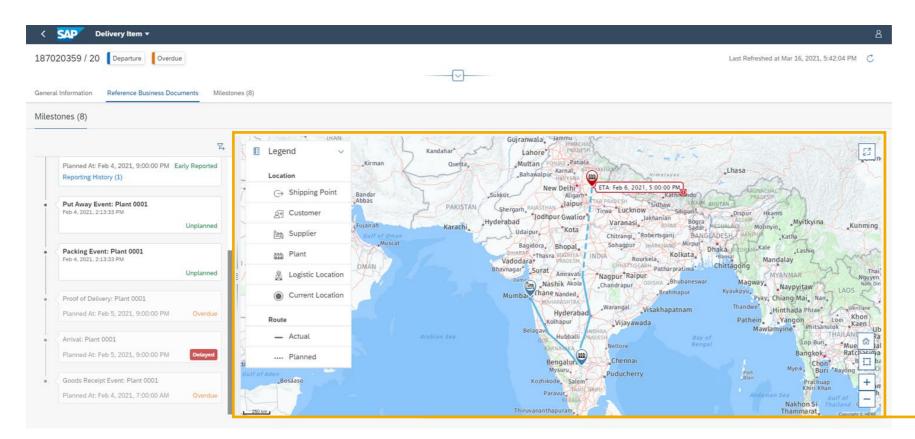


Delivery Item Details Milestones

Show the **Reporting History** for planned events which have been reported.



Delivery Item Details Map



Each **Route** indicates one shipment. It shows the planned route of each shipment with a dotted line and the actual route with a solid line.

Each **Spot** indicates one stop where there are planned events.

Current Location indicates the last position where the latest actual event was reported.

ETA of next stop is shown as the latest actual event was reported with ETA information.

Planned & Unplanned Events

The following are predefined...



Purchase Order Item Events

- Planned Event
 - Confirmation
 - Goods Receipt

- Unplanned Event
 - Deletion
 - Undeletion
 - Confirmation
- Goods Receipt

Delivery Events

- Planned Event
 - Goods Receipt
 - Departure
- Arrival
- POD

- Unplanned Event
- Deletion
- Undeletion
- Confirmation
- GoodsReceipt
- Packing
- Putaway
- ExceptionalEvent
- OtherEvent
- OutForDelivery
- FlightBooked
- ManifestReady
- ReceivedFromShipper
- ConsigneeNotified

- Delivered
- Unstuffing
- Receive
- Decoupling
- Coupling
- POPU
- Return
- Stuffing
- Delay
- LocationUpdate
- LocationUpdateNew

- UnloadingEnd
- UnloadingStart
- GateOutEnd
- GateOutStart
- GateInEnd
- GateInStart
- CheckIn
- LoadingEnd
- Arrival
- Departure
- POD
- LoadingStart

Delivery Item Events

- Planned Event
 - Departure
 - Arrival
- POD
- Put Away
- Packing
- Goods Receipt

- Unplanned Event
- Deletion
- Undeletion
- Confirmation
- GoodsReceipt
- Packing
- Putaway
- ExceptionalEvent
- OtherEvent
- OutForDelivery
- FlightBooked
- ManifestReady
- ReceivedFromShipper
- ConsigneeNotified

- Delivered
- Unstuffing
- Receive
- Decoupling
- Coupling
- POPU
- Return
- Stuffing
- Delay
- LocationUpdate
- LocationUpdateNew

- UnloadingEnd
- UnloadingStart
- GateOutEnd
- GateOutStart
- GateInEnd
- GateInStart
- CheckIn
- LoadingEnd
- Arrival
- Departure
- POD
- LoadingStart

Shipment Events

- Planned Event
- Departure
- Arrival
- POD
- Check In
- LoadingStart
- LoadingEnd

- Unplanned Event
- Deletion
- Undeletion
- Confirmation
- GoodsReceipt
- Packing
- Putaway
- ExceptionalEvent
- OtherEvent
- OutForDelivery
- FlightBooked
- ManifestReady
- ReceivedFromShipper
- ConsigneeNotified

- Delivered
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- Decoupling
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- POPU
- Return
- Stuffing
- Delay
- LocationUpdate
- LocationUpdateNew

- UnloadingEnd
- UnloadingStart
- GateOutEnd
- GateOutStart
- GateInEnd
- GateInStart
- CheckIn
- LoadingEnd
- Arrival
- Departure

POD

LoadingStart

Links You May Need

Sample on GitHub

https://github.com/SAP-samples/logistics-business-network-gtt-samples



Thank you.

SAP Business Network March 2021



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