



# Proficiency Plant Applications 8.2

## ERP Integration Guide



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# Chapter 1. Overview

## *Overview*

As a system administrator, you can configure integration between Plant Applications and Enterprise Resource Planning (ERP) systems to automatically import records and export messages between the ERP systems and the Plant Applications database.

You can import the following inbound records from an ERP system to Plant Applications:

- Work orders
- Process orders
- Materials
- Material Lot
- Outside Processing (OSP)

You can publish outbound messages to the ERP Integration database when the following events occur in Plant Applications:

- An operation is complete.
- A serial/lot is clocked on for an operation.
- A serial/lot is clocked off for an operation.
- The status of a material lot has changed in the Receiving Inspection application (that is, completed or pending MRB).
- A route is released.
- A process/work order is created, updated, completed, or deleted.

This integration is implemented by means of an integration database and integration services.

- **The integration database:** Stores information necessary for the integration, such as messages that contain work orders, process orders, and materials that are sent by ERP systems.
- **The integration services for importing records:** Include the ERP Scheduler service, ERP Transformation service, and ERP Import service, which convert the work orders, process orders, and materials into a JSON file (as needed), import them into Plant Applications, and maintain status information in the integration database.
- **The integration services for exporting records:** Include the ERP Export service and the ERP Transformation service. The ERP Export service publishes messages to the ERP Integration database, and the ERP Transformation service converts a JSON file to a B2MML or XML file.

## About the ERP Scheduler Service


The ERP Scheduler service is a server daemon that executes the import process. The service polls the integration database on a regular interval for the following types of records:

- **New records:** For each new (that is, unprocessed) work order, process order, or material, the ERP Scheduler service calls the HTTP POST method of the ERP Import service to import the record.
- **Records that are already in the process of being imported:** For each work order, process order, or material whose import process has started, but not completed, the ERP Scheduler service calls the HTTP GET method of the ERP Import service (by sending the ID of the record as a URI parameter) to receive the status update.

After the ERP Scheduler service receives a response from the ERP Import service regarding the status of the import, the ERP Scheduler service updates the [error code, error message \(page 313\)](#), and time stamp of the respective message in the integration database.

## About the ERP Import Service


The ERP Import service retrieves information about work orders, process orders, and materials from the integration database, and creates these records in the Plant Applications database.

 **Important:** If work on a work order has begun in Plant Applications, and if you try to import the same work order again, an error occurs.

The ERP Import service is a RESTful microservice that exposes an API consisting of the following methods: POST and GET.

To import files, the following steps are performed:

1. When the ERP Scheduler service sends a request for a new or in-process record, the ERP Import service performs one of the following steps:
  - For a new record, it retrieves the corresponding file from the integration database using the POST method to communicate with the other Plant Applications microservices. This method is asynchronous; as a result, the HTTP response codes and response messages are stored in a table for subsequent retrieval.

 **Note:** If the record is available in an XML or B2MML format, the ERP Import service sends the data to the ERP Transformation service, where it is converted to a JSON format.

  - For an in-process record, it retrieves the ID of the record from the integration database using the GET method.

2. The ERP Import service updates the status of the import. The ERP Scheduler service then updates the ERP Integration database with this information.

For details on the information flow while importing records, refer to [Information Flow for Importing New Records \(page 23\)](#) and [Information Flow for Importing In-Process Records \(page 24\)](#).

For a list of records related a work order that are created or updated when you import the work order, refer to [About Importing Work Orders \(page 12\)](#).

## *About the ERP Export Service*

The ERP Export service sends events from Plant Applications Web Client to the `erp_integration_outbound_messages` table and to Kafka topics. You can configure an ERP system (or middleware or an interfacing system) to receive events from this table.

The ERP Export service triggers a message from Plant Applications Web Client to the ERP system when the following events occur:

- An operation is complete.
- A serial/lot is clocked on for an operation.
- A serial/lot is clocked off for an operation.
- The status of a material lot has changed in the Receiving Inspection application (that is, completed or pending MRB).
- A route is released.
- A process/work order is created, updated, completed, or deleted. When a process order is complete, information about the quantity of the product that is produced is included as well.

When one of the events occur, the ERP Export service performs the following operations:

- Inserts a message in a JSON or B2MML format to an integration table.
- Publishes an event to the Kafka topic associated with the event.

For details on the information flow while exporting records, refer to [Information Flow for Exporting Records \(page 25\)](#).

For information on the Kafka topics to which the ERP Export Service publishes, refer to [ERP Export Service Kafka Topics \(page 262\)](#).

For information on the structure of messages published to a Kafka topic, refer to [Structure of Messages Published to Kafka Topics \(page 262\)](#).



## *About the ERP Transformation Service*

The ERP Transformation service converts an XML or a B2MML file to a JSON file, and vice versa. The supported version of the B2MML file is V0401.


To convert an XML or a B2MML file to a JSON file, the following steps are performed:

1. The XML or B2MML file is converted to a standard B2MML file (compatible with MESA standards) based on the mapping details in the XSL file. The supported version of the XSL file is V1.0.
2. The standard B2MML file is converted to a JSON file, which contains the work order, process order, or material details.
3. The JSON file is sent in the request body using the HTTP POST method of the ERP Import service.

Similarly, the ERP Transformation service converts a JSON file to an XML or a B2MML file.

## *Supported Schema Versions*


All ERP inbound messages are version-controlled via schema versions. A schema version defines the minimum set of parameters required to successfully import a record (work order, process order, material, or material lot) into Plant Applications. The schema version itself is a mandatory parameter in an inbound message.

 **Note:** The schema version of an inbound message is different from the schema of a B2MML standard.

This topic provides a list of schema versions supported for importing:

- Work orders
- Process orders
- Materials
- Material lots
- Outside Processing (OSP)

It also contains a list of the associated records that you can import with each schema version.

 **Note:** For each schema version, the records that you can import in the previous schema versions are supported as well.

## Work Orders

You can import work orders using the following schema versions:


- **Schema Version 6:** You can provide the following values:
  - Upper and lower tolerances of a BOM item and their precision
  - Scrap factor (the percentage of the product that is predicted to be scrapped)
  - Precision of the quantity of the product
  - The default storage unit of a BOM item

In addition, you can specify whether an operation can be skipped, by including `allowManualSkip` in the `behaviours` array for the operation. If you do so, the operator can choose to skip the operation while executing the work order. If, however, you set the `skipifSuccessorStarted` parameter to true, the operation will be automatically skipped when the next operation is ready.

- **Schema version 5:** You can override the following route components in a work order:
  - BOM items of a route
  - BOM items of individual operations in a route
  - Values of BOM item properties
  - Values of route-level and operation-level properties

In addition, specifying the route revision is not required. By default, the latest revision is considered.

- **Schema version 4:** You can import work orders for serialized as well as non-serialized products with or without route definition.
- **Schema version 3:** You can import work orders for serialized products with or without route definition.


 **Tip:** Refer to the following sample work order import documents (WOIDs) for each schema version:

- [JSON format \(page 44\)](#)
- [Custom B2MML format \(page 66\)](#)
- [Standard B2MML format \(page 143\)](#)

## Materials

You can import materials using the following schema versions:

- **Schema version 3:** You can import materials for serialized as well as non-serialized products.
- **Schema version 2:** You can import materials for serialized products.

 **Tip:** Refer to the following sample material master import documents (MMIDs) for each schema version:


- [JSON format \(page 225\)](#)

- [Custom B2MML format \(page 227\)](#)
- [Standard B2MML format \(page 234\)](#)

## Material Lots and Outside Processing (OSP)

You can import material lots and OSP using the following schema versions:

- **Schema version 4:** You can update the status, quantity, and properties of a material lot.
- **Schema version 3:** You can import material lots and OSP details - providing the status is not mandatory.
- **Schema version 2:** You can import material lots and OSP details - providing the status is mandatory.

 **Tip:** Refer to the following sample material lot import documents (MLIDs) for each schema version:

- [JSON format \(page 243\)](#)
- [Standard B2MML format \(page 247\)](#)

Refer to the following sample MLIDs containing OSP:

- [JSON format \(page 254\)](#)
- [Custom B2MML format \(page 256\)](#)
- [Standard B2MML format \(page 259\)](#)


## Process Orders

You can import process orders using the following schema versions:

- **Schema version 2:** You can provide values of the process order properties. If the process order is not yet started, it is deleted and a new one is created with the properties and values that you provide in the process order import document (POID).

In addition, providing the production line is not mandatory, and you can include production lines with multiple execution paths. When a production line has multiple execution paths, the process order becomes an unbound process order. You can associate a production line with an execution path using Plant Applications Administrator or Plant Applications Web Client; or you can leave it as is.

- **Schema version 1:** You can import process orders containing information about the planned quantity, material, production line, and planned start and end dates.

 **Note:** Refer to the following sample process order import documents (POIDs):

- [JSON format \(page 211\)](#)
- [Custom B2MML format \(page 212\)](#)

- [Standard B2MML format \(page 223\)](#)

## About Importing Work Orders

You can import work orders from an ERP system using a work order import document (WOID). You can import two types of WOIDS:

- **WOID with route definition:** Contains the route identifier information. These routes are already created in the Route Editor application in Plant Applications Web Client (and must exist by the time you import the WOID). After you import the WOID, the work order is associated with that specific route. You can use this type of a WOID for make-to-stock (MTS) products.
- **WOID without route definition:** Contains the details of a route. These routes do not exist in Plant Applications Web Client; therefore, you will provide all the required route information in the WOID. You can use this type of a WOID for make-to-order (MTO) or engineer-to-order (ETO) products.

This topic provides a list of records related to a work order that are created and/or updated when you import a work order import document (WOID). For information on which of these records you can import for each schema version, refer to [Supported Schema Versions \(page 9\)](#).

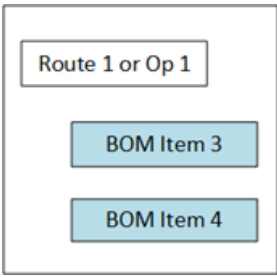
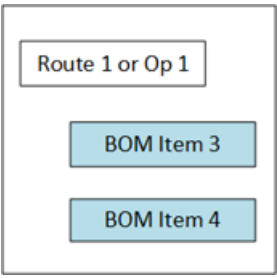
- **workOrderName:** Unique identifier for the work order in Plant Applications. In the B2MML format, it is represented by the ID parameter under ProductionRequest. A work order is created when you import a WOID. If the work order exists, it is deleted and recreated when you import a WOID. However, this happens only if the work order is not started; if the work order is started, an error occurs when you attempt to import the WOID.
- **producedMaterialName:** Identifies the material (or product) associated with the work order. In the B2MML format, it is represented by MaterialDefinitionID. You can import a work order only if the producedMaterialName matches the product code of an actual product in Plant Applications.
- **plannedLineName:** Identifies the production line on which the work order will be executed. In the B2MML format, it is represented by the EquipmentID parameter under Location. A value is required and must match a production line in Plant Applications.
- **priority:** Identifies the priority of the work order.
- **plannedStartDate** and **plannedEndDate:** Identify the planned start and end dates to execute the work order. Values are required for both the parameters and must be in the UTC format.
- **routeDefinitionName:** Identifies the route associated with the work order. For a WOID with route definition, a value is required and must match the name of a route in Plant Applications. A value is required only for a WOID with route definition.
- **routeDefinitionRevision:** Identifies the route revision that you want to use for the work order. If you do not specify a value, the latest revision is considered.
- **Parameters specific to an operation:** For a WOID with route definition, you cannot specify operation-specific parameters (except for the name of the operation). For a WOID without a route definition, you can specify the following parameters of an operation:

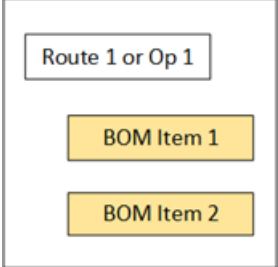
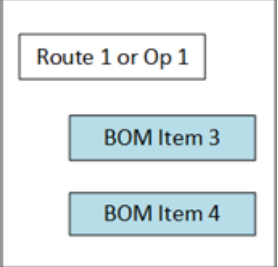
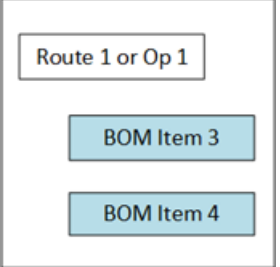
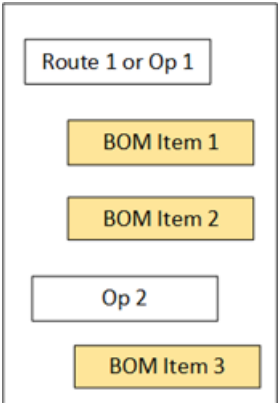
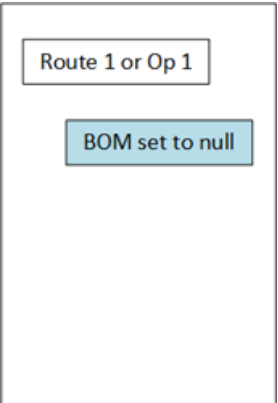
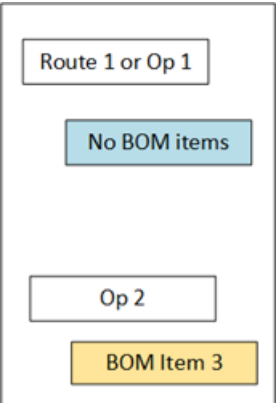
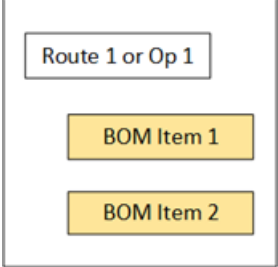
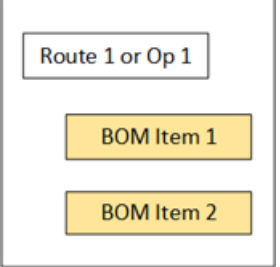
- **name:** Identifies the name of an operation. In the B2MML format, it is represented by the ID parameter under SegmentRequirement. A value is required. For a WOID with route definition, the value must match the name of an operation in the route; otherwise, the operation is skipped.
- **description:** Identifies the description of an operation. A value is required.
- **sequenceNumber:** Identifies the sequence number of an operation. For parallel operations, provide the same sequence number. A value is required.
- **plannedUnitName:** Identifies the unit in which you must perform the operation. A value is required.
- **behaviors:** Identifies whether the operation requires clocking on and clocking off, and whether an operator can skip the operation. You must specify an array of the following values: allowManualSkip, requiresClockOn, requiresClockOff.

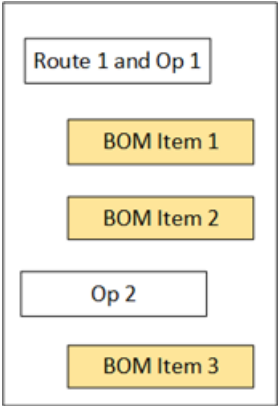
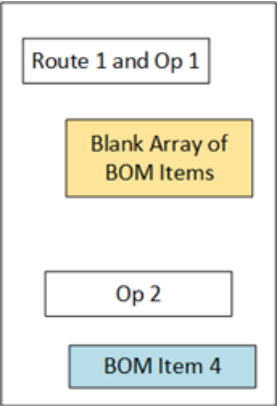
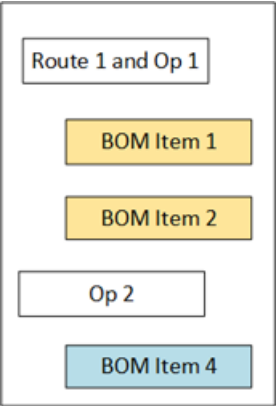
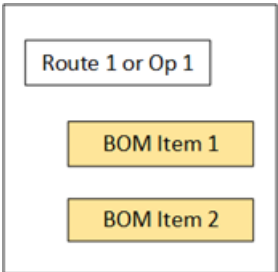
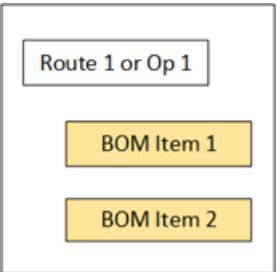
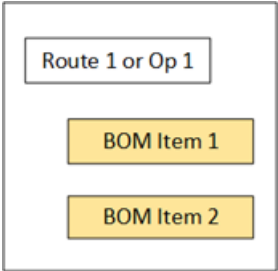
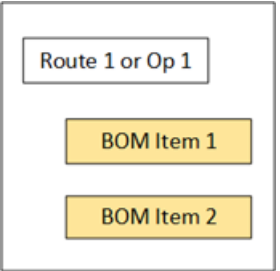
If you include `allowManualSkip` in the behaviors array, the operator can choose to skip the operation while executing the work order. If, however, you set the `skipIfSuccessorStarted` parameter to true, the operation will be automatically skipped when the next operation is ready.

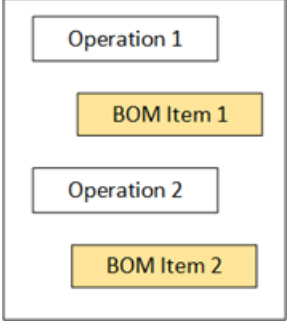
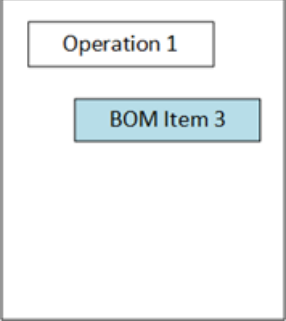
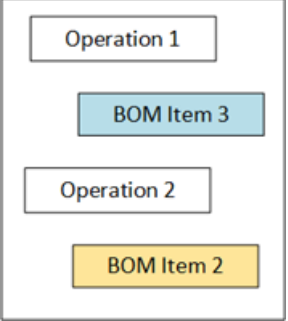
- **suggestedLaborTypes:** Identifies the labor types for an operation. You must specify an array of values defined in the laborTypes endpoint in the labor-service API.
  - **skipIfSuccessorStarted:** Indicates whether the operation can be skipped if the next one is ready. You can enter true or false.
- **Route-level and operation-level BOM items:** If a work order is not yet started, you can override route-level and operation-level BOM items in a work order with the BOM items in the WOID. The BOM items provided in the WOID take precedence over the BOM items in the work order.

The following table describes how the route-level and operation-level BOM items are overridden in each scenario, with an example.

Scenario	BOM items in the route/ operation before importing WOID	BOM items in the WOID	BOM items in the work order after importing the WOID
If the route/operation does not have BOM items, but the WOID does, after importing the WOID, the work order contains the BOM items in the WOID.	No BOM items		

Scenario	BOM items in the route/operation before importing WOID	BOM items in the WOID	BOM items in the work order after importing the WOID
<p>If the route/operation and the WOID contain BOM items, after importing the WOID, the work order contains only the BOM items in the WOID.</p>			
<p>If the route/operation contains BOM items, but the BOM items in the WOID are set to null, after importing the WOID, the work order will not contain any BOM items for the route/operation. If, however, an operation is not specified in the WOID, the work order will contain the BOM items in the route for that operation.</p>			
<p>If the route/operation contains BOM items, but the WOID contains a blank array of BOM items, after importing the WOID, the work order will contain the BOM items in the route.</p>		<p>A blank array of BOM items (that is, <code>"billofMaterials": []</code>)</p>	

Scenario	BOM items in the route/ operation before importing WOID	BOM items in the WOID	BOM items in the work order after importing the WOID
<p>If at least one of the operations contains BOM items in the WOID (and the remaining operations contain a blank array of BOM items), after importing the WOID, the work order will contain the BOM items from the WOID only for those operations.</p>			
<p>If the route/operation contains BOM items, but the WOID contains only invalid BOM items, after importing the WOID, the work order contains the BOM items in the route/ operation. The BOM items in the WOID are skipped.</p>		<p>Only invalid BOM items (for example, the quantity is less than zero, the product is not available in Plant Applications)</p>	
<p>If the route/operation contains BOM items, but the WOID does not contain operations, after importing the WOID, the work order contains the BOM items in the route/ operation.</p>		<p>No operations</p>	

Scenario	BOM items in the route/ operation before importing WOID	BOM items in the WOID	BOM items in the work order after importing the WOID
<p>If the route and the WOID contain BOM items for an operation, after importing the WOID, the BOM items in the work order are overridden by those in the WOID for the operation. However, overriding BOM items for an operation does not impact the BOM items for another operation.</p>			

 **Note:**

- Overriding BOM items is specific to the work order (does not impact the route).
- Overriding route-level BOM items does not impact the operation-level BOM items.
- BOM items cannot be null.

- **Parameters specific to BOM items:** You can provide the following parameters specific to a BOM item (regardless of whether the WOID contains route definition):
  - **materialName:** Identifies the material name of a BOM item. In the B2MML format, it is represented by the MaterialDefinitionID parameter under MaterialConsumedRequirement.
  - **quantity:** Identifies the quantity of a BOM item.
  - **quantityPrecision:** Identifies the precision of the quantity of a BOM item. If you do not want to provide the precision, enter 0.
  - **lowerTolerance** and **upperTolerance:** Identify the upper and lower tolerances of the quantity of a BOM item, respectively.
  - **lowerTolerancePrecision** and **upperTolerancePrecision:** Identify the precision of the upper and lower tolerances of the quantity of a BOM item, respectively. If you do not want to provide the precision, enter 0.
  - **scrapFactor:** Identifies the percentage of the BOM item that is predicted to be scrapped. A value is required.
  - **unitOfMeasureName:** Identifies the unit of measure of the BOM item.
  - **requiresConsumptionTracking:** Indicates whether the BOM item consumption must be tracked.
  - **defaultStorageUnit:** The default storage unit of a BOM item.
- **Values of BOM item properties:** When route-level or operation-level BOM items in a work order are overridden with the ones in the WOID, the properties of the BOM items are validated with the ones in the BOMItem property group. This group is created during Plant Applications Web Client installation. For more information, refer to [Configuration Parameters to Import a Work Order \(page 34\)](#).



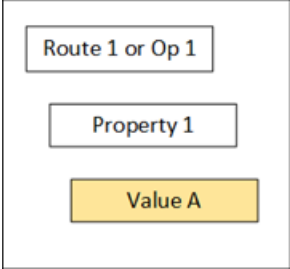
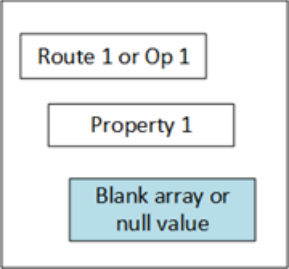
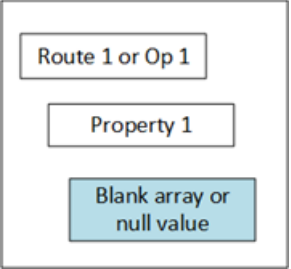
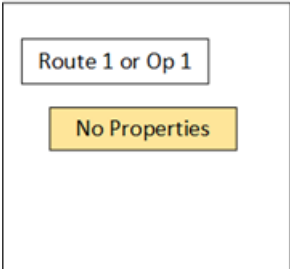
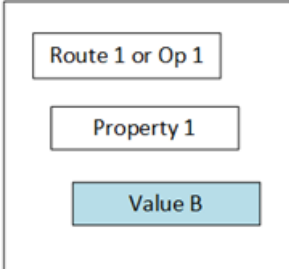
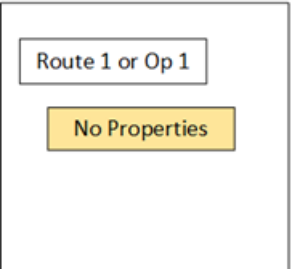
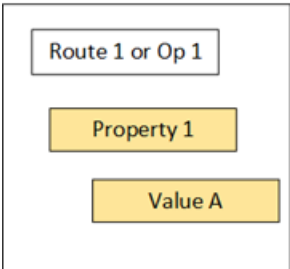
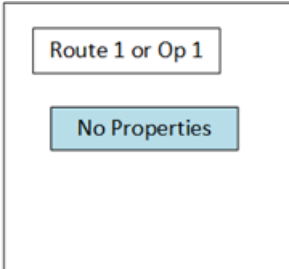
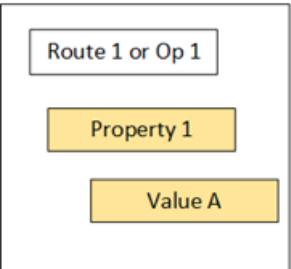
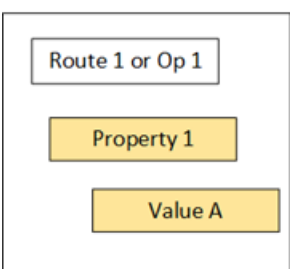
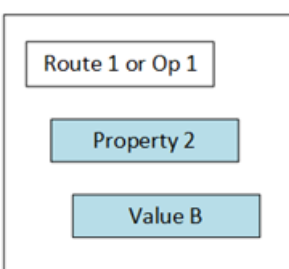
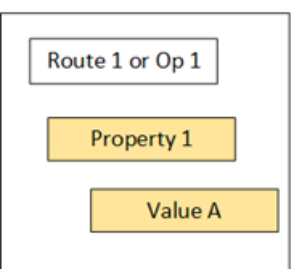
**Note:**

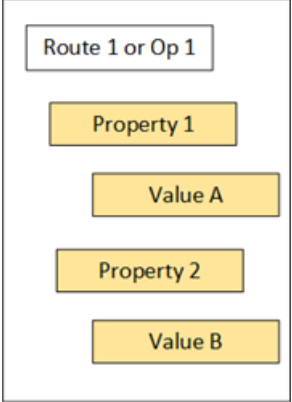
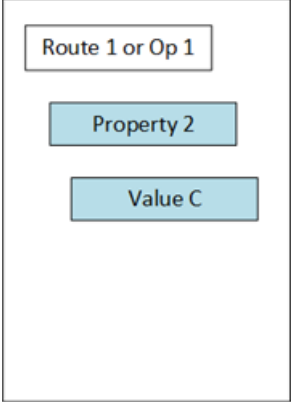
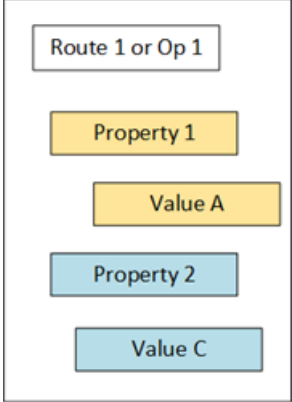
- Overriding values of BOM item properties is specific to the work order (does not impact the route).
- Only if a BOM item in the WOID is valid, values of the BOM item properties are overridden.
- If the BOM item properties in the WOID do not match the ones in the BOMItem property group, the property is skipped. An error appears, stating that the property is not found.

- **Values of route-level and operation-level properties:** If a work order is not yet started, you can override the values of the route-level and operation-level properties in the work order with the ones in a WOID. The property values in the WOID take precedence over the values in the work order. These properties are validated with the ones in the `Workorder.property.group.id` property group. For information, refer to [Configuration Parameters to Import a Work Order \(page 34\)](#).

The following table describes how the route-level and operation-level properties and their values are overridden in each scenario, with an example.

Scenario	Properties and their values in the route/operation before importing WOID	Properties in the WOID	Properties and their values in the work order after importing the WOID
If the value of a property in a route/operation is different from that in the WOID, after importing the WOID, the property in the work order contains the value specified in the WOID.	<div style="border: 1px solid black; padding: 5px; margin-bottom: 5px;">Route 1 or Op 1</div> <div style="border: 1px solid black; padding: 5px; margin-bottom: 5px;">Property 1</div> <div style="background-color: yellow; padding: 5px; text-align: center;">Value A</div>	<div style="border: 1px solid black; padding: 5px; margin-bottom: 5px;">Route 1 or Op 1</div> <div style="border: 1px solid black; padding: 5px; margin-bottom: 5px;">Property 1</div> <div style="background-color: lightblue; padding: 5px; text-align: center;">Value B</div>	<div style="border: 1px solid black; padding: 5px; margin-bottom: 5px;">Route 1 or Op 1</div> <div style="border: 1px solid black; padding: 5px; margin-bottom: 5px;">Property 1</div> <div style="background-color: lightblue; padding: 5px; text-align: center;">Value B</div>
If a property in a route/operation does not contain a value, after importing the WOID, the property in the work order contains the value specified in the WOID.	<div style="border: 1px solid black; padding: 5px; margin-bottom: 5px;">Route 1 or Op 1</div> <div style="border: 1px solid black; padding: 5px; margin-bottom: 5px;">Property 1</div> <div style="background-color: yellow; padding: 5px; text-align: center;">No Value</div>	<div style="border: 1px solid black; padding: 5px; margin-bottom: 5px;">Route 1 or Op 1</div> <div style="border: 1px solid black; padding: 5px; margin-bottom: 5px;">Property 1</div> <div style="background-color: lightblue; padding: 5px; text-align: center;">Value B</div>	<div style="border: 1px solid black; padding: 5px; margin-bottom: 5px;">Route 1 or Op 1</div> <div style="border: 1px solid black; padding: 5px; margin-bottom: 5px;">Property 1</div> <div style="background-color: lightblue; padding: 5px; text-align: center;">Value B</div>

Scenario	Properties and their values in the route/operation before importing WOID	Properties in the WOID	Properties and their values in the work order after importing the WOID
<p>If a property contains a null value or a blank array in the WOID, after importing the WOID, the property in the work order will contain the same. If, however, the property is mandatory, you must enter a value for the property.</p>			
<p>If a route/operation does not contain any properties, but the WOID does, after importing the WOID, the work order will not contain any properties either.</p>			
<p>If a route/operation in the WOID does not contain properties, after importing the WOID, the properties and their values in the work order are the same as in the route/operation.</p>			
<p>If a route/operation contains different properties from the ones in the WOID, after importing the WOID, the work order will contain the properties and values in the route/operation; the properties in the WOID will not be created in the work order.</p>			

Scenario	Properties and their values in the route/operation before importing WOID	Properties in the WOID	Properties and their values in the work order after importing the WOID
<p>If the WOID contains only some of the properties in the route/operation, after importing the WOID, the work order contains the values of the properties in the WOID. For the properties not specified in the WOID, the values remain unchanged in the work order.</p>			

## About Importing Materials

This topic provides a list of parameters related to a material, and specifies whether you can update them using a material master import document (MMID). For information on which of these records you can import for each schema version, refer to [Supported Schema Versions \(page 9\)](#).

- **productionLines:** Identifies the production line on which the material will be used. In the B2MML format, it is represented by the ProductionLine parameter under EquipmentSpecificationProperty. A value is required and must match a production line in Plant Applications.
- **storageZone:** Identifies the storage zone of the material.
- **storageUnit:** Identifies the storage unit of the material. In the B2MML format, it is represented by the StorageUnit parameter under EquipmentSpecificationProperty.
- **productCode:** Unique identifier of the material. A value is required and must match the product code of an actual product in Plant Applications.
- **productDescription:** Identifies the product description of the material.
- **productFamily:** Identifies the product family of the material.
- **isSerialized:** Identifies whether the material represents a serialized product.
- **propertyName** and **propertyValue:** Identify the properties and their values of a material. The following conditions apply when you provide material lot properties in an MLID:
  - Only if a property exists in the Material Import property group in Plant Applications, you can add or update the property. Otherwise, the property is skipped. For more information, refer to [Configuration Parameters to Import a Material \(page 37\)](#).
  - If a property specified in an MMID does not exist for the material in Plant Applications, it is created.

- If the MMID does not contain a property as defined for the material lot in Plant Applications, it is skipped when you import the MMID; you cannot remove a property using an MMID.

## About Importing Material Lots

This topic provides a list of parameters related to a material lot, and specifies whether you can update them using a material lot import document (MLID). For information on which of these records you can import for each schema version, refer to [Supported Schema Versions \(page 9\)](#).

**!** **Important:** The units of measure provided for each material lot in the message must match the units of measure for one of the units in the inventory line in Plant Applications. If it does not match or if multiple units have the same units of measure, an error occurs. In addition, for a material lot that does not represent a receiver, this unit must contain the same OrgCode that you will provide in the MLID.

- **lotIdentifier:** Unique identifier for the material lot in Plant Applications. In the B2MML format, it is represented by the ID parameter under MaterialLot. A value is required. The following conditions apply when you provide a material lot ID:
  - You can create a material lot in Plant Applications by providing an ID in the MLID. The material lot ID must be unique for the production unit.
  - You cannot update a material lot ID using an MLID.
- **description:** Identifies whether the material lot represents a receiver. The following conditions apply when you specify whether the material lot is a receiver:
  - An MLID can contain only one receiver. However, it is not mandatory for an MLID to contain a receiver.
  - To indicate that a material lot is a receiver, enter the value `Receiver` for the description element in the MLID.
  - To indicate that a material lot is not a receiver, leave the value blank, but including the description parameter is mandatory.
- **productName:** Identifies the material (or product) that the material lot contains. In the B2MML format, it is represented by MaterialDefinitionID. A value is required. This is the product code of the actual product used in the production event in Plant Applications. The following conditions apply when you provide the material ID:
  - You can import a material lot only if the productName matches with product code of an actual product in Plant Applications (based on EVENT\_NUM and the applied product).
  - You cannot update a material ID using an MLID.
  - A receiver material lot is created on the <No Product> virtual product in Plant Applications.
- **status:** Identifies the status of the material lot. You can update the status only if:
  - The lotIdentifier and productName values match the corresponding values in Plant Applications.
  - The value for the status is valid (that is, Open, Accept, Scrap, RTV, DIT, or MRB/NCR) for a material lot that does not represent a receiver. If the material lot is a receiver, the

status that you provide in the MLID is ignored, and a default value of Open will be assigned.

- If the status is null or blank, the status is not updated.
- The material is for a non-serialized product. You cannot update the status for a serialized product.

If you do not provide a value, or provide an empty string, the status is not updated. Providing the status is mandatory if you want to create a material lot using an MLID, but it is optional if you want to update the material lot.

- **quantity**: Identifies the planned quantity of a material lot. If a material lot represents a receiver, the quantity is not considered. You can update the quantity of a material lot only if:
  - The lotIdentifier and productName values match the corresponding values in Plant Applications.
  - The material is for a non-serialized product. You cannot update the quantity for a serialized product.
  - The quantity is greater than zero for a material lot that does not represent a receiver.

The quantity of a material lot is updated as follows:

Final dimension X = Material lot quantity

Initial Dimension X = Material lot quantity + sum of the consumption for this material lot + sum of the waste for this material lot

- **propertyName** and **propertyValue**: Identify the properties and their values of a material lot. You can create or update the properties of a material lot only if the lotIdentifier and productName values match the corresponding values in Plant Applications. These properties are validated with the ones in the MaterialLot Import property group. For more information, refer to [Configuration Parameters to Import a Material Lot \(page 36\)](#).


The following conditions apply when you provide material lot properties in an MLID:

- Only if a property exists in the materiallot import group in Plant Applications, you can add or update the property. Otherwise, the property is skipped.
- If a property specified in an MLID does not exist for the material lot in Plant Applications, it is created.
- If the MLID does not contain a property as defined for the material lot in Plant Applications, it is skipped when you import the MLID; you cannot remove a property using an MLID.
- The material is for a non-serialized product. You cannot update the properties for a serialized product.
- **unitOfMeasure**: Identifies the unit of measure of the material lot.

## *About Importing Process Orders*

This topic provides a list of parameters related to a process order, and specifies whether they you can update them using a process order import document (POID). For information on which of these records you can import for each schema version, refer to [Supported Schema Versions \(page 9\)](#).

- **processOrderName:** Unique identifier for the process order in Plant Applications. A value is required. The following conditions apply when you provide a process order name:
  - You can create a process order in Plant Applications by providing a name in the POID. The process order name must be unique for the production unit.
  - You cannot update a process order name using a POID.
- **producedMaterialName:** Identifies the material (or product) associated with the process order. In the B2MML format, it is represented by MaterialDefinitionID. This is the product code of the actual product used in the production event in Plant Applications. The following conditions apply when you provide the material name:
  - You can import a process order only if the material name matches the product code of an actual product in Plant Applications.
  - You cannot update a material name using a POID.
- **plannedLineName:** Identifies the production line on which the process order will be executed. A value is required only if you want to use schema version 1. For schema version 2, if you do not provide a production line, the process order is created as unbound.
- **plannedStartDate** and **plannedEndDate:** Identify the planned start and end dates to execute the process order. If you do not provide a value for plannedStartDate, the current date is considered. If you do not provide a value for plannedEndDate, the day next to plannedStartDate is considered.
- **plannedQuantity:** Identifies the planned quantity of the product specified in the process order. You can update the quantity only if the producedMaterialName matches the corresponding name in Plant Applications.
- **bomFormulation:** Identifies the BOM formulation of the product specified in the process order.
- **propertyName** and **propertyValue:** Identify properties and their values of a process order. The following conditions apply when you provide values of properties in a POID:
  - If you want to create a process order using a POID, you can add properties and their values. If you want to update a process order using a POID, you can only update the values of the existing properties in Plant Applications; in this case, any new properties that you add will be skipped.
  - Only if a property exists in the ProcessOrder Import property group in Plant Applications, you can update the property value. Otherwise, the property is skipped. For more information, refer to [Configuration Parameters to Import a Process Order \(page 35\)](#).
  - If the POID does not contain a property as defined for the process order in Plant Applications, it is skipped when you import the POID.


 **Note:** Standard properties and user-defined properties are not supported.

# Chapter 2. Information Flow

## *About Information Flow*

Information flows to and from the ERP Integration database in the form of JSON, B2MML, and XML files. JSON files contain the following types of messages:

- Work orders: Specified in a Work Order Import Document (WOID).
- Process orders: Specified in a Process Order Import Document (POID).
- Materials: Specified in a Material Master Import Document (MMID).
- Material lots: Specified in a Material Lot Import Document (MLID) for material lots.
- Outside Processing (OSP): Specified in an MLID for OSP.

 **Note:** For OSP:

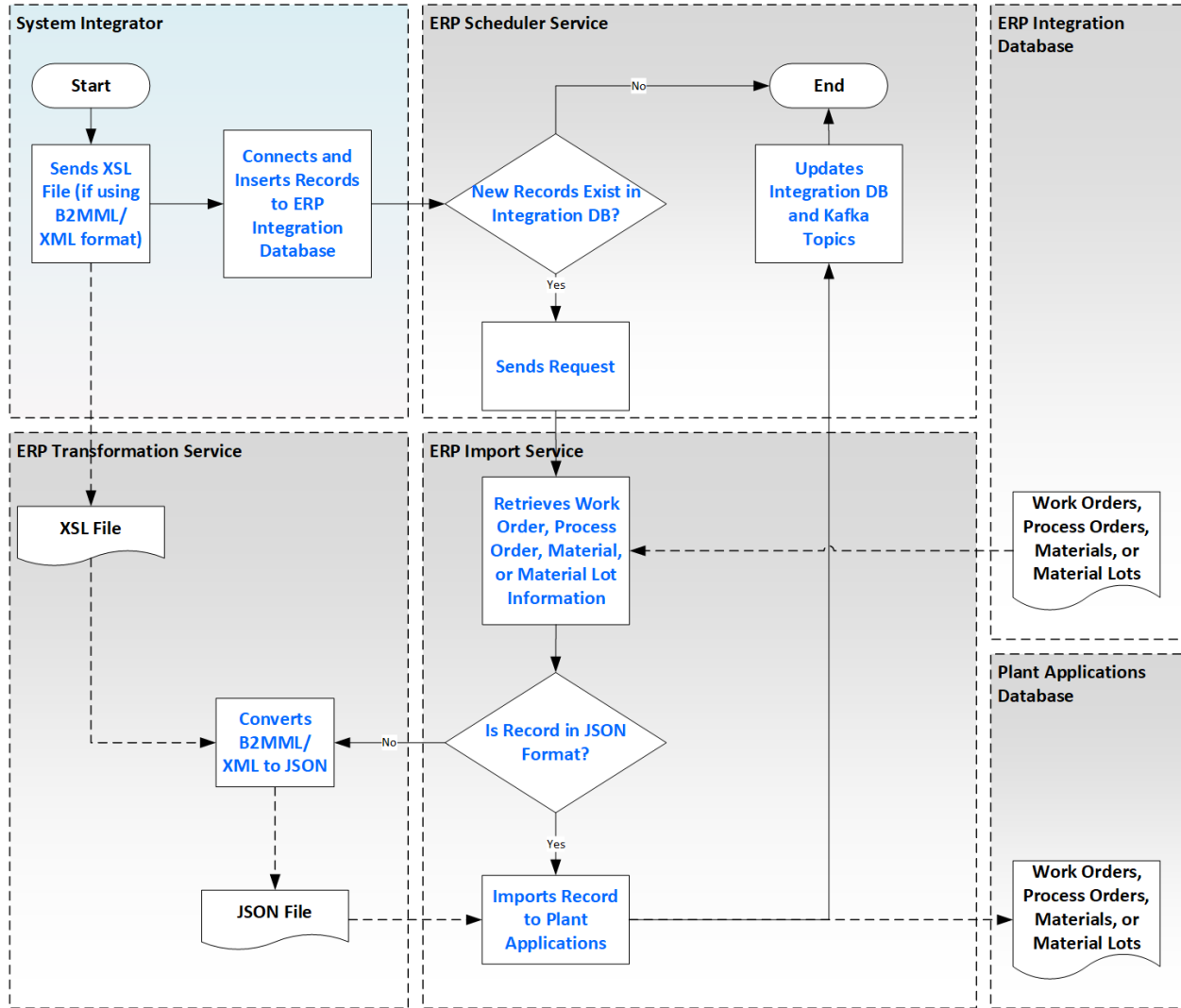
- If a material lot has serialized material, the received quantity is recorded, and the non-clocking operation is completed.
- If a material lot has non-serialized material, and if partial quantity is received, only the received quantity is recorded. The operation is not completed until the remaining quantity is received.

After you connect the ERP system to the ERP Integration database:

1. The ERP systems add the messages to the ERP Integration database.
2. The ERP Integration services import the messages into the Plant Applications database and update the status of the messages in the ERP Integration database.
3. The ERP Export service publishes events to the ERP Integration database when an operation is complete, the status of a material/lot is changed, and so on.

## *Information Flow for Importing New Records*

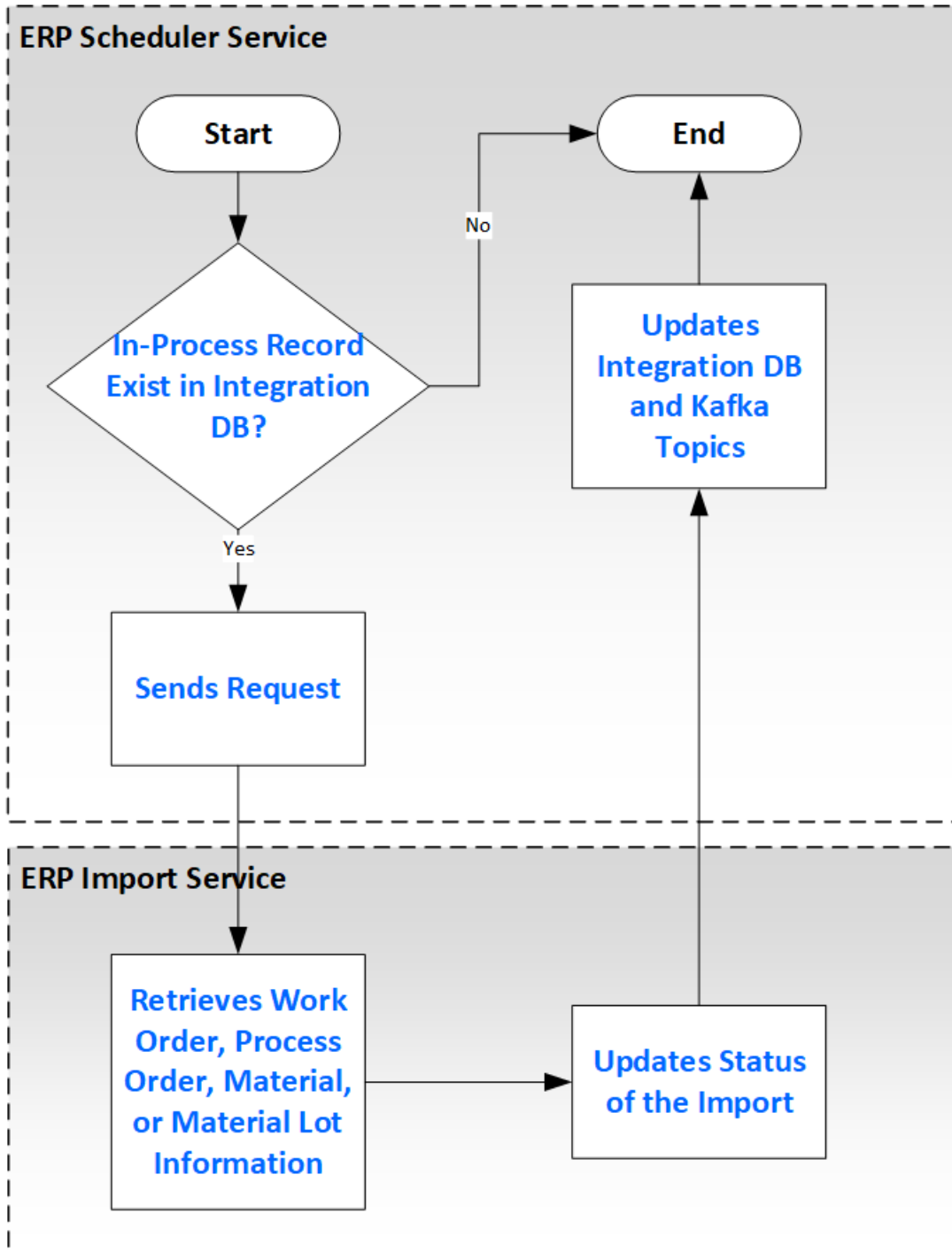
The following diagram provides the steps that you must perform as a system integrator and the steps performed by the integration services to import a new record.



## *Information Flow for Importing In-Process Records*

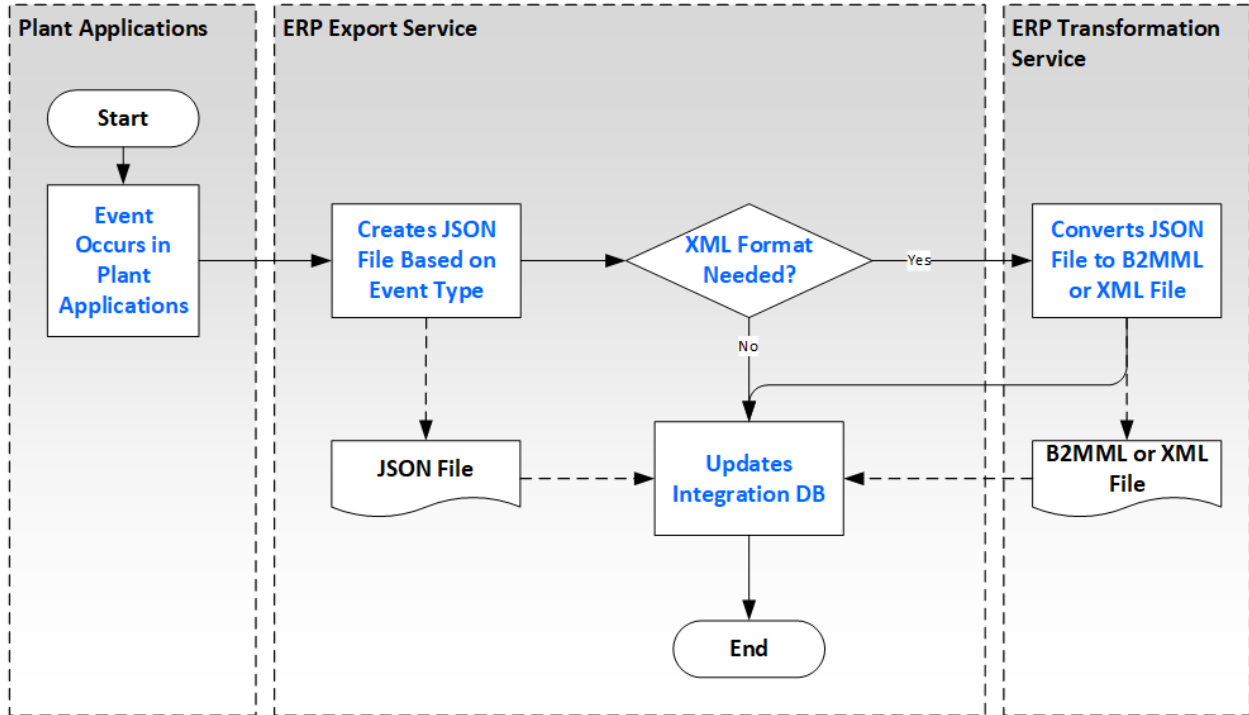
The following diagram provides the steps performed by the integration services for an in-process record.





### *Information Flow for Exporting Records*

The following diagram provides the steps involved in exporting records from Plant Applications to an ERP system.



# Chapter 3. Setting Up ERP Integration

## *Set Up ERP Integration*

The following table provides the sequence of steps that you must perform to set up ERP integration. You must provide your UAA credentials to perform these steps.

<b>Step Number</b>	<b>Description</b>	<b>Notes</b>
1	<a href="#">Provide mapping details (page 29)</a> of a work order, process order, or material.	This step is required if the work order, process order, material, or material lot details are stored in a custom or standard B2MML file. It is used by the ERP Transformation service to convert the file to a JSON file.
2	<a href="#">Create a user, and grant the required permissions to import records (page 32)</a> .	This step is required.
3	Set the organization code for each production unit for which you want to import material lots. To do so, in Plant Applications Administrator, for the associated production unit, set the ExtendedInfo property to OrgCode value of the material lot.	This step is required if you want to import material lots.
4	Connect to the ERP Integration database by configuring the <a href="#">database settings (page 33)</a> , and insert records.	This step is required. After the integration, work orders, process orders, materials, material lots, and OSP are automatically imported to the ERP Integration database.
5	Configure <a href="#">the ERP Scheduler service parameters (page 33)</a> .	This step is optional. It is used to change the default value of the time interval at which the ERP Scheduler service polls the ERP Integration database.
6	Configure the ERP Import service for <a href="#">work orders (page 34)</a> , <a href="#">process orders (page 35)</a> , and <a href="#">material lots (page 36)</a> .	This step is optional. It is used to change the default values of parameters used in the service (such as names of property categories and groups).
7	Configure <a href="#">the ERP Export service parameters (page 38)</a> .	This step is optional. It is used to change the default values of parameters used in the service.
8	Change the default values of the ERP Import service parameters.	This step is optional.
9	<a href="#">Send messages to the ERP system (page 28)</a> .	This step is required. It is used to import work order, process orders, materials, material lots, and OSPs from the ERP system into Plant Applications.

## Receive Messages from an ERP System

[Set up ERP integration \(page 27\)](#).

Send a message to the ERP Integration database in the format specified in the following table:

Message Type	Message Format
Message containing a work order	<pre data-bbox="841 583 1406 695">INSERT INTO erp_erp_integration_inbound_messages   (Inserted_Date, Message_Type, Media_Type, Message,    Inserted_By) VALUES (GETUTCDATE(), 'workOrder', 'application/ json', '{WOID}', '&lt;username&gt;')</pre> <p data-bbox="821 716 1365 793">where {WOID} is a JSON document that specifies the work order. For a sample WOID, refer to <a href="#">JSON Work Order Import Document (WOID) (page 44)</a>.</p>
Message containing a process order	<pre data-bbox="841 840 1406 951">INSERT INTO erp_integration_inbound_messages   (Inserted_Date, Message_Type, Media_Type, Message,    Inserted_By) VALUES (GETUTCDATE(), 'processOrder', 'application/ json', '{POID}', '&lt;username&gt;')</pre> <p data-bbox="821 972 1414 1050">where {POID} is a JSON document that specifies the process order. For a sample POID, refer to <a href="#">JSON Process Order Import Document (POID) (page 211)</a>.</p>
Message containing a material	<pre data-bbox="841 1096 1406 1207">INSERT INTO erp_integration_inbound_messages   (Inserted_Date, Message_Type, Media_Type, Message,    Inserted_By) VALUES (GETUTCDATE(), 'material', 'application/ json', '{MMID}', '&lt;username&gt;')</pre> <p data-bbox="821 1228 1365 1306">where {MMID} is a JSON document that specifies the material. For a sample MMID, refer to <a href="#">JSON Material Master Import Document (MMID) (page 225)</a>.</p>
Message containing a material lot	<pre data-bbox="841 1352 1406 1463">INSERT INTO erp_integration_inbound_messages   (Inserted_Date, Message_Type, Media_Type, Message,    Inserted_By) VALUES (GETUTCDATE(), 'materialLot' , 'application/ json', '{MLID}', '&lt;username&gt;')</pre> <p data-bbox="821 1484 1357 1533">where {MLID} is a JSON document that specifies the material lot.</p> <p data-bbox="821 1554 1409 1774">Sometimes, an MLID includes receiver data (represented by "description": "Receiver" in the MLID). The material lot that contains receiver data is considered a receiver. All the remaining material lots in a message are linked to the receiver using genealogy. You can perform inspection on receivers using the Receiving Inspection application in Plant Applications Web Client. However, it is not mandatory to include a receiver in a message.</p> <p data-bbox="821 1795 1370 1839">For a sample MLID, refer to <a href="#">JSON Material Lot Import Document (MLID) (page 243)</a>.</p>

Message Type	Message Format
Message containing outside processing	<pre data-bbox="841 298 1406 411">INSERT INTO erp_integration_inbound_messages   (Inserted_Date, Message_Type, Media_Type, Message,   Inserted_By) VALUES (GETUTCDATE(), 'OSP', 'application/json',   '{MLID}', '&lt;username&gt;')</pre> <p data-bbox="821 428 1414 531">where {MLID} is a JSON document that specifies the OSP. For a sample MLID that contains an OSP, refer to <a href="#">JSON Outside Processing Master Import Document (page 254)</a>.</p>

**i Tip:**

- For information on which components of each type of record are created or updated while importing, refer to:
  - [About Importing Work Orders \(page 12\)](#)
  - [About Importing Materials \(page 19\)](#)
  - [About Importing Material Lots \(page 20\)](#)
  - [About Importing Process Orders \(page 21\)](#)
- For a list of example error messages while importing, refer to the Troubleshooting section of this document.

Records are created in Plant Applications based on the message you have sent.

## Provide Mapping Details

If you want to send work order, process order, material, or material lot details in a custom or standard B2MML format, you must map the fields using an XSL document. When you install Plant Applications, a default XSL file is provided. The supported XSL version is 1.0.

1. Create an XSL file.

**i Tip:** Create the XSL file based on the standard or custom B2MML file that you want to create. You can also refer to the sample files in the Reference section.

2. Access the [erp].[MappingSpecification] table of the Microsoft SQL database, and perform the following steps as applicable:
  - If you want to provide the mapping details for a work order, replace the following xml code with the xml code from the XSL file that you have created.

```
IF EXISTS (Select 1 from [erp].[MappingSpecification] where
  Resource_Type = 'WorkOrder')
BEGIN
  UPDATE [erp].[MappingSpecification]
  SET Specification = '<?xml version="1.0" encoding="UTF-8"?>
```

```

<xsl:stylesheet version="1.0" xmlns:xsl="http://www.w3.org/1999/
XSL/Transform" xmlns:xs="http://www.w3.org/2001/XMLSchema"
xmlns:fn="http://www.w3.org/2005/xpath-functions">
  <xsl:output method="xml" version="1.0" encoding="UTF-8"
  indent="yes"/>
  <xsl:template match="@* | node()">
    <xsl:copy>
      <xsl:apply-templates select="@* | node()"/>
    </xsl:copy>
  </xsl:template>
</xsl:stylesheet>'
      where Resource_Type = 'WorkOrder'
END
ELSE
BEGIN
  INSERT INTO [erp].[MappingSpecification] (Specification,
  Resource_Type)
  VALUES
  ('<?xml version="1.0" encoding="UTF-8"?>
<xsl:stylesheet version="1.0" xmlns:xsl="http://www.w3.org/1999/
XSL/Transform" xmlns:xs="http://www.w3.org/2001/XMLSchema"
xmlns:fn="http://www.w3.org/2005/xpath-functions">
  <xsl:output method="xml" version="1.0" encoding="UTF-8"
  indent="yes"/>
  <xsl:template match="@* | node()">
    <xsl:copy>
      <xsl:apply-templates select="@* | node()"/>
    </xsl:copy>
  </xsl:template>
</xsl:stylesheet>', 'WorkOrder')
END

```

- If you want to provide the mapping details for a process order, replace the following xml code with the xml code from the XSL file that you have created.

```

IF EXISTS (Select 1 from [erp].[MappingSpecification] where
  Resource_Type = 'ProcessOrder')
BEGIN
  UPDATE [erp].[MappingSpecification]
  SET Specification = '<?xml version="1.0" encoding="UTF-8"?>
<xsl:stylesheet version="1.0" xmlns:xsl="http://www.w3.org/1999/
XSL/Transform" xmlns:xs="http://www.w3.org/2001/XMLSchema"
xmlns:fn="http://www.w3.org/2005/xpath-functions">
  <xsl:output method="xml" version="1.0" encoding="UTF-8"
  indent="yes"/>
  <xsl:template match="@* | node()">
    <xsl:copy>
      <xsl:apply-templates select="@* | node()"/>
    </xsl:copy>
  </xsl:template>
</xsl:stylesheet>'
  where Resource_Type = 'ProcessOrder'
END

```

```

ELSE
BEGIN
    INSERT INTO [erp].[MappingSpecification] (Specification,
    Resource_Type)
    VALUES
    ('<?xml version="1.0" encoding="UTF-8"?>
    <xsl:stylesheet version="1.0" xmlns:xsl="http://www.w3.org/1999/
    XSL/Transform" xmlns:xs="http://www.w3.org/2001/XMLSchema"
    xmlns:fn="http://www.w3.org/2005/xpath-functions">
    <xsl:output method="xml" version="1.0" encoding="UTF-8"
    indent="yes"/>
    <xsl:template match="@* | node()">
    <xsl:copy>
    <xsl:apply-templates select="@* | node()"/>
    </xsl:copy>
    </xsl:template>
    </xsl:stylesheet>', 'ProcessOrder')
END

```

- If you want to provide the mapping details for a material, replace the following xml code with the xml code from the XSL file that you have created.

```

IF EXISTS (Select 1 from [erp].[MappingSpecification] where
    Resource_Type = 'Material')
BEGIN
    UPDATE [erp].[MappingSpecification]
    SET Specification = '<?xml version="1.0" encoding="UTF-8"?>
    <xsl:stylesheet version="1.0" xmlns:xsl="http://www.w3.org/1999/
    XSL/Transform" xmlns:xs="http://www.w3.org/2001/XMLSchema"
    xmlns:fn="http://www.w3.org/2005/xpath-functions">
    <xsl:output method="xml" version="1.0" encoding="UTF-8"
    indent="yes"/>
    <xsl:template match="@* | node()">
    <xsl:copy>
    <xsl:apply-templates select="@* | node()"/>
    </xsl:copy>
    </xsl:template>
    </xsl:stylesheet>'
    where Resource_Type = 'Material'
END
ELSE
BEGIN
    INSERT INTO [erp].[MappingSpecification] (Specification,
    Resource_Type)
    VALUES
    ('<?xml version="1.0" encoding="UTF-8"?>
    <xsl:stylesheet version="1.0" xmlns:xsl="http://www.w3.org/1999/
    XSL/Transform" xmlns:xs="http://www.w3.org/2001/XMLSchema"
    xmlns:fn="http://www.w3.org/2005/xpath-functions">
    <xsl:output method="xml" version="1.0" encoding="UTF-8"
    indent="yes"/>
    <xsl:template match="@* | node()">
    <xsl:copy>

```

```

    <xsl:apply-templates select="@* | node()" />
  </xsl:copy>
</xsl:template>
</xsl:stylesheet>', 'Material')
END

```


### 3. Run the script.

When you send a B2MML or XML file, it is converted to a JSON file by the ERP Transformation service using the mapping you have specified, and then imported to Plant Applications.

## Create a User and Grant Permissions

To perform tasks such as importing the work orders, material lots, and OSP from the ERP system to Plant Applications, as a system administrator, you must perform the following steps:

### 1. Create a user in Operations Hub UAA.

 **Note:** If you are installing Plant Applications Web Client for the first time, a default user is created.

### 2. The permissions a user requires depends on what they are to import. Grant users permissions according to the following table:

**Table 1.**

To import:	Permissions required:
Work orders	<ul style="list-style-type: none"> <li>• Create a work order</li> <li>• Edit a work order</li> <li>• Execute a work order</li> <li>• Cancel a work order</li> <li>• Clock off others</li> <li>• Change work order plans</li> </ul>
Materials	none
Material lots	Create raw material lots
Process orders	none
Outside processing (OSP)	Execute a work order

### 3. Modify the properties of the user:

- If you installed Plant Applications Web Client using Docker, update the values of the following properties in the `env.yml` file in the `<Plant Applications installation folder>/PlantApplicationsDocker/plantapps-web-docker` folder:



- uaa\_service\_serviceuser\_name
- uaa\_service\_serviceuser\_password
- uaa\_service\_client\_id
- uaa\_service\_client\_secret
- For Plant Applications Web Client without Docker installation, browse to the folder <Tomcat Installation folder>\webapps\erp-import-service-<version>\WEB-INF\classes\application.properties, and update the values of the following properties:
  - uaa.service.client.id
  - uaa.service.client.secret
  - uaa.service.serviceuser.name
  - uaa.service.serviceuser.password

## *ERP Integration Database Settings*

You must connect the ERP system with the ERP Integration database for work order, process order, and material records to be imported automatically into the ERP Integration database. These records are stored in the `erp_integration_inbound_messages` table.

Refer to your ERP integration system implementation guide for details on connecting to the integration database. Provide the following details when you integrate the ERP system with the ERP Integration database:

- Database: Microsoft SQL Server 2016
- Default name: SOADB
- Schema name: erp
- Default schema: erp

 **Tip:** Refer to the [database schema \(page 43\)](#) for additional information.

## *Configuration Parameters in the ERP Scheduler Service*

As a system administrator, you can configure the following parameters in the ERP Scheduler service.

If you have installed Enterprise Plant Applications Web Client, these parameters are available in the following file: <installation\_path>/PlantApplicationsDocker/plantapps-web-docker/mnt/configfiles/erp-scheduler-service/prod/<version>/erp-scheduler-service-prod.properties

After you change the values of parameters, run the following Docker commands, and restart the ERP Scheduler service:

```
docker-compose -f erpschedulerservice.yml config >
  PAErpschedulerservice.yml
```

```
docker stack deploy -c PAErpschedulerservice.yml PAErpschedulerservice
```

**i Tip:** If you want to change the value of a parameter only for the running instance of the service, you can use a third-party tool such as Portainer.

If you have installed Standard Plant Applications Web Client, these parameters are available in the following file: `C:\Program Files\GE Digital\PlantApplicationsWebClient\config-repo\erp-scheduler-service\prod\<version>\erp-scheduler-service-prod.properties`. After you change the values of parameters, restart the ERP Scheduler service.

**! Important:** The parameters in the following table are applicable if you have installed Standard Plant Applications Web Client. If you have installed Enterprise Plant Applications Web Client, replace the periods in the parameters with underscores (for example: `erp_scheduler_service_importJobPoll_milliseconds`).

Parameter	Description
<code>erp.scheduler.service.importJobPoll.milliseconds</code>	The interval (in milliseconds) at which the ERP Scheduler service polls the ERP Integration database for new inbound messages. The default value is 30000.
<code>erp.scheduler.service.importJobStatusPoll.milliseconds</code>	The interval (in milliseconds) at which the ERP Scheduler service polls the ERP Integration database for in-process messages. The default value is 30000.
<code>erp.scheduler.service.retrylimit</code>	The maximum numbers of times the ERP Scheduler service retries to process a record. The default value is 6.

## Configuration Parameters to Import a Work Order

As a system administrator, you can configure the following parameters in the ERP Import service to import a work order.


If you have installed Enterprise Plant Applications Web Client, these parameters are available in the following file: `<installation path>/PlantApplicationsDocker/plantapps-web-docker/erpimportservice.yml`. After you change the values of parameters, run the following Docker commands, and restart the ERP Import service:

```
docker-compose -f erpimportservice.yml config > PAErpimportservice.yml
docker stack deploy -c PAErpimportservice.yml PAErpimportservice
```

**i Tip:** If you want to change the value of a parameter only for the running instance of the service, you can use a third-party tool such as Portainer.

If you have installed Standard Plant Applications Web Client, these parameters are available in the following file: `C:\Program Files\GE Digital\PlantApplicationsWebClient`

`\config-repo\erp-import-service\prod\\erp-import-service-prod.properties`. After you change the values of parameters, restart the ERP Import service.

 **Note:** Before you configure the parameters related to custom property groups and categories, you must create them in the Property Definition application in Plant Applications Web Client. The maximum number of properties that you can create per property group is 2000.

Parameter	Description
Workorder.property.group.id	The GUID of the WorkOrder Import property group in the Property Definition application. The default value is CB21B6A6-B370-46D5-8400-5BA64C46CB9F.
BOMItem.proprty.group.id	The GUID of the BOMItem property group in the Property Definition application. The default value is 0AA6FFB3-584B-4D60-A21A-1A2E38D13FC2.

 **Note:**


- The parameters **Workorder\_property\_Group\_name** and **Material\_property\_Group\_name** in Plant Applications Web Client version 8.0 are changed to **Workorder.property.group.id** and **Material.property.group.id**.
- The parameters **Workorder\_property\_category\_name** and **Material\_property\_category\_name** are not used in Plant Applications Web Client version 8.1 and later.

## *Configuration Parameters to Import a Process Order*


As a system administrator, you can configure the following parameters in the ERP Import service to import a process order. If you want to change the values of these parameters, you must do so while installing Plant Applications Web Client, and then restart the ERP Import service.

If you have installed Enterprise Plant Applications Web Client, these parameters are available in the following file: `<installation path>/PlantApplicationsDocker/plantapps-web-docker/erpimportservice.yml`. After you change the values of parameters, run the following Docker commands, and restart the ERP Import service:

```
docker-compose -f erpimportservice.yml config > PAErpimportservice.yml
docker stack deploy -c PAErpimportservice.yml PAErpimportservice
```

 **Tip:** If you want to change the value of a parameter only for the running instance of the service, you can use a third-party tool such as Portainer.

If you have installed Standard Plant Applications Web Client, these parameters are available in the following file: `C:\Program Files\GE Digital\PlantApplicationsWebClient\config-repo\erp-import-service\prod\\erp-import-service-prod.properties`. After you change the values of parameters, restart the ERP Import service.

 **Note:** Before you configure the parameters related to custom property groups and categories, you must create them in the Property Definition application in Plant Applications Web Client. The maximum number of properties that you can create per property group is 2000.


Parameter	Description
processorder.property_group.id	The GUID of property group with the name ProcessOrder Import from the Property Definition application. This group Id belongs to ProcessOrder Import.  The default value is 8a290266-bd40-4508-a0d8-3793d72e010b.

## *Configuration Parameters to Import a Material Lot*


As a system administrator, you can configure the following parameters in the ERP Import service to import a material lot. If you want to change the values of these parameters, you must do so while installing Plant Applications Web Client, and then restart the ERP Import service.

If you have installed Enterprise Plant Applications Web Client, these parameters are available in the following file: <installation path>/PlantApplicationsDocker/plantapps-web-docker/erpimportservice.yml. After you change the values of parameters, run the following Docker commands, and restart the ERP Import service:

```
docker-compose -f erpimportservice.yml config > PAErpimportservice.yml
docker stack deploy -c PAErpimportservice.yml PAErpimportservice
```

 **Tip:** If you want to change the value of a parameter only for the running instance of the service, you can use a third-party tool such as Portainer.

If you have installed Standard Plant Applications Web Client, these parameters are available in the following file: C:\Program Files\GE Digital\PlantApplicationsWebClient\config-repo\erp-import-service\prod\<version>\erp-import-service-prod.properties. After you change the values of parameters, restart the ERP Import service.

 **Note:** Before you configure the parameters related to custom property groups and categories, you must create them in the Property Definition application in Plant Applications Web Client. The maximum number of properties that you can create per property group is 2000.

Parameter	Description
OrgCode	The GUID of organization code of the material lot from Property Definition. This property is used to import receivers with material lots from the ERP application. For each material lot, the combination of the organization code and the units of measure must be unique.

Parameter	Description
materiallot.property.group.id	The GUID of property group with the name MaterialLot Import from Property Definition application. This group Id belongs to MaterialLot Import.  The default value is 170d56ca-1f50-47db-8e2b-793a792ad6c9.
inventory.line.id	The GUID of property group with the name Inventory Line from Property Definition application. The default value is AF651BC5-4161-4B03-8124-DE2AE4887CCE.  If you have installed Plant Applications for the first time, set a value for the property using Property Definition.  The units of measure provided for each material lot in the message must match the units of measure for one of the units in the inventory line in Plant Applications. If it does not match or if multiple units have the same units of measure, an error occurs. In addition, this unit must contain the same OrgCode that you will provide in the material lot import document (MLID).
receiver.line.id	The GUID of property definition with the name Receiver Line from Property Definition application.  The default value is 02651301-05BD-4DE0-999C-0B6F93630308.
receiver.status.id	The GUID of property definition with the name Receiver Status from Property Definition application.  The default value is FFDEE988-8E13-43C4-8BC3-A379BC6ACA53.
receiver.unit.id	The GUID of property definition with the name Receiver Unit from Property Definition application.  The default value is 0716041E-DFC6-4939-A81C-B2EB8F25B29E.

## *Configuration Parameters to Import a Material*


As a system administrator, you can configure the following parameters in the ERP Import service to import a material.

If you have installed Enterprise Plant Applications Web Client, these parameters are available in the following file: <installation path>/PlantApplicationsDocker/plantapps-web-docker/erpimportservice.yml. After you change the values of parameters, run the following Docker commands, and restart the ERP Import service:

```
docker-compose -f erpimportservice.yml config > PAErpimportservice.yml
docker stack deploy -c PAErpimportservice.yml PAErpimportservice
```

**i Tip:** If you want to change the value of a parameter only for the running instance of the service, you can use a third-party tool such as Portainer.

If you have installed Standard Plant Applications Web Client, these parameters are available in the following file: `C:\Program Files\GE Digital\PlantApplicationsWebClient\config-repo\erp-import-service\prod\. After you change the values of parameters, restart the ERP Import service.`

 **Note:** Before you configure the parameters related to custom property groups and categories, you must create them in the Property Definition application in Plant Applications Web Client. The maximum number of properties that you can create per property group is 2000.


Parameter	Description
Material.property.group.id	The GUID of property group with the name Material Import from Property Definition application. This group Id belongs to Material Import. The default value is 79433EC1-6683-4BED-B353-BD667210E0A2.

## Configuration Parameters in the ERP Export Service

As a system administrator, you can configure the following parameters in the ERP Export service and the Property Definition application in Plant Applications Web Client.

If you have installed Enterprise Plant Applications Web Client, these parameters are available in the following file: `<installation path>/PlantApplicationsDocker/plantapps-web-docker/erpexportservice.yml`. After you change the values of parameters, run the following Docker commands, and restart the ERP Export service:

```
docker-compose -f erpexportservice.yml config > PAErpExportService.yml
docker stack deploy -c PAErpExportService.yml PAErpExportService
```

 **Tip:** If you want to change the value of a parameter only for the running instance of the service, you can use a third-party tool such as Portainer.

If you have installed Standard Plant Applications Web Client, these parameters are available in the following file: `C:\Program Files\GE Digital\PlantApplicationsWebClient\config-repo\erp-export-service\prod\. After you change the values of parameters, restart the ERP Export service.`

Parameter	Description
erp.outbound.messages.messageType	The format of the message. Provide one of the following values: <ul style="list-style-type: none"> <li>Application/XML: The message is displayed in an XML or B2MML format.</li> <li>Application/JSON: The message is displayed in a JSON format.</li> </ul>

## Troubleshooting

### Troubleshooting Issues While Importing

#### First-Time Import of Material Lots from an ERP Application Fails

**Possible root cause:** The statuses of the material lots are not defined in Plant Applications Administrator.

**Resolution:** Create the statuses as follows:

1. Access Plant Applications Administrator.
2. Under **Global Configuration**, right-click **Administer Production Status**, and then select **Edit**.
3. Select **New Status**, and provide values for the **UNASSIGNED** production status as shown in the following image:

The image shows a 'Production Status Editor' window. At the top, there is a dropdown menu for 'Production Status' with 'UNASSIGNED' selected. Below this is a 'Status Details' section with several fields: 'Description' (UNASSIGNED), 'Status' (Good), 'Production' (No), and 'Inventory' (No). There are two checkboxes: 'Bypass History' and 'Lock Event Data', both of which are unchecked. Below these are two larger fields: 'Icon' and 'Color'. The 'Icon' field contains a blue and black graphic, and the 'Color' field is empty. At the bottom of the window are three buttons: 'Units', 'New', and 'Update'.

4. Select **New Status** again, and provide values for the **OPEN** production status as shown in the following image:

**Possible root cause:** The inventory line is not defined in Property Definition.

**Resolution:** If you have installed Plant Applications for the first time, set a value for the inventory.line property group using Property Definition in Plant Applications Web Client.

**Possible root cause:** Mismatch in units of measure

**Resolution:** The units of measure provided for each material lot in the message must match the units of measure for one of the units in the inventory line in Plant Applications. If it does not match or if multiple units have the same units of measure, an error occurs. In addition, this unit must contain the same OrgCode that you will provide in the material lot import document (MLID).

### *Examples of Error Messages While Importing a Work Order*

This topic provides a few examples of common error messages that may appear while importing a work order. This list is not comprehensive.

Error Message	Cause
producedMaterialName: integer found, string expected	This message appears if the material name contains an integer value instead of a string value.
operationsGroup.operations[0].billOfMaterials[0].quantity: string found, number expected	This message appears if the quantity of a BOM item contains a string value instead of an integer value.
workOrderName: null found, string expected	This message appears if you have not provided the work order name.
priority: is missing but it is required	This message appears if priority is missing (but is mandatory for a work order).



Error Message	Cause
operationsGroup.operations[0].billOfMaterials[0].materialName is missing but it is required	This message appears if the material name for BOM items is missing (but is mandatory for a work order).
Wo import failed case : operationsGroup.operations[1].billOfMaterials[0].quantity: must have an exclusive minimum value of 0	This message appears if the quantity of a BOM item contains zero or a value less than zero.
Wo import failed case : bomitem.property.group.id cannot be empty or null	This message appears if you have not provided the group ID of a BOM item. To fix this error, provide the group ID of the BOM item in <a href="#">the configuration parameters of the ERP Import service (page 34)</a> .
Work Order imported Successfully;Operations[OP3] not found;	This message appears if an operation that you have provided does not exist in the associated route in Plant Applications. In this case, the work order is created, but the operation is not created.

### *Examples of Error Messages While Importing a Material Lot*

This topic provides a few examples of common error messages that may appear while importing a material lot. This list is not comprehensive.

Error Message	Cause
Input UnitOfMeasure [cm] not matching with product [DT_Water] UnitOfMeasure	This message appears if the unit of measure in the material lot import document (MLID) does not match that of any of the production units under the production line specified in the inventory.line.id parameter in the <a href="#">ERP import service configuration (page 36)</a> .
LotIdentifier : lotus1tes34 already exists for product: DT_Water	This message appears if lot identifier that you have provided in the MLID is not unique for the production unit.
Material lot information cannot be empty	This message appears if the content in the lotidentifier body is missing in the MLID.
materialLot[0].lotIdentifier: is missing but it is required	This message appears if the lot identifier is missing (it is mandatory for a material lot).
materialLot[0].productName: is missing but it is required	This message appears if the product name is missing (it is mandatory for a material lot).
materialLot[0].propertyValues[1].propertyValue: number found, but [string, null] is required	This message appears if you have provided an integer value for a property instead of a string (for a property whose data type is string).
materialLot[0].propertyValues[2]: null found, object expected	This message appears if you have provided a null value for a property. A value is required for each property included in a POID.
materialLot[0].quantity: is missing but it is required	This message appears if you have not provided the quantity of a material lot. Providing the quantity is mandatory to <i>create</i> a process order. However, if you want to <i>update</i> a process order, quantity can be null or empty.

<b>Error Message</b>	<b>Cause</b>
materialLot[0].quantity: must have a minimum value of 1	This message appears if the quantity of the material lot that you have provided is less than one.
materialLot[0].status: is missing but it is required	This message appears if you have not provided the status of a material lot. Providing the status is mandatory if you want to create a material lot using an MLID, but it is optional if you want to update the material lot.
materialLot[0].status: null found, string expected	This message appears if you have provided a null value for the status of a material lot. You must provide a valid value (that is, Open, Accept, Scrap, RTV, DIT, or MRB/NCR). Providing the status is mandatory if you want to create a material lot using an MLID, but it is optional if you want to update the material lot.
materialLot[0].unitOfMeasure: is missing but it is required	This message appears if you have not provided the unit of measure for a material lot.
Product Name [DT_Water] not found	This message appears if the product name in the MLID does not match a product code in Plant Applications.
Receiver production line [TestProductionLine] not found	This message appears if the production line (that is, receiver_line_id) that you have provided in the MLID does not match an value in the receiver_line_id property group in Property Definition in Plant Applications.

# Chapter 4. Reference

## *ERP Integration Database Schema*

The ERP Integration database stores messages that specify work orders, process orders, and materials. Messages are stored in the `erp_integration_inbound_messages` table until they are imported into the Plant Applications database. The following table describes the columns in the `erp_integration_inbound_messages` table.

<b>Column</b>	<b>Description</b>
<code>Id</code>	A system-generated identity value.
<code>Message_Type</code>	The identifier for the type of the record. This column contains one of the following values: <ul style="list-style-type: none"><li>• <code>workOrder</code></li><li>• <code>processOrder</code></li><li>• <code>material</code></li><li>• <code>materialLot</code></li></ul>
<code>Media_Type</code>	The MIME type of the message. This column contains one of the following values: <ul style="list-style-type: none"><li>• <code>application/json</code></li><li>• <code>application/xml</code></li></ul>
<code>Key_Data</code>	The information added by the ERP Scheduler service when the record is processed (for example, work order number). The data can be used by system administrators for internal purposes, such as to query how many times the order number has been sent for import.
<code>Inserted_Date</code>	The date and time (in UTC format) when the ERP system added the record to the table.
<code>Process_Start_Date</code>	The date and time (in UTC format) when the ERP Scheduler service started processing the message.
<code>Process_Complete_Date</code>	The date and time (in UTC format) when the ERP Scheduler service completed processing the message.
<code>Response_Code</code>	The HTTP response code from the import process.
<code>Response_Message</code>	The message that contains information about whether the import has been successful.
<code>Message</code>	The record that contains the details of the work order, process order, or material in a JSON, B2MML, or XML format. If the message is in the JSON format, this column contains one of the following files: <ul style="list-style-type: none"><li>• work order import document (WOID)</li><li>• process order import document (POID)</li><li>• material master import document (MMID)</li></ul>

Column	Description
Inserted_By	The user who created the record.

## Sample Inbound Files for a Work Order

### Message that Contains a Work Order

```
INSERT INTO erp.erp_integration_inbound_messages (Inserted_Date,
Message_Type, Media_Type, Message, Inserted_By)
VALUES (GETUTCDATE(), 'workOrder', 'application/json', '{WOID}',
'<username>')
```

where {WOID} is a JSON document that specifies the work order. For a sample WOID, refer to [JSON Work Order Import Document \(WOID\) \(page 44\)](#).

If you want to send a B2MML document, replace `application/json` with `application/xml`.

Inbound messages are added to the integration database using Microsoft SQL Server 2016 version or later.

### JSON Work Order Import Document (WOID)

A JSON work order import document (WOID) contains all the details of a work order, including the route, its operations, and so on. The WOID constitutes the body of the HTTP POST request of the ERP Import Service, which posts the work order to Plant Applications.

Schema versions 3, 4, 5, and 6 are supported in a WOID.

### JSON WOID Schema Versions 5 and 6

Using schema versions 5 and 6, you can import the following components of a work order:

- **Schema Version 6:** You can provide the following values:
  - Upper and lower tolerances of a BOM item and their precision
  - Scrap factor (the percentage of the product that is predicted to be scrapped)
  - Precision of the quantity of the product
  - The default storage unit of a BOM item

In addition, you can specify whether an operation can be skipped, by including `allowManualSkip` in the `behaviours` array for the operation. If you do so, the operator can choose to skip the operation while executing the work order. If, however, you set the `skipifSuccessorStarted` parameter to true, the operation will be automatically skipped when the next operation is ready.

- **Schema version 5:** You can override the following route components in a work order:

- BOM items of a route
- BOM items of individual operations in a route
- Values of BOM item properties
- Values of route-level and operation-level properties

In addition, specifying the route revision is not required. By default, the latest revision is considered.

### JSON WOID Schema Version 6 *with* Route Definition (*without* BOM Items and Property Values Override)

```
{
  "schemaVersion": 6,
  "workOrderName": "WOID6-ROUTE-XML-NOOVERRIDE-SNOWBIKES",
  "producedMaterialName": "SNOWBIKE-NONSERIALIZED",
  "plannedLineName": "Bikes_Assembly_Line",
  "priority": 0,
  "plannedStartDate": "2020-11-18T13:28:39.039Z",
  "plannedEndDate": "2020-11-19T13:00:00.000Z",
  "routeDefinitionName": "SnowBikeRouteLatest",
  "operationsGroup": {
    "route": {
      "billofMaterials": [],
      "propertyValues": []
    },
    "operations": []
  },
  "materialLots": [
    {
      "plannedQuantity": 10,
      "lotIdentifier": "serinum1"
    },
    {
      "plannedQuantity": 5,
      "lotIdentifier": "serinum2"
    },
    {
      "plannedQuantity": 15,
      "lotIdentifier": "serinum3"
    }
  ]
}
```

### JSON WOID Schema Version 6 *with* Route Definition (*with* BOM Items and Property Values Override)

```
{
  "schemaVersion": 6,
  "workOrderName": "WOID6-ROUTE-JSON-SNOWBIKES",
  "producedMaterialName": "SNOWBIKE-NONSERIALIZED",
  "plannedLineName": "Bikes_Assembly_Line",
```

```

"priority": 0,
"plannedStartDate": "2020-11-18T13:28:39.039Z",
"plannedEndDate": "2020-11-19T13:00:00.000Z",
"routeDefinitionName": "SnowBikeRouteLatest",
"operationsGroup": {
  "route": {
    "billOfMaterials": [
      {
        "materialName": "OpGrpBomItem1",
        "quantity": 1,
        "quantityPrecision": 2,
        "lowerTolerance": 1,
        "upperTolerance": 2,
        "lowerTolerancePrecision": 1,
        "upperTolerancePrecision": 1,
        "scrapFactor": 1.5,
        "unitOfMeasureName": "EA",
        "displayOrder": 1,
        "propertyValues": [
          {
            "propertyName": "bom_item_prop_group_prop_1",
            "propertyValue": "123"
          }
        ],
        "behaviors": [
          "requiresConsumptionTracking"
        ],
        "defaultStorageUnit": "PackagingUnit"
      },
      {
        "materialName": "OpGrpBomItem2",
        "quantity": 1,
        "quantityPrecision": 1,
        "lowerTolerance": 2,
        "upperTolerance": 1,
        "lowerTolerancePrecision": 1,
        "upperTolerancePrecision": 1,
        "scrapFactor": 2.5,
        "unitOfMeasureName": "EA",
        "displayOrder": 2,
        "propertyValues": [],
        "behaviors": [],
        "defaultStorageUnit": "PackagingUnit"
      }
    ],
    "propertyValues": [
      {
        "propertyName": "work_order_import_prop_group_prop_1",
        "propertyValue": "workorderimportgroupproperty1"
      }
    ]
  },
}

```

```

"operations": [
  {
    "name": "FrameAssembly",
    "billOfMaterials": [
      {
        "materialName": "BikeMainFrame",
        "quantity": 1,
        "quantityPrecision": 1,
        "lowerTolerance": 1,
        "upperTolerance": 1,
        "lowerTolerancePrecision": 0,
        "upperTolerancePrecision": 0,
        "scrapFactor": 0.5,
        "unitOfMeasureName": "EA",
        "displayOrder": 1,
        "propertyValues": [
          {
            "propertyName": "bom_item_prop_group_prop_2",
            "propertyValue": "1.23"
          }
        ],
        "behaviors": [
          "requiresConsumptionTracking"
        ],
        "defaultStorageUnit": "PackagingUnit"
      }
    ],
    "propertyValues": []
  },
  {
    "name": "TorqueTest",
    "billOfMaterials": [],
    "propertyValues": [
      {
        "propertyName": "work_order_import_prop_group_prop_2",
        "propertyValue": "workorderimportgroupproperty2"
      }
    ]
  },
  {
    "name": "DynamicAlignment",
    "billOfMaterials": [],
    "propertyValues": [
      {
        "propertyName": "work_order_import_prop_group_prop_3",
        "propertyValue": "workorderimportgroupproperty3"
      }
    ]
  },
  {
    "name": "TyreMounting",
    "billOfMaterials": [

```

```

    {
      "materialName": "TubelessTyre",
      "quantity": 2,
      "quantityPrecision": 0,
      "lowerTolerance": 1,
      "upperTolerance": 1,
      "lowerTolerancePrecision": 0,
      "upperTolerancePrecision": 0,
      "scrapFactor": 0.1,
      "unitOfMeasureName": "EA",
      "displayOrder": 1,
      "propertyValues": [
        {
          "propertyName": "bom_item_prop_group_prop_3",
          "propertyValue": "bomitempropgroupproperty"
        }
      ],
      "behaviors": [
        "requiresConsumptionTracking"
      ],
      "defaultStorageUnit": "PackagingUnit"
    }
  ],
  "propertyValues": [
    {
      "propertyName": "work_order_import_prop_group_prop_4",
      "propertyValue": "workorderimportgroupproperty"
    }
  ]
}
],
},
"materialLots": [
  {
    "plannedQuantity": 10,
    "lotIdentifier": "serinum1"
  },
  {
    "plannedQuantity": 5,
    "lotIdentifier": "serinum2"
  },
  {
    "plannedQuantity": 15,
    "lotIdentifier": "serinum3"
  }
]
}

```

## JSON WOID Schema Version 6 *without* Route Definition

```

{
  "schemaVersion": 6,

```



```

"workOrderName": "WOID6-ROUTE-JSON-SNOWBIKES",
"producedMaterialName": "SNOWBIKE-NONSERIALIZED",
"plannedLineName": "Bikes_Assembly_Line",
"priority": 0,
"plannedStartDate": "2020-11-18T13:28:39.039Z",
"plannedEndDate": "2020-11-19T13:00:00.000Z",
"operationsGroup": {
  "route": {
    "billOfMaterials": [
      {
        "materialName": "OpGrpBomItem1",
        "quantity": 1,
        "quantityPrecision": 2,
        "lowerTolerance": 1,
        "upperTolerance": 2,
        "lowerTolerancePrecision": 1,
        "upperTolerancePrecision": 1,
        "scrapFactor": 1.5,
        "unitOfMeasureName": "EA",
        "displayOrder": 1,
        "propertyValues": [
          {
            "propertyName": "bom_item_prop_group_prop_1",
            "propertyValue": "123"
          }
        ],
        "behaviors": [
          "requiresConsumptionTracking"
        ],
        "defaultStorageUnit": "PackagingUnit"
      },
      {
        "materialName": "OpGrpBomItem2",
        "quantity": 1,
        "quantityPrecision": 1,
        "lowerTolerance": 2,
        "upperTolerance": 1,
        "lowerTolerancePrecision": 1,
        "upperTolerancePrecision": 1,
        "scrapFactor": 2.5,
        "unitOfMeasureName": "EA",
        "displayOrder": 2,
        "propertyValues": [],
        "behaviors": [],
        "defaultStorageUnit": "PackagingUnit"
      }
    ],
    "documents": [],
    "propertyValues": [],
    "behaviors": []
  },
  "operations": [
    {

```

```

    "name": "FrameAssembly",
    "description": "Frame Assembling",
    "sequenceNumber": 1,
    "plannedUnitNames": [ "FrameMountingStation" ],
    "billOfMaterials": [
      {
        "materialName": "BikeMainFrame",
        "quantity": 1,
        "quantityPrecision": 1,
        "lowerTolerance": 1,
        "upperTolerance": 1,
        "lowerTolerancePrecision": 0,
        "upperTolerancePrecision": 0,
        "scrapFactor": 0.5,
        "unitOfMeasureName": "EA",
        "displayOrder": 1,
        "propertyValues": [
          {
            "propertyName": "bom_item_prop_group_prop_2",
            "propertyValue": "1.23"
          }
        ],
        "behaviors": [
          "requiresConsumptionTracking"
        ],
        "defaultStorageUnit": "PackagingUnit"
      }
    ],
    "documents": [],
    "propertyValues": [],
    "behaviors": [
      "requiresClockOn"
    ],
    "suggestedLaborTypes": [
      "direct"
    ],
    "skipIfSuccessorStarted": false
  },
  {
    "name": "TorqueTest",
    "description": "Torque testing",
    "sequenceNumber": 2,
    "plannedUnitNames": [ "TorqueTest" ],
    "billOfMaterials": [],
    "documents": [],
    "propertyValues": [],
    "behaviors": [
      "allowManualSkip"
    ],
    "suggestedLaborTypes": [],
    "skipIfSuccessorStarted": false
  },
  {

```

```

    "name": "DynamicAlignment",
    "description": "Dynamic Wheel Aligning",
    "sequenceNumber": 3,
    "plannedUnitNames": ["AlignmentJig"],
    "billOfMaterials": [],
    "documents": [],
    "propertyValues": [],
    "behaviors": [],
    "suggestedLaborTypes": [],
    "skipIfSuccessorStarted": true
  },
  {
    "name": "TyreMounting",
    "description": "Tyre mounting",
    "sequenceNumber": 4,
    "plannedUnitNames": ["TyreMount"],
    "billOfMaterials": [
      {
        "materialName": "TubelessTyre",
        "quantity": 2,
        "quantityPrecision": 0,
        "lowerTolerance": 1,
        "upperTolerance": 1,
        "lowerTolerancePrecision": 0,
        "upperTolerancePrecision": 0,
        "scrapFactor": 0.1,
        "unitOfMeasureName": "EA",
        "displayOrder": 1,
        "propertyValues": [
          {
            "propertyName": "bom_item_prop_group_prop_3",
            "propertyValue": "\"bomitempropgroupproperty\""
          }
        ],
        "behaviors": [
          "requiresConsumptionTracking"
        ],
        "defaultStorageUnit": "PackagingUnit"
      }
    ],
    "documents": [],
    "propertyValues": [],
    "behaviors": [
      "requiresClockOn"
    ],
    "suggestedLaborTypes": [
      "direct"
    ],
    "skipIfSuccessorStarted": false
  }
]
},
"materialLots": [

```

```

    {
      "plannedQuantity": 10,
      "lotIdentifier": "serinum1"
    },
    {
      "plannedQuantity": 5,
      "lotIdentifier": "serinum2"
    },
    {
      "plannedQuantity": 15,
      "lotIdentifier": "serinum3"
    }
  ]
}

```

### JSON WOID Schema Version 5 with Route Definition (*without* BOM Items and Property Values Override)

```

{
  "schemaVersion": 5,
  "workOrderName": "WOID5-ROUTE-XML-NOOVERRIDE-SNOWBIKES",
  "producedMaterialName": "SNOWBIKE-NONSERIALIZED",
  "plannedLineName": "Bikes_Assembly_Line",
  "priority": 0,
  "plannedStartDate": "2020-11-18T13:28:39.039Z",
  "plannedEndDate": "2020-11-19T13:00:00.000Z",
  "routeDefinitionName": "SnowBikeRouteLatest",
  "operationsGroup": {
    "route": {
      "billOfMaterials": [],
      "propertyValues": []
    },
    "operations": []
  },
  "materialLots": [
    {
      "plannedQuantity": 10,
      "lotIdentifier": "serinum1"
    },
    {
      "plannedQuantity": 5,
      "lotIdentifier": "serinum2"
    },
    {
      "plannedQuantity": 15,
      "lotIdentifier": "serinum3"
    }
  ]
}

```

## JSON WOID Schema Version 5 *with* Route Definition (*with* BOM Items and Property Values Override)

```
{
  "schemaVersion": 5,
  "workOrderName": "WOID5XML-RT-SAMPLE-DEC13",
  "producedMaterialName": "SNOWBIKE-NONSERIALIZED",
  "plannedLineName": "Bikes_Assembly_Line",
  "priority": 0,
  "plannedStartDate": "2020-12-22T00:00:00.000Z",
  "plannedEndDate": "2020-12-23T00:00:00.000Z",
  "routeDefinitionName": "SnowBikeRouteLatest",
  "operationsGroup": {
    "route": {
      "billOfMaterials": [
        {
          "materialName": "OpGrpBomItem1",
          "quantity": 2,
          "unitOfMeasureName": "EA",
          "displayOrder": 1,
          "propertyValues": [
            {
              "propertyName": "bom_item_prop_group_prop_1",
              "propertyValue": "\"bomitempropgrouppropertyvalue\""
            }
          ]
        },
        {
          "materialName": "OpGrpBomItem2",
          "quantity": 10,
          "unitOfMeasureName": "EA",
          "displayOrder": 2,
          "propertyValues": [
            {
              "propertyName": "bom_item_prop_group_prop_2",
              "propertyValue": "\"bomitempropgrouppropertyvalue\""
            }
          ]
        }
      ],
      "behaviors": ["requiresConsumptionTracking"]
    }
  },
  "operations": [
    {
      "name": "FrameAssembly",
      "billOfMaterials": [
        {
          "materialName": "BikeMainFrame",
          "quantity": 1,

```

```

        "unitOfMeasureName": "EA",
        "displayOrder": 1,
        "propertyValues": [
          {
            "propertyName": "bom_item_prop_group_prop_3",
            "propertyValue": "\"bomitempropgrouppropertyvalue\""
          }
        ],
        "behaviors": [
          "requiresConsumptionTracking"
        ]
      },
      {
        "materialName": "308A309800048",
        "quantity": 1,
        "unitOfMeasureName": "cm",
        "displayOrder": 2,
        "propertyValues": [
          {
            "propertyName": "displayOrder",
            "propertyValue": "2"
          }
        ],
        "behaviors": []
      }
    ],
    "propertyValues": [
      {
        "propertyName": "LaborTime",
        "propertyValue": "210"
      }
    ]
  },
  {
    "name": "TyreMounting",
    "billofMaterials": [
      {
        "materialName": "TubelessTyre",
        "quantity": 2,
        "unitOfMeasureName": "EA",
        "displayOrder": 1,
        "propertyValues": [
          {
            "propertyName": "bom_item_prop_group_prop_2",
            "propertyValue": "\"bomitempropgrouppropertyvalue\""
          }
        ],
        "behaviors": [
          "requiresConsumptionTracking"
        ]
      },
      {
        "materialName": "ACCR",

```

```

        "quantity": 33.78,
        "unitOfMeasureName": "LB",
        "displayOrder": 2,
        "propertyValues": [
          {
            "propertyName": "displayOrder",
            "propertyValue": "1"
          }
        ],
        "behaviors": []
      }
    ],
    "propertyValues": [
      {
        "propertyName": "WeldingTime",
        "propertyValue": "100"
      }
    ]
  }
]
},
"materialLots": [
  {
    "plannedQuantity": 10,
    "lotIdentifier": "SERNUM1"
  },
  {
    "plannedQuantity": 5,
    "lotIdentifier": "SERNUM2"
  },
  {
    "plannedQuantity": 15,
    "lotIdentifier": "SERNUM3"
  }
]
}

```

## JSON WOID Schema Version 5 *without* Route Definition

```

{
  "schemaVersion": 5,
  "workOrderName": "WOID5-ADHOC-XML-SNOWBIKES",
  "producedMaterialName": "SNOWBIKE-NONSERIALIZED",
  "plannedLineName": "Bikes_Assembly_Line",
  "priority": 0,
  "plannedStartDate": "2020-12-18T13:00:00.000Z",
  "plannedEndDate": "2020-12-19T13:00:00.000Z",
  "operationsGroup": {
    "route": {
      "billOfMaterials": [
        {
          "materialName": "OpGrpBomItem1",

```

```

    "quantity": 2,
    "unitOfMeasureName": "EA",
    "displayOrder": 1,
    "propertyValues": [
      {
        "propertyName": "bom_item_prop_group_prop_1",
        "propertyValue": "\"bomitempropgrouppropertyvalue\""
      }
    ],
    "behaviors": ["requiresConsumptionTracking"]
  },
  {
    "materialName": "OpGrpBomItem2",
    "quantity": 10,
    "unitOfMeasureName": "EA",
    "displayOrder": 2,
    "propertyValues": [
      {
        "propertyName": "bom_item_prop_group_prop_2",
        "propertyValue": "\"bomitempropgrouppropertyvalue\""
      }
    ],
    "behaviors": []
  }
],
"documents": [
  {
    "displayName": "AssemblyInstructions",
    "link": "http://grid.ge.com/485765/assemblyinstructions.pdf"
  },
  {
    "displayName": "PaintInstructions",
    "link": "http://grid.ge.com/485766/paintinstructions.pdf"
  }
],
"propertyValues": [
  {
    "propertyName": "Some-Integer-Property-Name",
    "propertyValue": "10"
  },
  {
    "propertyName": "Some-DateTime-Property-Name",
    "propertyValue": "2020-10-22T12:30:45.555Z"
  },
  {
    "propertyName": "Some-Boolean-Property-Name",
    "propertyValue": "true"
  },
  {
    "propertyName": "Some-Float-Property-Name",
    "propertyValue": "1.2"
  }
]

```





```

    ]
  },
  {
    "name": "TyreMounting",
    "description": "Mounting tyres to Bike frame.",
    "sequenceNumber": 2,
    "plannedUnitNames": [
      "TyreMount"
    ],
    "billOfMaterials": [
      {
        "materialName": "TubelessTyre",
        "quantity": 2,
        "unitOfMeasureName": "EA",
        "displayOrder": 1,
        "propertyValues": [
          {
            "propertyName": "bom_item_prop_group_prop_2",
            "propertyValue": "\"bomitempropgrouppropertyvalue\""
          }
        ],
        "behaviors": ["requiresConsumptionTracking"]
      }
    ],
    "documents": [
      {
        "displayName": "Instructions for Tyre Mounting",
        "link": "http://grid.ge.com/485765/TyreMountingInstructions.pdf"
      }
    ],
    "propertyValues": [
      {
        "propertyName": "NumberOfTyres",
        "propertyValue": "2"
      },
      {
        "propertyName": "TyreDiameterInMeters",
        "propertyValue": "1"
      }
    ],
    "behaviors": ["requiresClockOn"],
    "suggestedLaborTypes": [
      "direct",
      "rework"
    ]
  }
],
"materialLots": [
  {
    "plannedQuantity": 10,
    "lotIdentifier": "serinum1"
  }
],

```

```

{
  "plannedQuantity": 5,
  "lotIdentifier": "serinum2"
},
{
  "plannedQuantity": 15,
  "lotIdentifier": "serinum3"
}
]
}

```

## JSON WOID Schema Versions 3 and 4

Using schema versions 3 and 4, you can import the following components of a work order:

- **Schema version 4:** You can import work orders for serialized as well as non-serialized products with or without route definition.
- **Schema version 3:** You can import work orders for serialized products with or without route definition.

## JSON WOID Schema Version 4 *with* Route Definition

```

{
  "schemaVersion": 4,
  "workOrderName": "WOID4-ROUTE-XML-SNOWBIKES",
  "producedMaterialName": "SNOWBIKE-NONSERIALIZED",
  "plannedLineName": "Bikes_Assembly_Line",
  "priority": 0,
  "plannedStartDate": "2020-12-18T13:00:00.000Z",
  "plannedEndDate": "2020-12-19T13:00:00.000Z",
  "routeDefinitionName": "SnowBikeRoute",
  "routeDefinitionRevision": 1,
  "materialLots": [
    {
      "plannedQuantity": 10,
      "lotIdentifier": "serinum1"
    },
    {
      "plannedQuantity": 5,
      "lotIdentifier": "serinum2"
    },
    {
      "plannedQuantity": 15,
      "lotIdentifier": "serinum3"
    }
  ]
}

```

## JSON WOID Schema Version 4 *without* Route Definition

```

{

```

```

"schemaVersion": 4,
"workOrderName": "WOID4-ADHOC-XML-SNOWBIKES",
"producedMaterialName": "SNOWBIKE-NONSERIALIZED",
"plannedLineName": "Bikes_Assembly_Line",
"priority": 0,
"plannedStartDate": "2020-12-18T13:00:00.000Z",
"plannedEndDate": "2020-12-19T13:00:00.000Z",
"operationsGroup": {
  "route": {
    "billofMaterials": [
      {
        "materialName": "OpGrpBomItem1",
        "quantity": 2,
        "unitOfMeasureName": "EA",
        "displayOrder": 1,
        "behaviors": ["requiresConsumptionTracking"]
      },
      {
        "materialName": "OpGrpBomItem2",
        "quantity": 10,
        "unitOfMeasureName": "EA",
        "displayOrder": 2,
        "behaviors": []
      }
    ],
    "documents": [
      {
        "displayName": "AssemblyInstructions",
        "link": "http://grid.ge.com/485765/assemblyinstructions.pdf"
      },
      {
        "displayName": "PaintInstructions",
        "link": "http://grid.ge.com/485766/paintinstructions.pdf"
      }
    ],
    "propertyValues": [
      {
        "propertyName": "Some-Integer-Property-Name",
        "propertyValue": "10"
      },
      {
        "propertyName": "Some-DateTime-Property-Name",
        "propertyValue": "2020-10-22T12:30:45.555Z"
      },
      {
        "propertyName": "Some-Boolean-Property-Name",
        "propertyValue": "true"
      },
      {
        "propertyName": "Some-Float-Property-Name",
        "propertyValue": "1.2"
      }
    ]
  }
}

```

```

        "propertyName": "Some-String-Property-Name",
        "propertyValue": "StickerLabel"
    },
    ],
    "behaviors": [],
},
"operations": [
    {
        "name": "FrameAssembly",
        "description": "Assembling Bike MainFrame.",
        "sequenceNumber": 1,
        "plannedUnitNames": [
            "FrameMountingStation",
            "AlignmentJig"
        ],
        "billOfMaterials": [
            {
                "materialName": "BikeMainFrame",
                "quantity": 1,
                "unitOfMeasureName": "EA",
                "displayOrder": 1,
                "behaviors": ["requiresConsumptionTracking"]
            }
        ],
        "documents": [
            {
                "displayName": "AssemblyDrawings",
                "link": "http://grid.ge.com/485765/MainAssemblyDrawing.pdf"
            }
        ],
        "propertyValues": [
            {
                "propertyName": "Some-Integer-Property-Name",
                "propertyValue": "1"
            },
            {
                "propertyName": "Some-DateTime-Property-Name",
                "propertyValue": "2020-10-22T12:30:45.555Z"
            },
            {
                "propertyName": "Some-Float-Property-Name",
                "propertyValue": "1.2"
            }
        ],
        "behaviors": [
            "requiresClockOn"
        ]
    },
    {
        "name": "TyreMounting",
        "description": "Mounting tyres to Bike frame.",
        "sequenceNumber": 2,
        "plannedUnitNames": [

```

```

    "TyreMount"
  ],
  "billOfMaterials": [
    {
      "materialName": "TubelessTyre",
      "quantity": 2,
      "unitOfMeasureName": "EA",
      "displayOrder": 1,
      "behaviors": ["requiresConsumptionTracking"]
    }
  ],
  "documents": [
    {
      "displayName": "Instructions for Tyre Mounting",
      "link": "http://grid.ge.com/485765/TyreMountingInstructions.pdf"
    }
  ],
  "propertyValues": [
    {
      "propertyName": "NumberOfTyres",
      "propertyValue": "2"
    },
    {
      "propertyName": "TyreDiameterInMeters",
      "propertyValue": "1"
    }
  ],
  "behaviors": [
    "requiresClockOn"
  ]
}
]
},
"materialLots": [
  {
    "plannedQuantity": 10,
    "lotIdentifier": "serinum1"
  },
  {
    "plannedQuantity": 5,
    "lotIdentifier": "serinum2"
  },
  {
    "plannedQuantity": 15,
    "lotIdentifier": "serinum3"
  }
]
}

```

### JSON WOID Schema Version 3 *with* Route Definition

```
{
```

```

"schemaVersion": 3,
"workOrderName": "WOID3-ROUTE-XML-SNOWBIKES",
"producedMaterialName": "SNOWBIKE-SERIALIZED",
"plannedLineName": "Bikes_Assembly_Line",
"priority": 0,
"plannedStartDate": "2020-12-18T13:00:00.000Z",
"plannedEndDate": "2020-12-19T13:00:00.000Z",
"routeDefinitionName": "SnowBikeRoute",
"routeDefinitionRevision": 1,
"plannedQuantity": 3,
"lotIdentifiers": [
  "SERNUM1",
  "SERNUM2",
  "SERNUM3"
]
}

```

### JSON WOID Schema Version 3 *without* Route Definition

```

{
  "schemaVersion": 3,
  "workOrderName": "WOID3-AD-XML-SNOWBIKES",
  "producedMaterialName": "SNOWBIKE-SERIALIZED",
  "plannedLineName": "Bikes_Assembly_Line",
  "priority": 0,
  "plannedStartDate": "2020-12-18T13:00:00.000Z",
  "plannedEndDate": "2020-12-19T13:00:00.000Z",
  "operationsGroup": {
    "route": {
      "billOfMaterials": [
        {
          "materialName": "OpGrpBomItem1",
          "quantity": 2,
          "unitOfMeasureName": "EA",
          "requiresConsumptionTracking": true,
          "displayOrder": 1
        },
        {
          "materialName": "OpGrpBomItem2",
          "quantity": 10,
          "unitOfMeasureName": "EA",
          "requiresConsumptionTracking": false,
          "displayOrder": 2
        }
      ],
      "documents": [
        {
          "displayName": "AssemblyInstructions",
          "link": "http://grid.ge.com/485765/assemblyinstructions.pdf"
        },
        {
          "displayName": "PaintInstructions",

```

```

        "link": "http://grid.ge.com/485766/paintinstructions.pdf"
    }
  ],
  "propertyValues": [
    {
      "propertyName": "Some-Integer-Property-Name",
      "propertyValue": "10"
    },
    {
      "propertyName": "Some-DateTime-Property-Name",
      "propertyValue": "2020-10-22T12:30:45.555Z"
    },
    {
      "propertyName": "Some-Boolean-Property-Name",
      "propertyValue": "true"
    },
    {
      "propertyName": "Some-Float-Property-Name",
      "propertyValue": "1.2"
    },
    {
      "propertyName": "Some-String-Property-Name",
      "propertyValue": "StickerLabel"
    }
  ],
  "behaviors": [],
},
"operations": [
  {
    "name": "FrameAssembly",
    "description": "Assembling Bike MainFrame.",
    "sequenceNumber": 1,
    "plannedUnitNames": [
      "FrameMountingStation",
      "AlignmentJig"
    ],
  },
  "billOfMaterials": [
    {
      "materialName": "BikeMainFrame",
      "quantity": 1,
      "unitOfMeasureName": "EA",
      "requiresConsumptionTracking": true,
      "displayOrder": 1
    }
  ],
  "documents": [
    {
      "displayName": "AssemblyDrawings",
      "link": "http://grid.ge.com/485765/MainAssemblyDrawing.pdf"
    }
  ],
  "propertyValues": [
    {

```



```

        "propertyName": "Some-Integer-Property-Name",
        "propertyValue": "1"
      },
      {
        "propertyName": "Some-DateTime-Property-Name",
        "propertyValue": "2020-10-22T12:30:45.555Z"
      },
      {
        "propertyName": "Some-Float-Property-Name",
        "propertyValue": "1.2"
      }
    ]
  },
  {
    "name": "TyreMounting",
    "description": "Mounting tyres to Bike frame.",
    "sequenceNumber": 2,
    "plannedUnitNames": [
      "TyreMount"
    ],
    "billOfMaterials": [
      {
        "materialName": "TubelessTyre",
        "quantity": 2,
        "unitOfMeasureName": "EA",
        "requiresConsumptionTracking": true,
        "displayOrder": 1
      }
    ],
    "documents": [
      {
        "displayName": "Instructions for Tyre Mounting",
        "link": "http://grid.ge.com/485765/TyreMountingInstructions.pdf"
      }
    ],
    "propertyValues": [
      {
        "propertyName": "NumberOfTyres",
        "propertyValue": "2"
      },
      {
        "propertyName": "TyreDiameterInMeters",
        "propertyValue": "1"
      }
    ]
  }
]
},
"plannedQuantity": 3,
"lotIdentifiers": [
  "SERNUM1",
  "SERNUM2",

```


```
"SERNUM3 "
]
}
```

## Custom B2MML Work Order Import Document (WOID)

Instead of a JSON format, you can send a WOID in one of the following XML formats:

- Standard B2MML
- Custom B2MML

When you use a custom B2MML, you must first provide an XSL file that contains the mapping information. This topic provides custom B2MML samples of a WOID for each schema version. Refer to [XSL File to Map a Work Order \(page 125\)](#) for a sample XSL file to map the B2MML samples. If, however, you want to use a standard B2MML format for the WOID, refer to [Standard B2MML Work Order Import Document \(WOID\) \(page 143\)](#).

 **Note:** When an XML file is processed, some of the special characters are omitted. To prevent this issue, use the escape strings as specified in the following table.

Special Character	Escape String
&	&amp;
<	&lt;
>	&gt;
"	&quot;
'	&apos;

## Custom WOID Schema Versions 5 and 6

Using schema versions 5 and 6, you can import the following components of a work order:

- **Schema Version 6:** You can provide the following values:
  - Upper and lower tolerances of a BOM item and their precision
  - Scrap factor (the percentage of the product that is predicted to be scrapped)
  - Precision of the quantity of the product
  - The default storage unit of a BOM item

In addition, you can specify whether an operation can be skipped, by including `allowManualSkip` in the `behaviours` array for the operation. If you do so, the operator can choose to skip the operation while executing the work order. If, however, you set the `skipifSuccessorStarted` parameter to true, the operation will be automatically skipped when the next operation is ready.

- **Schema version 5:** You can override the following route components in a work order:
  - BOM items of a route
  - BOM items of individual operations in a route

- Values of BOM item properties
- Values of route-level and operation-level properties

In addition, specifying the route revision is not required. By default, the latest revision is considered.

## Custom B2MML WOIID Schema Version 6 *with* Route Definition (*without* BOM Items and Property Values Override)

```
<?xml version="1.0" encoding="utf-8" standalone="no"?><ProductionSchedule
  xmlns="http://www.wbf.org/xml/B2MML-V0401" xmlns:Extended="http://
www.wbf.org/xml/B2MML-V0401-AllExtensions" xmlns:inp2="http://www.wbf.org/
xml/B2MML-V0401">
  <inp2:PublishedDate>2017-04-15T09:30:00</inp2:PublishedDate>
  <Extended:SchemaVersion>6</Extended:SchemaVersion>
  <inp2:ProductionRequest>
    <inp2:ID>WOIID6-ROUTE-XML-NOOVERRIDE-SNOWBIKES</inp2:ID>
    <inp2:Description>Route, latest revision, bound WorkOrder to produce 30
no. of SnowBikes, without overrides.</inp2:Description>
    <inp2:ProductProductionRuleID>SnowBikeRouteLatest</
inp2:ProductProductionRuleID>
    <!-- <inp2:ProductProductionRuleID>1</inp2:ProductProductionRuleID> -->
    <inp2:Location>
      <inp2:EquipmentID>Bikes_Assembly_Line</inp2:EquipmentID>
      <inp2:EquipmentElementLevel>Site</inp2:EquipmentElementLevel>
    </inp2:Location>
    <inp2:SegmentRequirement>
      <inp2:ID>000</inp2:ID>
      <inp2:EarliestStartTime>2020-11-18T13:28:39.395Z</
inp2:EarliestStartTime>
      <inp2:LatestEndTime>2020-11-19T13:00:00.395Z</inp2:LatestEndTime>

      <inp2:MaterialProducedRequirement>
        <inp2:MaterialDefinitionID>SNOWBIKE-NONSERIALIZED</
inp2:MaterialDefinitionID>
        <inp2:MaterialLotID>serinum1</inp2:MaterialLotID>
        <inp2:Quantity>
          <inp2:QuantityString>10</inp2:QuantityString>
          <inp2:DataType>integer</inp2:DataType>
          <inp2:UnitOfMeasure />
        </inp2:Quantity>
      </inp2:MaterialProducedRequirement>

      <inp2:MaterialProducedRequirement>
        <inp2:MaterialDefinitionID>SNOWBIKE-NONSERIALIZED</
inp2:MaterialDefinitionID>
        <inp2:MaterialLotID>serinum2</inp2:MaterialLotID>
        <inp2:Quantity>
          <inp2:QuantityString>5</inp2:QuantityString>
          <inp2:DataType>integer</inp2:DataType>
          <inp2:UnitOfMeasure />
        </inp2:Quantity>
      </inp2:MaterialProducedRequirement>
    </inp2:ProductionRequest>
  </inp2:ProductionSchedule>
</?xml>
```

```

    <inp2:MaterialProducedRequirement>
      <inp2:MaterialDefinitionID>SNOWBIKE-NONSERIALIZED</
inp2:MaterialDefinitionID>
      <inp2:MaterialLotID>serinum3</inp2:MaterialLotID>
      <inp2:Quantity>
        <inp2:QuantityString>15</inp2:QuantityString>
        <inp2:DataType>integer</inp2:DataType>
        <inp2:UnitOfMeasure />
      </inp2:Quantity>
    </inp2:MaterialProducedRequirement>
  </inp2:SegmentRequirement>
</inp2:ProductionRequest>
</ProductionSchedule>

```

## Custom B2MML WOID Schema Version 6 *with Route Definition (with BOM Items and Property Values Override)*

```

<?xml version="1.0" encoding="utf-8" standalone="no"?><ProductionSchedule
  xmlns="http://www.wbf.org/xml/B2MML-V0401" xmlns:Extended="http://
www.wbf.org/xml/B2MML-V0401-AllExtensions" xmlns:inp2="http://www.wbf.org/
xml/B2MML-V0401">
  <inp2:PublishedDate>2017-04-15T09:30:00</inp2:PublishedDate>
  <Extended:SchemaVersion>6</Extended:SchemaVersion>
  <inp2:ProductionRequest>
    <inp2:ID>WOID6-ROUTE-XML-SNOWBIKES</inp2:ID>
    <inp2:Description>Route, latest revision, bound WorkOrder to produce 30
no. of SnowBikes, with optional Operations.</inp2:Description>
    <inp2:ProductProductionRuleID>SnowBikeRouteLatest</
inp2:ProductProductionRuleID>
    <!-- <inp2:ProductProductionRuleID>1</inp2:ProductProductionRuleID> -->
    <inp2:Location>
      <inp2:EquipmentID>Bikes_Assembly_Line</inp2:EquipmentID>
      <inp2:EquipmentElementLevel>Site</inp2:EquipmentElementLevel>
    </inp2:Location>
    <inp2:SegmentRequirement>
      <inp2:ID>000</inp2:ID>
      <inp2:EarliestStartTime>2020-11-18T13:28:39.395Z</
inp2:EarliestStartTime>
      <inp2:LatestEndTime>2020-11-19T13:00:00.395Z</inp2:LatestEndTime>
    </inp2:SegmentRequirement>
    <inp2:ProductionParameter>
      <inp2:Parameter>
        <inp2:ID>work_order_import_prop_group_prop_1</inp2:ID>
        <inp2:Value>
          <ValueString>workorderimportgroupproperty1</ValueString>
          <DataType>string</DataType>
          <UnitOfMeasure />
        </inp2:Value>
      </inp2:Parameter>
    </inp2:ProductionParameter>
  </inp2:ProductionRequest>
</ProductionSchedule>

```

```

    <inp2:MaterialProducedRequirement>
      <inp2:MaterialDefinitionID>SNOWBIKE-NONSERIALIZED</
inp2:MaterialDefinitionID>
      <inp2:MaterialLotID>serinum1</inp2:MaterialLotID>
      <inp2:Quantity>
        <inp2:QuantityString>10</inp2:QuantityString>
        <inp2:DataType>integer</inp2:DataType>
        <inp2:UnitOfMeasure />
      </inp2:Quantity>
    </inp2:MaterialProducedRequirement>

    <inp2:MaterialProducedRequirement>
      <inp2:MaterialDefinitionID>SNOWBIKE-NONSERIALIZED</
inp2:MaterialDefinitionID>
      <inp2:MaterialLotID>serinum2</inp2:MaterialLotID>
      <inp2:Quantity>
        <inp2:QuantityString>5</inp2:QuantityString>
        <inp2:DataType>integer</inp2:DataType>
        <inp2:UnitOfMeasure />
      </inp2:Quantity>
    </inp2:MaterialProducedRequirement>

    <inp2:MaterialProducedRequirement>
      <inp2:MaterialDefinitionID>SNOWBIKE-NONSERIALIZED</
inp2:MaterialDefinitionID>
      <inp2:MaterialLotID>serinum3</inp2:MaterialLotID>
      <inp2:Quantity>
        <inp2:QuantityString>15</inp2:QuantityString>
        <inp2:DataType>integer</inp2:DataType>
        <inp2:UnitOfMeasure />
      </inp2:Quantity>
    </inp2:MaterialProducedRequirement>

    <inp2:MaterialConsumedRequirement>
      <inp2:MaterialDefinitionID>OpGrpBomItem1</
inp2:MaterialDefinitionID>
      <inp2:Quantity>
        <inp2:QuantityString>1</inp2:QuantityString>
        <inp2:DataType>integer</inp2:DataType>
        <inp2:UnitOfMeasure>EA</inp2:UnitOfMeasure>
      </inp2:Quantity>
      <inp2:MaterialConsumedRequirementProperty>
        <inp2:ID>quantityPrecision</inp2:ID>
        <inp2:Value>
          <inp2:ValueString>2</inp2:ValueString>
          <inp2:DataType>integer</inp2:DataType>
          <inp2:UnitOfMeasure/>
        </inp2:Value>
      </inp2:MaterialConsumedRequirementProperty>
    </inp2:MaterialConsumedRequirement>

```

```

        <inp2:ID>lowerTolerance</inp2:ID>
        <inp2:Value>
            <inp2:ValueString>1</inp2:ValueString>
            <inp2:DataType>integer</inp2:DataType>
            <inp2:UnitOfMeasure/>
        </inp2:Value>
    </inp2:MaterialConsumedRequirementProperty>
    <inp2:MaterialConsumedRequirementProperty>
        <inp2:ID>upperTolerance</inp2:ID>
        <inp2:Value>
            <inp2:ValueString>2</inp2:ValueString>
            <inp2:DataType>integer</inp2:DataType>
            <inp2:UnitOfMeasure/>
        </inp2:Value>
    </inp2:MaterialConsumedRequirementProperty>
    <inp2:MaterialConsumedRequirementProperty>
        <inp2:ID>lowerTolerancePrecision</inp2:ID>
        <inp2:Value>
            <inp2:ValueString>1</inp2:ValueString>
            <inp2:DataType>integer</inp2:DataType>
            <inp2:UnitOfMeasure/>
        </inp2:Value>
    </inp2:MaterialConsumedRequirementProperty>
    <inp2:MaterialConsumedRequirementProperty>
        <inp2:ID>upperTolerancePrecision</inp2:ID>
        <inp2:Value>
            <inp2:ValueString>1</inp2:ValueString>
            <inp2:DataType>integer</inp2:DataType>
            <inp2:UnitOfMeasure/>
        </inp2:Value>
    </inp2:MaterialConsumedRequirementProperty>
    <inp2:MaterialConsumedRequirementProperty>
        <inp2:ID>scrapFactor</inp2:ID>
        <inp2:Value>
            <inp2:ValueString>1.5</inp2:ValueString>
            <inp2:DataType>float</inp2:DataType>
            <inp2:UnitOfMeasure/>
        </inp2:Value>
    </inp2:MaterialConsumedRequirementProperty>
    <inp2:MaterialConsumedRequirementProperty>
        <inp2:ID>defaultStorageUnit</inp2:ID>
        <inp2:Value>
            <inp2:ValueString>PackagingUnit</inp2:ValueString>
            <inp2:DataType>string</inp2:DataType>
            <inp2:UnitOfMeasure/>
        </inp2:Value>
    </inp2:MaterialConsumedRequirementProperty>
    <inp2:MaterialConsumedRequirementProperty>
        <inp2:ID>bom_item_prop_group_prop_1</inp2:ID>
        <inp2:Value>
            <inp2:ValueString>123</inp2:ValueString>
            <inp2:DataType>integer</inp2:DataType>
            <inp2:UnitOfMeasure/>

```

```

    </inp2:Value>
  </inp2:MaterialConsumedRequirementProperty>
  </inp2:MaterialConsumedRequirementProperty>
  <inp2:MaterialConsumedRequirement>
    <inp2:MaterialDefinitionID>OpGrpBomItem2</
inp2:MaterialDefinitionID>
    <inp2:Quantity>
      <inp2:QuantityString>1</inp2:QuantityString>
      <inp2:DataType>integer</inp2:DataType>
      <inp2:UnitOfMeasure>EA</inp2:UnitOfMeasure>
    </inp2:Quantity>
    <inp2:MaterialConsumedRequirementProperty>
      <inp2:ID>quantityPrecision</inp2:ID>
      <inp2:Value>
        <inp2:ValueString>1</inp2:ValueString>
        <inp2:DataType>integer</inp2:DataType>
        <inp2:UnitOfMeasure/>
      </inp2:Value>
    </inp2:MaterialConsumedRequirementProperty>
    <inp2:MaterialConsumedRequirementProperty>
      <inp2:ID>lowerTolerance</inp2:ID>
      <inp2:Value>
        <inp2:ValueString>2</inp2:ValueString>
        <inp2:DataType>integer</inp2:DataType>
        <inp2:UnitOfMeasure/>
      </inp2:Value>
    </inp2:MaterialConsumedRequirementProperty>
    <inp2:MaterialConsumedRequirementProperty>
      <inp2:ID>upperTolerance</inp2:ID>
      <inp2:Value>
        <inp2:ValueString>1</inp2:ValueString>
        <inp2:DataType>integer</inp2:DataType>
        <inp2:UnitOfMeasure/>
      </inp2:Value>
    </inp2:MaterialConsumedRequirementProperty>
    <inp2:MaterialConsumedRequirementProperty>
      <inp2:ID>lowerTolerancePrecision</inp2:ID>
      <inp2:Value>
        <inp2:ValueString>1</inp2:ValueString>
        <inp2:DataType>integer</inp2:DataType>
        <inp2:UnitOfMeasure/>
      </inp2:Value>
    </inp2:MaterialConsumedRequirementProperty>
    <inp2:MaterialConsumedRequirementProperty>
      <inp2:ID>upperTolerancePrecision</inp2:ID>
      <inp2:Value>
        <inp2:ValueString>1</inp2:ValueString>
        <inp2:DataType>integer</inp2:DataType>
        <inp2:UnitOfMeasure/>
      </inp2:Value>
    </inp2:MaterialConsumedRequirementProperty>
  </inp2:MaterialConsumedRequirement>
</inp2:MaterialConsumedRequirementProperty>

```

```

        <inp2:ID>scrapFactor</inp2:ID>
        <inp2:Value>
            <inp2:ValueString>2.5</inp2:ValueString>
            <inp2:DataType>float</inp2:DataType>
            <inp2:UnitOfMeasure/>
        </inp2:Value>
    </inp2:MaterialConsumedRequirementProperty>
    <inp2:MaterialConsumedRequirementProperty>
        <inp2:ID>defaultStorageUnit</inp2:ID>
        <inp2:Value>
            <inp2:ValueString>PackagingUnit</inp2:ValueString>
            <inp2:DataType>string</inp2:DataType>
            <inp2:UnitOfMeasure/>
        </inp2:Value>
    </inp2:MaterialConsumedRequirementProperty>
</inp2:MaterialConsumedRequirement>
</inp2:SegmentRequirement>

<inp2:SegmentRequirement>
    <inp2:ID>FrameAssembly</inp2:ID>
    <inp2:Location>
        <inp2:EquipmentID>WIND</inp2:EquipmentID>
        <inp2:EquipmentElementLevel>WorkCenter</inp2:EquipmentElementLevel>
    </inp2:Location>
    <inp2:EarliestStartTime>2017-04-15T12:00:00</inp2:EarliestStartTime>
    <inp2:LatestEndTime>2017-04-15T12:15:00</inp2:LatestEndTime>
    <inp2:EquipmentRequirement>
        <inp2:Location>
            <inp2:EquipmentID>FrameMountingStation</
inp2:EquipmentID>
            <inp2:EquipmentElementLevel>WorkCell</
inp2:EquipmentElementLevel>
        </inp2:Location>
        <inp2:Quantity>
            <inp2:QuantityString>1</inp2:QuantityString>
        </inp2:Quantity>
    </inp2:EquipmentRequirement>

    <inp2:EquipmentRequirement>
        <inp2:Location>
            <inp2:EquipmentID>AlignmentJig</
inp2:EquipmentID>
            <inp2:EquipmentElementLevel>WorkCell</
inp2:EquipmentElementLevel>
        </inp2:Location>
        <inp2:Quantity>
            <inp2:QuantityString>1</
inp2:QuantityString>
        </inp2:Quantity>
    </inp2:EquipmentRequirement>

    <inp2:ProductionParameter>
        <inp2:Parameter>

```



```

    <inp2:ID>Priority</inp2:ID>
    <inp2:Value>
      <ValueString>10</ValueString>
      <DataType>integer</DataType>
      <UnitOfMeasure />
    </inp2:Value>
  </inp2:Parameter>
</inp2:ProductionParameter>

  <inp2:MaterialConsumedRequirement>
    <inp2:MaterialDefinitionID>BikeMainFrame</
inp2:MaterialDefinitionID>
    <inp2:Quantity>
      <inp2:QuantityString>1</
inp2:QuantityString>
      <inp2:DataType>integer</inp2:DataType>
      <inp2:UnitOfMeasure>EA</
inp2:UnitOfMeasure>
    </inp2:Quantity>
    <inp2:MaterialConsumedRequirementProperty>
      <inp2:ID>GEDS_BOM_Sequence</inp2:ID>
      <inp2:Value>
        <inp2:ValueString>1</
inp2:ValueString>
        <inp2:DataType>integer</
inp2:DataType>
        <inp2:UnitOfMeasure/>
      </inp2:Value>
    </inp2:MaterialConsumedRequirementProperty>
    <inp2:MaterialConsumedRequirementProperty>
      <inp2:ID>behaviors</inp2:ID>
      <inp2:Value>
        <inp2:ValueString>requiresConsumptionTracking</inp2:ValueString>
        <inp2:DataType>string</inp2:DataType>
        <inp2:UnitOfMeasure></inp2:UnitOfMeasure>
      </inp2:Value>
    </inp2:MaterialConsumedRequirementProperty>
    <inp2:MaterialConsumedRequirementProperty>
      <inp2:ID>quantityPrecision</inp2:ID>
      <inp2:Value>
        <inp2:ValueString>1</inp2:ValueString>
        <inp2:DataType>integer</inp2:DataType>
        <inp2:UnitOfMeasure/>
      </inp2:Value>
    </inp2:MaterialConsumedRequirementProperty>
    <inp2:MaterialConsumedRequirementProperty>
      <inp2:ID>lowerTolerance</inp2:ID>
      <inp2:Value>
        <inp2:ValueString>1</inp2:ValueString>
        <inp2:DataType>integer</inp2:DataType>
        <inp2:UnitOfMeasure/>
      </inp2:Value>
  </inp2:MaterialConsumedRequirement>

```

```

    </inp2:MaterialConsumedRequirementProperty>
    <inp2:MaterialConsumedRequirementProperty>
      <inp2:ID>upperTolerance</inp2:ID>
      <inp2:Value>
        <inp2:ValueString>1</inp2:ValueString>
        <inp2:DataType>integer</inp2:DataType>
        <inp2:UnitOfMeasure/>
      </inp2:Value>
    </inp2:MaterialConsumedRequirementProperty>
    <inp2:MaterialConsumedRequirementProperty>
      <inp2:ID>lowerTolerancePrecision</inp2:ID>
      <inp2:Value>
        <inp2:ValueString>0</inp2:ValueString>
        <inp2:DataType>integer</inp2:DataType>
        <inp2:UnitOfMeasure/>
      </inp2:Value>
    </inp2:MaterialConsumedRequirementProperty>
    <inp2:MaterialConsumedRequirementProperty>
      <inp2:ID>upperTolerancePrecision</inp2:ID>
      <inp2:Value>
        <inp2:ValueString>0</inp2:ValueString>
        <inp2:DataType>integer</inp2:DataType>
        <inp2:UnitOfMeasure/>
      </inp2:Value>
    </inp2:MaterialConsumedRequirementProperty>
    <inp2:MaterialConsumedRequirementProperty>
      <inp2:ID>scrapFactor</inp2:ID>
      <inp2:Value>
        <inp2:ValueString>0.5</inp2:ValueString>
        <inp2:DataType>float</inp2:DataType>
        <inp2:UnitOfMeasure/>
      </inp2:Value>
    </inp2:MaterialConsumedRequirementProperty>
    <inp2:MaterialConsumedRequirementProperty>
      <inp2:ID>defaultStorageUnit</inp2:ID>
      <inp2:Value>
        <inp2:ValueString>PackagingUnit</inp2:ValueString>
        <inp2:DataType>integer</inp2:DataType>
        <inp2:UnitOfMeasure/>
      </inp2:Value>
    </inp2:MaterialConsumedRequirementProperty>
    <inp2:MaterialConsumedRequirementProperty>
      <inp2:ID>bom_item_prop_group_prop_2</inp2:ID>
      <inp2:Value>
        <inp2:ValueString>1.23</inp2:ValueString>
        <inp2:DataType>float</inp2:DataType>
        <inp2:UnitOfMeasure/>

```

```

    </inp2:Value>
  </inp2:MaterialConsumedRequirementProperty>
</inp2:MaterialConsumedRequirement>
</inp2:SegmentRequirement>

  <inp2:SegmentRequirement>
    <inp2:ID>TorqueTest</inp2:ID>
    <inp2:Description>Mounting tyres to Bike frame.</
inp2:Description>
    <inp2:EarliestStartTime>2017-04-15T12:20:00</
inp2:EarliestStartTime>
    <inp2:LatestEndTime>2017-04-15T12:40:00</
inp2:LatestEndTime>

    <inp2:ProductionParameter>
      <inp2:Parameter>
        <inp2:ID>Priority</inp2:ID>
        <inp2:Value>
          <ValueString>10</ValueString>
          <DataType>integer</DataType>
          <UnitOfMeasure />
        </inp2:Value>
      </inp2:Parameter>
    </inp2:ProductionParameter>

    <inp2:ProductionParameter>
      <inp2:Parameter>
        <inp2:ID>work_order_import_prop_group_prop_2</inp2:ID>
        <inp2:Value>
          <ValueString>workorderimportgroupproperty2</ValueString>
          <DataType>string</DataType>
          <UnitOfMeasure />
        </inp2:Value>
      </inp2:Parameter>
    </inp2:ProductionParameter>

  </inp2:SegmentRequirement>

  <inp2:SegmentRequirement>
    <inp2:ID>DynamicAlignment</inp2:ID>
    <inp2:Description>Dynamic Tyres Alignment.</
inp2:Description>
    <inp2:EarliestStartTime>2017-04-15T12:20:00</
inp2:EarliestStartTime>
    <inp2:LatestEndTime>2017-04-15T12:40:00</
inp2:LatestEndTime>

    <inp2:ProductionParameter>
      <inp2:Parameter>
        <inp2:ID>Priority</inp2:ID>
        <inp2:Value>
          <ValueString>10</ValueString>

```

```

        <DataType>integer</DataType>
        <UnitOfMeasure />
    </inp2:Value>
</inp2:Parameter>
</inp2:ProductionParameter>

    <inp2:ProductionParameter>
        <inp2:Parameter>
            <inp2:ID>work_order_import_prop_group_prop_3</inp2:ID>
            <inp2:Value>
                <ValueString>workorderimportgroupproperty3</ValueString>
                <DataType>string</DataType>
                <UnitOfMeasure />
            </inp2:Value>
        </inp2:Parameter>
    </inp2:ProductionParameter>

</inp2:SegmentRequirement>

    <inp2:SegmentRequirement>
        <inp2:ID>TyreMounting</inp2:ID>
        <!-- <inp2:Description>Mounting tyres to Bike frame.</
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        <inp2:LatestEndTime>2017-04-15T12:40:00</
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```

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  </inp2:MaterialConsumedRequirement>
</inp2:SegmentRequirement>
</inp2:ProductionRequest>
</ProductionSchedule>

```

## Custom B2MML WOID Schema Version 6 *without* Route Definition

```

<?xml version="1.0" encoding="utf-8" standalone="no"?><ProductionSchedule
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www.wbf.org/xml/B2MML-V0401-AllExtensions" xmlns:inp2="http://www.wbf.org/
xml/B2MML-V0401">
  <inp2:PublishedDate>2017-04-15T09:30:00</inp2:PublishedDate>

```

```

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  <!-- <inp2:ProductProductionRuleID>SnowBikeRoute</
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  <inp2:ProductProductionRuleID>1</inp2:ProductProductionRuleID> -->
  <inp2:Location>
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    <inp2:EquipmentElementLevel>Site</inp2:EquipmentElementLevel>
  </inp2:Location>
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      <inp2:MaterialLotID>serinum2</inp2:MaterialLotID>
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```

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```



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<inp2:SegmentRequirement>
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```

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```

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    </inp2:Parameter>
  </inp2:ProductionParameter>
  <inp2:ProductionParameter>
    <inp2:Parameter>
      <inp2:ID>WorkInstruction</inp2:ID>
      <inp2:Value>
        <inp2:ValueString>http://grid.ge.com/485765/
TyreMountingInstructions.pdf</inp2:ValueString>
        <inp2:DataType>string</
inp2:DataType>
        <inp2:UnitOfMeasure/>
      </inp2:Value>
      <inp2:Description>Instructions for Tyre
Mounting</inp2:Description>
    </inp2:Parameter>
  </inp2:ProductionParameter>
  <inp2:ProductionParameter>
    <inp2:Parameter>
      <inp2:ID>NumberOfTyres</inp2:ID>
      <inp2:Value>
        <ValueString>2</ValueString>
        <DataType>integer</DataType>
        <UnitOfMeasure/>
      </inp2:Value>
    </inp2:Parameter>
  </inp2:ProductionParameter>
  <inp2:ProductionParameter>
    <inp2:Parameter>
      <inp2:ID>TyreDiameterInMeters</inp2:ID>
      <inp2:Value>
        <ValueString>1</ValueString>
        <DataType>integer</DataType>
        <UnitOfMeasure/>
      </inp2:Value>
    </inp2:Parameter>
  </inp2:ProductionParameter>
  <inp2:MaterialConsumedRequirement>
    <inp2:MaterialDefinitionID>TubelessTyre</
inp2:MaterialDefinitionID>

```

```

        <inp2:Quantity>
            <inp2:QuantityString>2</
inp2:QuantityString>
            <inp2:DataType>integer</inp2:DataType>
            <inp2:UnitOfMeasure>EA</
inp2:UnitOfMeasure>
        </inp2:Quantity>
        <inp2:MaterialConsumedRequirementProperty>
            <inp2:ID>GEDS_BOM_Sequence</inp2:ID>
            <inp2:Value>
                <inp2:ValueString>1</
inp2:ValueString>
            <inp2:DataType>integer</
inp2:DataType>
            <inp2:UnitOfMeasure/>
        </inp2:MaterialConsumedRequirementProperty>
        <inp2:MaterialConsumedRequirementProperty>
            <inp2:ID>behaviors</inp2:ID>
            <inp2:Value>
                <inp2:ValueString>requiresConsumptionTracking</inp2:ValueString>
                <inp2:DataType>string</inp2:DataType>
                <inp2:UnitOfMeasure></inp2:UnitOfMeasure>
            </inp2:Value>
        </inp2:MaterialConsumedRequirementProperty>
        <inp2:MaterialConsumedRequirementProperty>
            <inp2:ID>quantityPrecision</inp2:ID>
            <inp2:Value>
                <inp2:ValueString>0</inp2:ValueString>
                <inp2:DataType>integer</inp2:DataType>
                <inp2:UnitOfMeasure/>
            </inp2:Value>
        </inp2:MaterialConsumedRequirementProperty>
        <inp2:MaterialConsumedRequirementProperty>
            <inp2:ID>lowerTolerance</inp2:ID>
            <inp2:Value>
                <inp2:ValueString>1</inp2:ValueString>
                <inp2:DataType>integer</inp2:DataType>
                <inp2:UnitOfMeasure/>
            </inp2:Value>
        </inp2:MaterialConsumedRequirementProperty>
        <inp2:MaterialConsumedRequirementProperty>
            <inp2:ID>upperTolerance</inp2:ID>
            <inp2:Value>
                <inp2:ValueString>1</inp2:ValueString>
                <inp2:DataType>integer</inp2:DataType>
                <inp2:UnitOfMeasure/>
            </inp2:Value>
        </inp2:MaterialConsumedRequirementProperty>
        <inp2:MaterialConsumedRequirementProperty>
            <inp2:ID>lowerTolerancePrecision</inp2:ID>

```



```

    <inp2:Value>
      <inp2:ValueString>0</inp2:ValueString>
      <inp2:DataType>integer</inp2:DataType>
      <inp2:UnitOfMeasure/>
    </inp2:Value>
  </inp2:MaterialConsumedRequirementProperty>
  <inp2:MaterialConsumedRequirementProperty>
    <inp2:ID>upperTolerancePrecision</inp2:ID>
    <inp2:Value>
      <inp2:ValueString>0</inp2:ValueString>
      <inp2:DataType>integer</inp2:DataType>
      <inp2:UnitOfMeasure/>
    </inp2:Value>
  </inp2:MaterialConsumedRequirementProperty>
  <inp2:MaterialConsumedRequirementProperty>
    <inp2:ID>scrapFactor</inp2:ID>
    <inp2:Value>
      <inp2:ValueString>1</inp2:ValueString>
      <inp2:DataType>integer</inp2:DataType>
      <inp2:UnitOfMeasure/>
    </inp2:Value>
  </inp2:MaterialConsumedRequirementProperty>
  <inp2:MaterialConsumedRequirementProperty>
    <inp2:ID>defaultStorageUnit</inp2:ID>
    <inp2:Value>
      <inp2:ValueString>PackagingUnit</inp2:ValueString>
      <inp2:DataType>integer</inp2:DataType>
      <inp2:UnitOfMeasure/>
    </inp2:Value>
  </inp2:MaterialConsumedRequirementProperty>
  <inp2:MaterialConsumedRequirementProperty>
    <inp2:ID>bom_item_prop_group_prop_3</inp2:ID>
    <inp2:Value>
      <inp2:ValueString>"bomitempropgroupproperty"</inp2:ValueString>
      <inp2:DataType>string</inp2:DataType>
      <inp2:UnitOfMeasure/>
    </inp2:Value>
  </inp2:MaterialConsumedRequirementProperty>
</inp2:MaterialConsumedRequirement>
</inp2:SegmentRequirement>
</inp2:ProductionRequest>
</ProductionSchedule>

```

## Custom B2MML WOIID Schema Version 5 *with* Route Definition (*without* BOM Items and Property Values Override)

```

<?xml version="1.0" encoding="utf-8" standalone="no"?><ProductionSchedule
  xmlns="http://www.wbf.org/xml/B2MML-V0401" xmlns:Extended="http://
www.wbf.org/xml/B2MML-V0401-AllExtensions" xmlns:inp2="http://www.wbf.org/
xml/B2MML-V0401">
  <inp2:PublishedDate>2017-04-15T09:30:00</inp2:PublishedDate>

```

```

<Extended:SchemaVersion>5</Extended:SchemaVersion>
<inp2:ProductionRequest>
  <inp2:ID>WOID6-ROUTE-XML-NOOVERRIDE-SNOWBIKES</inp2:ID>
  <inp2:Description>Route, latest revision, bound WorkOrder to produce 30
no. of SnowBikes, without overrides.</inp2:Description>
  <inp2:ProductProductionRuleID>SnowBikeRouteLatest</
inp2:ProductProductionRuleID>
  <!-- <inp2:ProductProductionRuleID>1</inp2:ProductProductionRuleID> -->
  <inp2:Location>
    <inp2:EquipmentID>Bikes_Assembly_Line</inp2:EquipmentID>
    <inp2:EquipmentElementLevel>Site</inp2:EquipmentElementLevel>
  </inp2:Location>
  <inp2:SegmentRequirement>
    <inp2:ID>000</inp2:ID>
    <inp2:EarliestStartTime>2020-11-18T13:28:39.395Z</
inp2:EarliestStartTime>
    <inp2:LatestEndTime>2020-11-19T13:00:00.395Z</inp2:LatestEndTime>

    <inp2:MaterialProducedRequirement>
      <inp2:MaterialDefinitionID>SNOWBIKE-NONSERIALIZED</
inp2:MaterialDefinitionID>
      <inp2:MaterialLotID>serinum1</inp2:MaterialLotID>
      <inp2:Quantity>
        <inp2:QuantityString>10</inp2:QuantityString>
        <inp2:DataType>integer</inp2:DataType>
        <inp2:UnitOfMeasure />
      </inp2:Quantity>
    </inp2:MaterialProducedRequirement>

    <inp2:MaterialProducedRequirement>
      <inp2:MaterialDefinitionID>SNOWBIKE-NONSERIALIZED</
inp2:MaterialDefinitionID>
      <inp2:MaterialLotID>serinum2</inp2:MaterialLotID>
      <inp2:Quantity>
        <inp2:QuantityString>5</inp2:QuantityString>
        <inp2:DataType>integer</inp2:DataType>
        <inp2:UnitOfMeasure />
      </inp2:Quantity>
    </inp2:MaterialProducedRequirement>

    <inp2:MaterialProducedRequirement>
      <inp2:MaterialDefinitionID>SNOWBIKE-NONSERIALIZED</
inp2:MaterialDefinitionID>
      <inp2:MaterialLotID>serinum3</inp2:MaterialLotID>
      <inp2:Quantity>
        <inp2:QuantityString>15</inp2:QuantityString>
        <inp2:DataType>integer</inp2:DataType>
        <inp2:UnitOfMeasure />
      </inp2:Quantity>
    </inp2:MaterialProducedRequirement>

  </inp2:SegmentRequirement>
</inp2:ProductionRequest>

```

```
</ProductionSchedule>
```

## Custom B2MML WOIID Schema Version 5 *with Route Definition (with BOM Items and Property Values Override)*

```
<?xml version="1.0" encoding="utf-8"?>
<ProductionSchedule
  xmlns:inp2="http://www.wbf.org/xml/B2MML-V0401"
  xmlns:Extended="http://www.wbf.org/xml/B2MML-V0401-AllExtensions"
  xmlns="http://www.wbf.org/xml/B2MML-V0401">
  <inp2:PublishedDate>2020-12-11T09:30:00</inp2:PublishedDate>
  <Extended:SchemaVersion>5</Extended:SchemaVersion>
  <inp2:ProductionRequest>
    <inp2:ID>WOID5XML-RT-SAMPLE-DEC13</inp2:ID>
    <inp2:Description>Latest version of SnowBikeRoute bound WorkOrder
to produce 30 no. of SnowBikes</inp2:Description>
    <inp2:ProductProductionRuleID>SnowBikeRouteLatest</
inp2:ProductProductionRuleID>
    <inp2:Location>
      <inp2:EquipmentID>Bikes_Assembly_Line</inp2:EquipmentID>
      <inp2:EquipmentElementLevel>Site</inp2:EquipmentElementLevel>
    </inp2:Location>
    <inp2:SegmentRequirement>
      <inp2:ID>000</inp2:ID>
      <inp2:EarliestStartTime>2020-12-22T00:00:00.000Z</
inp2:EarliestStartTime>
      <inp2:LatestEndTime>2020-12-23T00:00:00.000Z</
inp2:LatestEndTime>
      <inp2:MaterialProducedRequirement>
        <inp2:MaterialDefinitionID>SNOWBIKE-NONSERIALIZED
          </inp2:MaterialDefinitionID>
        <inp2:MaterialLotID>SERNUM1</inp2:MaterialLotID>
        <inp2:Quantity>
          <inp2:QuantityString>10</inp2:QuantityString>
          <inp2:DataType>integer</inp2:DataType>
          <inp2:UnitOfMeasure />
        </inp2:Quantity>
      </inp2:MaterialProducedRequirement>
      <inp2:MaterialProducedRequirement>
        <inp2:MaterialDefinitionID>SNOWBIKE-NONSERIALIZED
          </inp2:MaterialDefinitionID>
        <inp2:MaterialLotID>SERNUM2</inp2:MaterialLotID>
        <inp2:Quantity>
          <inp2:QuantityString>5</inp2:QuantityString>
          <inp2:DataType>integer</inp2:DataType>
          <inp2:UnitOfMeasure />
        </inp2:Quantity>
      </inp2:MaterialProducedRequirement>
      <inp2:MaterialProducedRequirement>
```

```

        <inp2:MaterialDefinitionID>SNOWBIKE-NONSERIALIZED
        </inp2:MaterialDefinitionID>
        <inp2:MaterialLotID>SERNUM3</inp2:MaterialLotID>
        <inp2:Quantity>
            <inp2:QuantityString>15</inp2:QuantityString>
            <inp2:DataType>integer</inp2:DataType>
            <inp2:UnitOfMeasure />
        </inp2:Quantity>
    </inp2:MaterialProducedRequirement>
</inp2:MaterialConsumedRequirement>
    <inp2:MaterialConsumedRequirement>
        <inp2:MaterialDefinitionID>OpGrpBomItem1</
inp2:MaterialDefinitionID>
        <inp2:Quantity>
            <inp2:QuantityString>2</
inp2:QuantityString>
            <inp2:DataType>integer</inp2:DataType>
            <inp2:UnitOfMeasure>EA</
inp2:UnitOfMeasure>
            </inp2:Quantity>
            <inp2:MaterialConsumedRequirementProperty>
                <inp2:ID>GEDS_BOM_Sequence</inp2:ID>
                <inp2:Value>
                    <inp2:ValueString>1</
inp2:ValueString>
                    <inp2:DataType>integer</
inp2:DataType>
                    <inp2:UnitOfMeasure/>
                </inp2:Value>
            </inp2:MaterialConsumedRequirementProperty>
            <inp2:MaterialConsumedRequirementProperty>
                <inp2:ID>behaviors</inp2:ID>
                <inp2:Value>
                    <inp2:ValueString>requiresConsumptionTracking</inp2:ValueString>
                    <inp2:DataType>string</inp2:DataType>
                    <inp2:UnitOfMeasure></inp2:UnitOfMeasure>
                </inp2:Value>
            </inp2:MaterialConsumedRequirementProperty>
            <inp2:MaterialConsumedRequirementProperty>
                <inp2:ID>bom_item_prop_group_prop_1</inp2:ID>
                <inp2:Value>
                    <inp2:ValueString>"bomitempropgrouppropertyvalue"</
inp2:ValueString>
                    <inp2:DataType>integer</inp2:DataType>
                    <inp2:UnitOfMeasure/>
                </inp2:Value>
            </inp2:MaterialConsumedRequirementProperty>
        </inp2:MaterialConsumedRequirement>
    </inp2:MaterialConsumedRequirement>
        <inp2:MaterialDefinitionID>OpGrpBomItem2</
inp2:MaterialDefinitionID>
        <inp2:Quantity>

```

```

        <inp2:QuantityString>10</
inp2:QuantityString>
        <inp2:DataType>integer</inp2:DataType>
        <inp2:UnitOfMeasure>EA</
inp2:UnitOfMeasure>
        </inp2:Quantity>
        <inp2:MaterialConsumedRequirementProperty>
            <inp2:ID>GEDS_BOM_Sequence</inp2:ID>
            <inp2:Value>
                <inp2:ValueString>2</
inp2:ValueString>
            <inp2:DataType>integer</
inp2:DataType>
            <inp2:UnitOfMeasure/>
        </inp2:Value>
        </inp2:MaterialConsumedRequirementProperty>

        <inp2:MaterialConsumedRequirementProperty>
            <inp2:ID>bom_item_prop_group_prop_2</inp2:ID>
            <inp2:Value>
                <inp2:ValueString>"bomitempropgrouppropertyvalue"</
inp2:ValueString>
            <inp2:DataType>float</inp2:DataType>
            <inp2:UnitOfMeasure/>
        </inp2:Value>
        </inp2:MaterialConsumedRequirementProperty>
    </inp2:MaterialConsumedRequirement>

    </inp2:SegmentRequirement>
    <inp2:SegmentRequirement>
        <inp2:ID>FrameAssembly</inp2:ID>
        <inp2:Description>Assembling Bike MainFrame.</inp2:Description>
        <inp2:EarliestStartTime>2020-12-22T12:00:00</inp2:EarliestStartTime>
        <inp2:LatestEndTime>2020-12-22T15:15:00</inp2:LatestEndTime>
        <inp2:ProductionParameter>
            <inp2:Parameter>
                <inp2:ID>Priority</inp2:ID>
                <inp2:Value>
                    <ValueString>1</ValueString>
                    <DataType>integer</DataType>
                    <UnitOfMeasure />
                </inp2:Value>
            </inp2:Parameter>
        </inp2:ProductionParameter>
        <inp2:ProductionParameter>
            <inp2:Parameter>
                <inp2:ID>LaborTime</inp2:ID>
                <inp2:Value>
                    <ValueString>210</ValueString>
                    <DataType>integer</DataType>
                    <UnitOfMeasure />
                </inp2:Value>
            </inp2:Parameter>

```

```

        </inp2:ProductionParameter>
        <inp2:MaterialConsumedRequirement>
            <inp2:MaterialDefinitionID>BikeMainFrame</
inp2:MaterialDefinitionID>
            <inp2:Quantity>
                <inp2:QuantityString>1</
inp2:QuantityString>
                <inp2:DataType>integer</inp2:DataType>
                <inp2:UnitOfMeasure>EA</
inp2:UnitOfMeasure>
            </inp2:Quantity>
            <inp2:MaterialConsumedRequirementProperty>
                <inp2:ID>GEDS_BOM_Sequence</inp2:ID>
                <inp2:Value>
                    <inp2:ValueString>1</
inp2:ValueString>
                    <inp2:DataType>integer</
inp2:DataType>
                    <inp2:UnitOfMeasure/>
                </inp2:Value>
            </inp2:MaterialConsumedRequirementProperty>
            <inp2:MaterialConsumedRequirementProperty>
                <inp2:ID>bom_item_prop_group_prop_3</inp2:ID>
                <inp2:Value>
                    <inp2:ValueString>"bomitempropgrouppropertyvalue"</
inp2:ValueString>
                    <inp2:DataType>string</inp2:DataType>
                    <inp2:UnitOfMeasure/>
                </inp2:Value>
            </inp2:MaterialConsumedRequirementProperty>
            <inp2:MaterialConsumedRequirementProperty>
                <inp2:ID>behaviors</inp2:ID>
                <inp2:Value>
                    <inp2:ValueString>requiresConsumptionTracking</inp2:ValueString>
                    <inp2:DataType>string</inp2:DataType>
                    <inp2:UnitOfMeasure></inp2:UnitOfMeasure>
                </inp2:Value>
            </inp2:MaterialConsumedRequirementProperty>
        </inp2:MaterialConsumedRequirement>
        <inp2:MaterialConsumedRequirement>
            <inp2:MaterialDefinitionID>308A309800048</
inp2:MaterialDefinitionID>
            <inp2:Quantity>
                <inp2:QuantityString>1</inp2:QuantityString>
                <inp2:DataType>float</inp2:DataType>
                <inp2:UnitOfMeasure>cm</inp2:UnitOfMeasure>
            </inp2:Quantity>
            <inp2:MaterialConsumedRequirementProperty>
                <inp2:ID>displayOrder</inp2:ID>
                <inp2:Value>
                    <inp2:ValueString>2</inp2:ValueString>
                    <inp2:DataType>integer</inp2:DataType>

```

```

        <inp2:UnitOfMeasure></inp2:UnitOfMeasure>
      </inp2:Value>
    </inp2:MaterialConsumedRequirementProperty>
  </inp2:MaterialConsumedRequirement>
</inp2:SegmentRequirement>

<inp2:SegmentRequirement>
  <inp2:ID>TyreMounting</inp2:ID>
  <inp2:EarliestStartTime>2020-12-23T12:00:00</inp2:EarliestStartTime>
  <inp2:LatestEndTime>2020-12-23T12:15:00</inp2:LatestEndTime>
  <inp2:ProductionParameter>
    <inp2:Parameter>
      <inp2:ID>Priority</inp2:ID>
      <inp2:Value>
        <ValueString>2</ValueString>
        <DataType>integer</DataType>
        <UnitOfMeasure />
      </inp2:Value>
    </inp2:Parameter>
  </inp2:ProductionParameter>
  <inp2:ProductionParameter>
    <inp2:Parameter>
      <inp2:ID>WeldingTime</inp2:ID>
      <inp2:Value>
        <ValueString>100</ValueString>
        <DataType>integer</DataType>
        <UnitOfMeasure />
      </inp2:Value>
    </inp2:Parameter>
  </inp2:ProductionParameter>

  <inp2:MaterialConsumedRequirement>
    <inp2:MaterialDefinitionID>TubelessTyre</
inp2:MaterialDefinitionID>
    <inp2:Quantity>
      <inp2:QuantityString>2</
inp2:QuantityString>
      <inp2:DataType>integer</inp2:DataType>
      <inp2:UnitOfMeasure>EA</
inp2:UnitOfMeasure>
    </inp2:Quantity>
    <inp2:MaterialConsumedRequirementProperty>
      <inp2:ID>GEDS_BOM_Sequence</inp2:ID>
      <inp2:Value>
        <inp2:ValueString>1</
inp2:ValueString>
        <inp2:DataType>integer</
inp2:DataType>
        <inp2:UnitOfMeasure/>
      </inp2:Value>
    </inp2:MaterialConsumedRequirementProperty>
  </inp2:MaterialConsumedRequirementProperty>
  <inp2:ID>behaviors</inp2:ID>

```

```

    <inp2:Value>
      <inp2:ValueString>requiresConsumptionTracking</inp2:ValueString>
      <inp2:DataType>string</inp2:DataType>
      <inp2:UnitOfMeasure></inp2:UnitOfMeasure>
    </inp2:Value>
  </inp2:MaterialConsumedRequirementProperty>
</inp2:MaterialConsumedRequirementProperty>
  <inp2:MaterialConsumedRequirementProperty>
    <inp2:ID>bom_item_prop_group_prop_2</inp2:ID>
    <inp2:Value>
      <inp2:ValueString>"bomitempropgrouppropertyvalue"</
inp2:ValueString>
      <inp2:DataType>float</inp2:DataType>
      <inp2:UnitOfMeasure/>
    </inp2:Value>
  </inp2:MaterialConsumedRequirementProperty>
</inp2:MaterialConsumedRequirement>
</inp2:MaterialConsumedRequirement>
  <inp2:MaterialConsumedRequirement>
    <inp2:MaterialDefinitionID>ACCR</inp2:MaterialDefinitionID>
    <inp2:Quantity>
      <inp2:QuantityString>33.78</inp2:QuantityString>
      <inp2:DataType>float</inp2:DataType>
      <inp2:UnitOfMeasure>LB</inp2:UnitOfMeasure>
    </inp2:Quantity>
    <inp2:MaterialConsumedRequirementProperty>
      <inp2:ID>displayOrder</inp2:ID>
      <inp2:Value>
        <inp2:ValueString>1</inp2:ValueString>
        <inp2:DataType>integer</inp2:DataType>
        <inp2:UnitOfMeasure></inp2:UnitOfMeasure>
      </inp2:Value>
    </inp2:MaterialConsumedRequirementProperty>
  </inp2:MaterialConsumedRequirement>
</inp2:SegmentRequirement>
</inp2:ProductionRequest>
</ProductionSchedule>

```

## Custom B2MML WOID Schema Version 5 *without* Route Definition

```

<?xml version="1.0" encoding="utf-8" standalone="no"?><ProductionSchedule
  xmlns="http://www.wbf.org/xml/B2MML-V0401" xmlns:Extended="http://
www.wbf.org/xml/B2MML-V0401-AllExtensions" xmlns:inp2="http://www.wbf.org/
xml/B2MML-V0401">
  <inp2:PublishedDate>2017-04-15T09:30:00</inp2:PublishedDate>
  <Extended:SchemaVersion>5</Extended:SchemaVersion>
  <inp2:ProductionRequest>
    <inp2:ID>WOID5-ADHOC-XML-SNOWBIKES</inp2:ID>

```



```

        <inp2:Description>Work Order to produce 30 SNOWBIKES</
inp2:Description>
        <inp2:Location>
            <inp2:EquipmentID>Bikes_Assembly_Line</
inp2:EquipmentID>
            <inp2:EquipmentElementLevel>Site</
inp2:EquipmentElementLevel>
        </inp2:Location>
        <inp2:SegmentRequirement>
            <inp2:ID>000</inp2:ID>
            <inp2:EarliestStartTime>2020-12-18T13:00:00.000Z</
inp2:EarliestStartTime>
            <inp2:LatestEndTime>2020-12-19T13:00:00.000Z</
inp2:LatestEndTime>
            <inp2:ProductionParameter>
                <inp2:Parameter>
                    <inp2:ID>WorkInstruction</inp2:ID>
                    <inp2:Value>
                        <ValueString>http://
grid.ge.com/485765/assemblyinstructions.pdf</ValueString>
                        <DataType>string</DataType>
                        <UnitOfMeasure/>
                    </inp2:Value>
                    <inp2:Description>AssemblyInstructions</
inp2:Description>
                </inp2:Parameter>
            </inp2:ProductionParameter>
            <inp2:ProductionParameter>
                <inp2:Parameter>
                    <inp2:ID>WorkInstruction</inp2:ID>
                    <inp2:Value>
                        <ValueString>http://
grid.ge.com/485766/paintinstructions.pdf</ValueString>
                        <DataType>string</DataType>
                        <UnitOfMeasure/>
                    </inp2:Value>
                    <inp2:Description>PaintInstructions</
inp2:Description>
                </inp2:Parameter>
            </inp2:ProductionParameter>
            <inp2:ProductionParameter>
                <inp2:Parameter>
                    <inp2:ID>Some-Integer-Property-Name</
inp2:ID>
                    <inp2:Value>
                        <ValueString>10</ValueString>
                        <DataType>integer</DataType>
                        <UnitOfMeasure/>
                    </inp2:Value>
                </inp2:Parameter>
            </inp2:ProductionParameter>
        </inp2:ProductionParameter>
    </inp2:ProductionParameter>

```

```

        <inp2:Parameter>
            <inp2:ID>Some-DateTime-Property-Name</
inp2:ID>
            <inp2:Value>
                <ValueString>2020-10-22T12:30:45.555Z</ValueString>
                <DataType>string</DataType>
                <UnitOfMeasure/>
            </inp2:Value>
        </inp2:Parameter>
    </inp2:ProductionParameter>
    <inp2:ProductionParameter>
        <inp2:Parameter>
            <inp2:ID>Some-Boolean-Property-Name</
inp2:ID>
            <inp2:Value>
                <ValueString>>true</ValueString>
                <DataType>boolean</DataType>
                <UnitOfMeasure/>
            </inp2:Value>
        </inp2:Parameter>
    </inp2:ProductionParameter>
    <inp2:ProductionParameter>
        <inp2:Parameter>
            <inp2:ID>Some-Float-Property-Name</
inp2:ID>
            <inp2:Value>
                <ValueString>1.2</ValueString>
                <DataType>float</DataType>
                <UnitOfMeasure/>
            </inp2:Value>
        </inp2:Parameter>
    </inp2:ProductionParameter>
    <inp2:ProductionParameter>
        <inp2:Parameter>
            <inp2:ID>Some-String-Property-Name</
inp2:ID>
            <inp2:Value>
                <ValueString>StickerLabel</
ValueString>
                <DataType>string</DataType>
                <UnitOfMeasure/>
            </inp2:Value>
        </inp2:Parameter>
    </inp2:ProductionParameter>

    <inp2:MaterialProducedRequirement>
        <inp2:MaterialDefinitionID>SNOWBIKE-NONSERIALIZED</
inp2:MaterialDefinitionID>
        <inp2:MaterialLotID>serinum1</inp2:MaterialLotID>
        <inp2:Quantity>
            <inp2:QuantityString>10</inp2:QuantityString>
            <inp2:DataType>integer</inp2:DataType>

```

```

        <inp2:UnitOfMeasure />
    </inp2:Quantity>
</inp2:MaterialProducedRequirement>
    <inp2:MaterialProducedRequirement>
        <inp2:MaterialDefinitionID>SNOWBIKE-NONSERIALIZED</
inp2:MaterialDefinitionID>
        <inp2:MaterialLotID>serinum2</inp2:MaterialLotID>
        <inp2:Quantity>
            <inp2:QuantityString>5</inp2:QuantityString>
            <inp2:DataType>integer</inp2:DataType>
            <inp2:UnitOfMeasure />
        </inp2:Quantity>
    </inp2:MaterialProducedRequirement>
    <inp2:MaterialProducedRequirement>
        <inp2:MaterialDefinitionID>SNOWBIKE-NONSERIALIZED</
inp2:MaterialDefinitionID>
        <inp2:MaterialLotID>serinum3</inp2:MaterialLotID>
        <inp2:Quantity>
            <inp2:QuantityString>15</inp2:QuantityString>
            <inp2:DataType>integer</inp2:DataType>
            <inp2:UnitOfMeasure />
        </inp2:Quantity>
    </inp2:MaterialProducedRequirement>
        <inp2:MaterialConsumedRequirement>
            <inp2:MaterialDefinitionID>OpGrpBomItem1</
inp2:MaterialDefinitionID>
            <inp2:Quantity>
                <inp2:QuantityString>2</
inp2:QuantityString>
                <inp2:DataType>integer</inp2:DataType>
                <inp2:UnitOfMeasure>EA</
inp2:UnitOfMeasure>
            </inp2:Quantity>
            <inp2:MaterialConsumedRequirementProperty>
                <inp2:ID>GEDS_BOM_Sequence</inp2:ID>
                <inp2:Value>
                    <inp2:ValueString>1</
inp2:ValueString>
                    <inp2:DataType>integer</
inp2:DataType>
                </inp2:Value>
            </inp2:MaterialConsumedRequirementProperty>
            <inp2:MaterialConsumedRequirementProperty>
                <inp2:ID>behaviors</inp2:ID>
                <inp2:Value>
                    <inp2:ValueString>requiresConsumptionTracking</inp2:ValueString>
                    <inp2:DataType>string</inp2:DataType>
                    <inp2:UnitOfMeasure></inp2:UnitOfMeasure>
                </inp2:Value>
            </inp2:MaterialConsumedRequirementProperty>
            <inp2:MaterialConsumedRequirementProperty>

```

```

        <inp2:ID>bom_item_prop_group_prop_1</inp2:ID>
        <inp2:Value>
          <inp2:ValueString>"bomitempropgrouppropertyvalue"</
inp2:ValueString>
          <inp2:DataType>integer</inp2:DataType>
          <inp2:UnitOfMeasure/>
        </inp2:Value>
      </inp2:MaterialConsumedRequirementProperty>
    </inp2:MaterialConsumedRequirement>
    <inp2:MaterialConsumedRequirement>
      <inp2:MaterialDefinitionID>OpGrpBomItem2</
inp2:MaterialDefinitionID>
      <inp2:Quantity>
        <inp2:QuantityString>10</
inp2:QuantityString>
        <inp2:DataType>integer</inp2:DataType>
        <inp2:UnitOfMeasure>EA</
inp2:UnitOfMeasure>
      </inp2:Quantity>
      <inp2:MaterialConsumedRequirementProperty>
        <inp2:ID>GEDS_BOM_Sequence</inp2:ID>
        <inp2:Value>
          <inp2:ValueString>2</
inp2:ValueString>
          <inp2:DataType>integer</
inp2:DataType>
          <inp2:UnitOfMeasure/>
        </inp2:Value>
      </inp2:MaterialConsumedRequirementProperty>
    </inp2:MaterialConsumedRequirementProperty>
  </inp2:MaterialConsumedRequirement>
  <inp2:ID>bom_item_prop_group_prop_2</inp2:ID>
  <inp2:Value>
    <inp2:ValueString>"bomitempropgrouppropertyvalue"</
inp2:ValueString>
    <inp2:DataType>float</inp2:DataType>
    <inp2:UnitOfMeasure/>
  </inp2:Value>
</inp2:MaterialConsumedRequirementProperty>
</inp2:MaterialConsumedRequirement>
</inp2:SegmentRequirement>
<inp2:SegmentRequirement>
  <inp2:ID>FrameAssembly</inp2:ID>
  <inp2:Description>Assembling Bike MainFrame.</
inp2:Description>
  <inp2:EarliestStartTime>2020-12-18T13:00:00.000Z</
inp2:EarliestStartTime>
  <inp2:LatestEndTime>2020-12-18T15:00:00.000Z</
inp2:LatestEndTime>
  <inp2:EquipmentRequirement>
    <inp2:Location>

```

```

    <inp2:EquipmentID>FrameMountingStation</
inp2:EquipmentID>
    <inp2:EquipmentElementLevel>WorkCell</
inp2:EquipmentElementLevel>
    </inp2:Location>
    <inp2:Quantity>
    <inp2:QuantityString>1</
inp2:QuantityString>
    </inp2:Quantity>
    </inp2:EquipmentRequirement>
    <inp2:EquipmentRequirement>
    <inp2:Location>
    <inp2:EquipmentID>AlignmentJig</
inp2:EquipmentID>
    <inp2:EquipmentElementLevel>WorkCell</
inp2:EquipmentElementLevel>
    </inp2:Location>
    <inp2:Quantity>
    <inp2:QuantityString>1</
inp2:QuantityString>
    </inp2:Quantity>
    </inp2:EquipmentRequirement>
    <inp2:ProductionParameter>
    <inp2:Parameter>
    <inp2:ID>Priority</inp2:ID>
    <inp2:Value>
    <inp2:ValueString>1</
inp2:ValueString>
    <inp2:DataType>integer</
inp2:DataType>
    <inp2:UnitOfMeasure/>
    </inp2:Value>
    </inp2:Parameter>
    </inp2:ProductionParameter>
    <inp2:ProductionParameter>
    <inp2:Parameter>
    <inp2:ID>behaviors</inp2:ID>
    <inp2:Value>
    <ValueString>requiresClockOn</ValueString>
    <DataType>string</DataType>
    <UnitOfMeasure/>
    </inp2:Value>
    </inp2:Parameter>
    </inp2:ProductionParameter>
    <inp2:ProductionParameter>
    <inp2:Parameter>
    <inp2:ID>WorkInstruction</inp2:ID>
    <inp2:Value>
    <inp2:ValueString>http://
grid.ge.com/485765/MainAssemblyDrawing.pdf</inp2:ValueString>

```

```

                <inp2:DataType>string</
inp2:DataType>
                <inp2:UnitOfMeasure/>
            </inp2:Value>
            <inp2:Description>AssemblyDrawings</
inp2:Description>
        </inp2:Parameter>
    </inp2:ProductionParameter>
    <inp2:ProductionParameter>
    <inp2:Parameter>
    <inp2:ID>LaborType</inp2:ID>
    <inp2:Value>
        <ValueString>direct</ValueString>
        <DataType>string</DataType>
        <UnitOfMeasure/>
    </inp2:Value>
    </inp2:Parameter>
    </inp2:ProductionParameter>
    <inp2:ProductionParameter>
    <inp2:Parameter>
        <inp2:ID>Some-Integer-Property-Name</
inp2:ID>
        <inp2:Value>
            <ValueString>1</ValueString>
            <DataType>integer</DataType>
            <UnitOfMeasure/>
        </inp2:Value>
    </inp2:Parameter>
    </inp2:ProductionParameter>
    <inp2:ProductionParameter>
    <inp2:Parameter>
        <inp2:ID>Some-DateTime-Property-Name</
inp2:ID>
        <inp2:Value>
            <ValueString>2020-10-22T12:30:45.555Z</ValueString>
            <DataType>integer</DataType>
            <UnitOfMeasure/>
        </inp2:Value>
    </inp2:Parameter>
    </inp2:ProductionParameter>
    <inp2:ProductionParameter>
    <inp2:Parameter>
        <inp2:ID>Some-Float-Property-Name</
inp2:ID>
        <inp2:Value>
            <ValueString>1.2</ValueString>
            <DataType>integer</DataType>
            <UnitOfMeasure/>
        </inp2:Value>
    </inp2:Parameter>
    </inp2:ProductionParameter>

```

```

        <inp2:MaterialConsumedRequirement>
          <inp2:MaterialDefinitionID>BikeMainFrame</
inp2:MaterialDefinitionID>
          <inp2:Quantity>
            <inp2:QuantityString>1</
inp2:QuantityString>
            <inp2:DataType>integer</inp2:DataType>
            <inp2:UnitOfMeasure>EA</
inp2:UnitOfMeasure>
          </inp2:Quantity>
          <inp2:MaterialConsumedRequirementProperty>
            <inp2:ID>GEDS_BOM_Sequence</inp2:ID>
            <inp2:Value>
              <inp2:ValueString>1</
inp2:ValueString>
              <inp2:DataType>integer</
inp2:DataType>
              <inp2:UnitOfMeasure/>
            </inp2:Value>
          </inp2:MaterialConsumedRequirementProperty>
          <inp2:MaterialConsumedRequirementProperty>
            <inp2:ID>bom_item_prop_group_prop_3</inp2:ID>
            <inp2:Value>
              <inp2:ValueString>"bomitempropgrouppropertyvalue"</
inp2:ValueString>
              <inp2:DataType>string</inp2:DataType>
              <inp2:UnitOfMeasure/>
            </inp2:Value>
          </inp2:MaterialConsumedRequirementProperty>
        </inp2:MaterialConsumedRequirementProperty>
      <inp2:ID>behaviors</inp2:ID>
      <inp2:Value>
        <inp2:ValueString>requiresConsumptionTracking</inp2:ValueString>
        <inp2:DataType>string</inp2:DataType>
        <inp2:UnitOfMeasure></inp2:UnitOfMeasure>
      </inp2:Value>
    </
inp2:MaterialConsumedRequirementProperty>
  </inp2:MaterialConsumedRequirement>
</inp2:SegmentRequirement>
  <inp2:SegmentRequirement>
    <inp2:ID>TyreMounting</inp2:ID>
    <inp2:Description>Mounting tyres to Bike frame.</
inp2:Description>
    <inp2:EarliestStartTime>2020-12-18T16:00:00.000Z</
inp2:EarliestStartTime>
    <inp2:LatestEndTime>2020-12-18T17:00:00.000Z</
inp2:LatestEndTime>
    <inp2:EquipmentRequirement>
      <inp2:Location>

```

```

        <inp2:EquipmentID>TyreMount</
inp2:EquipmentID>
        <inp2:EquipmentElementLevel>WorkCell</
inp2:EquipmentElementLevel>
        </inp2:Location>
        <inp2:Quantity>
        <inp2:QuantityString>1</
inp2:QuantityString>
        </inp2:Quantity>
        </inp2:EquipmentRequirement>
        <inp2:ProductionParameter>
        <inp2:Parameter>
        <inp2:ID>Priority</inp2:ID>
        <inp2:Value>
        <inp2:ValueString>2</
inp2:ValueString>
        <inp2:DataType>integer</
inp2:DataType>
        <inp2:UnitOfMeasure/>
        </inp2:Value>
        </inp2:Parameter>
        </inp2:ProductionParameter>
        <inp2:ProductionParameter>
        <inp2:Parameter>
        <inp2:ID>behaviors</inp2:ID>
        <inp2:Value>
        <ValueString>requiresClockOn</ValueString>
        <DataType>string</DataType>
        <UnitOfMeasure/>
        </inp2:Value>
        </inp2:Parameter>
        </inp2:ProductionParameter>
        <inp2:ProductionParameter>
        <inp2:Parameter>
        <inp2:ID>WorkInstruction</inp2:ID>
        <inp2:Value>
        <inp2:ValueString>http:/
grid.ge.com/485765/TyreMountingInstructions.pdf</inp2:ValueString>
        <inp2:DataType>string</
inp2:DataType>
        <inp2:UnitOfMeasure/>
        </inp2:Value>
        <inp2:Description>Instructions for Tyre
Mounting</inp2:Description>
        </inp2:Parameter>
        </inp2:ProductionParameter>
        <inp2:ProductionParameter>
        <inp2:Parameter>
        <inp2:ID>LaborType</inp2:ID>
        <inp2:Value>
        <ValueString>direct</ValueString>

```



```

        <DataType>string</DataType>
        <UnitOfMeasure/>
    </inp2:Value>
</inp2:Parameter>
</inp2:ProductionParameter>
<inp2:ProductionParameter>
<inp2:Parameter>
    <inp2:ID>LaborType</inp2:ID>
    <inp2:Value>
        <ValueString>rework</ValueString>
        <DataType>string</DataType>
        <UnitOfMeasure/>
    </inp2:Value>
</inp2:Parameter>
</inp2:ProductionParameter>
    <inp2:ProductionParameter>
        <inp2:Parameter>
            <inp2:ID>NumberOfTyres</inp2:ID>
            <inp2:Value>
                <ValueString>2</ValueString>
                <DataType>integer</DataType>
                <UnitOfMeasure/>
            </inp2:Value>
        </inp2:Parameter>
    </inp2:ProductionParameter>
    <inp2:ProductionParameter>
        <inp2:Parameter>
            <inp2:ID>TyreDiameterInMeters</inp2:ID>
            <inp2:Value>
                <ValueString>1</ValueString>
                <DataType>integer</DataType>
                <UnitOfMeasure/>
            </inp2:Value>
        </inp2:Parameter>
    </inp2:ProductionParameter>
    <inp2:MaterialConsumedRequirement>
        <inp2:MaterialDefinitionID>TubelessTyre</
inp2:MaterialDefinitionID>
        <inp2:Quantity>
            <inp2:QuantityString>2</
inp2:QuantityString>
            <inp2:DataType>integer</inp2:DataType>
            <inp2:UnitOfMeasure>EA</
inp2:UnitOfMeasure>
        </inp2:Quantity>
        <inp2:MaterialConsumedRequirementProperty>
            <inp2:ID>GEDS_BOM_Sequence</inp2:ID>
            <inp2:Value>
                <inp2:ValueString>1</
inp2:ValueString>

```

```

<inp2:DataType>integer</
inp2:DataType>
<inp2:UnitOfMeasure/>
</inp2:Value>
</inp2:MaterialConsumedRequirementProperty>
  <inp2:MaterialConsumedRequirementProperty>
    <inp2:ID>bom_item_prop_group_prop_2</inp2:ID>
    <inp2:Value>
      <inp2:ValueString>"bomitempropgrouppropertyvalue"</
inp2:ValueString>
      <inp2:DataType>float</inp2:DataType>
      <inp2:UnitOfMeasure/>
    </inp2:Value>
  </inp2:MaterialConsumedRequirementProperty>
</inp2:MaterialConsumedRequirementProperty>
  <inp2:ID>behaviors</inp2:ID>
  <inp2:Value>
    <inp2:ValueString>requiresConsumptionTracking</inp2:ValueString>
    <inp2:DataType>string</inp2:DataType>
    <inp2:UnitOfMeasure></inp2:UnitOfMeasure>
  </inp2:Value>
</
inp2:MaterialConsumedRequirementProperty>
</inp2:MaterialConsumedRequirement>
</inp2:SegmentRequirement>
</inp2:ProductionRequest>
</ProductionSchedule>

```

## Custom B2MML WOID Schema Versions 3 and 4

Using schema versions 3 and 4, you can import the following components of a work order:

- **Schema version 4:** You can import work orders for serialized as well as non-serialized products with or without route definition.
- **Schema version 3:** You can import work orders for serialized products with or without route definition.

## Custom B2MML WOID Schema Version 4 *with* Route Definition

```

<?xml version="1.0" encoding="utf-8" standalone="no"?><ProductionSchedule
  xmlns="http://www.wbf.org/xml/B2MML-V0401" xmlns:Extended="http://
www.wbf.org/xml/B2MML-V0401-AllExtensions" xmlns:inp2="http://www.wbf.org/
xml/B2MML-V0401">
  <inp2:PublishedDate>2017-04-15T09:30:00</inp2:PublishedDate>
  <Extended:SchemaVersion>4</Extended:SchemaVersion>
  <inp2:ProductionRequest>
    <inp2:ID>WOID4-ROUTE-XML-SNOWBIKES</inp2:ID>
    <inp2:Description>Route bound WorkOrder to produce 3 no. of SnowBikes.</
inp2:Description>
    <inp2:ProductProductionRuleID>SnowBikeRoute</
inp2:ProductProductionRuleID>

```

```

    <inp2:ProductProductionRuleID>1</inp2:ProductProductionRuleID>
    <inp2:Location>
      <inp2:EquipmentID>Bikes_Assembly_Line</inp2:EquipmentID>
      <inp2:EquipmentElementLevel>Site</inp2:EquipmentElementLevel>
    </inp2:Location>
    <inp2:SegmentRequirement>
      <inp2:ID>000</inp2:ID>
      <inp2:EarliestStartTime>2020-12-18T13:00:00.000Z</
inp2:EarliestStartTime>
      <inp2:LatestEndTime>2020-12-19T13:00:00.000Z</inp2:LatestEndTime>
    </inp2:SegmentRequirement>
    <inp2:MaterialProducedRequirement>
      <inp2:MaterialDefinitionID>SNOWBIKE-NONSERIALIZED</
inp2:MaterialDefinitionID>
      <inp2:MaterialLotID>serinum1</inp2:MaterialLotID>
      <inp2:Quantity>
        <inp2:QuantityString>10</inp2:QuantityString>
        <inp2:DataType>integer</inp2:DataType>
        <inp2:UnitOfMeasure />
      </inp2:Quantity>
    </inp2:MaterialProducedRequirement>
    <inp2:MaterialProducedRequirement>
      <inp2:MaterialDefinitionID>SNOWBIKE-NONSERIALIZED</
inp2:MaterialDefinitionID>
      <inp2:MaterialLotID>serinum2</inp2:MaterialLotID>
      <inp2:Quantity>
        <inp2:QuantityString>5</inp2:QuantityString>
        <inp2:DataType>integer</inp2:DataType>
        <inp2:UnitOfMeasure />
      </inp2:Quantity>
    </inp2:MaterialProducedRequirement>
    <inp2:MaterialProducedRequirement>
      <inp2:MaterialDefinitionID>SNOWBIKE-NONSERIALIZED</
inp2:MaterialDefinitionID>
      <inp2:MaterialLotID>serinum3</inp2:MaterialLotID>
      <inp2:Quantity>
        <inp2:QuantityString>15</inp2:QuantityString>
        <inp2:DataType>integer</inp2:DataType>
        <inp2:UnitOfMeasure />
      </inp2:Quantity>
    </inp2:MaterialProducedRequirement>
  </inp2:SegmentRequirement>
</inp2:ProductionRequest>
</ProductionSchedule>

```

## Custom B2MML WOID Schema Version 4 *without* Route Definition

```

<?xml version="1.0" encoding="utf-8" standalone="no"?><ProductionSchedule
  xmlns="http://www.wbf.org/xml/B2MML-V0401" xmlns:Extended="http://
www.wbf.org/xml/B2MML-V0401-AllExtensions" xmlns:inp2="http://www.wbf.org/
xml/B2MML-V0401">
  <inp2:PublishedDate>2017-04-15T09:30:00</inp2:PublishedDate>

```

```

    <Extended:SchemaVersion>4</Extended:SchemaVersion>
    <inp2:ProductionRequest>
      <inp2:ID>WOID4-ADHOC-XML-SNOWBIKES</inp2:ID>
      <inp2:Description>Work Order to produce 3 SNOWBIKES</
inp2:Description>
      <inp2:Location>
        <inp2:EquipmentID>Bikes_Assembly_Line</
inp2:EquipmentID>
        <inp2:EquipmentElementLevel>Site</
inp2:EquipmentElementLevel>
      </inp2:Location>
      <inp2:SegmentRequirement>
        <inp2:ID>000</inp2:ID>
        <inp2:EarliestStartTime>2020-12-18T13:00:00.000Z</
inp2:EarliestStartTime>
        <inp2:LatestEndTime>2020-12-19T13:00:00.000Z</
inp2:LatestEndTime>
        <inp2:ProductionParameter>
          <inp2:Parameter>
            <inp2:ID>WorkInstruction</inp2:ID>
            <inp2:Value>
              <ValueString>http://
grid.ge.com/485765/assemblyinstructions.pdf</ValueString>
              <DataType>string</DataType>
              <UnitOfMeasure/>
            </inp2:Value>
            <inp2:Description>AssemblyInstructions</
inp2:Description>
          </inp2:Parameter>
        </inp2:ProductionParameter>
        <inp2:ProductionParameter>
          <inp2:Parameter>
            <inp2:ID>WorkInstruction</inp2:ID>
            <inp2:Value>
              <ValueString>http://
grid.ge.com/485766/paintinstructions.pdf</ValueString>
              <DataType>string</DataType>
              <UnitOfMeasure/>
            </inp2:Value>
            <inp2:Description>PaintInstructions</
inp2:Description>
          </inp2:Parameter>
        </inp2:ProductionParameter>
      </inp2:SegmentRequirement>
      <inp2:ID>Some-Integer-Property-Name</
inp2:ID>
      <inp2:Value>
        <ValueString>10</ValueString>
        <DataType>integer</DataType>
        <UnitOfMeasure/>
      </inp2:Value>
    </inp2:ProductionRequest>
  </erp2:ProductionRequest>

```

```

        </inp2:Parameter>
    </inp2:ProductionParameter>
    <inp2:ProductionParameter>
        <inp2:Parameter>
            <inp2:ID>Some-DateTime-Property-Name</
inp2:ID>
            <inp2:Value>
                <ValueString>2020-10-22T12:30:45.555Z</ValueString>
                <DataType>string</DataType>
                <UnitOfMeasure/>
            </inp2:Value>
        </inp2:Parameter>
    </inp2:ProductionParameter>
    <inp2:ProductionParameter>
        <inp2:Parameter>
            <inp2:ID>Some-Boolean-Property-Name</
inp2:ID>
            <inp2:Value>
                <ValueString>>true</ValueString>
                <DataType>boolean</DataType>
                <UnitOfMeasure/>
            </inp2:Value>
        </inp2:Parameter>
    </inp2:ProductionParameter>
    <inp2:ProductionParameter>
        <inp2:Parameter>
            <inp2:ID>Some-Float-Property-Name</
inp2:ID>
            <inp2:Value>
                <ValueString>1.2</ValueString>
                <DataType>float</DataType>
                <UnitOfMeasure/>
            </inp2:Value>
        </inp2:Parameter>
    </inp2:ProductionParameter>
    <inp2:ProductionParameter>
        <inp2:Parameter>
            <inp2:ID>Some-String-Property-Name</
inp2:ID>
            <inp2:Value>
                <ValueString>StickerLabel</
ValueString>
                <DataType>string</DataType>
                <UnitOfMeasure/>
            </inp2:Value>
        </inp2:Parameter>
    </inp2:ProductionParameter>
    <inp2:MaterialProducedRequirement>
        <inp2:MaterialDefinitionID>SNOWBIKE-NONSERIALIZED</
inp2:MaterialDefinitionID>
        <inp2:MaterialLotID>serinum1</inp2:MaterialLotID>

```

```

        <inp2:Quantity>
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            <inp2:UnitOfMeasure />
        </inp2:Quantity>
    </inp2:MaterialProducedRequirement>
    <inp2:MaterialProducedRequirement>
        <inp2:MaterialDefinitionID>SNOWBIKE-NONSERIALIZED</
inp2:MaterialDefinitionID>
        <inp2:MaterialLotID>serinum2</inp2:MaterialLotID>
        <inp2:Quantity>
            <inp2:QuantityString>5</inp2:QuantityString>
            <inp2:DataType>integer</inp2:DataType>
            <inp2:UnitOfMeasure />
        </inp2:Quantity>
    </inp2:MaterialProducedRequirement>
    <inp2:MaterialProducedRequirement>
        <inp2:MaterialDefinitionID>SNOWBIKE-NONSERIALIZED</
inp2:MaterialDefinitionID>
        <inp2:MaterialLotID>serinum3</inp2:MaterialLotID>
        <inp2:Quantity>
            <inp2:QuantityString>15</inp2:QuantityString>
            <inp2:DataType>integer</inp2:DataType>
            <inp2:UnitOfMeasure />
        </inp2:Quantity>
    </inp2:MaterialProducedRequirement>
        <inp2:MaterialConsumedRequirement>
            <inp2:MaterialDefinitionID>OpGrpBomItem1</
inp2:MaterialDefinitionID>
            <inp2:Quantity>
                <inp2:QuantityString>2</
inp2:QuantityString>
                <inp2:DataType>integer</inp2:DataType>
                <inp2:UnitOfMeasure>EA</
inp2:UnitOfMeasure>
            </inp2:Quantity>
            <inp2:MaterialConsumedRequirementProperty>
                <inp2:ID>GEDS_BOM_Sequence</inp2:ID>
                <inp2:Value>
                    <inp2:ValueString>1</
inp2:ValueString>
                    <inp2:DataType>integer</
inp2:DataType>
                    <inp2:UnitOfMeasure/>
                </inp2:Value>
            </inp2:MaterialConsumedRequirementProperty>
            <inp2:MaterialConsumedRequirementProperty>
                <inp2:ID>GEDS_IsRequired</inp2:ID>
                <inp2:Value>
                    <inp2:ValueString>true</
inp2:ValueString>
                    <inp2:DataType>boolean</
inp2:DataType>

```

```

                <inp2:UnitOfMeasure/>
            </inp2:Value>
        </inp2:MaterialConsumedRequirementProperty>
    </inp2:MaterialConsumedRequirement>
    <inp2:MaterialConsumedRequirement>
        <inp2:MaterialDefinitionID>OpGrpBomItem2</
inp2:MaterialDefinitionID>
        <inp2:Quantity>
            <inp2:QuantityString>10</
inp2:QuantityString>
            <inp2:DataType>integer</inp2:DataType>
            <inp2:UnitOfMeasure>EA</
inp2:UnitOfMeasure>
        </inp2:Quantity>
        <inp2:MaterialConsumedRequirementProperty>
            <inp2:ID>GEDS_BOM_Sequence</inp2:ID>
            <inp2:Value>
                <inp2:ValueString>2</
inp2:ValueString>
                <inp2:DataType>integer</
inp2:DataType>
                <inp2:UnitOfMeasure/>
            </inp2:Value>
        </inp2:MaterialConsumedRequirementProperty>
        <inp2:MaterialConsumedRequirementProperty>
            <inp2:ID>GEDS_IsRequired</inp2:ID>
            <inp2:Value>
                <inp2:ValueString>>false</
inp2:ValueString>
                <inp2:DataType>boolean</
inp2:DataType>
                <inp2:UnitOfMeasure/>
            </inp2:Value>
        </inp2:MaterialConsumedRequirementProperty>
    </inp2:MaterialConsumedRequirement>
</inp2:SegmentRequirement>
<inp2:SegmentRequirement>
    <inp2:ID>FrameAssembly</inp2:ID>
    <inp2:Description>Assembling Bike MainFrame.</
inp2:Description>
    <inp2:EarliestStartTime>2020-12-18T13:00:00.000Z</
inp2:EarliestStartTime>
    <inp2:LatestEndTime>2020-12-18T15:00:00.000Z</
inp2:LatestEndTime>
    <inp2:EquipmentRequirement>
        <inp2:Location>
            <inp2:EquipmentID>FrameMountingStation</
inp2:EquipmentID>
            <inp2:EquipmentElementLevel>WorkCell</
inp2:EquipmentElementLevel>
        </inp2:Location>
    </inp2:EquipmentRequirement>
</inp2:SegmentRequirement>

```

```

        <inp2:Quantity>
            <inp2:QuantityString>1</
inp2:QuantityString>
        </inp2:Quantity>
    </inp2:EquipmentRequirement>
    <inp2:EquipmentRequirement>
        <inp2:Location>
            <inp2:EquipmentID>AlignmentJig</
inp2:EquipmentID>
            <inp2:EquipmentElementLevel>WorkCell</
inp2:EquipmentElementLevel>
        </inp2:Location>
        <inp2:Quantity>
            <inp2:QuantityString>1</
inp2:QuantityString>
        </inp2:Quantity>
    </inp2:EquipmentRequirement>
    <inp2:ProductionParameter>
        <inp2:Parameter>
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            <inp2:Value>
                <inp2:ValueString>1</
inp2:ValueString>
            <inp2:DataType>integer</
inp2:DataType>
            <inp2:UnitOfMeasure/>
        </inp2:Value>
    </inp2:Parameter>
    </inp2:ProductionParameter>
    <inp2:ProductionParameter>
        <inp2:Parameter>
            <inp2:ID>behaviors</inp2:ID>
            <inp2:Value>
                <ValueString>requiresClockOn</ValueString>
                <DataType>string</DataType>
                <UnitOfMeasure/>
            </inp2:Value>
        </inp2:Parameter>
    </inp2:ProductionParameter>
    <inp2:ProductionParameter>
        <inp2:Parameter>
            <inp2:ID>WorkInstruction</inp2:ID>
            <inp2:Value>
                <inp2:ValueString>http:/
grid.ge.com/485765/MainAssemblyDrawing.pdf</inp2:ValueString>
            <inp2:DataType>string</
inp2:DataType>
            <inp2:UnitOfMeasure/>
        </inp2:Value>
    <inp2:Description>AssemblyDrawings</
inp2:Description>
    </inp2:Parameter>
</inp2:ProductionParameter>

```



```

        <inp2:ProductionParameter>
            <inp2:Parameter>
                <inp2:ID>Some-Integer-Property-Name</
inp2:ID>
                <inp2:Value>
                    <ValueString>1</ValueString>
                    <DataType>integer</DataType>
                    <UnitOfMeasure/>
                </inp2:Value>
            </inp2:Parameter>
        </inp2:ProductionParameter>

        <inp2:ProductionParameter>
            <inp2:Parameter>
                <inp2:ID>Some-DateTime-Property-Name</
inp2:ID>
                <inp2:Value>
                    <ValueString>2020-10-22T12:30:45.555Z</ValueString>
                    <DataType>integer</DataType>
                    <UnitOfMeasure/>
                </inp2:Value>
            </inp2:Parameter>
        </inp2:ProductionParameter>
        <inp2:ProductionParameter>
            <inp2:Parameter>
                <inp2:ID>Some-Float-Property-Name</
inp2:ID>
                <inp2:Value>
                    <ValueString>1.2</ValueString>
                    <DataType>integer</DataType>
                    <UnitOfMeasure/>
                </inp2:Value>
            </inp2:Parameter>
        </inp2:ProductionParameter>

        <inp2:MaterialConsumedRequirement>
            <inp2:MaterialDefinitionID>BikeMainFrame</
inp2:MaterialDefinitionID>
            <inp2:Quantity>
                <inp2:QuantityString>1</
inp2:QuantityString>
                <inp2:DataType>integer</inp2:DataType>
                <inp2:UnitOfMeasure>EA</
inp2:UnitOfMeasure>
            </inp2:Quantity>
            <inp2:MaterialConsumedRequirementProperty>
                <inp2:ID>GEDS_BOM_Sequence</inp2:ID>
                <inp2:Value>
                    <inp2:ValueString>1</
inp2:ValueString>
                    <inp2:DataType>integer</
inp2:DataType>

```

```

        <inp2:UnitOfMeasure/>
      </inp2:Value>
    </inp2:MaterialConsumedRequirementProperty>
  <inp2:MaterialConsumedRequirementProperty>
    <inp2:ID>GEDS_IsRequired</inp2:ID>
    <inp2:Value>
      <inp2:ValueString>true</
inp2:ValueString>
    <inp2:DataType>boolean</
inp2:DataType>
    <inp2:UnitOfMeasure/>
  </inp2:Value>
</inp2:MaterialConsumedRequirementProperty>
</inp2:MaterialConsumedRequirement>
</inp2:SegmentRequirement>
  <inp2:SegmentRequirement>
    <inp2:ID>TyreMounting</inp2:ID>
    <inp2:Description>Mounting tyres to Bike frame.</
inp2:Description>
    <inp2:EarliestStartTime>2020-12-18T16:00:00.000Z</
inp2:EarliestStartTime>
    <inp2:LatestEndTime>2020-12-18T17:00:00.000Z</
inp2:LatestEndTime>
    <inp2:EquipmentRequirement>
      <inp2:Location>
        <inp2:EquipmentID>TyreMount</
inp2:EquipmentID>
        <inp2:EquipmentElementLevel>WorkCell</
inp2:EquipmentElementLevel>
      </inp2:Location>
      <inp2:Quantity>
        <inp2:QuantityString>1</
inp2:QuantityString>
      </inp2:Quantity>
    </inp2:EquipmentRequirement>
  <inp2:ProductionParameter>
    <inp2:Parameter>
      <inp2:ID>Priority</inp2:ID>
      <inp2:Value>
        <inp2:ValueString>2</
inp2:ValueString>
      <inp2:DataType>integer</
inp2:DataType>
      <inp2:UnitOfMeasure/>
    </inp2:Value>
  </inp2:Parameter>
</inp2:ProductionParameter>
  <inp2:ProductionParameter>
    <inp2:Parameter>
      <inp2:ID>behaviors</inp2:ID>
      <inp2:Value>
        <ValueString>requiresClockOn</ValueString>

```

```

        <DataType>string</DataType>
        <UnitOfMeasure/>
    </inp2:Value>
    </inp2:Parameter>
  </inp2:ProductionParameter>
  <inp2:ProductionParameter>
    <inp2:Parameter>
      <inp2:ID>WorkInstruction</inp2:ID>
      <inp2:Value>
        <inp2:ValueString>http://
grid.ge.com/485765/TyreMountingInstructions.pdf</inp2:ValueString>
        <inp2:DataType>string</
inp2:DataType>
        <inp2:UnitOfMeasure/>
      </inp2:Value>
      <inp2:Description>Instructions for Tyre
Mounting</inp2:Description>
    </inp2:Parameter>
  </inp2:ProductionParameter>
  <inp2:ProductionParameter>
    <inp2:Parameter>
      <inp2:ID>NumberOfTyres</inp2:ID>
      <inp2:Value>
        <ValueString>2</ValueString>
        <DataType>integer</DataType>
        <UnitOfMeasure/>
      </inp2:Value>
    </inp2:Parameter>
  </inp2:ProductionParameter>
  <inp2:ProductionParameter>
    <inp2:Parameter>
      <inp2:ID>TyreDiameterInMeters</inp2:ID>
      <inp2:Value>
        <ValueString>1</ValueString>
        <DataType>integer</DataType>
        <UnitOfMeasure/>
      </inp2:Value>
    </inp2:Parameter>
  </inp2:ProductionParameter>
  <inp2:MaterialConsumedRequirement>
    <inp2:MaterialDefinitionID>TubelessTyre</
inp2:MaterialDefinitionID>
    <inp2:Quantity>
      <inp2:QuantityString>2</
inp2:QuantityString>
      <inp2:DataType>integer</inp2:DataType>
      <inp2:UnitOfMeasure>EA</
inp2:UnitOfMeasure>
    </inp2:Quantity>
  </inp2:MaterialConsumedRequirementProperty>

```

```

                <inp2:ID>GEDS_BOM_Sequence</inp2:ID>
                <inp2:Value>
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inp2:ValueString>
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inp2:DataType>
                <inp2:UnitOfMeasure/>
            </inp2:Value>
        </inp2:MaterialConsumedRequirementProperty>
        <inp2:MaterialConsumedRequirementProperty>
            <inp2:ID>GEDS_IsRequired</inp2:ID>
            <inp2:Value>
                <inp2:ValueString>>true</
inp2:ValueString>
            <inp2:DataType>boolean</
inp2:DataType>
            <inp2:UnitOfMeasure/>
        </inp2:Value>
    </inp2:MaterialConsumedRequirementProperty>
</inp2:MaterialConsumedRequirement>
</inp2:SegmentRequirement>
</inp2:ProductionRequest>
</ProductionSchedule>

```

### Custom B2MML WOIID Schema Version 3 *with* Route Definition

```

<?xml version="1.0" encoding="utf-8" standalone="no"?><ProductionSchedule
  xmlns="http://www.wbf.org/xml/B2MML-V0401" xmlns:Extended="http://
www.wbf.org/xml/B2MML-V0401-AllExtensions" xmlns:inp2="http://www.wbf.org/
xml/B2MML-V0401">
  <inp2:PublishedDate>2017-04-15T09:30:00</inp2:PublishedDate>
  <Extended:SchemaVersion>3</Extended:SchemaVersion>
  <inp2:ProductionRequest>
    <inp2:ID>WOIID3-ROUTE-XML-SNOWBIKES</inp2:ID>
    <inp2:Description>Route bound WorkOrder to produce 3 no. of SnowBikes.</
inp2:Description>
    <inp2:ProductProductionRuleID>SnowBikeRoute</
inp2:ProductProductionRuleID>
    <inp2:ProductProductionRuleID>1</inp2:ProductProductionRuleID>
    <inp2:Location>
      <inp2:EquipmentID>Bikes_Assembly_Line</inp2:EquipmentID>
      <inp2:EquipmentElementLevel>Site</inp2:EquipmentElementLevel>
    </inp2:Location>
    <inp2:SegmentRequirement>
      <inp2:ID>000</inp2:ID>
      <inp2:EarliestStartTime>2020-12-18T13:00:00.000Z</
inp2:EarliestStartTime>
      <inp2:LatestEndTime>2020-12-19T13:00:00.000Z</inp2:LatestEndTime>
    </inp2:SegmentRequirement>
    <inp2:MaterialProducedRequirement>
      <inp2:MaterialDefinitionID>SNOWBIKE-SERIALIZED</
inp2:MaterialDefinitionID>

```

```

    <inp2:MaterialLotID>SERNUM1</inp2:MaterialLotID>
    <inp2:MaterialLotID>SERNUM2</inp2:MaterialLotID>
    <inp2:MaterialLotID>SERNUM3</inp2:MaterialLotID>
    <inp2:Quantity>
      <inp2:QuantityString>3</inp2:QuantityString>
      <inp2:DataType>integer</inp2:DataType>
      <inp2:UnitOfMeasure/>
    </inp2:Quantity>
  </inp2:MaterialProducedRequirement>
</inp2:SegmentRequirement>
</inp2:ProductionRequest>
</ProductionSchedule>

```

### Custom B2MML WOIID Schema Version 3 *without* Route Definition

```

<?xml version="1.0" encoding="utf-8" standalone="no"?><ProductionSchedule
  xmlns="http://www.wbf.org/xml/B2MML-V0401" xmlns:Extended="http://
www.wbf.org/xml/B2MML-V0401-AllExtensions" xmlns:inp2="http://www.wbf.org/
xml/B2MML-V0401">
  <inp2:PublishedDate>2017-04-15T09:30:00</inp2:PublishedDate>
  <Extended:SchemaVersion>3</Extended:SchemaVersion>
  <inp2:ProductionRequest>
    <inp2:ID>WOIID3-AD-XML-SNOWBIKES</inp2:ID>
    <inp2:Description>Work Order to produce 3 SNOWBIKES</
inp2:Description>
    <inp2:Location>
      <inp2:EquipmentID>Bikes_Assembly_Line</
inp2:EquipmentID>
      <inp2:EquipmentElementLevel>Site</
inp2:EquipmentElementLevel>
    </inp2:Location>
    <inp2:SegmentRequirement>
      <inp2:ID>000</inp2:ID>
      <inp2:EarliestStartTime>2020-12-18T13:00:00.000Z</
inp2:EarliestStartTime>
      <inp2:LatestEndTime>2020-12-19T13:00:00.000Z</
inp2:LatestEndTime>
      <inp2:ProductionParameter>
        <inp2:Parameter>
          <inp2:ID>WorkInstruction</inp2:ID>
          <inp2:Value>
            <ValueString>http://
grid.ge.com/485765/assemblyinstructions.pdf</ValueString>
            <DataType>string</DataType>
            <UnitOfMeasure/>
          </inp2:Value>
          <inp2:Description>AssemblyInstructions</
inp2:Description>
        </inp2:Parameter>
      </inp2:ProductionParameter>
      <inp2:ProductionParameter>
        <inp2:Parameter>

```

```

                <inp2:ID>WorkInstruction</inp2:ID>
                <inp2:Value>
                    <ValueString>http://
grid.ge.com/485766/paintinstructions.pdf</ValueString>
                    <DataType>string</DataType>
                    <UnitOfMeasure/>
                </inp2:Value>
                <inp2:Description>PaintInstructions</
inp2:Description>
            </inp2:Parameter>
        </inp2:ProductionParameter>
        <inp2:ProductionParameter>
            <inp2:Parameter>
                <inp2:ID>Some-Integer-Property-Name</
inp2:ID>
                <inp2:Value>
                    <ValueString>10</ValueString>
                    <DataType>integer</DataType>
                    <UnitOfMeasure/>
                </inp2:Value>
            </inp2:Parameter>
        </inp2:ProductionParameter>
        <inp2:ProductionParameter>
            <inp2:Parameter>
                <inp2:ID>Some-DateTime-Property-Name</
inp2:ID>
                <inp2:Value>
                    <ValueString>2020-10-22T12:30:45.555Z</ValueString>
                    <DataType>string</DataType>
                    <UnitOfMeasure/>
                </inp2:Value>
            </inp2:Parameter>
        </inp2:ProductionParameter>
        <inp2:ProductionParameter>
            <inp2:Parameter>
                <inp2:ID>Some-Boolean-Property-Name</
inp2:ID>
                <inp2:Value>
                    <ValueString>true</ValueString>
                    <DataType>boolean</DataType>
                    <UnitOfMeasure/>
                </inp2:Value>
            </inp2:Parameter>
        </inp2:ProductionParameter>
        <inp2:ProductionParameter>
            <inp2:Parameter>
                <inp2:ID>Some-Float-Property-Name</
inp2:ID>
                <inp2:Value>
                    <ValueString>1.2</ValueString>
                    <DataType>float</DataType>

```

```

        <UnitOfMeasure/>
    </inp2:Value>
</inp2:Parameter>
</inp2:ProductionParameter>
    <inp2:ProductionParameter>
        <inp2:Parameter>
            <inp2:ID>Some-String-Property-Name</
inp2:ID>
            <inp2:Value>
                <ValueString>StickerLabel</
ValueString>
                <DataType>string</DataType>
                <UnitOfMeasure/>
            </inp2:Value>
        </inp2:Parameter>
    </inp2:ProductionParameter>
    <inp2:MaterialProducedRequirement>
        <inp2:MaterialDefinitionID>SNOWBIKE-SERIALIZED
        </inp2:MaterialDefinitionID>
        <inp2:MaterialLotID>SERNUM1</inp2:MaterialLotID>
        <inp2:MaterialLotID>SERNUM2</inp2:MaterialLotID>
        <inp2:MaterialLotID>SERNUM3</inp2:MaterialLotID>
        <inp2:Quantity>
            <inp2:QuantityString>3</
inp2:QuantityString>
            <inp2:DataType>integer</inp2:DataType>
            <inp2:UnitOfMeasure/>
        </inp2:Quantity>
    </inp2:MaterialProducedRequirement>
    <inp2:MaterialConsumedRequirement>
        <inp2:MaterialDefinitionID>OpGrpBomItem1</
inp2:MaterialDefinitionID>
        <inp2:Quantity>
            <inp2:QuantityString>2</
inp2:QuantityString>
            <inp2:DataType>integer</inp2:DataType>
            <inp2:UnitOfMeasure>EA</
inp2:UnitOfMeasure>
        </inp2:Quantity>
    <inp2:MaterialConsumedRequirementProperty>
        <inp2:ID>GEDS_BOM_Sequence</inp2:ID>
        <inp2:Value>
            <inp2:ValueString>1</
inp2:ValueString>
            <inp2:DataType>integer</
inp2:DataType>
            <inp2:UnitOfMeasure/>
        </inp2:Value>
    </inp2:MaterialConsumedRequirementProperty>
    <inp2:MaterialConsumedRequirementProperty>
        <inp2:ID>GEDS_IsRequired</inp2:ID>
        <inp2:Value>

```

```

<inp2:ValueString>true</
inp2:ValueString>
<inp2:DataType>boolean</
inp2:DataType>
<inp2:UnitOfMeasure/>
</inp2:Value>
</inp2:MaterialConsumedRequirementProperty>
<inp2:MaterialConsumedRequirementProperty>
  <inp2:ID>workorder_import_prop_group_prop_1</inp2:ID>
  <inp2:Value>
    <inp2:ValueString>123</inp2:ValueString>
    <inp2:DataType>integer</inp2:DataType>
    <inp2:UnitOfMeasure/>
  </inp2:Value>
</inp2:MaterialConsumedRequirementProperty>
</inp2:MaterialConsumedRequirement>
<inp2:MaterialConsumedRequirement>
  <inp2:MaterialDefinitionID>OpGrpBomItem2</
inp2:MaterialDefinitionID>
  <inp2:Quantity>
    <inp2:QuantityString>10</
inp2:QuantityString>
    <inp2:DataType>integer</inp2:DataType>
    <inp2:UnitOfMeasure>EA</
inp2:UnitOfMeasure>
  </inp2:Quantity>
  <inp2:MaterialConsumedRequirementProperty>
    <inp2:ID>GEDS_BOM_Sequence</inp2:ID>
    <inp2:Value>
      <inp2:ValueString>2</
inp2:ValueString>
      <inp2:DataType>integer</
inp2:DataType>
      <inp2:UnitOfMeasure/>
    </inp2:Value>
  </inp2:MaterialConsumedRequirementProperty>
  <inp2:MaterialConsumedRequirementProperty>
    <inp2:ID>GEDS_IsRequired</inp2:ID>
    <inp2:Value>
      <inp2:ValueString>>false</
inp2:ValueString>
      <inp2:DataType>boolean</
inp2:DataType>
      <inp2:UnitOfMeasure/>
    </inp2:Value>
  </inp2:MaterialConsumedRequirementProperty>
  <inp2:MaterialConsumedRequirementProperty>
    <inp2:ID>workorder_import_prop_group_prop_2</inp2:ID>
    <inp2:Value>
      <inp2:ValueString>1.23</inp2:ValueString>
      <inp2:DataType>float</inp2:DataType>
      <inp2:UnitOfMeasure/>
    </inp2:Value>

```





```

        <inp2:DataType>string</
inp2:DataType>
        <inp2:UnitOfMeasure/>
    </inp2:Value>
    <inp2:Description>AssemblyDrawings</
inp2:Description>
    </inp2:Parameter>
</inp2:ProductionParameter>
<inp2:ProductionParameter>
    <inp2:Parameter>
        <inp2:ID>Some-Integer-Property-Name</
inp2:ID>
    <inp2:Value>
        <ValueString>1</ValueString>
        <DataType>integer</DataType>
        <UnitOfMeasure/>
    </inp2:Value>
    </inp2:Parameter>
</inp2:ProductionParameter>
<inp2:ProductionParameter>
    <inp2:Parameter>
        <inp2:ID>Some-DateTime-Property-Name</
inp2:ID>
    <inp2:Value>
        <ValueString>2020-10-22T12:30:45.555Z</ValueString>
        <DataType>integer</DataType>
        <UnitOfMeasure/>
    </inp2:Value>
    </inp2:Parameter>
</inp2:ProductionParameter>
<inp2:ProductionParameter>
    <inp2:Parameter>
        <inp2:ID>Some-Float-Property-Name</
inp2:ID>
    <inp2:Value>
        <ValueString>1.2</ValueString>
        <DataType>integer</DataType>
        <UnitOfMeasure/>
    </inp2:Value>
    </inp2:Parameter>
</inp2:ProductionParameter>
    <inp2:MaterialConsumedRequirement>
        <inp2:MaterialDefinitionID>BikeMainFrame</
inp2:MaterialDefinitionID>
    <inp2:Quantity>
        <inp2:QuantityString>1</
inp2:QuantityString>
    <inp2:DataType>integer</inp2:DataType>
    <inp2:UnitOfMeasure>EA</
inp2:UnitOfMeasure>
    </inp2:Quantity>

```

```

        <inp2:MaterialConsumedRequirementProperty>
            <inp2:ID>GEDS_BOM_Sequence</inp2:ID>
            <inp2:Value>
                <inp2:ValueString>1</
inp2:ValueString>
                <inp2:DataType>integer</
inp2:DataType>
                <inp2:UnitOfMeasure/>
            </inp2:Value>
        </inp2:MaterialConsumedRequirementProperty>
        <inp2:MaterialConsumedRequirementProperty>
            <inp2:ID>GEDS_IsRequired</inp2:ID>
            <inp2:Value>
                <inp2:ValueString>>true</
inp2:ValueString>
                <inp2:DataType>boolean</
inp2:DataType>
                <inp2:UnitOfMeasure/>
            </inp2:Value>
        </inp2:MaterialConsumedRequirementProperty>
        <inp2:MaterialConsumedRequirementProperty>
            <inp2:ID>workorder_import_prop_group_prop_3</inp2:ID>
            <inp2:Value>
                <inp2:ValueString>"workorderimportpropgroupproperty1value"</
inp2:ValueString>
                <inp2:DataType>string</inp2:DataType>
                <inp2:UnitOfMeasure/>
            </inp2:Value>
        </inp2:MaterialConsumedRequirementProperty>
    </inp2:MaterialConsumedRequirement>
</inp2:SegmentRequirement>

    <inp2:SegmentRequirement>
        <inp2:ID>TyreMounting</inp2:ID>
        <inp2:Description>Mounting tyres to Bike frame.</
inp2:Description>
        <inp2:EarliestStartTime>2020-12-18T17:00:00.000Z</
inp2:EarliestStartTime>
        <inp2:LatestEndTime>2020-12-18T18:00:00.000Z</
inp2:LatestEndTime>
        <inp2:EquipmentRequirement>
            <inp2:Location>
                <inp2:EquipmentID>TyreMount</
inp2:EquipmentID>
                <inp2:EquipmentElementLevel>WorkCell</
inp2:EquipmentElementLevel>
            </inp2:Location>
            <inp2:Quantity>
                <inp2:QuantityString>1</inp2:QuantityString>
            </inp2:Quantity>
        </inp2:EquipmentRequirement>
    <inp2:ProductionParameter>
        <inp2:Parameter>

```

```

                <inp2:ID>Priority</inp2:ID>
                <inp2:Value>
                    <inp2:ValueString>2</
inp2:ValueString>
                <inp2:DataType>integer</
inp2:DataType>
                <inp2:UnitOfMeasure/>
            </inp2:Value>
        </inp2:Parameter>
    </inp2:ProductionParameter>
    <inp2:ProductionParameter>
        <inp2:Parameter>
            <inp2:ID>WorkInstruction</inp2:ID>
            <inp2:Value>
                <inp2:ValueString>http://
grid.ge.com/485765/TyreMountingInstructions.pdf</inp2:ValueString>
            <inp2:DataType>string</
inp2:DataType>
            <inp2:UnitOfMeasure/>
        </inp2:Value>
        <inp2:Description>Instructions for Tyre
Mounting</inp2:Description>
    </inp2:Parameter>
</inp2:ProductionParameter>
    <inp2:ProductionParameter>
        <inp2:Parameter>
            <inp2:ID>NumberOfTyres</inp2:ID>
            <inp2:Value>
                <ValueString>2</ValueString>
                <DataType>integer</DataType>
                <UnitOfMeasure/>
            </inp2:Value>
        </inp2:Parameter>
    </inp2:ProductionParameter>
    <inp2:ProductionParameter>
        <inp2:Parameter>
            <inp2:ID>TyreDiameterInMeters</inp2:ID>
            <inp2:Value>
                <ValueString>1</ValueString>
                <DataType>integer</DataType>
                <UnitOfMeasure/>
            </inp2:Value>
        </inp2:Parameter>
    </inp2:ProductionParameter>
    <inp2:MaterialConsumedRequirement>
        <inp2:MaterialDefinitionID>TubelessTyre</
inp2:MaterialDefinitionID>
        <inp2:Quantity>
            <inp2:QuantityString>2</
inp2:QuantityString>
        <inp2:DataType>integer</inp2:DataType>

```

```

                <inp2:UnitOfMeasure>EA</
inp2:UnitOfMeasure>
                </inp2:Quantity>
                <inp2:MaterialConsumedRequirementProperty>
                    <inp2:ID>GEDS_BOM_Sequence</inp2:ID>
                    <inp2:Value>
                        <inp2:ValueString>1</
inp2:ValueString>
                    <inp2:DataType>integer</
inp2:DataType>
                    <inp2:UnitOfMeasure/>
                </inp2:Value>
                </inp2:MaterialConsumedRequirementProperty>
                <inp2:MaterialConsumedRequirementProperty>
                    <inp2:ID>GEDS_IsRequired</inp2:ID>
                    <inp2:Value>
                        <inp2:ValueString>>true</
inp2:ValueString>
                    <inp2:DataType>boolean</
inp2:DataType>
                    <inp2:UnitOfMeasure/>
                </inp2:Value>
                </inp2:MaterialConsumedRequirementProperty>
            </inp2:MaterialConsumedRequirement>
        </inp2:SegmentRequirement>
    </inp2:ProductionRequest>
</ProductionSchedule>

```

## *XSL File to Map a Work Order*

### **XSL File to Map a Work Order (Using Schema Version 6)**

```

<?xml version="1.0" encoding="UTF-8"?>

<-xsl:stylesheet xmlns:erp="http://sample.data" xmlns:Extended="http://
www.wbf.org/xml/B2MML-V0401-AllExtensions" xmlns:inp2="http://www.wbf.org/
xml/B2MML-V0401" xmlns:xsl="http://www.w3.org/1999/XSL/Transform"
    version="1.0">

<xsl:output indent="yes" method="xml" omit-xml-declaration="yes"/>

<xsl:strip-space elements="*" />

<!-- For external lookup table -->

<!-- <xsl:variable name='unitOfMeasure' select='document("lookup.xml")/
uoms/unit' /> -->

```

```

<xsl:variable select="document(" ")/xsl:stylesheet/erp:uoms/unit "
  name="unitOfMeasure" />

-<xsl:template match="/inp2:ProductionSchedule">

-<ProductionSchedule>

-<ID>

<xsl:value-of select="inp2:ID" />

</ID>

<Description/>

-<Location>

<EquipmentID/>

<EquipmentElementLevel/>

</Location>

-<PublishedDate>

<xsl:value-of select="inp2:PublishedDate" />

</PublishedDate>

-<ProductionRequest>

<xsl:variable select="inp2:ProductionRequest" name="ProductionRequest" />

<xsl:variable select="$ProductionRequest/inp2:ID"
  name="ProductionRequestID" />

<xsl:variable select="$ProductionRequest/inp2:Description"
  name="ProductionRequestDescription" />

<xsl:variable select="$ProductionRequest/inp2:Location"
  name="ProductionRequestLocation" />

<xsl:variable select="$ProductionRequest/inp2:SegmentRequirement"
  name="SegmentRequirement" />

-<ID>

```

```

<xsl:value-of select="$ProductionRequestID" />
</ID>

-<Description>
<xsl:value-of select="$ProductionRequestDescription" />
</Description>

-<xsl:for-each select="$ProductionRequest/inp2:ProductProductionRuleID">

-<ProductProductionRuleID>
<xsl:value-of select="." />
</ProductProductionRuleID>
</xsl:for-each>

-<Location>

-<EquipmentID>
<xsl:value-of select="$ProductionRequestLocation/inp2:EquipmentID" />
</EquipmentID>

-<EquipmentElementLevel>
<xsl:value-of select="$ProductionRequestLocation/
inp2:EquipmentElementLevel" />
</EquipmentElementLevel>
</Location>

-<xsl:for-each select="$SegmentRequirement[inp2:ID = '000']">

-<StartTime>
<xsl:value-of select="inp2:EarliestStartTime" />
</StartTime>

```

```
--<EndTime>
<xsl:value-of select="inp2:LatestEndTime" />
</EndTime>
</xsl:for-each>

--<Priority>

--<xsl:choose>

--<xsl:when test="not($ProductionRequest/inp2:Priority)">
<xsl:text>0</xsl:text>
</xsl:when>

--<xsl:otherwise>
<xsl:value-of select="$ProductionRequest/inp2:Priority" />
</xsl:otherwise>
</xsl:choose>
</Priority>

--<xsl:for-each select="$SegmentRequirement">

--<SegmentRequirement>

--<ID>

--<xsl:choose>

--<xsl:when test="inp2:ID = 000">
<xsl:text>ROUTE</xsl:text>
</xsl:when>
```



```
-<xsl:otherwise>
<xsl:value-of select="inp2:ID" />
</xsl:otherwise>
</xsl:choose>
</ID>
<ProductSegmentID/>
<ProcessSegmentID/>

-<Description>
<xsl:value-of select="inp2:Description" />
</Description>

-<Location>

-<EquipmentID>
<xsl:value-of select="inp2:Location/inp2:EquipmentID" />
</EquipmentID>

-<EquipmentElementLevel>
<xsl:value-of select="inp2:Location/inp2:EquipmentElementLevel" />
</EquipmentElementLevel>
</Location>

-<EarliestStartTime>
<xsl:value-of select="inp2:EarliestStartTime" />
</EarliestStartTime>

-<LatestEndTime>
<xsl:value-of select="inp2:LatestEndTime" />
```

```
</LatestEndTime>

-<xsl:for-each select="inp2:ProductionParameter">

-<ProductionParameter>

<xsl:variable select="inp2:Parameter" name="Parameter" />

<xsl:variable select="$Parameter/inp2:Value" name="ParameterValue" />

-<Parameter>

-<ID>

<xsl:apply-templates select="$Parameter/inp2:ID" />

<!-- <xsl:value-of select="$Parameter/inp2:ID" /> -->

</ID>

-<Value>

-<ValueString>

<xsl:value-of select="$ParameterValue/inp2:ValueString" />

</ValueString>

-<DataType>

-<xsl:choose>

-<xsl:when test="not($ParameterValue/inp2:DataType)">

<xsl:text>string</xsl:text>

</xsl:when>

-<xsl:otherwise>

<xsl:value-of select="$ParameterValue/inp2:DataType" />
```

```
</xsl:otherwise>
</xsl:choose>
</DataType>

--<UnitOfMeasure>
<xsl:value-of select="$ParameterValue/inp2:UnitOfMeasure" />
</UnitOfMeasure>
</Value>

--<Description>
<xsl:value-of select="$Parameter/inp2:Description" />
</Description>
</Parameter>
</ProductionParameter>
</xsl:for-each>

--<xsl:for-each select="inp2:EquipmentRequirement">

--<EquipmentRequirement>

--<Location>

--<EquipmentID>
<xsl:value-of select="inp2:Location/inp2:EquipmentID" />
</EquipmentID>

--<EquipmentElementLevel>
<xsl:value-of select="inp2:Location/inp2:EquipmentElementLevel" />
</EquipmentElementLevel>
</Location>
```

```
</EquipmentRequirement>

</xsl:for-each>

-<xsl:for-each select="inp2:MaterialProducedRequirement">

  -<MaterialProducedRequirement>

    <xsl:variable select="inp2:Quantity" name="Quantity"/>

    <xsl:variable select="inp2:MaterialProducedRequirementProperty"
      name="MaterialProducedRequirementProperty"/>

    <MaterialClassID/>

    -<MaterialDefinitionID>

      <xsl:value-of select="inp2:MaterialDefinitionID"/>

    </MaterialDefinitionID>

    -<MaterialLotID>

      <xsl:value-of select="inp2:MaterialLotID"/>

    </MaterialLotID>

    <MaterialSubLotID/>

    <Description/>

    -<Quantity>

    -<QuantityString>

      <xsl:value-of select="$Quantity/inp2:QuantityString"/>

    </QuantityString>

    -<DataType>

    -<xsl:choose>

      -<xsl:when test="not($Quantity/inp2:DataType)">
```

```

<xsl:text>string</xsl:text>
</xsl:when>

-<xsl:otherwise>
<xsl:value-of select="$Quantity/inp2:DataType" />
</xsl:otherwise>
</xsl:choose>
</DataType>

-<UnitOfMeasure>
<xsl:value-of select="$Quantity/inp2:UnitOfMeasure" />
</UnitOfMeasure>
</Quantity>

-<MaterialProducedRequirementProperty>

-<ID>
<xsl:value-of select="$MaterialProducedRequirementProperty/inp2:ID" />
</ID>
<Description> </Description>

-<xsl:for-each select="inp2:Value">

-<Value>

-<ValueString>
<xsl:value-of select="$MaterialProducedRequirementProperty/
inp2:ValueString" />
</ValueString>

-<DataType>

```

```
<xsl:value-of select="$MaterialProducedRequirementProperty/inp2:DataType" />
</DataType>

-<UnitOfMeasure>
<xsl:value-of select="$MaterialProducedRequirementProperty/
inp2:UnitOfMeasure" />
</UnitOfMeasure>
</Value>
</xsl:for-each>
<!-- <Quantity></Quantity> -->

</MaterialProducedRequirementProperty>
</MaterialProducedRequirement>
</xsl:for-each>

-<xsl:for-each select="inp2:MaterialConsumedRequirement">

-<MaterialConsumedRequirement>
<MaterialClassID/>

-<MaterialDefinitionID>
<xsl:value-of select="inp2:MaterialDefinitionID" />
</MaterialDefinitionID>

-<xsl:for-each select="inp2:MaterialLotID">

-<MaterialLotID>
<xsl:value-of select="." />
</MaterialLotID>
</xsl:for-each>
```

```

<MaterialSubLotID/>
<Description/>
- <Quantity>
- <QuantityString>
<xsl:value-of select="inp2:Quantity/inp2:QuantityString" />
</QuantityString>
- <DataType>
- <xsl:choose>
- <xsl:when test="not(inp2:Quantity/inp2:DataType)">
<xsl:text>string</xsl:text>
</xsl:when>
- <xsl:otherwise>
<xsl:value-of select="inp2:Quantity/inp2:DataType" />
</xsl:otherwise>
</xsl:choose>
</DataType>
- <UnitOfMeasure>
<xsl:value-of select="inp2:Quantity/inp2:UnitOfMeasure" />
</UnitOfMeasure>
</Quantity>
- <xsl:for-each select="inp2:MaterialConsumedRequirementProperty">
<xsl:variable select="inp2:Value" name="value" />
<xsl:variable select="$value/inp2:UnitOfMeasure" name="uomname" />

```

```

<xsl:variable select="$unitOfMeasure[@name=$uomname]/@abbr" name="mapped-
uom"/>

--<MaterialConsumedRequirementProperty>

--<ID>

<!-- <xsl:value-of select="inp2:ID" /> -->

<xsl:apply-templates select="inp2:ID"/>

</ID>

<Description/>

--<Value>

--<ValueString>

<xsl:value-of select="$value/inp2:ValueString"/>

</ValueString>

--<DataType>

--<xsl:choose>

--<xsl:when test="not($value/inp2:DataType)">

<xsl:text>string</xsl:text>

</xsl:when>

--<xsl:otherwise>

<xsl:value-of select="$value/inp2:DataType"/>

</xsl:otherwise>

</xsl:choose>

</DataType>

```



```

-<UnitOfMeasure>
<xsl:value-of select="$mapped-uom" />

-<xsl:if test="not($mapped-uom)">
<xsl:value-of select="$uomname" />
</xsl:if>
</UnitOfMeasure>
</Value>
</MaterialConsumedRequirementProperty>
</xsl:for-each>
</MaterialConsumedRequirement>
</xsl:for-each>
</SegmentRequirement>
</xsl:for-each>
</ProductionRequest>

-<Extended:SchemaVersion>
<xsl:value-of select="Extended:SchemaVersion" />
</Extended:SchemaVersion>
</ProductionSchedule>
</xsl:template>

-<erp:uoms>
<unit name="EACH" abbr="EA" />
<unit name="CENTIMETERS" abbr="CM" />
<unit name="KILOGRAMS" abbr="KG" />
</erp:uoms>

```

```

<xsl:template match="inp2:ID/text()
[.='GEDS_IsRequired']">IS_REQUIRES_CONSUMPTION </xsl:template>

<xsl:template match="inp2:ID/text()[.='GEDS_BOM_Sequence']">BOM_SEQUENCE </
xsl:template>

<xsl:template match="inp2:Parameter/inp2:ID/text()
[.='WorkInstruction']">DOCUMENTS </xsl:template>

</xsl:stylesheet>

```

## XSL File to Map a Work Order (Using Schema Version 5)

```

<?xml version="1.0" encoding="UTF-8"?>
<xsl:stylesheet version="1.0"
  xmlns:xsl="http://www.w3.org/1999/XSL/Transform"
  xmlns:inp2="http://www.wbf.org/xml/B2MML-V0401"
  xmlns:Extended="http://www.wbf.org/xml/B2MML-V0401-AllExtensions">
  <xsl:output omit-xml-declaration="yes" method="xml"
    indent="yes" />
  <xsl:strip-space elements="*" />

  <xsl:template match="ProductionSchedule">
    <xsl:variable name='routeSegment'
      select="ProductionRequest/SegmentRequirement[ID = 'ROUTE']" />
    <xsl:variable name='operations'
      select="ProductionRequest/SegmentRequirement[ID != 'ROUTE']" />

    <xsl:element name="schemaVersion">
      <xsl:value-of select="Extended:SchemaVersion"></xsl:value-of>
    </xsl:element>
    <xsl:element name="workOrderName">
      <xsl:value-of select="ProductionRequest/ID"></xsl:value-of>
    </xsl:element>

    <xsl:element name="plannedStartDate">
      <xsl:value-of select="$routeSegment/EarliestStartTime"></xsl:value-of>
    </xsl:element>
    <xsl:element name="plannedEndDate">
      <xsl:value-of select="$routeSegment/LatestEndTime"></xsl:value-of>
    </xsl:element>
    <xsl:element name="priority">
      <xsl:value-of select="ProductionRequest/Priority"></xsl:value-of>
    </xsl:element>
    <xsl:element name="producedMaterialName">
      <xsl:value-of
        select="$routeSegment/MaterialProducedRequirement/
MaterialDefinitionID"></xsl:value-of>
    </xsl:element>
    <xsl:element name="plannedLineName">
      <xsl:value-of

```

```

    select="ProductionRequest/Location/EquipmentID"></xsl:value-of>
  </xsl:element>
  <!-- <xsl:element name="plannedQuantity">
    <xsl:value-of
      select="$routeSegment/MaterialProducedRequirement/Quantity/
QuantityString"></xsl:value-of>
    </xsl:element> -->

  <xsl:for-each
    select="$routeSegment/MaterialProducedRequirement">
    <!-- <xsl:if test="not(MaterialDefinitionID)"> -->
    <xsl:element name="materialLots">
      <xsl:element name="lotIdentifier">
        <xsl:value-of select="MaterialLotID" />
      </xsl:element>
      <xsl:element name="plannedQuantity">
        <xsl:value-of select="Quantity/QuantityString" />
      </xsl:element>
    </xsl:element>
    <!-- </xsl:if> -->
  </xsl:for-each>

  <xsl:choose>
    <!-- with route -->
    <xsl:when test="ProductionRequest/ProductProductionRuleID">
      <xsl:element name="routeDefinitionName">
        <xsl:value-of
          select="ProductionRequest/ProductProductionRuleID[1]"></xsl:value-of>
      </xsl:element>
      <xsl:element name="routeDefinitionRevision">
        <xsl:value-of
          select="ProductionRequest/ProductProductionRuleID[2]"></xsl:value-of>
      </xsl:element>
      <xsl:element name="operationsGroup">
        <xsl:for-each select="$operations">
          <xsl:element name="operations">
            <xsl:element name="name">
              <xsl:value-of select="ID" />
            </xsl:element>
          </xsl:element>
        </xsl:for-each>
      </xsl:element>

      <xsl:apply-templates
        select="MaterialConsumedRequirement"></xsl:apply-templates>
      <xsl:apply-templates
        select="ProductionParameter/Parameter"></xsl:apply-templates>
    </xsl:element>
  </xsl:for-each>
  <xsl:for-each select="$routeSegment">
    <xsl:element name="route">

      <xsl:element name="billofMaterials">
        <xsl:text>null</xsl:text>
      </xsl:element>
    </xsl:element>
  </xsl:for-each>

```

```

        </xsl:element>
        <xsl:element name="propertyValues">
            <xsl:text>null</xsl:text>
        </xsl:element>
    </xsl:element>
</xsl:for-each>
</xsl:element>
</xsl:when>
<!-- with operations -->
<xsl:otherwise>
    <xsl:element name="operationsGroup">
        <xsl:for-each select="$operations">
            <xsl:element name="operations">
                <xsl:element name="name">
                    <xsl:value-of select="ID" />
                </xsl:element>
                <xsl:element name="description">
                    <xsl:value-of select="Description" />
                </xsl:element>
                <xsl:element name="sequenceNumber">
                    <xsl:value-of
                        select="ProductionParameter/Parameter[ID = 'Priority']/Value/
ValueString" />
                </xsl:element>
                <xsl:for-each select="EquipmentRequirement">
                    <xsl:element name="plannedUnitNames">
                        <xsl:value-of select="Location/EquipmentID" />
                    </xsl:element>
                </xsl:for-each>
                <xsl:apply-templates
                    select="MaterialConsumedRequirement"></xsl:apply-templates>
                <xsl:apply-templates
                    select="ProductionParameter/Parameter"></xsl:apply-templates>
            </xsl:element>
        </xsl:for-each>
        <xsl:for-each select="$routeSegment">
            <xsl:element name="route">
                <xsl:choose>
                    <xsl:when
                        test="count(MaterialConsumedRequirement)>'0'">
                        <xsl:apply-templates
                            select="MaterialConsumedRequirement"></xsl:apply-templates>
                    </xsl:when>
                    <xsl:otherwise>
                        <xsl:element name="billofMaterials">
                            <xsl:text>null</xsl:text>
                        </xsl:element>
                    </xsl:otherwise>
                </xsl:choose>
            </xsl:element>
        </xsl:for-each>
        <xsl:choose>
            <xsl:when
                test="count(ProductionParameter/Parameter)>'0'">

```

```

        <xsl:apply-templates
          select="ProductionParameter/Parameter"></xsl:apply-templates>
      </xsl:when>
      <xsl:otherwise>
        <xsl:element name="documents">
          <xsl:text>null</xsl:text>
        </xsl:element>
        <xsl:element name="propertyValues">
          <xsl:text>null</xsl:text>
        </xsl:element>
      </xsl:otherwise>
    </xsl:choose>
  </xsl:element>
</xsl:for-each>
</xsl:element>
</xsl:otherwise>
</xsl:choose>
</xsl:template>

<!-- billOfMaterials -->
<xsl:template match="MaterialConsumedRequirement">
  <xsl:for-each select=".">
    <xsl:element name="billOfMaterials">
      <xsl:element name="materialName">
        <xsl:value-of select="MaterialDefinitionID" />
      </xsl:element>
      <xsl:element name="quantity">
        <xsl:value-of select="Quantity/QuantityString" />
      </xsl:element>

      <xsl:element name="unitOfMeasureName">
        <xsl:value-of select="Quantity/UnitOfMeasure" />
      </xsl:element>

      <!-- <xsl:element name="requiresConsumptionTracking">
        <xsl:variable name="rct"
          select="MaterialConsumedRequirementProperty[normalize-space(ID) =
'IS_REQUIRES_CONSUMPTION' ]/Value/ValueString"></xsl:variable>
        <xsl:choose>
          <xsl:when test="not($rct)">
            <xsl:text>>false</xsl:text>
          </xsl:when>
          <xsl:otherwise>
            <xsl:value-of select="$rct"></xsl:value-of>
          </xsl:otherwise>
        </xsl:choose>
      </xsl:element> -->

      <xsl:element name="displayOrder">
        <xsl:variable name="do"
          select="MaterialConsumedRequirementProperty[normalize-space(ID) =
'BOM_SEQUENCE' ]/Value/ValueString"></xsl:variable>

```

```

    <xsl:choose>
      <xsl:when test="not($do)">
        <!-- <xsl:value-of select="position()"></xsl:value-of -->
        <xsl:text>null</xsl:text>
      </xsl:when>
      <xsl:otherwise>
        <xsl:value-of select="$do"></xsl:value-of>
      </xsl:otherwise>
    </xsl:choose>
  </xsl:element>
</xsl:template>

  <xsl:apply-templates
    select="MaterialConsumedRequirementProperty"></xsl:apply-templates>
</xsl:element>
</xsl:for-each>
</xsl:template>

<!-- propertyValues at bom level -->
<xsl:template match="MaterialConsumedRequirementProperty">
  <xsl:for-each select=".">
    <xsl:if test="(normalize-space(ID) = 'behaviors')">
      <xsl:element name="behaviors">
        <xsl:variable name="be"
          select="Value/ValueString"></xsl:variable>
        <xsl:choose>
          <xsl:when test="not($be)">
            <xsl:text>null</xsl:text>
          </xsl:when>
          <xsl:otherwise>
            <xsl:value-of select="$be"></xsl:value-of>
          </xsl:otherwise>
        </xsl:choose>
      </xsl:element>
    </xsl:if>
    <xsl:if
      test="(not(normalize-space(ID) = 'BOM_SEQUENCE') and not(normalize-
space(ID) = 'behaviors'))">
      <xsl:element name="propertyValues">
        <xsl:element name="propertyName">
          <xsl:value-of select="ID" />
        </xsl:element>
        <xsl:element name="propertyValue">
          <xsl:value-of select="Value/ValueString" />
        </xsl:element>
      </xsl:element>
    </xsl:if>
  </xsl:for-each>
</xsl:template>

```

```

<xsl:template match="ProductionParameter/Parameter">
  <xsl:for-each select=".">
    <!-- documents at route/operation level -->
    <xsl:if test="(normalize-space(ID) = 'DOCUMENTS')">
      <xsl:element name="documents">
        <xsl:element name="displayName">
          <xsl:value-of select="Description"></xsl:value-of>
        </xsl:element>
        <xsl:element name="link">
          <xsl:value-of select="Value/ValueString"></xsl:value-of>
        </xsl:element>
      </xsl:element>
    </xsl:if>

    <xsl:if test="(normalize-space(ID) = 'behaviors')">
      <xsl:element name="behaviors">
        <xsl:value-of select="Value/ValueString"></xsl:value-of>
      </xsl:element>
    </xsl:if>
    <!-- propertyValues at route/operation level -->
    <xsl:if
      test="(not(normalize-space(ID) = 'DOCUMENTS') and not(normalize-
space(ID) = 'Priority') and not(normalize-space(ID) = 'behaviors'))">
      <xsl:element name="propertyValues">
        <xsl:element name="propertyName">
          <xsl:value-of select="ID" />
        </xsl:element>
        <xsl:element name="propertyValue">
          <xsl:value-of select="Value/ValueString" />
        </xsl:element>
      </xsl:element>
    </xsl:if>
  </xsl:for-each>
</xsl:template>
</xsl:stylesheet>

```

## *Standard B2MML Work Order Import Document (WOID)*

Instead of a JSON format, you can send a WOID in one of the following XML formats:

- Standard B2MML
- Custom B2MML

This topic provides a sample WOID in the standard B2MML format for each schema version. If, however, you want to use a custom B2MML format, refer to [Custom B2MML Work Order Import Document \(WOID\) \(page 66\)](#).

## JSON WOID Schema Versions 5 and 6

Using schema versions 5 and 6, you can import the following components of a work order:

- **Schema Version 6:** You can provide the following values:
  - Upper and lower tolerances of a BOM item and their precision
  - Scrap factor (the percentage of the product that is predicted to be scrapped)
  - Precision of the quantity of the product
  - The default storage unit of a BOM item

In addition, you can specify whether an operation can be skipped, by including `allowManualSkip` in the `behaviours` array for the operation. If you do so, the operator can choose to skip the operation while executing the work order. If, however, you set the `skipifSuccessorStarted` parameter to true, the operation will be automatically skipped when the next operation is ready.

- **Schema version 5:** You can override the following route components in a work order:
  - BOM items of a route
  - BOM items of individual operations in a route
  - Values of BOM item properties
  - Values of route-level and operation-level properties

In addition, specifying the route revision is not required. By default, the latest revision is considered.

## Standard B2MML WOID Schema Version 6 *with* Route Definition

```
<ProductionSchedule xmlns:Extended="http://www.wbf.org/xml/B2MML-V0401-
AllExtensions"
xmlns:inp2="http://www.wbf.org/xml/B2MML-V0401" xmlns:erp="http://
sample.data">
  <ID/>
  <Description/>
  <Location>
    <EquipmentID/>
    <EquipmentElementLevel/>
  </Location>
  <PublishedDate>2017-04-15T09:30:00</PublishedDate>
  <ProductionRequest>
    <ID>WOID6-ROUTE-XML-SNOWBIKES</ID>
    <Description>Route, latest revision, bound WorkOrder to produce 30
no. of SnowBikes, with optional Operations.</Description>
    <ProductProductionRuleID>SnowBikeRouteLatest</
ProductProductionRuleID>
    <Location>
      <EquipmentID>Bikes_Assembly_Line</EquipmentID>
      <EquipmentElementLevel>Site</EquipmentElementLevel>
    </Location>
    <StartTime>2020-11-18T13:28:39.395Z</StartTime>
    <EndTime>2020-11-19T13:00:00.395Z</EndTime>
    <Priority>0</Priority>
    <SegmentRequirement>
```



```

<ID>ROUTE</ID>
<ProductSegmentID/>
<ProcessSegmentID/>
<Description/>
<Location>
  <EquipmentID/>
  <EquipmentElementLevel/>
</Location>
<EarliestStartTime>2020-11-18T13:28:39.395Z</EarliestStartTime>
<LatestEndTime>2020-11-19T13:00:00.395Z</LatestEndTime>
<ProductionParameter>
  <Parameter>
    <ID>work_order_import_prop_group_prop_1</ID>
    <Value>
      <ValueString>workorderimportgroupproperty1</
ValueString>
      <DataType>string</DataType>
      <UnitOfMeasure/>
    </Value>
    <Description/>
  </Parameter>
</ProductionParameter>
<MaterialProducedRequirement>
  <MaterialClassID/>
  <MaterialDefinitionID>SNOWBIKE-NONSERIALIZED</
MaterialDefinitionID>
  <MaterialLotID>serinum1</MaterialLotID>
  <MaterialSubLotID/>
  <Description/>
  <Quantity>
    <QuantityString>10</QuantityString>
    <DataType>integer</DataType>
    <UnitOfMeasure/>
  </Quantity>
  <MaterialProducedRequirementProperty>
    <ID/>
    <Description/>
  </MaterialProducedRequirementProperty>
</MaterialProducedRequirement>
<MaterialProducedRequirement>
  <MaterialClassID/>
  <MaterialDefinitionID>SNOWBIKE-NONSERIALIZED</
MaterialDefinitionID>
  <MaterialLotID>serinum2</MaterialLotID>
  <MaterialSubLotID/>
  <Description/>
  <Quantity>
    <QuantityString>5</QuantityString>
    <DataType>integer</DataType>
    <UnitOfMeasure/>
  </Quantity>
  <MaterialProducedRequirementProperty>
    <ID/>

```

```

        <Description/>
    </MaterialProducedRequirementProperty>
</MaterialProducedRequirement>
<MaterialProducedRequirement>
    <MaterialClassID/>
    <MaterialDefinitionID>SNOWBIKE-NONSERIALIZED</
MaterialDefinitionID>
    <MaterialLotID>serinum3</MaterialLotID>
    <MaterialSubLotID/>
    <Description/>
    <Quantity>
        <QuantityString>15</QuantityString>
        <DataType>integer</DataType>
        <UnitOfMeasure/>
    </Quantity>
    <MaterialProducedRequirementProperty>
        <ID/>
        <Description/>
    </MaterialProducedRequirementProperty>
</MaterialProducedRequirement>
<MaterialConsumedRequirement>
    <MaterialClassID/>
    <MaterialDefinitionID>OpGrpBomItem1</MaterialDefinitionID>
    <MaterialSubLotID/>
    <Description/>
    <Quantity>
        <QuantityString>1</QuantityString>
        <DataType>integer</DataType>
        <UnitOfMeasure>EA</UnitOfMeasure>
    </Quantity>
    <MaterialConsumedRequirementProperty>
        <ID>quantityPrecision</ID>
        <Description/>
        <Value>
            <ValueString>2</ValueString>
            <DataType>integer</DataType>
            <UnitOfMeasure/>
        </Value>
    </MaterialConsumedRequirementProperty>
    <MaterialConsumedRequirementProperty>
        <ID>lowerTolerance</ID>
        <Description/>
        <Value>
            <ValueString>1</ValueString>
            <DataType>integer</DataType>
            <UnitOfMeasure/>
        </Value>
    </MaterialConsumedRequirementProperty>
    <MaterialConsumedRequirementProperty>
        <ID>upperTolerance</ID>
        <Description/>
        <Value>
            <ValueString>2</ValueString>

```

```

        <DataType>integer</DataType>
        <UnitOfMeasure/>
    </Value>
</MaterialConsumedRequirementProperty>
<MaterialConsumedRequirementProperty>
    <ID>lowerTolerancePrecision</ID>
    <Description/>
    <Value>
        <ValueString>1</ValueString>
        <DataType>integer</DataType>
        <UnitOfMeasure/>
    </Value>
</MaterialConsumedRequirementProperty>
<MaterialConsumedRequirementProperty>
    <ID>upperTolerancePrecision</ID>
    <Description/>
    <Value>
        <ValueString>1</ValueString>
        <DataType>integer</DataType>
        <UnitOfMeasure/>
    </Value>
</MaterialConsumedRequirementProperty>
<MaterialConsumedRequirementProperty>
    <ID>scrapFactor</ID>
    <Description/>
    <Value>
        <ValueString>1.5</ValueString>
        <DataType>float</DataType>
        <UnitOfMeasure/>
    </Value>
</MaterialConsumedRequirementProperty>
<MaterialConsumedRequirementProperty>
    <ID>defaultStorageUnit</ID>
    <Description/>
    <Value>
        <ValueString>PackagingUnit</ValueString>
        <DataType>string</DataType>
        <UnitOfMeasure/>
    </Value>
</MaterialConsumedRequirementProperty>
<MaterialConsumedRequirementProperty>
    <ID>bom_item_prop_group_prop_1</ID>
    <Description/>
    <Value>
        <ValueString>123</ValueString>
        <DataType>integer</DataType>
        <UnitOfMeasure/>
    </Value>
</MaterialConsumedRequirementProperty>
</MaterialConsumedRequirement>
<MaterialConsumedRequirement>
    <MaterialClassID/>
    <MaterialDefinitionID>OpGrpBomItem2</MaterialDefinitionID>

```

```

<MaterialSubLotID/>
<Description/>
<Quantity>
  <QuantityString>1</QuantityString>
  <DataType>integer</DataType>
  <UnitOfMeasure>EA</UnitOfMeasure>
</Quantity>
<MaterialConsumedRequirementProperty>
  <ID>quantityPrecision</ID>
  <Description/>
  <Value>
    <ValueString>1</ValueString>
    <DataType>integer</DataType>
    <UnitOfMeasure/>
  </Value>
</MaterialConsumedRequirementProperty>
<MaterialConsumedRequirementProperty>
  <ID>lowerTolerance</ID>
  <Description/>
  <Value>
    <ValueString>2</ValueString>
    <DataType>integer</DataType>
    <UnitOfMeasure/>
  </Value>
</MaterialConsumedRequirementProperty>
<MaterialConsumedRequirementProperty>
  <ID>upperTolerance</ID>
  <Description/>
  <Value>
    <ValueString>1</ValueString>
    <DataType>integer</DataType>
    <UnitOfMeasure/>
  </Value>
</MaterialConsumedRequirementProperty>
<MaterialConsumedRequirementProperty>
  <ID>lowerTolerancePrecision</ID>
  <Description/>
  <Value>
    <ValueString>1</ValueString>
    <DataType>integer</DataType>
    <UnitOfMeasure/>
  </Value>
</MaterialConsumedRequirementProperty>
<MaterialConsumedRequirementProperty>
  <ID>upperTolerancePrecision</ID>
  <Description/>
  <Value>
    <ValueString>1</ValueString>
    <DataType>integer</DataType>
    <UnitOfMeasure/>
  </Value>
</MaterialConsumedRequirementProperty>
<MaterialConsumedRequirementProperty>

```

```

        <ID>scrapFactor</ID>
        <Description/>
        <Value>
            <ValueString>2.5</ValueString>
            <DataType>float</DataType>
            <UnitOfMeasure/>
        </Value>
    </MaterialConsumedRequirementProperty>
    <MaterialConsumedRequirementProperty>
        <ID>defaultStorageUnit</ID>
        <Description/>
        <Value>
            <ValueString>PackagingUnit</ValueString>
            <DataType>string</DataType>
            <UnitOfMeasure/>
        </Value>
    </MaterialConsumedRequirementProperty>
</MaterialConsumedRequirement>
</SegmentRequirement>
<SegmentRequirement>
    <ID>FrameAssembly</ID>
    <ProductSegmentID/>
    <ProcessSegmentID/>
    <Description/>
    <Location>
        <EquipmentID>WIND</EquipmentID>
        <EquipmentElementLevel>WorkCenter</EquipmentElementLevel>
    </Location>
    <EarliestStartTime>2017-04-15T12:00:00</EarliestStartTime>
    <LatestEndTime>2017-04-15T12:15:00</LatestEndTime>
    <ProductionParameter>
        <Parameter>
            <ID>Priority</ID>
            <Value>
                <ValueString>10</ValueString>
                <DataType>integer</DataType>
                <UnitOfMeasure/>
            </Value>
            <Description/>
        </Parameter>
    </ProductionParameter>
    <EquipmentRequirement>
        <Location>
            <EquipmentID>FrameMountingStation</EquipmentID>
            <EquipmentElementLevel>WorkCell</EquipmentElementLevel>
        </Location>
    </EquipmentRequirement>
    <EquipmentRequirement>
        <Location>
            <EquipmentID>AlignmentJig</EquipmentID>
            <EquipmentElementLevel>WorkCell</EquipmentElementLevel>
        </Location>
    </EquipmentRequirement>
</EquipmentRequirement>

```

```

    <MaterialConsumedRequirement>
      <MaterialClassID/>
      <MaterialDefinitionID>BikeMainFrame</MaterialDefinitionID>
      <MaterialSubLotID/>
      <Description/>
      <Quantity>
        <QuantityString>1</QuantityString>
        <DataType>integer</DataType>
        <UnitOfMeasure>EA</UnitOfMeasure>
      </Quantity>
      <MaterialConsumedRequirementProperty>
        <ID>
          BOM_SEQUENCE
        </ID>
        <Description/>
        <Value>
          <ValueString>1</ValueString>
          <DataType>integer</DataType>
          <UnitOfMeasure/>
        </Value>
      </MaterialConsumedRequirementProperty>
      <MaterialConsumedRequirementProperty>
        <ID>behaviors</ID>
        <Description/>
        <Value>
          <ValueString>requiresConsumptionTracking</
ValueString>
          <DataType>string</DataType>
          <UnitOfMeasure/>
        </Value>
      </MaterialConsumedRequirementProperty>
      <MaterialConsumedRequirementProperty>
        <ID>quantityPrecision</ID>
        <Description/>
        <Value>
          <ValueString>1</ValueString>
          <DataType>integer</DataType>
          <UnitOfMeasure/>
        </Value>
      </MaterialConsumedRequirementProperty>
      <MaterialConsumedRequirementProperty>
        <ID>lowerTolerance</ID>
        <Description/>
        <Value>
          <ValueString>1</ValueString>
          <DataType>integer</DataType>
          <UnitOfMeasure/>
        </Value>
      </MaterialConsumedRequirementProperty>
      <MaterialConsumedRequirementProperty>
        <ID>upperTolerance</ID>
        <Description/>
        <Value>

```

```

        <ValueString>1</ValueString>
        <DataType>integer</DataType>
        <UnitOfMeasure/>
    </Value>
</MaterialConsumedRequirementProperty>
<MaterialConsumedRequirementProperty>
    <ID>lowerTolerancePrecision</ID>
    <Description/>
    <Value>
        <ValueString>0</ValueString>
        <DataType>integer</DataType>
        <UnitOfMeasure/>
    </Value>
</MaterialConsumedRequirementProperty>
<MaterialConsumedRequirementProperty>
    <ID>upperTolerancePrecision</ID>
    <Description/>
    <Value>
        <ValueString>0</ValueString>
        <DataType>integer</DataType>
        <UnitOfMeasure/>
    </Value>
</MaterialConsumedRequirementProperty>
<MaterialConsumedRequirementProperty>
    <ID>scrapFactor</ID>
    <Description/>
    <Value>
        <ValueString>0.5</ValueString>
        <DataType>float</DataType>
        <UnitOfMeasure/>
    </Value>
</MaterialConsumedRequirementProperty>
<MaterialConsumedRequirementProperty>
    <ID>defaultStorageUnit</ID>
    <Description/>
    <Value>
        <ValueString>PackagingUnit</ValueString>
        <DataType>integer</DataType>
        <UnitOfMeasure/>
    </Value>
</MaterialConsumedRequirementProperty>
<MaterialConsumedRequirementProperty>
    <ID>bom_item_prop_group_prop_2</ID>
    <Description/>
    <Value>
        <ValueString>1.23</ValueString>
        <DataType>float</DataType>
        <UnitOfMeasure/>
    </Value>
</MaterialConsumedRequirementProperty>
</MaterialConsumedRequirement>
</SegmentRequirement>
<SegmentRequirement>

```

```

<ID>TorqueTest</ID>
<ProductSegmentID/>
<ProcessSegmentID/>
<Description>Mounting tyres to Bike frame.</Description>
<Location>
  <EquipmentID/>
  <EquipmentElementLevel/>
</Location>
<EarliestStartTime>2017-04-15T12:20:00</EarliestStartTime>
<LatestEndTime>2017-04-15T12:40:00</LatestEndTime>
<ProductionParameter>
  <Parameter>
    <ID>Priority</ID>
    <Value>
      <ValueString>10</ValueString>
      <DataType>integer</DataType>
      <UnitOfMeasure/>
    </Value>
    <Description/>
  </Parameter>
</ProductionParameter>
<ProductionParameter>
  <Parameter>
    <ID>work_order_import_prop_group_prop_2</ID>
    <Value>
      <ValueString>workorderimportgroupproperty2</
ValueString>
      <DataType>string</DataType>
      <UnitOfMeasure/>
    </Value>
    <Description/>
  </Parameter>
</ProductionParameter>
</SegmentRequirement>
<SegmentRequirement>
  <ID>DynamicAlignment</ID>
  <ProductSegmentID/>
  <ProcessSegmentID/>
  <Description>Dynamic Tyres Alignment.</Description>
  <Location>
    <EquipmentID/>
    <EquipmentElementLevel/>
  </Location>
  <EarliestStartTime>2017-04-15T12:20:00</EarliestStartTime>
  <LatestEndTime>2017-04-15T12:40:00</LatestEndTime>
  <ProductionParameter>
    <Parameter>
      <ID>Priority</ID>
      <Value>
        <ValueString>10</ValueString>
        <DataType>integer</DataType>
        <UnitOfMeasure/>
      </Value>

```



```

        <Description/>
      </Parameter>
    </ProductionParameter>
  <ProductionParameter>
    <Parameter>
      <ID>work_order_import_prop_group_prop_3</ID>
      <Value>
        <ValueString>workorderimportgroupproperty3</
ValueString>
        <DataType>string</DataType>
        <UnitOfMeasure/>
      </Value>
      <Description/>
    </Parameter>
  </ProductionParameter>
</SegmentRequirement>
<SegmentRequirement>
  <ID>TyreMounting</ID>
  <ProductSegmentID/>
  <ProcessSegmentID/>
  <Description/>
  <Location>
    <EquipmentID/>
    <EquipmentElementLevel/>
  </Location>
  <EarliestStartTime>2017-04-15T12:20:00</EarliestStartTime>
  <LatestEndTime>2017-04-15T12:40:00</LatestEndTime>
  <ProductionParameter>
    <Parameter>
      <ID>Priority</ID>
      <Value>
        <ValueString>10</ValueString>
        <DataType>integer</DataType>
        <UnitOfMeasure/>
      </Value>
      <Description/>
    </Parameter>
  </ProductionParameter>
  <ProductionParameter>
    <Parameter>
      <ID>work_order_import_prop_group_prop_4</ID>
      <Value>
        <ValueString>workorderimportgroupproperty</
ValueString>
        <DataType>string</DataType>
        <UnitOfMeasure/>
      </Value>
      <Description/>
    </Parameter>
  </ProductionParameter>
</MaterialConsumedRequirement>
  <MaterialClassID/>
  <MaterialDefinitionID>TubelessTyre</MaterialDefinitionID>

```

```

        <MaterialSubLotID/>
        <Description/>
        <Quantity>
            <QuantityString>2</QuantityString>
            <DataType>integer</DataType>
            <UnitOfMeasure>EA</UnitOfMeasure>
        </Quantity>
        <MaterialConsumedRequirementProperty>
            <ID>
                BOM_SEQUENCE
            </ID>
            <Description/>
            <Value>
                <ValueString>1</ValueString>
                <DataType>integer</DataType>
                <UnitOfMeasure/>
            </Value>
        </MaterialConsumedRequirementProperty>
        <MaterialConsumedRequirementProperty>
            <ID>behaviors</ID>
            <Description/>
            <Value>
                <ValueString>requiresConsumptionTracking</
ValueString>
                <DataType>string</DataType>
                <UnitOfMeasure/>
            </Value>
        </MaterialConsumedRequirementProperty>
        <MaterialConsumedRequirementProperty>
            <ID>quantityPrecision</ID>
            <Description/>
            <Value>
                <ValueString>0</ValueString>
                <DataType>integer</DataType>
                <UnitOfMeasure/>
            </Value>
        </MaterialConsumedRequirementProperty>
        <MaterialConsumedRequirementProperty>
            <ID>lowerTolerance</ID>
            <Description/>
            <Value>
                <ValueString>1</ValueString>
                <DataType>integer</DataType>
                <UnitOfMeasure/>
            </Value>
        </MaterialConsumedRequirementProperty>
        <MaterialConsumedRequirementProperty>
            <ID>upperTolerance</ID>
            <Description/>
            <Value>
                <ValueString>1</ValueString>
                <DataType>integer</DataType>
                <UnitOfMeasure/>
            </Value>
        </MaterialConsumedRequirementProperty>
    
```

```

        </Value>
    </MaterialConsumedRequirementProperty>
    <MaterialConsumedRequirementProperty>
        <ID>lowerTolerancePrecision</ID>
        <Description/>
        <Value>
            <ValueString>0</ValueString>
            <DataType>integer</DataType>
            <UnitOfMeasure/>
        </Value>
    </MaterialConsumedRequirementProperty>
    <MaterialConsumedRequirementProperty>
        <ID>upperTolerancePrecision</ID>
        <Description/>
        <Value>
            <ValueString>0</ValueString>
            <DataType>integer</DataType>
            <UnitOfMeasure/>
        </Value>
    </MaterialConsumedRequirementProperty>
    <MaterialConsumedRequirementProperty>
        <ID>scrapFactor</ID>
        <Description/>
        <Value>
            <ValueString>0.1</ValueString>
            <DataType>float</DataType>
            <UnitOfMeasure/>
        </Value>
    </MaterialConsumedRequirementProperty>
    <MaterialConsumedRequirementProperty>
        <ID>defaultStorageUnit</ID>
        <Description/>
        <Value>
            <ValueString>PackagingUnit</ValueString>
            <DataType>integer</DataType>
            <UnitOfMeasure/>
        </Value>
    </MaterialConsumedRequirementProperty>
    <MaterialConsumedRequirementProperty>
        <ID>bom_item_prop_group_prop_3</ID>
        <Description/>
        <Value>
            <ValueString>"bomitempropgroupproperty"</
ValueString>
            <DataType>string</DataType>
            <UnitOfMeasure/>
        </Value>
    </MaterialConsumedRequirementProperty>
</MaterialConsumedRequirement>
</SegmentRequirement>
</ProductionRequest>
<Extended:SchemaVersion>6</Extended:SchemaVersion>

```

```
</ProductionSchedule>
```

## Standard B2MML WOID Schema Version 6 *without* Route Definition

```
<ProductionSchedule xmlns:Extended="http://www.wbf.org/xml/B2MML-
V0401-AllExtensions" xmlns:inp2="http://www.wbf.org/xml/B2MML-V0401"
xmlns:erp="http://sample.data">
  <ID/>
  <Description/>
  <Location>
    <EquipmentID/>
    <EquipmentElementLevel/>
  </Location>
  <PublishedDate>2017-04-15T09:30:00</PublishedDate>
  <ProductionRequest>
    <ID>WOID6-ADHOC-XML-SNOWBIKES</ID>
    <Description>Ad-hoc WorkOrder to produce 30 no. of SnowBikes.</
Description>
    <Location>
      <EquipmentID>Bikes_Assembly_Line</EquipmentID>
      <EquipmentElementLevel>Site</EquipmentElementLevel>
    </Location>
    <StartTime>2020-11-18T13:28:39.395Z</StartTime>
    <EndTime>2020-11-19T13:00:00.395Z</EndTime>
    <Priority>0</Priority>
    <SegmentRequirement>
      <ID>ROUTE</ID>
      <ProductSegmentID/>
      <ProcessSegmentID/>
      <Description/>
      <Location>
        <EquipmentID/>
        <EquipmentElementLevel/>
      </Location>
      <EarliestStartTime>2020-11-18T13:28:39.395Z</EarliestStartTime>
      <LatestEndTime>2020-11-19T13:00:00.395Z</LatestEndTime>
      <MaterialProducedRequirement>
        <MaterialClassID/>
        <MaterialDefinitionID>SNOWBIKE</MaterialDefinitionID>
        <MaterialLotID>serinum1</MaterialLotID>
        <MaterialSubLotID/>
        <Description/>
        <Quantity>
          <QuantityString>10</QuantityString>
          <DataType>integer</DataType>
          <UnitOfMeasure/>
        </Quantity>
        <MaterialProducedRequirementProperty>
          <ID/>
          <Description/>
        </MaterialProducedRequirementProperty>
      </MaterialProducedRequirement>
    </SegmentRequirement>
  </ProductionRequest>
</ProductionSchedule>
```

```

<MaterialProducedRequirement>
  <MaterialClassID/>
  <MaterialDefinitionID>SNOWBIKE</MaterialDefinitionID>
  <MaterialLotID>serinum2</MaterialLotID>
  <MaterialSubLotID/>
  <Description/>
  <Quantity>
    <QuantityString>5</QuantityString>
    <DataType>integer</DataType>
    <UnitOfMeasure/>
  </Quantity>
  <MaterialProducedRequirementProperty>
    <ID/>
    <Description/>
  </MaterialProducedRequirementProperty>
</MaterialProducedRequirement>
<MaterialProducedRequirement>
  <MaterialClassID/>
  <MaterialDefinitionID>SNOWBIKE</MaterialDefinitionID>
  <MaterialLotID>serinum3</MaterialLotID>
  <MaterialSubLotID/>
  <Description/>
  <Quantity>
    <QuantityString>15</QuantityString>
    <DataType>integer</DataType>
    <UnitOfMeasure/>
  </Quantity>
  <MaterialProducedRequirementProperty>
    <ID/>
    <Description/>
  </MaterialProducedRequirementProperty>
</MaterialProducedRequirement>
<MaterialConsumedRequirement>
  <MaterialClassID/>
  <MaterialDefinitionID>OpGrpBomItem1</MaterialDefinitionID>
  <MaterialSubLotID/>
  <Description/>
  <Quantity>
    <QuantityString>1</QuantityString>
    <DataType>integer</DataType>
    <UnitOfMeasure>EA</UnitOfMeasure>
  </Quantity>
  <MaterialConsumedRequirementProperty>
    <ID>quantityPrecision</ID>
    <Description/>
    <Value>
      <ValueString>2</ValueString>
      <DataType>integer</DataType>
      <UnitOfMeasure/>
    </Value>
  </MaterialConsumedRequirementProperty>
  <MaterialConsumedRequirementProperty>
    <ID>lowerTolerance</ID>

```

```

        <Description/>
        <Value>
            <ValueString>1</ValueString>
            <DataType>integer</DataType>
            <UnitOfMeasure/>
        </Value>
    </MaterialConsumedRequirementProperty>
    <MaterialConsumedRequirementProperty>
        <ID>upperTolerance</ID>
        <Description/>
        <Value>
            <ValueString>2</ValueString>
            <DataType>integer</DataType>
            <UnitOfMeasure/>
        </Value>
    </MaterialConsumedRequirementProperty>
    <MaterialConsumedRequirementProperty>
        <ID>lowerTolerancePrecision</ID>
        <Description/>
        <Value>
            <ValueString>1</ValueString>
            <DataType>integer</DataType>
            <UnitOfMeasure/>
        </Value>
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    <MaterialConsumedRequirementProperty>
        <ID>upperTolerancePrecision</ID>
        <Description/>
        <Value>
            <ValueString>1</ValueString>
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            <UnitOfMeasure/>
        </Value>
    </MaterialConsumedRequirementProperty>
    <MaterialConsumedRequirementProperty>
        <ID>scrapFactor</ID>
        <Description/>
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            <DataType>float</DataType>
            <UnitOfMeasure/>
        </Value>
    </MaterialConsumedRequirementProperty>
    <MaterialConsumedRequirementProperty>
        <ID>defaultStorageUnit</ID>
        <Description/>
        <Value>
            <ValueString>PackagingUnit</ValueString>
            <DataType>string</DataType>
            <UnitOfMeasure/>
        </Value>
    </MaterialConsumedRequirementProperty>
</MaterialConsumedRequirementProperty>

```

```

        <ID>bom_item_prop_group_prop_1</ID>
        <Description/>
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    <MaterialConsumedRequirementProperty>
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            <ValueString>requiresConsumptionTracking</
ValueString>
            <DataType>string</DataType>
            <UnitOfMeasure/>
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    </MaterialConsumedRequirementProperty>
</MaterialConsumedRequirement>
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    <MaterialClassID/>
    <MaterialDefinitionID>OpGrpBomItem2</MaterialDefinitionID>
    <MaterialSubLotID/>
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        <UnitOfMeasure>EA</UnitOfMeasure>
    </Quantity>
    <MaterialConsumedRequirementProperty>
        <ID>quantityPrecision</ID>
        <Description/>
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            <UnitOfMeasure/>
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    <MaterialConsumedRequirementProperty>
        <ID>lowerTolerance</ID>
        <Description/>
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    <MaterialConsumedRequirementProperty>
        <ID>upperTolerance</ID>
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```

```

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    <ID>upperTolerancePrecision</ID>
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        <UnitOfMeasure/>
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BOM_SEQUENCE
</ID>
    <Description/>
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</SegmentRequirement>
<SegmentRequirement>

```



```

<ID>FrameAssembly</ID>
</ProductSegmentID/>
</ProcessSegmentID/>
<Description>Assembling Bike MainFrame.</Description>
<Location>
  <EquipmentID>WIND</EquipmentID>
  <EquipmentElementLevel>WorkCenter</EquipmentElementLevel>
</Location>
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  <Parameter>
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    </Value>
    <Description/>
  </Parameter>
</ProductionParameter>
<ProductionParameter>
  <Parameter>
    <ID>behaviors</ID>
    <Value>
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      <DataType>string</DataType>
      <UnitOfMeasure/>
    </Value>
    <Description/>
  </Parameter>
</ProductionParameter>
<ProductionParameter>
  <Parameter>
    <ID>
      DOCUMENTS
    </ID>
    <Value>
      <ValueString>http://grid.ge.com/485765/
      MainAssemblyDrawing.pdf</ValueString>
      <DataType>string</DataType>
      <UnitOfMeasure/>
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  </Parameter>
</ProductionParameter>

```

```

        </Value>
        <Description>AssemblyDrawings</Description>
    </Parameter>
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        <EquipmentID>FrameMountingStation</EquipmentID>
        <EquipmentElementLevel>WorkCell</EquipmentElementLevel>
    </Location>
</EquipmentRequirement>
<EquipmentRequirement>
    <Location>
        <EquipmentID>AlignmentJig</EquipmentID>
        <EquipmentElementLevel>WorkCell</EquipmentElementLevel>
    </Location>
</EquipmentRequirement>
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    <MaterialClassID/>
    <MaterialDefinitionID>BikeMainFrame</MaterialDefinitionID>
    <MaterialSubLotID/>
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        <DataType>integer</DataType>
        <UnitOfMeasure>EA</UnitOfMeasure>
    </Quantity>
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        <ID>
            BOM_SEQUENCE
        </ID>
        <Description/>
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    <MaterialConsumedRequirementProperty>
        <ID>behaviors</ID>
        <Description/>
        <Value>

```



```

        <Description/>
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    <MaterialConsumedRequirementProperty>
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        <Description/>
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            <UnitOfMeasure/>
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    <MaterialConsumedRequirementProperty>
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        <Description/>
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            <DataType>float</DataType>
            <UnitOfMeasure/>
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</MaterialConsumedRequirement>
</SegmentRequirement>
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    <ID>TyreMounting</ID>
    <ProductSegmentID/>
    <ProcessSegmentID/>
    <Description>Mounting tyres to Bike frame.</Description>
    <Location>
        <EquipmentID/>
        <EquipmentElementLevel/>
    </Location>
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            <ID>behaviors</ID>
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```

```

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            <UnitOfMeasure/>
        </Value>
        <Description/>
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    <Parameter>
        <ID>
DOCUMENTS
</ID>
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TyreMountingInstructions.pdf</ValueString>
            <DataType>string</DataType>
            <UnitOfMeasure/>
        </Value>
        <Description>Instructions for Tyre Mounting</
Description>
    </Parameter>
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```

```

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                BOM_SEQUENCE
            </ID>
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        <MaterialConsumedRequirementProperty>
            <ID>behaviors</ID>
            <Description/>
            <Value>
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ValueString>
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                <UnitOfMeasure/>
            </Value>
        </MaterialConsumedRequirementProperty>
        <MaterialConsumedRequirementProperty>
            <ID>quantityPrecision</ID>
            <Description/>
            <Value>
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                <UnitOfMeasure/>
            </Value>
        </MaterialConsumedRequirementProperty>
        <MaterialConsumedRequirementProperty>
            <ID>lowerTolerance</ID>
            <Description/>
            <Value>
                <ValueString>1</ValueString>

```

```

        <DataType>integer</DataType>
        <UnitOfMeasure/>
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    <ID>lowerTolerancePrecision</ID>
    <Description/>
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        <ValueString>0</ValueString>
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        <UnitOfMeasure/>
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    <ID>upperTolerancePrecision</ID>
    <Description/>
    <Value>
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        <UnitOfMeasure/>
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    <ID>scrapFactor</ID>
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    <ID>defaultStorageUnit</ID>
    <Description/>
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        <ValueString>PackagingUnit</ValueString>
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        <UnitOfMeasure/>
    </Value>
</MaterialConsumedRequirementProperty>
<MaterialConsumedRequirementProperty>
    <ID>bom_item_prop_group_prop_3</ID>
    <Description/>
    <Value>

```

```

        <ValueString>"bomitempropgroupproperty"</
ValueString>
        <DataType>string</DataType>
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</MaterialConsumedRequirement>
</SegmentRequirement>
</ProductionRequest>
<Extended:SchemaVersion>6</Extended:SchemaVersion>
</ProductionSchedule>

```

## Standard B2MML WOID Schema Version 5 *with* Route Definition

```

<ProductionSchedule xmlns:Extended="http://www.wbf.org/xml/B2MML-
V0401-AllExtensions" xmlns:inp2="http://www.wbf.org/xml/B2MML-V0401"
xmlns:erp="http://sample.data">
  <ID/>
  <Description/>
  <Location>
    <EquipmentID/>
    <EquipmentElementLevel/>
  </Location>
  <PublishedDate>2020-12-11T09:30:00</PublishedDate>
  <ProductionRequest>
    <ID>WOID5XML-RT-SAMPLE-DEC13</ID>
    <Description>Latest version of SnowBikeRoute bound WorkOrder to
produce 30 no. of SnowBikes</Description>
    <ProductProductionRuleID>SnowBikeRouteLatest</
ProductProductionRuleID>
    <Location>
      <EquipmentID>Bikes_Assembly_Line</EquipmentID>
      <EquipmentElementLevel>Site</EquipmentElementLevel>
    </Location>
    <StartTime>2020-12-22T00:00:00.000Z</StartTime>
    <EndTime>2020-12-23T00:00:00.000Z</EndTime>
    <Priority>0</Priority>
    <SegmentRequirement>
      <ID>ROUTE</ID>
      <ProductSegmentID/>
      <ProcessSegmentID/>
      <Description/>
      <Location>
        <EquipmentID/>
        <EquipmentElementLevel/>
      </Location>
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      <LatestEndTime>2020-12-23T00:00:00.000Z</LatestEndTime>
      <MaterialProducedRequirement>
        <MaterialClassID/>
        <MaterialDefinitionID>SNOWBIKE-NONSERIALIZED
      </MaterialDefinitionID>

```



```

    <MaterialLotID>SERNUM1</MaterialLotID>
    <MaterialSubLotID/>
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      <ID/>
      <Description/>
    </MaterialProducedRequirementProperty>
  </MaterialProducedRequirement>
</MaterialProducedRequirement>
<MaterialProducedRequirement>
  <MaterialClassID/>
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    </MaterialDefinitionID>
  <MaterialLotID>SERNUM2</MaterialLotID>
  <MaterialSubLotID/>
  <Description/>
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    <QuantityString>5</QuantityString>
    <DataType>integer</DataType>
    <UnitOfMeasure/>
  </Quantity>
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    <ID/>
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</MaterialProducedRequirement>
</MaterialProducedRequirement>
<MaterialProducedRequirement>
  <MaterialClassID/>
  <MaterialDefinitionID>SNOWBIKE-NONSERIALIZED
    </MaterialDefinitionID>
  <MaterialLotID>SERNUM3</MaterialLotID>
  <MaterialSubLotID/>
  <Description/>
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    <DataType>integer</DataType>
    <UnitOfMeasure/>
  </Quantity>
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    <ID/>
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</MaterialProducedRequirement>
</MaterialProducedRequirement>
<MaterialConsumedRequirement>
  <MaterialClassID/>
  <MaterialDefinitionID>OpGrpBomItem1</MaterialDefinitionID>
  <MaterialSubLotID/>
  <Description/>
  <Quantity>

```

```

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                <UnitOfMeasure>EA</UnitOfMeasure>
            </Quantity>
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                <ID>
                    BOM_SEQUENCE
                </ID>
                <Description/>
                <Value>
                    <ValueString>1</ValueString>
                    <DataType>integer</DataType>
                    <UnitOfMeasure/>
                </Value>
            </MaterialConsumedRequirementProperty>
            <MaterialConsumedRequirementProperty>
                <ID>behaviors</ID>
                <Description/>
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                    <ValueString>requiresConsumptionTracking</
ValueString>
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                    <UnitOfMeasure/>
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ValueString>
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                    <UnitOfMeasure/>
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    </MaterialConsumedRequirement>
    <MaterialClassID/>
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    <MaterialSubLotID/>
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    </Quantity>
    <MaterialConsumedRequirementProperty>
        <ID>
            BOM_SEQUENCE
        </ID>
        <Description/>
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```

```

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    <Description/>
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ValueString>
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        <UnitOfMeasure/>
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</MaterialConsumedRequirementProperty>
</MaterialConsumedRequirement>
</SegmentRequirement>
<SegmentRequirement>
    <ID>FrameAssembly</ID>
    <ProductSegmentID/>
    <ProcessSegmentID/>
    <Description>Assembling Bike MainFrame.</Description>
    <Location>
        <EquipmentID/>
        <EquipmentElementLevel/>
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            <Description/>
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            <Description/>
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    </ProductionParameter>
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    <MaterialSubLotID/>

```

```

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            <Description/>
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            <ID>behaviors</ID>
            <Description/>
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ValueString>
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                <UnitOfMeasure/>
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    </MaterialConsumedRequirement>
    <MaterialConsumedRequirement>
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```

```

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    <ProcessSegmentID/>
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    <LatestEndTime>2020-12-23T12:15:00</LatestEndTime>
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        <Parameter>
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            <Description/>
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    </ProductionParameter>
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        <MaterialSubLotID/>
        <Description/>
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            <DataType>integer</DataType>
            <UnitOfMeasure>EA</UnitOfMeasure>
        </Quantity>
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            <ID>
                BOM_SEQUENCE
            </ID>

```

```

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    <MaterialConsumedRequirementProperty>
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        <Description/>
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ValueString>
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```

## Standard B2MML WOID Schema Version 5 *without* Route Definition

```

<?xml version="1.0"?>

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<ProductionSchedule
  xmlns:erp="http://sample.data"
  xmlns:inp2="http://www.wbf.org/xml/B2MML-V0401"
  xmlns:Extended="http://www.wbf.org/xml/B2MML-V0401-AllExtensions">
  <Description/>

-
  <Location>
    <EquipmentID/>
    <EquipmentElementLevel/>
  </Location>
  <PublishedDate>2017-04-15T09:30:00</PublishedDate>

-
  <ProductionRequest>
    <ID>WOID5-ADHOC-XML-SNOWBIKES1</ID>
    <Description>Ad-hoc bound WorkOrder to produce 30 no. of SnowBikes.</
Description>

-
  <Location>
    <EquipmentID>Bikes_Assembly_Line</EquipmentID>
    <EquipmentElementLevel>Site</EquipmentElementLevel>
  </Location>
  <StartTime>2020-11-18T13:28:39.395Z</StartTime>
  <EndTime>2020-11-19T13:00:00.395Z</EndTime>
  <Priority>0</Priority>

-
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    <ID>ROUTE</ID>
    <ProductSegmentID/>
    <ProcessSegmentID/>
    <Description/>

-
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    <EquipmentElementLevel/>
  </Location>
  <EarliestStartTime>2020-11-18T13:28:39.395Z</EarliestStartTime>
  <LatestEndTime>2020-11-19T13:00:00.395Z</LatestEndTime>

```

```
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<MaterialProducedRequirement>  
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  <MaterialDefinitionID>SNOWBIKE</MaterialDefinitionID>  
  <MaterialLotID>serinum1</MaterialLotID>  
  <MaterialSubLotID/>  
  <Description/>
```

```
-  
  <Quantity>  
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  </Quantity>
```

```
-  
  <MaterialProducedRequirementProperty>  
    <ID/>  
    <Description/>  
  </MaterialProducedRequirementProperty>  
</MaterialProducedRequirement>
```

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-  
  <MaterialProducedRequirement>  
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    <MaterialDefinitionID>SNOWBIKE</MaterialDefinitionID>  
    <MaterialLotID>serinum2</MaterialLotID>  
    <MaterialSubLotID/>  
    <Description/>
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-  
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    <UnitOfMeasure/>  
  </Quantity>
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```
-  
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    <ID/>  
    <Description/>  
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</MaterialProducedRequirement>
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```
-
```



```

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  <MaterialDefinitionID>SNOWBIKE</MaterialDefinitionID>
  <MaterialLotID>serinum3</MaterialLotID>
  <MaterialSubLotID/>
  <Description/>

-

  <Quantity>
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    <UnitOfMeasure/>
  </Quantity>

-

  <MaterialProducedRequirementProperty>
    <ID/>
    <Description/>
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</MaterialProducedRequirement>

-

<MaterialConsumedRequirement>
  <MaterialClassID/>
  <MaterialDefinitionID>OpGrpBomItem1</MaterialDefinitionID>
  <MaterialSubLotID/>
  <Description/>

-

  <Quantity>
    <QuantityString>1</QuantityString>
    <DataType>integer</DataType>
    <UnitOfMeasure>EA</UnitOfMeasure>
  </Quantity>

-

  <MaterialConsumedRequirementProperty>
    <Description/>

-

  <Value>
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    <UnitOfMeasure/>
  </Value>
</MaterialConsumedRequirementProperty>

```

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-  
<MaterialConsumedRequirementProperty>  
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-  
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    <DataType>integer</DataType>  
    <UnitOfMeasure/>  
  </Value>  
</MaterialConsumedRequirementProperty>  
  
-  
<MaterialConsumedRequirementProperty>  
  <Description/>  
  
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    <UnitOfMeasure/>  
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  <Description/>  
  
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    <DataType>integer</DataType>  
    <UnitOfMeasure/>  
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<MaterialConsumedRequirementProperty>  
  <Description/>  
  
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  <Value>  
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    <DataType>integer</DataType>  
    <UnitOfMeasure/>
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  <Description/>

-
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    <DataType>float</DataType>
    <UnitOfMeasure/>
  </Value>
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-
<MaterialConsumedRequirementProperty>
  <Description/>

-
  <Value>
    <ValueString>PackagingUnit</ValueString>
    <DataType>string</DataType>
    <UnitOfMeasure/>
  </Value>
</MaterialConsumedRequirementProperty>

-
<MaterialConsumedRequirementProperty>
  <ID>behaviors</ID>
  <Description/>

-
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    <DataType>string</DataType>
    <UnitOfMeasure/>
  </Value>
</MaterialConsumedRequirementProperty>
</MaterialConsumedRequirement>

-
<MaterialConsumedRequirement>
  <MaterialClassID/>
  <MaterialDefinitionID>OpGrpBomItem2</MaterialDefinitionID>
  <MaterialSubLotID/>

```

```
<Description/>
```

```
-
```

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  <UnitOfMeasure>EA</UnitOfMeasure>  
</Quantity>
```

```
-
```

```
<MaterialConsumedRequirementProperty>  
  <Description/>
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-
```

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  <UnitOfMeasure/>  
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</MaterialConsumedRequirementProperty>
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-
```

```
<MaterialConsumedRequirementProperty>  
  <Description/>
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<MaterialConsumedRequirementProperty>  
  <Description/>
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    <UnitOfMeasure/>
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    <Description/>

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    <UnitOfMeasure/>
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-
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    <Description/>

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    <UnitOfMeasure/>
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-
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-
  <Value>
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    <DataType>string</DataType>
    <UnitOfMeasure/>
  </Value>

```

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</MaterialConsumedRequirementProperty>

-
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  <Description/>

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    <UnitOfMeasure/>
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</MaterialConsumedRequirementProperty>
</MaterialConsumedRequirement>
</SegmentRequirement>

-
<SegmentRequirement>
  <ID>FrameAssembly</ID>
  <ProductSegmentID/>
  <ProcessSegmentID/>
  <Description>Assembling Bike MainFrame.</Description>

-
<Location>
  <EquipmentID>WIND</EquipmentID>
  <EquipmentElementLevel>WorkCenter</EquipmentElementLevel>
</Location>
<EarliestStartTime>2017-04-15T12:00:00</EarliestStartTime>
<LatestEndTime>2017-04-15T12:15:00</LatestEndTime>

-
<ProductionParameter>

-
  <Parameter>
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    <UnitOfMeasure/>
  </Value>
  <Description/>

```

```

    </Parameter>
  </ProductionParameter>

-
  <ProductionParameter>

-
    <Parameter>
      <ID>DOCUMENTS </ID>

-
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        <DataType>string</DataType>
        <UnitOfMeasure/>
      </Value>
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    </Parameter>
  </ProductionParameter>

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  <ProductionParameter>

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        <UnitOfMeasure/>
      </Value>
      <Description/>
    </Parameter>
  </ProductionParameter>

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-
    <Location>
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      <EquipmentElementLevel>WorkCell</EquipmentElementLevel>

```

```

    </Location>
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-
  <EquipmentRequirement>

-
    <Location>
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      <EquipmentElementLevel>WorkCell</EquipmentElementLevel>
    </Location>
  </EquipmentRequirement>

-
  <MaterialConsumedRequirement>
    <MaterialClassID/>
    <MaterialDefinitionID>BikeMainFrame</MaterialDefinitionID>
    <MaterialSubLotID/>
    <Description/>

-
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      <DataType>integer</DataType>
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    </Quantity>

-
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      <Description/>

-
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      <UnitOfMeasure/>
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-
  <MaterialConsumedRequirementProperty>
    <ID>behaviors</ID>
    <Description/>

```



```
-  
  <Value>  
    <ValueString>requiresConsumptionTracking</ValueString>  
    <DataType>string</DataType>  
    <UnitOfMeasure/>  
  </Value>  
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```

```
-  
<MaterialConsumedRequirementProperty>  
  <Description/>
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-  
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    <DataType>integer</DataType>  
    <UnitOfMeasure/>  
  </Value>  
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```
-  
<MaterialConsumedRequirementProperty>  
  <Description/>
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```
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    <DataType>integer</DataType>  
    <UnitOfMeasure/>  
  </Value>  
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```

```
-  
<MaterialConsumedRequirementProperty>  
  <Description/>
```

```
-  
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    <DataType>integer</DataType>  
    <UnitOfMeasure/>  
  </Value>  
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```
-  
<MaterialConsumedRequirementProperty>
```

```

    <Description/>

-
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      <DataType>integer</DataType>
      <UnitOfMeasure/>
    </Value>
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-
  <MaterialConsumedRequirementProperty>
    <Description/>

-
    <Value>
      <ValueString>0</ValueString>
      <DataType>integer</DataType>
      <UnitOfMeasure/>
    </Value>
  </MaterialConsumedRequirementProperty>

-
  <MaterialConsumedRequirementProperty>
    <Description/>

-
    <Value>
      <ValueString>1</ValueString>
      <DataType>integer</DataType>
      <UnitOfMeasure/>
    </Value>
  </MaterialConsumedRequirementProperty>

-
  <MaterialConsumedRequirementProperty>
    <Description/>

-
    <Value>
      <ValueString>PackagingUnit</ValueString>
      <DataType>integer</DataType>
      <UnitOfMeasure/>
    </Value>
  </MaterialConsumedRequirementProperty>
</MaterialConsumedRequirement>

```

```

</SegmentRequirement>

-
<SegmentRequirement>
  <ID>TyreMounting</ID>
  <ProductSegmentID/>
  <ProcessSegmentID/>
  <Description>Mounting tyres to Bike frame.</Description>

-
  <Location>
    <EquipmentID/>
    <EquipmentElementLevel/>
  </Location>
  <EarliestStartTime>2017-04-15T12:20:00</EarliestStartTime>
  <LatestEndTime>2017-04-15T12:40:00</LatestEndTime>

-
  <ProductionParameter>

-
    <Parameter>
      <ID>Priority</ID>

-
      <Value>
        <ValueString>2</ValueString>
        <DataType>integer</DataType>
        <UnitOfMeasure/>
      </Value>
      <Description/>
    </Parameter>
  </ProductionParameter>

-
  <ProductionParameter>

-
    <Parameter>
      <ID>DOCUMENTS </ID>

-
      <Value>
        <ValueString>http://grid.ge.com/485765/TyreMountingInstructions.pdf</ValueString>
      </ValueString>

```

```

    <DataType>string</DataType>
    <UnitOfMeasure/>
  </Value>
  <Description>Instructions for Tyre Mounting</Description>
</Parameter>
</ProductionParameter>

-

<ProductionParameter>

-

  <Parameter>
    <ID>NumberOfTyres</ID>

-

    <Value>
      <ValueString>2</ValueString>
      <DataType>integer</DataType>
      <UnitOfMeasure/>
    </Value>
    <Description/>
  </Parameter>
</ProductionParameter>

-

<ProductionParameter>

-

  <Parameter>
    <ID>TyreDiameterInMeters</ID>

-

    <Value>
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      <DataType>integer</DataType>
      <UnitOfMeasure/>
    </Value>
    <Description/>
  </Parameter>
</ProductionParameter>

-

<EquipmentRequirement>

-

```

```

    <Location>
      <EquipmentID>TyreMount</EquipmentID>
      <EquipmentElementLevel>WorkCell</EquipmentElementLevel>
    </Location>
  </EquipmentRequirement>

-
  <MaterialConsumedRequirement>
    <MaterialClassID/>
    <MaterialDefinitionID>TubelessTyre</MaterialDefinitionID>
    <MaterialSubLotID/>
    <Description/>

-
    <Quantity>
      <QuantityString>2</QuantityString>
      <DataType>integer</DataType>
      <UnitOfMeasure>EA</UnitOfMeasure>
    </Quantity>

-
    <MaterialConsumedRequirementProperty>
      <ID>BOM_SEQUENCE </ID>
      <Description/>

-
    <Value>
      <ValueString>1</ValueString>
      <DataType>integer</DataType>
      <UnitOfMeasure/>
    </Value>
  </MaterialConsumedRequirementProperty>

-
    <MaterialConsumedRequirementProperty>
      <ID>behaviors</ID>
      <Description/>

-
    <Value>
      <ValueString>requiresConsumptionTracking</ValueString>
      <DataType>string</DataType>
      <UnitOfMeasure/>
    </Value>
  </MaterialConsumedRequirementProperty>

```

```
-
  <MaterialConsumedRequirementProperty>
    <Description/>

-
    <Value>
      <ValueString>0</ValueString>
      <DataType>integer</DataType>
      <UnitOfMeasure/>
    </Value>
  </MaterialConsumedRequirementProperty>

-
  <MaterialConsumedRequirementProperty>
    <Description/>

-
    <Value>
      <ValueString>1</ValueString>
      <DataType>integer</DataType>
      <UnitOfMeasure/>
    </Value>
  </MaterialConsumedRequirementProperty>

-
  <MaterialConsumedRequirementProperty>
    <Description/>

-
    <Value>
      <ValueString>1</ValueString>
      <DataType>integer</DataType>
      <UnitOfMeasure/>
    </Value>
  </MaterialConsumedRequirementProperty>

-
  <MaterialConsumedRequirementProperty>
    <Description/>

-
    <Value>
      <ValueString>0</ValueString>
      <DataType>integer</DataType>
      <UnitOfMeasure/>
    </Value>
```

```

    </MaterialConsumedRequirementProperty>

-
    <MaterialConsumedRequirementProperty>
      <Description/>

-
      <Value>
        <ValueString>0</ValueString>
        <DataType>integer</DataType>
        <UnitOfMeasure/>
      </Value>
    </MaterialConsumedRequirementProperty>

-
    <MaterialConsumedRequirementProperty>
      <Description/>

-
      <Value>
        <ValueString>1</ValueString>
        <DataType>integer</DataType>
        <UnitOfMeasure/>
      </Value>
    </MaterialConsumedRequirementProperty>

-
    <MaterialConsumedRequirementProperty>
      <Description/>

-
      <Value>
        <ValueString>PackagingUnit</ValueString>
        <DataType>integer</DataType>
        <UnitOfMeasure/>
      </Value>
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  </MaterialConsumedRequirement>
</SegmentRequirement>
</ProductionRequest>
<Extended:SchemaVersion>5</Extended:SchemaVersion>
</ProductionSchedule>

```

## Standard B2MML Schema Versions 3 and 4

Using schema versions 3 and 4, you can import the following components of a work order:

- **Schema version 4:** You can import work orders for serialized as well as non-serialized products with or without route definition.
- **Schema version 3:** You can import work orders for serialized products with or without route definition.

## Standard B2MML WOID Schema Version 4 *with* Route Definition

```

<ProductionSchedule xmlns:Extended="http://www.wbf.org/xml/B2MML-
V0401-AllExtensions" xmlns:inp2="http://www.wbf.org/xml/B2MML-V0401"
  xmlns:erp="http://sample.data">
  <Description/>
  <Location>
    <EquipmentID/>
    <EquipmentElementLevel/>
  </Location>
  <PublishedDate>2017-04-15T09:30:00</PublishedDate>
  <ProductionRequest>
    <ID>WOID4-ROUTE-XML-SNOWBIKES</ID>
    <Description>Route bound WorkOrder to produce 3 no. of SnowBikes.</
Description>
    <ProductProductionRuleID>SnowBikeRoute</ProductProductionRuleID>
    <ProductProductionRuleID>1</ProductProductionRuleID>
    <Location>
      <EquipmentID>Bikes_Assembly_Line</EquipmentID>
      <EquipmentElementLevel>Site</EquipmentElementLevel>
    </Location>
    <StartTime>2020-12-18T13:00:00.000Z</StartTime>
    <EndTime>2020-12-19T13:00:00.000Z</EndTime>
    <Priority>0</Priority>
    <SegmentRequirement>
      <ID>ROUTE</ID>
      <ProductSegmentID/>
      <ProcessSegmentID/>
      <Description/>
      <Location>
        <EquipmentID/>
        <EquipmentElementLevel/>
      </Location>
      <EarliestStartTime>2020-12-18T13:00:00.000Z</EarliestStartTime>
      <LatestEndTime>2020-12-19T13:00:00.000Z</LatestEndTime>
      <MaterialProducedRequirement>
        <MaterialClassID/>
        <MaterialDefinitionID>SNOWBIKE-NONSERIALIZED</
MaterialDefinitionID>
        <MaterialLotID>serinum1</MaterialLotID>
        <MaterialSubLotID/>
        <Description/>
        <Quantity>
          <QuantityString>10</QuantityString>
          <DataType>integer</DataType>
          <UnitOfMeasure/>

```



```

        </Quantity>
        <MaterialProducedRequirementProperty>
          <ID/>
          <Description/>
        </MaterialProducedRequirementProperty>
      </MaterialProducedRequirement>
    <MaterialProducedRequirement>
      <MaterialClassID/>
      <MaterialDefinitionID>SNOWBIKE-NONSERIALIZED</
MaterialDefinitionID>
      <MaterialLotID>serinum2</MaterialLotID>
      <MaterialSubLotID/>
      <Description/>
      <Quantity>
        <QuantityString>5</QuantityString>
        <DataType>integer</DataType>
        <UnitOfMeasure/>
      </Quantity>
      <MaterialProducedRequirementProperty>
        <ID/>
        <Description/>
      </MaterialProducedRequirementProperty>
    </MaterialProducedRequirement>
  </MaterialProducedRequirement>
  <MaterialClassID/>
  <MaterialDefinitionID>SNOWBIKE-NONSERIALIZED</
MaterialDefinitionID>
  <MaterialLotID>serinum3</MaterialLotID>
  <MaterialSubLotID/>
  <Description/>
  <Quantity>
    <QuantityString>15</QuantityString>
    <DataType>integer</DataType>
    <UnitOfMeasure/>
  </Quantity>
  <MaterialProducedRequirementProperty>
    <ID/>
    <Description/>
  </MaterialProducedRequirementProperty>
</MaterialProducedRequirement>
</SegmentRequirement>
</ProductionRequest>
<Extended:SchemaVersion>4</Extended:SchemaVersion>
</ProductionSchedule>

```

## Standard B2MML WOID Schema Version 4 *without* Route Definition

```

<ProductionSchedule xmlns:Extended="http://www.wbf.org/xml/B2MML-
V0401-AllExtensions" xmlns:inp2="http://www.wbf.org/xml/B2MML-V0401"
  xmlns:erp="http://sample.data">

```

```
>
```

```

</Description/>
<Location>
  <EquipmentID/>
  <EquipmentElementLevel/>
</Location>
<PublishedDate>2017-04-15T09:30:00</PublishedDate>
<ProductionRequest>
  <ID>WOID4-ADHOC-XML-SNOWBIKES</ID>
  <Description>Work Order to produce 3 SNOWBIKES</Description>
  <Location>
    <EquipmentID>Bikes_Assembly_Line</EquipmentID>
    <EquipmentElementLevel>Site</EquipmentElementLevel>
  </Location>
  <StartTime>2020-12-18T13:00:00.000Z</StartTime>
  <EndTime>2020-12-19T13:00:00.000Z</EndTime>
  <Priority>0</Priority>
  <SegmentRequirement>
    <ID>ROUTE</ID>
    <ProductSegmentID/>
    <ProcessSegmentID/>
    <Description/>
    <Location>
      <EquipmentID/>
      <EquipmentElementLevel/>
    </Location>
    <EarliestStartTime>2020-12-18T13:00:00.000Z</EarliestStartTime>
    <LatestEndTime>2020-12-19T13:00:00.000Z</LatestEndTime>
    <ProductionParameter>
      <Parameter>
        <ID>
          DOCUMENTS
        </ID>
        <Value>
          <ValueString>http://grid.ge.com/485765/
assemblyinstructions.pdf</ValueString>
          <DataType>string</DataType>
          <UnitOfMeasure/>
        </Value>
        <Description>AssemblyInstructions</Description>
      </Parameter>
    </ProductionParameter>
    <ProductionParameter>
      <Parameter>
        <ID>
          DOCUMENTS
        </ID>
        <Value>
          <ValueString>http://grid.ge.com/485766/
paintinstructions.pdf</ValueString>
          <DataType>string</DataType>
          <UnitOfMeasure/>
        </Value>
        <Description>PaintInstructions</Description>
      </Parameter>
    </ProductionParameter>
  </ProductionParameter>
</ProductionRequest>

```

```

        </Parameter>
    </ProductionParameter>
    <ProductionParameter>
        <Parameter>
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            <Value>
                <ValueString>10</ValueString>
                <DataType>integer</DataType>
                <UnitOfMeasure/>
            </Value>
            <Description/>
        </Parameter>
    </ProductionParameter>
    <ProductionParameter>
        <Parameter>
            <ID>Some-DateTime-Property-Name</ID>
            <Value>
                <ValueString>2020-10-22T12:30:45.555Z</ValueString>
                <DataType>string</DataType>
                <UnitOfMeasure/>
            </Value>
            <Description/>
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    </ProductionParameter>
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                <UnitOfMeasure/>
            </Value>
            <Description/>
        </Parameter>
    </ProductionParameter>
    <ProductionParameter>
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            <ID>Some-Float-Property-Name</ID>
            <Value>
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                <DataType>float</DataType>
                <UnitOfMeasure/>
            </Value>
            <Description/>
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    </ProductionParameter>
    <ProductionParameter>
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                <DataType>string</DataType>
                <UnitOfMeasure/>

```

```

        </Value>
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    </Parameter>
  </ProductionParameter>
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MaterialDefinitionID>
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    <MaterialSubLotID/>
    <Description/>
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      <DataType>integer</DataType>
      <UnitOfMeasure/>
    </Quantity>
    <MaterialProducedRequirementProperty>
      <ID/>
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    </MaterialProducedRequirementProperty>
  </MaterialProducedRequirement>
  <MaterialProducedRequirement>
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    <MaterialDefinitionID>SNOWBIKE-NONSERIALIZED</
MaterialDefinitionID>
    <MaterialLotID>serinum2</MaterialLotID>
    <MaterialSubLotID/>
    <Description/>
    <Quantity>
      <QuantityString>5</QuantityString>
      <DataType>integer</DataType>
      <UnitOfMeasure/>
    </Quantity>
    <MaterialProducedRequirementProperty>
      <ID/>
      <Description/>
    </MaterialProducedRequirementProperty>
  </MaterialProducedRequirement>
  <MaterialProducedRequirement>
    <MaterialClassID/>
    <MaterialDefinitionID>SNOWBIKE-NONSERIALIZED</
MaterialDefinitionID>
    <MaterialLotID>serinum3</MaterialLotID>
    <MaterialSubLotID/>
    <Description/>
    <Quantity>
      <QuantityString>15</QuantityString>
      <DataType>integer</DataType>
      <UnitOfMeasure/>
    </Quantity>
    <MaterialProducedRequirementProperty>
      <ID/>
      <Description/>

```

```

        </MaterialProducedRequirementProperty>
    </MaterialProducedRequirement>
    <MaterialConsumedRequirement>
        <MaterialClassID/>
        <MaterialDefinitionID>OpGrpBomItem1</MaterialDefinitionID>
        <MaterialSubLotID/>
        <Description/>
        <Quantity>
            <QuantityString>2</QuantityString>
            <DataType>integer</DataType>
            <UnitOfMeasure>EA</UnitOfMeasure>
        </Quantity>
    </MaterialConsumedRequirementProperty>
    <ID>
        BOM_SEQUENCE
    </ID>
        <Description/>
        <Value>
            <ValueString>1</ValueString>
            <DataType>integer</DataType>
            <UnitOfMeasure/>
        </Value>
    </MaterialConsumedRequirementProperty>
    <MaterialConsumedRequirementProperty>
        <ID>
            IS_REQUIRES_CONSUMPTION
        </ID>
            <Description/>
            <Value>
                <ValueString>>true</ValueString>
                <DataType>boolean</DataType>
                <UnitOfMeasure/>
            </Value>
        </MaterialConsumedRequirementProperty>
    </MaterialConsumedRequirement>
    <MaterialConsumedRequirement>
        <MaterialClassID/>
        <MaterialDefinitionID>OpGrpBomItem2</MaterialDefinitionID>
        <MaterialSubLotID/>
        <Description/>
        <Quantity>
            <QuantityString>10</QuantityString>
            <DataType>integer</DataType>
            <UnitOfMeasure>EA</UnitOfMeasure>
        </Quantity>
    </MaterialConsumedRequirementProperty>
    <ID>
        BOM_SEQUENCE
    </ID>
        <Description/>
        <Value>
            <ValueString>2</ValueString>
            <DataType>integer</DataType>

```

```

        <UnitOfMeasure/>
    </Value>
</MaterialConsumedRequirementProperty>
<MaterialConsumedRequirementProperty>
    <ID>
        IS_REQUIRES_CONSUMPTION
    </ID>
    <Description/>
    <Value>
        <ValueString>>false</ValueString>
        <DataType>boolean</DataType>
        <UnitOfMeasure/>
    </Value>
</MaterialConsumedRequirementProperty>
</MaterialConsumedRequirement>
</SegmentRequirement>
<SegmentRequirement>
    <ID>FrameAssembly</ID>
    <ProductSegmentID/>
    <ProcessSegmentID/>
    <Description>Assembling Bike MainFrame.</Description>
    <Location>
        <EquipmentID/>
        <EquipmentElementLevel/>
    </Location>
    <EarliestStartTime>2020-12-18T13:00:00.000Z</EarliestStartTime>
    <LatestEndTime>2020-12-18T15:00:00.000Z</LatestEndTime>
    <ProductionParameter>
        <Parameter>
            <ID>Priority</ID>
            <Value>
                <ValueString>1</ValueString>
                <DataType>integer</DataType>
                <UnitOfMeasure/>
            </Value>
            <Description/>
        </Parameter>
    </ProductionParameter>
    <ProductionParameter>
        <Parameter>
            <ID>
                DOCUMENTS
            </ID>
            <Value>
                <ValueString>http://grid.ge.com/485765/
                MainAssemblyDrawing.pdf</ValueString>
                <DataType>string</DataType>
                <UnitOfMeasure/>
            </Value>
            <Description>AssemblyDrawings</Description>
        </Parameter>
    </ProductionParameter>
</ProductionParameter>

```

```

    <Parameter>
      <ID>Some-Integer-Property-Name</ID>
      <Value>
        <ValueString>1</ValueString>
        <DataType>integer</DataType>
        <UnitOfMeasure/>
      </Value>
      <Description/>
    </Parameter>
  </ProductionParameter>
  <ProductionParameter>
    <Parameter>
      <ID>Some-DateTime-Property-Name</ID>
      <Value>
        <ValueString>2020-10-22T12:30:45.555Z</ValueString>
        <DataType>integer</DataType>
        <UnitOfMeasure/>
      </Value>
      <Description/>
    </Parameter>
  </ProductionParameter>
  <ProductionParameter>
    <Parameter>
      <ID>Some-Float-Property-Name</ID>
      <Value>
        <ValueString>1.2</ValueString>
        <DataType>integer</DataType>
        <UnitOfMeasure/>
      </Value>
      <Description/>
    </Parameter>
  </ProductionParameter>
  <EquipmentRequirement>
    <Location>
      <EquipmentID>FrameMountingStation</EquipmentID>
      <EquipmentElementLevel>WorkCell</EquipmentElementLevel>
    </Location>
  </EquipmentRequirement>
  <EquipmentRequirement>
    <Location>
      <EquipmentID>AlignmentJig</EquipmentID>
      <EquipmentElementLevel>WorkCell</EquipmentElementLevel>
    </Location>
  </EquipmentRequirement>
  <MaterialConsumedRequirement>
    <MaterialClassID/>
    <MaterialDefinitionID>BikeMainFrame</MaterialDefinitionID>
    <MaterialSubLotID/>
    <Description/>
    <Quantity>
      <QuantityString>1</QuantityString>
      <DataType>integer</DataType>
      <UnitOfMeasure>EA</UnitOfMeasure>
    </Quantity>
  </MaterialConsumedRequirement>

```

```

        </Quantity>
        <MaterialConsumedRequirementProperty>
          <ID>
            BOM_SEQUENCE
          </ID>
          <Description/>
          <Value>
            <ValueString>1</ValueString>
            <DataType>integer</DataType>
            <UnitOfMeasure/>
          </Value>
        </MaterialConsumedRequirementProperty>
        <MaterialConsumedRequirementProperty>
          <ID>
            IS_REQUIRES_CONSUMPTION
          </ID>
          <Description/>
          <Value>
            <ValueString>>true</ValueString>
            <DataType>boolean</DataType>
            <UnitOfMeasure/>
          </Value>
        </MaterialConsumedRequirementProperty>
      </MaterialConsumedRequirement>
    </SegmentRequirement>
    <SegmentRequirement>
      <ID>TyreMounting</ID>
      <ProductSegmentID/>
      <ProcessSegmentID/>
      <Description>Mounting tyres to Bike frame.</Description>
      <Location>
        <EquipmentID/>
        <EquipmentElementLevel/>
      </Location>
      <EarliestStartTime>2020-12-18T16:00:00.000Z</EarliestStartTime>
      <LatestEndTime>2020-12-18T17:00:00.000Z</LatestEndTime>
      <ProductionParameter>
        <Parameter>
          <ID>Priority</ID>
          <Value>
            <ValueString>2</ValueString>
            <DataType>integer</DataType>
            <UnitOfMeasure/>
          </Value>
          <Description/>
        </Parameter>
      </ProductionParameter>
      <ProductionParameter>
        <Parameter>
          <ID>
            DOCUMENTS
          </ID>
          <Value>

```



```

        <ValueString>http://grid.ge.com/485765/
TyreMountingInstructions.pdf</ValueString>
        <DataType>string</DataType>
        <UnitOfMeasure/>
    </Value>
    <Description>Instructions for Tyre Mounting</
Description>
    </Parameter>
</ProductionParameter>
<ProductionParameter>
    <Parameter>
        <ID>NumberOfTyres</ID>
        <Value>
            <ValueString>2</ValueString>
            <DataType>integer</DataType>
            <UnitOfMeasure/>
        </Value>
        <Description/>
    </Parameter>
</ProductionParameter>
<ProductionParameter>
    <Parameter>
        <ID>TyreDiameterInMeters</ID>
        <Value>
            <ValueString>1</ValueString>
            <DataType>integer</DataType>
            <UnitOfMeasure/>
        </Value>
        <Description/>
    </Parameter>
</ProductionParameter>
<EquipmentRequirement>
    <Location>
        <EquipmentID>TyreMount</EquipmentID>
        <EquipmentElementLevel>WorkCell</EquipmentElementLevel>
    </Location>
</EquipmentRequirement>
<MaterialConsumedRequirement>
    <MaterialClassID/>
    <MaterialDefinitionID>TubelessTyre</MaterialDefinitionID>
    <MaterialSubLotID/>
    <Description/>
    <Quantity>
        <QuantityString>2</QuantityString>
        <DataType>integer</DataType>
        <UnitOfMeasure>EA</UnitOfMeasure>
    </Quantity>
    <MaterialConsumedRequirementProperty>
        <ID>BOM_SEQUENCE</ID>
        <Description/>
        <Value>
            <ValueString>1</ValueString>
            <DataType>integer</DataType>

```

```

        <UnitOfMeasure/>
    </Value>
</MaterialConsumedRequirementProperty>
<MaterialConsumedRequirementProperty>
    <ID>IS_REQUIRES_CONSUMPTION</ID>
    <Description/>
    <Value>
        <ValueString>>true</ValueString>
        <DataType>boolean</DataType>
        <UnitOfMeasure/>
    </Value>
</MaterialConsumedRequirementProperty>
</MaterialConsumedRequirement>
</SegmentRequirement>
</ProductionRequest>
<Extended:SchemaVersion>4</Extended:SchemaVersion>
</ProductionSchedule>

```

### Standard B2MML WOID Schema Version 3 *with* Route Definition

```

<ProductionSchedule xmlns:Extended="http://www.wbf.org/xml/B2MML-
V0401-AllExtensions" xmlns:inp2="http://www.wbf.org/xml/B2MML-V0401"
  xmlns:erp="http://sample.data">
  >
    <Description/>
    <Location>
      <EquipmentID/>
      <EquipmentElementLevel/>
    </Location>
    <PublishedDate>2017-04-15T09:30:00</PublishedDate>
    <ProductionRequest>
      <ID>WOID3-ROUTE-XML-SNOWBIKES</ID>
      <Description>Route bound WorkOrder to produce 3 no. of SnowBikes.</
Description>
      <ProductProductionRuleID>SnowBikeRoute</ProductProductionRuleID>
      <ProductProductionRuleID>1</ProductProductionRuleID>
      <Location>
        <EquipmentID>Bikes_Assembly_Line</EquipmentID>
        <EquipmentElementLevel>Site</EquipmentElementLevel>
      </Location>
      <StartTime>2020-12-18T13:00:00.000Z</StartTime>
      <EndTime>2020-12-19T13:00:00.000Z</EndTime>
      <Priority>0</Priority>
      <SegmentRequirement>
        <ID>ROUTE</ID>
        <ProductSegmentID/>
        <ProcessSegmentID/>
        <Description/>
        <Location>
          <EquipmentID/>
          <EquipmentElementLevel/>

```

```

    </Location>
    <EarliestStartTime>2020-12-18T13:00:00.000Z</EarliestStartTime>
    <LatestEndTime>2020-12-19T13:00:00.000Z</LatestEndTime>
    <MaterialProducedRequirement>
      <MaterialClassID/>
      <MaterialDefinitionID>SNOWBIKE-SERIALIZED</
MaterialDefinitionID>
      <MaterialLotID>SERNUM1</MaterialLotID>
      <MaterialSubLotID/>
      <Description/>
      <Quantity>
        <QuantityString>3</QuantityString>
        <DataType>integer</DataType>
        <UnitOfMeasure/>
      </Quantity>
      <MaterialProducedRequirementProperty>
        <ID/>
        <Description/>
      </MaterialProducedRequirementProperty>
    </MaterialProducedRequirement>
  </SegmentRequirement>
</ProductionRequest>
  <Extended:SchemaVersion>3</Extended:SchemaVersion>
</ProductionSchedule>

```

### Standard B2MML WOID Schema Version 3 *without* Route Definition

```

<ProductionSchedule xmlns:Extended="http://www.wbf.org/xml/B2MML-
V0401-AllExtensions" xmlns:inp2="http://www.wbf.org/xml/B2MML-V0401"
  xmlns:erp="http://sample.data">
  >
    <Description/>
    <Location>
      <EquipmentID/>
      <EquipmentElementLevel/>
    </Location>
    <PublishedDate>2017-04-15T09:30:00</PublishedDate>
    <ProductionRequest>
      <ID>WOID3-AD-XML-SNOWBIKES</ID>
      <Description>Work Order to produce 3 SNOWBIKES</Description>
      <Location>
        <EquipmentID>Bikes_Assembly_Line</EquipmentID>
        <EquipmentElementLevel>Site</EquipmentElementLevel>
      </Location>
      <StartTime>2020-12-18T13:00:00.000Z</StartTime>
      <EndTime>2020-12-19T13:00:00.000Z</EndTime>
      <Priority>0</Priority>
      <SegmentRequirement>
        <ID>ROUTE</ID>
        <ProductSegmentID/>
        <ProcessSegmentID/>

```

```

        <Description/>
        <Location>
            <EquipmentID/>
            <EquipmentElementLevel/>
        </Location>
        <EarliestStartTime>2020-12-18T13:00:00.000Z</EarliestStartTime>
        <LatestEndTime>2020-12-19T13:00:00.000Z</LatestEndTime>
        <ProductionParameter>
            <Parameter>
                <ID>
                    DOCUMENTS
                </ID>
                <Value>
                    <ValueString>http://grid.ge.com/485765/
assemblyinstructions.pdf</ValueString>
                    <DataType>string</DataType>
                    <UnitOfMeasure/>
                </Value>
                <Description>AssemblyInstructions</Description>
            </Parameter>
        </ProductionParameter>
        <ProductionParameter>
            <Parameter>
                <ID>
                    DOCUMENTS
                </ID>
                <Value>
                    <ValueString>http://grid.ge.com/485766/
paintinstructions.pdf</ValueString>
                    <DataType>string</DataType>
                    <UnitOfMeasure/>
                </Value>
                <Description>PaintInstructions</Description>
            </Parameter>
        </ProductionParameter>
        <ProductionParameter>
            <Parameter>
                <ID>Some-Integer-Property-Name</ID>
                <Value>
                    <ValueString>10</ValueString>
                    <DataType>integer</DataType>
                    <UnitOfMeasure/>
                </Value>
                <Description/>
            </Parameter>
        </ProductionParameter>
        <ProductionParameter>
            <Parameter>
                <ID>Some-DateTime-Property-Name</ID>
                <Value>
                    <ValueString>2020-10-22T12:30:45.555Z</ValueString>
                    <DataType>string</DataType>
                    <UnitOfMeasure/>

```

```

        </Value>
        <Description/>
    </Parameter>
</ProductionParameter>
<ProductionParameter>
    <Parameter>
        <ID>Some-Boolean-Property-Name</ID>
        <Value>
            <ValueString>>true</ValueString>
            <DataType>boolean</DataType>
            <UnitOfMeasure/>
        </Value>
        <Description/>
    </Parameter>
</ProductionParameter>
<ProductionParameter>
    <Parameter>
        <ID>Some-Float-Property-Name</ID>
        <Value>
            <ValueString>1.2</ValueString>
            <DataType>float</DataType>
            <UnitOfMeasure/>
        </Value>
        <Description/>
    </Parameter>
</ProductionParameter>
<ProductionParameter>
    <Parameter>
        <ID>Some-String-Property-Name</ID>
        <Value>
            <ValueString>StickerLabel</ValueString>
            <DataType>string</DataType>
            <UnitOfMeasure/>
        </Value>
        <Description/>
    </Parameter>
</ProductionParameter>
<MaterialProducedRequirement>
    <MaterialClassID/>
    <MaterialDefinitionID>SNOWBIKE-SERIALIZED
        </MaterialDefinitionID>
    <MaterialLotID>SERNUM1</MaterialLotID>
    <MaterialSubLotID/>
    <Description/>
    <Quantity>
        <QuantityString>3</QuantityString>
        <DataType>integer</DataType>
        <UnitOfMeasure/>
    </Quantity>
    <MaterialProducedRequirementProperty>
        <ID/>
        <Description/>
    </MaterialProducedRequirementProperty>

```

```

        </MaterialProducedRequirement>
        <MaterialConsumedRequirement>
            <MaterialClassID/>
            <MaterialDefinitionID>OpGrpBomItem1</MaterialDefinitionID>
            <MaterialSubLotID/>
            <Description/>
            <Quantity>
                <QuantityString>2</QuantityString>
                <DataType>integer</DataType>
                <UnitOfMeasure>EA</UnitOfMeasure>
            </Quantity>
            <MaterialConsumedRequirementProperty>
                <ID>
                    BOM_SEQUENCE
                </ID>
                <Description/>
                <Value>
                    <ValueString>1</ValueString>
                    <DataType>integer</DataType>
                    <UnitOfMeasure/>
                </Value>
            </MaterialConsumedRequirementProperty>
            <MaterialConsumedRequirementProperty>
                <ID>
                    IS_REQUIRES_CONSUMPTION
                </ID>
                <Description/>
                <Value>
                    <ValueString>true</ValueString>
                    <DataType>boolean</DataType>
                    <UnitOfMeasure/>
                </Value>
            </MaterialConsumedRequirementProperty>
        </MaterialConsumedRequirement>
        <MaterialConsumedRequirement>
            <MaterialClassID/>
            <MaterialDefinitionID>OpGrpBomItem2</MaterialDefinitionID>
            <MaterialSubLotID/>
            <Description/>
            <Quantity>
                <QuantityString>10</QuantityString>
                <DataType>integer</DataType>
                <UnitOfMeasure>EA</UnitOfMeasure>
            </Quantity>
            <MaterialConsumedRequirementProperty>
                <ID>
                    BOM_SEQUENCE
                </ID>
                <Description/>
                <Value>
                    <ValueString>2</ValueString>
                    <DataType>integer</DataType>
                    <UnitOfMeasure/>

```

```

        </Value>
    </MaterialConsumedRequirementProperty>
    <MaterialConsumedRequirementProperty>
        <ID>
            IS_REQUIRES_CONSUMPTION
        </ID>
        <Description/>
        <Value>
            <ValueString>>false</ValueString>
            <DataType>boolean</DataType>
            <UnitOfMeasure/>
        </Value>
    </MaterialConsumedRequirementProperty>
</MaterialConsumedRequirement>
</SegmentRequirement>
<SegmentRequirement>
    <ID>FrameAssembly</ID>
    <ProductSegmentID/>
    <ProcessSegmentID/>
    <Description>Assembling Bike MainFrame.</Description>
    <Location>
        <EquipmentID/>
        <EquipmentElementLevel/>
    </Location>
    <EarliestStartTime>2020-12-18T15:00:00.000Z</EarliestStartTime>
    <LatestEndTime>2020-12-18T16:00:00.000Z</LatestEndTime>
    <ProductionParameter>
        <Parameter>
            <ID>Priority</ID>
            <Value>
                <ValueString>1</ValueString>
                <DataType>integer</DataType>
                <UnitOfMeasure/>
            </Value>
            <Description/>
        </Parameter>
    </ProductionParameter>
    <ProductionParameter>
        <Parameter>
            <ID>
                DOCUMENTS
            </ID>
            <Value>
                <ValueString>http://grid.ge.com/485765/
                MainAssemblyDrawing.pdf</ValueString>
                <DataType>string</DataType>
                <UnitOfMeasure/>
            </Value>
            <Description>AssemblyDrawings</Description>
        </Parameter>
    </ProductionParameter>
    <ProductionParameter>
        <Parameter>

```

```

        <ID>Some-Integer-Property-Name</ID>
        <Value>
            <ValueString>1</ValueString>
            <DataType>integer</DataType>
            <UnitOfMeasure/>
        </Value>
        <Description/>
    </Parameter>
</ProductionParameter>
<ProductionParameter>
    <Parameter>
        <ID>Some-DateTime-Property-Name</ID>
        <Value>
            <ValueString>2020-10-22T12:30:45.555Z</ValueString>
            <DataType>integer</DataType>
            <UnitOfMeasure/>
        </Value>
        <Description/>
    </Parameter>
</ProductionParameter>
<ProductionParameter>
    <Parameter>
        <ID>Some-Float-Property-Name</ID>
        <Value>
            <ValueString>1.2</ValueString>
            <DataType>integer</DataType>
            <UnitOfMeasure/>
        </Value>
        <Description/>
    </Parameter>
</ProductionParameter>
<EquipmentRequirement>
    <Location>
        <EquipmentID>FrameMountingStation</EquipmentID>
        <EquipmentElementLevel>WorkCell</EquipmentElementLevel>
    </Location>
</EquipmentRequirement>
<EquipmentRequirement>
    <Location>
        <EquipmentID>AlignmentJig</EquipmentID>
        <EquipmentElementLevel>WorkCell</EquipmentElementLevel>
    </Location>
</EquipmentRequirement>
<MaterialConsumedRequirement>
    <MaterialClassID/>
    <MaterialDefinitionID>BikeMainFrame</MaterialDefinitionID>
    <MaterialSubLotID/>
    <Description/>
    <Quantity>
        <QuantityString>1</QuantityString>
        <DataType>integer</DataType>
        <UnitOfMeasure>EA</UnitOfMeasure>
    </Quantity>

```



```

                <MaterialConsumedRequirementProperty>
                    <ID>
BOM_SEQUENCE
                    </ID>
                    <Description/>
                    <Value>
                        <ValueString>1</ValueString>
                        <DataType>integer</DataType>
                        <UnitOfMeasure/>
                    </Value>
                </MaterialConsumedRequirementProperty>
                <MaterialConsumedRequirementProperty>
                    <ID>
IS_REQUIRES_CONSUMPTION
                    </ID>
                    <Description/>
                    <Value>
                        <ValueString>>true</ValueString>
                        <DataType>boolean</DataType>
                        <UnitOfMeasure/>
                    </Value>
                </MaterialConsumedRequirementProperty>
            </MaterialConsumedRequirement>
        </SegmentRequirement>
        <SegmentRequirement>
            <ID>TyreMounting</ID>
            <ProductSegmentID/>
            <ProcessSegmentID/>
            <Description>Mounting tyres to Bike frame.</Description>
            <Location>
                <EquipmentID/>
                <EquipmentElementLevel/>
            </Location>
            <EarliestStartTime>2020-12-18T17:00:00.000Z</EarliestStartTime>
            <LatestEndTime>2020-12-18T18:00:00.000Z</LatestEndTime>
            <ProductionParameter>
                <Parameter>
                    <ID>Priority</ID>
                    <Value>
                        <ValueString>2</ValueString>
                        <DataType>integer</DataType>
                        <UnitOfMeasure/>
                    </Value>
                    <Description/>
                </Parameter>
            </ProductionParameter>
            <ProductionParameter>
                <Parameter>
                    <ID>
DOCUMENTS
                </ID>
                <Value>

```

```

                <ValueString>http://grid.ge.com/485765/
TyreMountingInstructions.pdf</ValueString>
                <DataType>string</DataType>
                <UnitOfMeasure/>
            </Value>
            <Description>Instructions for Tyre Mounting</
Description>
        </Parameter>
    </ProductionParameter>
    <ProductionParameter>
        <Parameter>
            <ID>NumberOfTyres</ID>
            <Value>
                <ValueString>2</ValueString>
                <DataType>integer</DataType>
                <UnitOfMeasure/>
            </Value>
            <Description/>
        </Parameter>
    </ProductionParameter>
    <ProductionParameter>
        <Parameter>
            <ID>TyreDiameterInMeters</ID>
            <Value>
                <ValueString>1</ValueString>
                <DataType>integer</DataType>
                <UnitOfMeasure/>
            </Value>
            <Description/>
        </Parameter>
    </ProductionParameter>
    <EquipmentRequirement>
        <Location>
            <EquipmentID>TyreMount</EquipmentID>
            <EquipmentElementLevel>WorkCell</EquipmentElementLevel>
        </Location>
    </EquipmentRequirement>
    <MaterialConsumedRequirement>
        <MaterialClassID/>
        <MaterialDefinitionID>TubelessTyre</MaterialDefinitionID>
        <MaterialSubLotID/>
        <Description/>
        <Quantity>
            <QuantityString>2</QuantityString>
            <DataType>integer</DataType>
            <UnitOfMeasure>EA</UnitOfMeasure>
        </Quantity>
        <MaterialConsumedRequirementProperty>
            <ID>BOM_SEQUENCE</ID>
            <Description/>
            <Value>
                <ValueString>1</ValueString>
                <DataType>integer</DataType>

```

```

        <UnitOfMeasure/>
    </Value>
</MaterialConsumedRequirementProperty>
<MaterialConsumedRequirementProperty>
    <ID>IS_REQUIRES_CONSUMPTION</ID>
    <Description/>
    <Value>
        <ValueString>>true</ValueString>
        <DataType>boolean</DataType>
        <UnitOfMeasure/>
    </Value>
</MaterialConsumedRequirementProperty>
</MaterialConsumedRequirement>
</SegmentRequirement>
</ProductionRequest>
<Extended:SchemaVersion>3</Extended:SchemaVersion>
</ProductionSchedule>

```

## Sample Inbound Files for a Process Order

### Message that Contains a Process Order

```

INSERT INTO erp_integration_inbound_messages (Inserted_Date, Message_Type,
Media_Type, Message, Inserted_By)
VALUES (GETUTCDATE(), 'processOrder', 'application/json', '{POID}',
'<username>')

```

where {POID} is a JSON document that specifies the process order. For a sample POID, refer to [JSON Process Order Import Document \(POID\) \(page 211\)](#).

If you want to send a B2MML document, replace `application/json` with `application/b2mml`.

Inbound messages are added to the integration database using Microsoft SQL Server 2016 or later.

### JSON Process Order Import Document (POID)

A JSON process order import document (POID) contains all the details of a process order. The POID constitutes the body of the HTTP POST request of the ERP Import service, which posts the process order to Plant Applications.

Schema versions 1 and 2 are supported in a POID.

#### JSON POID Schema Version 2

Using schema version 2, you can override values of the process order properties. In addition, providing the production line is not mandatory, and you can include production lines with multiple

execution paths. When a production line has multiple execution paths, the process order becomes an unbound process order. You can associate a production line with an execution path using Plant Applications Administrator or Plant Applications Web Client; or you can leave it as is.

```
{
  "schemaVersion": 2,
  "processOrderName": "POIDXML-100-2020",
  "producedMaterialName": "PulpyJuice",
  "plannedLineName": "",
  "plannedQuantity": 234.89,
  "plannedStartDate": "2020-12-08T09:22:17.017Z",
  "plannedEndDate": "2020-12-09T09:22:17.017Z",
  "bomFormulation": "REG_JUICE_FORMULA",
  "propertyValues": [
    {
      "propertyName": "Process_Prop_Int",
      "propertyValue": "123"
    },
    {
      "propertyName": "Process_Prop_String",
      "propertyValue": "someliteral"
    }
  ]
}
```

## JSON POID Schema Version 1

Using schema version 1, you can import process orders containing information about the planned quantity, material, production line, and planned start and end dates.


```
{
  "schemaVersion": 1,
  "processOrderName": "POIDXML-105-2020",
  "producedMaterialName": "PulpyJuice",
  "plannedLineName": "JuiceLine",
  "plannedQuantity": 10.5,
  "plannedStartDate": "2020-12-08T09:22:17.017Z",
  "plannedEndDate": "2020-12-09T09:22:17.017Z",
  "bomFormulation": "REG_JUICE_FORMULA"
}
```

## *Custom B2MML Process Order Import Document (POID)*

Instead of a JSON format, you can send a POID in one of the following XML formats:

- Standard B2MML
- Custom B2MML

When you use a custom B2MML, you must first provide an XSL file that contains the mapping information. This topic provides custom B2MML samples of a POID for each schema version. Refer to [XSL File to Map a Process Order \(page 217\)](#) for a sample XSL file to map the B2MML samples. If, however, you want to use a standard B2MML format for the POID, refer to [Standard B2MML Process Order Import Document \(POID\) \(page 223\)](#).

 **Note:** When an XML file is processed, some of the special characters are omitted. To prevent this issue, use the escape strings as specified in the following table.

Special Character	Escape String
&	&amp;
<	&lt;
>	&gt;
"	&quot;
'	&apos;

## Custom B2MML POID Schema Version 2

Using schema version 2, you can override values of the process order properties. In addition, providing the production line is not mandatory, and you can include production lines with multiple execution paths. When a production line has multiple execution paths, the process order becomes an unbound process order. You can associate a production line with an execution path using Plant Applications Administrator or Plant Applications Web Client; or you can leave it as is.

```
<?xml version="1.0" encoding="UTF-8"?>

-<ProductionSchedule xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
  xmlns:ns3="http://www.wbf.org/xml/B2MML-V0401" xmlns:xsd="http://
  www.w3.org/2001/XMLSchema" xmlns:Extended="http://www.wbf.org/xml/B2MML-
  V0401-AllExtensions">

  <ID>0000000112841171</ID>

  -<ProductionRequest>

  <ProductProductionRuleID>REG_JUICE_FORMULA</ProductProductionRuleID>

  <ID>POIDXML-100-2020</ID>

  -<SegmentRequirement>

  <LatestEndTime>2020-12-09T09:22:17.825Z</LatestEndTime>

  <EarliestStartTime>2020-12-08T09:22:17.825Z</EarliestStartTime>
```

```
-<MaterialProducedRequirement>

-<Quantity>

<UnitOfMeasure></UnitOfMeasure>

<DataType>float</DataType>

<QuantityString>234.89</QuantityString>

</Quantity>

<MaterialDefinitionID>PulpyJuice</MaterialDefinitionID>

</MaterialProducedRequirement>

-<ProductionParameter>

-<Parameter>

<ID>Process_Prop_Int</ID>

-<Value>

<ValueString>123</ValueString>

<DataType>integer</DataType>

</Value>

<Description>Process_Prop2_Int is int param</Description>

</Parameter>

</ProductionParameter>

-<ProductionParameter>

-<Parameter>

<ID>Process_Prop_String</ID>

-<Value>

<ValueString>someliteral</ValueString>
```

```

<DataType>string</DataType>
</Value>
<Description>Process_Propl is string param</Description>
</Parameter>
</ProductionParameter>
</SegmentRequirement>
</ProductionRequest>
<Extended:SchemaVersion>2</Extended:SchemaVersion>
</ProductionSchedule>

```

## Custom B2MML POID Schema Version 1

Using schema version 1, you can import process orders containing information about the planned quantity, material, production line, and planned start and end dates.

```

<?xml version="1.0" encoding="UTF-8"?>
--<ProductionSchedule xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
  xmlns:ns3="http://www.wbf.org/xml/B2MML-V0401" xmlns:xsd="http://
  www.w3.org/2001/XMLSchema" xmlns:Extended="http://www.wbf.org/xml/B2MML-
  V0401-AllExtensions">
<ID>0000000112841171</ID>
--<ProductionRequest>
<ProductProductionRuleID>REG_JUICE_FORMULA</ProductProductionRuleID>
<ID>POIDXML-100-2020</ID>
--<SegmentRequirement>
<LatestEndTime>2020-12-09T09:22:17.825Z</LatestEndTime>
<EarliestStartTime>2020-12-08T09:22:17.825Z</EarliestStartTime>
--<EquipmentRequirement>
<EquipmentID>JiuceLine</EquipmentID>
</EquipmentRequirement>

```

```
-<MaterialProducedRequirement>

-<Quantity>
<UnitOfMeasure></UnitOfMeasure>
<DataType>float</DataType>
<QuantityString>10.5</QuantityString>
</Quantity>
<MaterialDefinitionID>PulpyJuice</MaterialDefinitionID>
</MaterialProducedRequirement>

<ID>1</ID>

-<EquipmentRequirement>
<EquipmentID>Test Line1</EquipmentID>
</EquipmentRequirement>

-<EquipmentRequirement>
<EquipmentID>Test Line1</EquipmentID>
</EquipmentRequirement>
</SegmentRequirement>
</ProductionRequest>

-<Location>
<EquipmentElementLevel>Site</EquipmentElementLevel>
<EquipmentID>0288</EquipmentID>

-<Location>
<EquipmentElementLevel>Area</EquipmentElementLevel>
<EquipmentID>193</EquipmentID>
```



```

</Location>

</Location>

<Extended:SchemaVersion>1</Extended:SchemaVersion>

</ProductionSchedule>

```

## *XSL File to Map a Process Order*

```

<?xml version="1.0" encoding="UTF-8"?>

-<xsl:stylesheet xmlns:Extended="http://www.wbf.org/xml/B2MML-V0401-
AllExtensions" xmlns:xsl="http://www.w3.org/1999/XSL/Transform"
version="1.0">

<xsl:output method="xml" indent="yes" omit-xml-declaration="yes"/>

<xsl:strip-space elements="*" />

-<xsl:template match="ProductionSchedule">

-<ProductionSchedule>

-<ProductionRequest>

<xsl:variable select="ProductionRequest" name="ProductionRequest"/>

<xsl:variable select="Location" name="ProductionRequestLocation"/>

<xsl:variable select="$ProductionRequest/SegmentRequirement"
name="SegmentRequirement"/>

-<ID>

<xsl:value-of select="$ProductionRequest/ID"/>

</ID>

-<ProductProductionRuleID>

<xsl:value-of select="$ProductionRequest/ProductProductionRuleID"/>

</ProductProductionRuleID>

```

```
-<Location>

- <EquipmentID>

<xsl:value-of select="$SegmentRequirement[ID = 1]/EquipmentRequirement/
EquipmentID" />

</EquipmentID>

- <EquipmentElementLevel>

<xsl:value-of select="$ProductionRequestLocation/EquipmentElementLevel" />

</EquipmentElementLevel>

</Location>

<Priority>0</Priority>

- <SegmentRequirement>

- <ID>

<xsl:value-of select="ID" />

</ID>

- <xsl:if test="$SegmentRequirement/EarliestStartTime">

- <EarliestStartTime>

<xsl:value-of select="$SegmentRequirement/EarliestStartTime" />

</EarliestStartTime>

</xsl:if>

- <xsl:if test="$SegmentRequirement/LatestEndTime">

- <LatestEndTime>

<xsl:value-of select="$SegmentRequirement/LatestEndTime" />

</LatestEndTime>
```

```

</xsl:if>

-<xsl:for-each select="$SegmentRequirement/ProductionParameter">

-<ProductionParameter>

<xsl:variable select="Parameter" name="Parameter"/>

<xsl:variable select="$Parameter/Value" name="ParameterValue"/>

-<Parameter>

-<ID>

<xsl:apply-templates select="$Parameter/ID"/>

<!-- <xsl:value-of select="$Parameter/inp2:ID" /> -->

</ID>

-<Value>

-<ValueString>

<xsl:value-of select="$ParameterValue/ValueString"/>

</ValueString>

-<DataType>

-<xsl:choose>

-<xsl:when test="not($ParameterValue/DataType)">

<xsl:text>string</xsl:text>

</xsl:when>

-<xsl:otherwise>

<xsl:value-of select="$ParameterValue/DataType"/>

```

```

</xsl:otherwise>
</xsl:choose>
</DataType>

--<UnitOfMeasure>
<xsl:value-of select="$ParameterValue/UnitOfMeasure" />
</UnitOfMeasure>
</Value>

--<Description>
<xsl:value-of select="$Parameter/Description" />
</Description>
</Parameter>
</ProductionParameter>
</xsl:for-each>

--<EquipmentRequirement>

--<EquipmentID>
<xsl:value-of select="$SegmentRequirement/EquipmentRequirement/
EquipmentID" />
</EquipmentID>
</EquipmentRequirement>

--<MaterialProducedRequirement>
<xsl:variable select="$SegmentRequirement/MaterialProducedRequirement "
name="MaterialProducedRequirement" />
<xsl:variable select="$SegmentRequirement/MaterialProducedRequirement /
Quantity" name="Quantity" />
<xsl:variable select="$MaterialProducedRequirement /
MaterialProducedRequirementProperty"
name="MaterialProducedRequirementProperty" />

```

```

-<MaterialDefinitionID>
<xsl:value-of select="$MaterialProducedRequirement/MaterialDefinitionID" />
</MaterialDefinitionID>

-<xsl:if test="$Quantity">

-<Quantity>

-<QuantityString>
<xsl:value-of select="$Quantity/QuantityString" />
</QuantityString>

-<DataType>
<xsl:value-of select="$Quantity/DataType" />
</DataType>

-<UnitOfMeasure>
<xsl:value-of select="$Quantity/UnitOfMeasure" />
</UnitOfMeasure>
</Quantity>
</xsl:if>
</MaterialProducedRequirement>

-<xsl:for-each select="$SegmentRequirement/MaterialConsumedRequirement">

-<MaterialConsumedRequirement>

<xsl:variable select="$SegmentRequirement/MaterialConsumedRequirement"
name="MaterialConsumedRequirement" />

<xsl:variable select="$MaterialConsumedRequirement/Quantity"
name="Quantity" />

```

```
<xsl:variable select="$MaterialConsumedRequirement/  
MaterialConsumedRequirementProperty"  
  name="MaterialConsumedRequirementProperty" />  
  
-<MaterialDefinitionID>  
  
<xsl:value-of select="$MaterialConsumedRequirement/MaterialDefinitionID" />  
  
</MaterialDefinitionID>  
  
-<Quantity>  
  
-<QuantityString>  
  
<xsl:value-of select="$Quantity/QuantityString" />  
  
</QuantityString>  
  
-<DataType>  
  
<xsl:value-of select="$Quantity/DataType" />  
  
</DataType>  
  
-<UnitOfMeasure>  
  
<xsl:value-of select="$Quantity/UnitOfMeasure" />  
  
</UnitOfMeasure>  
  
</Quantity>  
  
</MaterialConsumedRequirement>  
  
</xsl:for-each>  
  
</SegmentRequirement>  
  
</ProductionRequest>  
  
-<Extended:SchemaVersion>  
  
<xsl:value-of select="Extended:SchemaVersion" />  
  
</Extended:SchemaVersion>  
  
</ProductionSchedule>
```

```
</xsl:template>

</xsl:stylesheet>
```

## Standard B2MML Process Order Import Document (POID)

Instead of a JSON format, you can send a POID in one of the following XML formats:

- Standard B2MML
- Custom B2MML

This topic describes provides a POID sample in the standard B2MML format for each schema version. If, however, you want to use a custom B2MML format, refer to [Custom B2MML Process Order Import Document \(POID\) \(page 212\)](#).

### Standard B2MML POID Schema Version 2

Using schema version 2, you can override values of the process order properties. In addition, providing the production line is not mandatory, and you can include production lines with multiple execution paths. When a production line has multiple execution paths, the process order becomes an unbound process order. You can associate a production line with an execution path using Plant Applications Administrator or Plant Applications Web Client; or you can leave it as is.

```
<schemaVersion>2</schemaVersion>
<processOrderName>POIDXML-100-2020</processOrderName>
<bomFormulation>REG_JUICE_FORMULA</bomFormulation>
<plannedLineName/>
<plannedStartDate>2020-12-08T09:22:17.825Z</plannedStartDate>
<plannedEndDate>2020-12-09T09:22:17.825Z</plannedEndDate>
<producedMaterialName>PulpyJuice</producedMaterialName>
<plannedQuantity>234.89</plannedQuantity><propertyValues>
  <propertyName>Process_Prop_Int</propertyName>
  <propertyValue>123</propertyValue>
</propertyValues><propertyValues>
  <propertyName>Process_Prop_String</propertyName>
  <propertyValue>someliteral</propertyValue>
</propertyValues>
```

### Standard B2MML POID Using Schema Version 1

Using schema version 1, you can import process orders containing information about the planned quantity, material, production line, and planned start and end dates.

```
<?xml version="1.0"?>

--<ProductionSchedule xmlns:Extended="http://www.wbf.org/xml/B2MML-V0401-
AllExtensions">
```

```
-<ProductionRequest>
<ID>POIDXML-105-2020</ID>
<ProductProductionRuleID>REG_JUICE_FORMULA</ProductProductionRuleID>

-<Location>
<EquipmentID>JiuceLine</EquipmentID>
<EquipmentElementLevel>Site</EquipmentElementLevel>
</Location>
<Priority>0</Priority>

-<SegmentRequirement>
<ID>0000000112841171</ID>
<EarliestStartTime>2020-12-08T09:22:17.825Z</EarliestStartTime>
<LatestEndTime>2020-12-09T09:22:17.825Z</LatestEndTime>

-<EquipmentRequirement>
<EquipmentID>JiuceLine</EquipmentID>
</EquipmentRequirement>

-<MaterialProducedRequirement>
<MaterialDefinitionID>PulpyJuice</MaterialDefinitionID>

-<Quantity>
<QuantityString>10.5</QuantityString>
<DataType>float</DataType>
<UnitOfMeasure>kg</UnitOfMeasure>
</Quantity>
</MaterialProducedRequirement>
</SegmentRequirement>
```



```

</ProductionRequest>

<Extended:SchemaVersion>1</Extended:SchemaVersion>

</ProductionSchedule>

```

## *Sample Inbound Files for Material*

### *Message that Contains a Material*

```

INSERT INTO erp_integration_inbound_messages (Inserted_Date, Message_Type,
Media_Type, Message, Inserted_By)
VALUES (GETUTCDATE(), 'material', 'application/json', '{MMID}',
'<username>')

```

where {MMID} is a JSON document that specifies the material. For a sample MMID, refer to [JSON Material Master Import Document \(MMID\) \(page 225\)](#).

If you want to send a B2MML document, replace `application/json` with `application/b2mml`.

Inbound messages are added to the integration database using Microsoft SQL Server 2016 or later.

### *JSON Material Master Import Document (MMID)*

A JSON material master import document (MMID) contains all the details of a material. The MMID constitutes the body of the HTTP POST request of the ERP Import service, which posts the material to Plant Applications.

Schema versions 1 and 2 are supported in an MMID.

#### **JSON MMID Schema Version 2**

Using schema version 2, you can import materials for serialized as well as non-serialized products.

```

{
  "schemaVersion": 2,
  "productionLines": [
    "Line1"
  ],
  "storageZone": "StorageZone",
  "storageUnit": "StorageUnit",
  "material": {
    "productCode": "105D6043P008",
    "productDescription": "INDEX TUBE",
    "productFamily": "Capacitor",

```

```

    "propertyValues": [
      {
        "propertyName": "UNITOFMEASURE",
        "propertyValue": "EA"
      },
      {
        "propertyName": "REVISION_DATE",
        "propertyValue": "2/20/2016 11:52:44 AM"
      },
      {
        "propertyName": "ITEM_CREATION_DATE",
        "propertyValue": "2/19/2016 4:08:05 PM"
      },
      {
        "propertyName": "STORAGELOCATION",
        "propertyValue": "STK"
      },
      {
        "propertyName": "ITEM_DRAWING",
        "propertyValue": "[\"http://www.google.com/document1\", \"http://www.google.com/document2\"]"
      }
    ],
    "isSerialized": true
  }
}

```

## JSON MMID Schema Version 1

Using schema version 1, you can import materials for serialized products.

```

{
  "schemaVersion": 1,
  "productionLines": [ ], // production lines can be blank
  "storageZone": "", // storage zone can be blank
  "storageUnit": "", // storage unit can be blank
  "material": {
    "productFamily": "",
    "productCode": "", // material name
    "productDescription": "", // material description
    "propertyValues": [ // custom properties can be blank
      {
        "propertyName": "",
        "propertyValue": ""
      },
      {
        "propertyName": "",
        "propertyValue": ""
      }
    ]
  }
}

```


}

## Custom B2MML Material Master Import Document (MMID)

Instead of a JSON format, you can send an MMID in one of the following XML formats:

- Standard B2MML
- Custom B2MML

When you use a custom B2MML, you must first provide an XSL file that contains the mapping information. This topic provides custom B2MML samples of an MMID for each schema version. Refer to [XSL File to Map a Material \(page 230\)](#) for a sample XSL file to map the B2MML samples. If, however, you want to use a standard B2MML format for the MMID, refer to [Standard B2MML Material Master Import Document \(MMID\) \(page 234\)](#).

 **Note:** When an XML file is processed, some of the special characters are omitted. To prevent this issue, use the escape strings as specified in the following table.

Special Character	Escape String
&	&amp;
<	&lt;
>	&gt;
"	&quot;
'	&apos;

## Custom B2MML MMID Schema Version 2

Using schema version 2, you can import materials for serialized as well as non-serialized products.

```
<?xml version="1.0" encoding="UTF-8" standalone="yes"?>
<ProductInformation
  xmlns:xsd="http://www.w3.org/2001/XMLSchema"
  xmlns:Extended="http://www.wbf.org/xml/B2MML-V0401-AllExtensions"
  xmlns="http://www.wbf.org/xml/B2MML-V0401"
  xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance">
  <ProductDefinition>
    <Description>Description Sun Aug 09 21:00:53 IST 2020</Description>
    <Version>1</Version>
    <ProductSegment>
      <Description>desc</Description>
      <EquipmentSpecification>
        <EquipmentSpecificationProperty>
          <ID>ProductionLine</ID>
          <Value>
            <ValueString>Test Line1</ValueString>
```

```

    </Value>
  </EquipmentSpecificationProperty>
  <EquipmentSpecificationProperty>
    <ID>StorageUnit</ID>
    <Value>
      <ValueString>REG_UNIT1_LINE1</ValueString>
    </Value>
  </EquipmentSpecificationProperty>
</EquipmentSpecification>
<Parameter>
  <Value>
    <DataType>string</DataType>
    <ValueString>WEEBLES_PRODUCT_FAMILY</ValueString>
  </Value>
  <ID>PRODUCT_CATEGORY</ID>
</Parameter>
<Parameter>
  <Value>
    <DataType>string</DataType>
    <ValueString>inch</ValueString>
  </Value>
  <ID>unitofmeasure</ID>
</Parameter>
<Parameter>
  <Value>
    <DataType>boolean</DataType>
    <ValueString>>false</ValueString>
  </Value>
  <ID>ISSERIALIZED</ID>
</Parameter>
<Parameter>
  <Value>
    <DataType>DateTime</DataType>
    <ValueString>2019-02-14T14:34:22.666Z</ValueString>
  </Value>
  <ID>ITEM_CREATION_DATE</ID>
</Parameter>
<Parameter>
  <Value>
    <DataType>string</DataType>
    <ValueString>895623</ValueString>
  </Value>
  <ID>ITEM_DRAWING</ID>
</Parameter>
  <ID>1</ID>
</ProductSegment>
  <ID>Auto_Prod_30095</ID>
</ProductDefinition>
<Description>Product Information Description</Description>
<PublishedDate>2016-04-06T12:43:56-04:00</PublishedDate>
<ID>Product Information ID</ID>
<Location>
  <EquipmentElementLevel>WorkCell</EquipmentElementLevel>

```

```

    <EquipmentID>Equipement ID</EquipmentID>
  </Location>
</ProductInformation>

```

## Custom B2MML MMID Schema Version 1

Using schema version 1, you can import materials for serialized products.

```

<?xml version="1.0" encoding="UTF-8" standalone="yes"?>
<ProductInformation
  xmlns:xsd="http://www.w3.org/2001/XMLSchema"
  xmlns:Extended="http://www.wbf.org/xml/B2MML-V0401-AllExtensions"
  xmlns="http://www.wbf.org/xml/B2MML-V0401"
  xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance">
  <ProductDefinition>
    <Description>Description Sun Aug 09 21:00:53 IST 2020</Description>
    <Version>1</Version>
    <ProductSegment>
      <Description>desc</Description>
      <EquipmentSpecification>
        <EquipmentSpecificationProperty>
          <ID>ProductionLine</ID>
          <Value>
            <ValueString>Test Line1</ValueString>
          </Value>
        </EquipmentSpecificationProperty>
        <EquipmentSpecificationProperty>
          <ID>StorageUnit</ID>
          <Value>
            <ValueString>REG_UNIT1_LINE1</ValueString>
          </Value>
        </EquipmentSpecificationProperty>
      </EquipmentSpecification>
      <Parameter>
        <Value>
          <DataType>string</DataType>
          <ValueString>WEEBLES_PRODUCT_FAMILY</ValueString>
        </Value>
        <ID>PRODUCT_CATEGORY</ID>
      </Parameter>
      <Parameter>
        <Value>
          <DataType>string</DataType>
          <ValueString>inch</ValueString>
        </Value>
        <ID>unitofmeasure</ID>
      </Parameter>
      <Parameter>
        <Value>
          <DataType>boolean</DataType>
          <ValueString>>false</ValueString>
        </Value>
        <ID>SERIALIZED</ID>
      </Parameter>
    </ProductSegment>
  </ProductDefinition>
</ProductInformation>

```

```

</Parameter>
<Parameter>
  <Value>
    <DataType>DateTime</DataType>
    <ValueString>2019-02-14T14:34:22.666Z</ValueString>
  </Value>
  <ID>ITEM_CREATION_DATE</ID>
</Parameter>
<Parameter>
  <Value>
    <DataType>string</DataType>
    <ValueString>895623</ValueString>
  </Value>
  <ID>ITEM_DRAWING</ID>
</Parameter>
<ID>1</ID>
</ProductSegment>
<ID>Auto_Prod_30095</ID>
</ProductDefinition>
<Description>Product Information Description</Description>
<PublishedDate>2016-04-06T12:43:56-04:00</PublishedDate>
<ID>Product Information ID</ID>
<Location>
  <EquipmentElementLevel>WorkCell</EquipmentElementLevel>
  <EquipmentID>Equipement ID</EquipmentID>
</Location>
</ProductInformation>

```

## *XSL File to Map a Material*

```

<?xml version="1.0" encoding="UTF-8"?>
<xsl:stylesheet
  xmlns:h="http://www.wbf.org/xml/B2MML-V0401"
  xmlns:xsl="http://www.w3.org/1999/XSL/Transform" version="1.0">
  <xsl:output indent="yes" method="xml" omit-xml-declaration="yes"/>
  <xsl:strip-space elements="*" />
  <xsl:template match="/">
    <xsl:apply-templates select="h:ProductInformation"/>
  </xsl:template>
  <xsl:template match="h:ProductInformation">
    <ProductInformation>
      <ID>
        <xsl:value-of select="h:ID"/>
      </ID>
      <Description>
        <xsl:value-of select="h:Description"/>
      </Description>
      <Location>
        <EquipmentID>
          <xsl:value-of select="h:Location/h:EquipmentID"/>
        </EquipmentID>

```

```

    <EquipmentElementLevel>
      <xsl:value-of select="h:Location/h:EquipmentElementLevel" />
    </EquipmentElementLevel>
  </Location>
  <PublishedDate>
    <xsl:value-of select="h:PublishedDate" />
  </PublishedDate>
  <ProductDefinition>
    <xsl:apply-templates select="h:ProductDefinition" />
  </ProductDefinition>
</ProductInformation>
</xsl:template>
<xsl:template match="h:ProductDefinition">
  <ID>
    <xsl:value-of select="h:ID" />
  </ID>
  <Version>
    <xsl:value-of select="h:Version" />
  </Version>
  <Description>
    <xsl:value-of select="h:Description" />
  </Description>
  <Location>
    <EquipmentID/>
    <EquipmentElementLevel/>
  </Location>
  <ProductProductionRule/>
  <BillOfMaterialsID/>
  <BillOfResourcesID/>
  <ManufacturingBill>
    <ID/>
    <Description/>
    <MaterialClassID/>
    <Quantity>
      <QuantityString/>
      <DataType>string</DataType>
      <UnitOfMeasure/>
    </Quantity>
    <BillOfMaterialID/>
  </ManufacturingBill>
  <ProductSegment>
    <xsl:apply-templates select="h:ProductSegment" />
  </ProductSegment>
</xsl:template>
<xsl:template match="h:ProductSegment">
  <ID>
    <xsl:value-of select="h:ID" />
  </ID>
  <Description>
    <xsl:value-of select="h:Description" />
  </Description>
  <ProcessSegmentID/>
  <xsl:for-each select="h:Parameter">

```

```

<Parameter>
  <ID>
    <!--<xsl:value-of select="h:ID" /> -->
    <xsl:apply-templates select="h:ID" />
  </ID>
  <Value>
    <ValueString>
      <xsl:value-of select="h:Value/h:ValueString" />
    </ValueString>
    <DataType>
      <xsl:choose>
        <xsl:when test="not(h:Value/h:DataType)">
          <xsl:text>string</xsl:text>
        </xsl:when>
        <xsl:otherwise>
          <xsl:value-of select="h:Value/h:DataType" />
        </xsl:otherwise>
      </xsl:choose>
    </DataType>
    <UnitOfMeasure/>
  </Value>
  <Description/>
</Parameter>
</xsl:for-each>
<PersonnelSpecification>
  <PersonnelClassID/>
  <PersonID/>
  <Description/>
  <Quantity>
    <QuantityString/>
    <DataType>string</DataType>
    <UnitOfMeasure/>
  </Quantity>
  <PersonnelSpecificationProperty>
    <ID/>
    <Description/>
    <Value>
      <ValueString/>
      <DataType>string</DataType>
      <UnitOfMeasure></UnitOfMeasure>
    </Value>
    <Quantity>
      <QuantityString/>
      <DataType>string</DataType>
      <UnitOfMeasure/>
    </Quantity>
  </PersonnelSpecificationProperty>
</PersonnelSpecification>
<xsl:for-each select="h:EquipmentSpecification">
  <EquipmentSpecification>
    <EquipmentClassID/>
    <EquipmentID>
      <xsl:value-of select="h:EquipmentId" />

```



```

</EquipmentID>
<Description></Description>
<Quantity>
  <QuantityString/>
  <DataType>string</DataType>
  <UnitOfMeasure/>
</Quantity>
<xsl:for-each select="h:EquipmentSpecificationProperty">
  <EquipmentSpecificationProperty>
    <ID>
      <xsl:value-of select="h:ID" />
    </ID>
    <Description/>
    <Value>
      <ValueString>
        <xsl:value-of select="h:Value/h:ValueString" />
      </ValueString>
      <DataType>string</DataType>
      <UnitOfMeasure/>
    </Value>
    <Quantity>
      <QuantityString/>
      <DataType>string</DataType>
      <UnitOfMeasure/>
    <Key/>
  </Quantity>
</EquipmentSpecificationProperty>
</xsl:for-each>
</EquipmentSpecification>
</xsl:for-each>
<MaterialSpecification>
  <MaterialClassID/>
  <MaterialDefinitionID/>
  <Description/>
  <Quantity>
    <QuantityString/>
    <DataType>string</DataType>
    <UnitOfMeasure/>
  </Quantity>
  <MaterialSpecificationProperty>
    <ID/>
    <Description/>
    <Value>
      <ValueString/>
      <DataType>string</DataType>
      <UnitOfMeasure/>
    </Value>
    <Quantity>
      <QuantityString/>
      <DataType>string</DataType>
      <UnitOfMeasure/>
    </Quantity>
  </MaterialSpecificationProperty>

```

```

</MaterialSpecification>
</xsl:template>
<xsl:template match="h:ID/text()[.='PRODUCT_CATEGORY']"> PRODUCT_FAMILY </
xsl:template>
</xsl:stylesheet>

```

## *Standard B2MML Material Master Import Document (MMID)*

Instead of a JSON format, you can send an MMID in one of the following XML formats:

- Standard B2MML
- Custom B2MML

This topic provides an MMID sample in the standard B2MML format for each schema version. If, however, you want to use a custom B2MML format, refer to [Custom B2MML Material Master Import Document \(MMID\) \(page 227\)](#).

### **Standard B2MML MMID Using Schema Version 2**

Using schema version 2, you can import materials for serialized as well as non-serialized products.

```

<ProductInformation
  xmlns:h="http://www.wbf.org/xml/B2MML-V0401">
  <ID>Internal from MiddleWare</ID>
  <Description>ITEM_MASTER</Description>
  <Location>
    <EquipmentID>C86</EquipmentID>
    <EquipmentElementLevel>Site</EquipmentElementLevel>
  </Location>
  <PublishedDate>2016-04-06T12:43:56-04:00</PublishedDate>
  <ProductDefinition>
    <ID>105D6043P008</ID>
    <Version>100</Version>
    <Description>INDEX TUBE</Description>
    <Location>
      <EquipmentID />
      <EquipmentElementLevel />
    </Location>
    <ProductProductionRule />
    <BillOfMaterialsID />
    <BillOfResourcesID />
    <ManufacturingBill>
      <ID />
      <Description />
      <MaterialClassID />
      <Quantity>
        <QuantityString />
        <DataType>string</DataType>
        <UnitOfMeasure />
      </Quantity>
    </ManufacturingBill>
  </ProductDefinition>
</ProductInformation>

```

```

<BillOfMaterialID />
</ManufacturingBill>
<ProductSegment>
  <ID>000</ID>
  <Description>HEADER</Description>
  <ProcessSegmentID />
  <Parameter>
    <ID>UNIT_OF_MEASURE</ID>
    <Value>
      <ValueString>EA</ValueString>
      <DataType>string</DataType>
      <UnitOfMeasure />
    </Value>
    <Description />
  </Parameter>
  <Parameter>
    <ID>PRODUCT_FAMILY</ID>
    <Value>
      <ValueString>Capacitor</ValueString>
      <DataType>string</DataType>
      <UnitOfMeasure />
    </Value>
    <Description />
  </Parameter>
  <Parameter>
    <ID>ISSERIALIZED</ID>
    <Value>
      <ValueString>TRUE</ValueString>
      <DataType>string</DataType>
      <UnitOfMeasure />
    </Value>
    <Description />
  </Parameter>
  <Parameter>
    <ID>REVISION_DATE</ID>
    <Value>
      <ValueString>2/20/2016 11:52:44 AM</ValueString>
      <DataType>string</DataType>
      <UnitOfMeasure />
    </Value>
    <Description />
  </Parameter>
  <Parameter>
    <ID>ITEM_CREATION_DATE</ID>
    <Value>
      <ValueString>2/19/2016 4:08:05 PM</ValueString>
      <DataType>string</DataType>
      <UnitOfMeasure />
    </Value>
    <Description />
  </Parameter>
  <Parameter>
    <ID>ITEM_DRAWING</ID>

```

```

<Value>
  <ValueString>http://www.google.com/document1</ValueString>
  <DataType>string</DataType>
  <UnitOfMeasure />
</Value>
<Description />
</Parameter>
<Parameter>
  <ID>ITEM_DRAWING</ID>
  <Value>
    <ValueString>http://www.google.com/document2</ValueString>
    <DataType>string</DataType>
    <UnitOfMeasure />
  </Value>
  <Description />
</Parameter>
<Parameter>
  <ID>STORAGELOCATION</ID>
  <Value>
    <ValueString>STK</ValueString>
    <DataType>string</DataType>
    <UnitOfMeasure />
  </Value>
  <Description />
</Parameter>
<PersonnelSpecification>
  <PersonnelClassID />
  <PersonID />
  <Description />
  <Quantity>
    <QuantityString />
    <DataType>string</DataType>
    <UnitOfMeasure />
  </Quantity>
  <PersonnelSpecificationProperty>
    <ID />
    <Description />
    <Value>
      <ValueString />
      <DataType>string</DataType>
      <UnitOfMeasure />
    </Value>
    <Quantity>
      <QuantityString />
      <DataType>string</DataType>
      <UnitOfMeasure />
    </Quantity>
  </PersonnelSpecificationProperty>
</PersonnelSpecification>
<EquipmentSpecification>
  <EquipmentClassID />
  <EquipmentID />
  <Description />

```

```

<Quantity>
  <QuantityString />
  <DataType>string</DataType>
  <UnitOfMeasure />
</Quantity>
<EquipmentSpecificationProperty>
  <ID>ProductionLine</ID>
  <Description />
  <Value>
    <ValueString>Line1</ValueString>
    <DataType>string</DataType>
    <UnitOfMeasure />
  </Value>
  <Quantity>
    <QuantityString />
    <DataType>string</DataType>
    <UnitOfMeasure />
    <Key />
  </Quantity>
</EquipmentSpecificationProperty>
<EquipmentSpecificationProperty>
  <ID>StorageZone</ID>
  <Description />
  <Value>
    <ValueString>StorageZone</ValueString>
    <DataType>string</DataType>
    <UnitOfMeasure />
  </Value>
  <Quantity>
    <QuantityString />
    <DataType>string</DataType>
    <UnitOfMeasure />
    <Key />
  </Quantity>
</EquipmentSpecificationProperty>
<EquipmentSpecificationProperty>
  <ID>StorageUnit</ID>
  <Description />
  <Value>
    <ValueString>StorageUnit</ValueString>
    <DataType>string</DataType>
    <UnitOfMeasure />
  </Value>
  <Quantity>
    <QuantityString />
    <DataType>string</DataType>
    <UnitOfMeasure />
    <Key />
  </Quantity>
</EquipmentSpecificationProperty>
</EquipmentSpecification>
<MaterialSpecification>
  <MaterialClassID />

```

```

    <MaterialDefinitionID />
    <Description />
    <Quantity>
      <QuantityString />
      <DataType>string</DataType>
      <UnitOfMeasure />
    </Quantity>
    <MaterialSpecificationProperty>
      <ID />
      <Description />
      <Value>
        <ValueString />
        <DataType>string</DataType>
        <UnitOfMeasure />
      </Value>
      <Quantity>
        <QuantityString />
        <DataType>string</DataType>
        <UnitOfMeasure />
      </Quantity>
    </MaterialSpecificationProperty>
  </MaterialSpecification>
</ProductSegment>
</ProductDefinition>
</ProductInformation>

```

## Standard B2MML MMID Using Schema Version 1

Using schema version 1, you can import materials for serialized products.

```

<ProductInformation
  xmlns:h="http://www.wbf.org/xml/B2MML-V0401">
  <ID>Internal from MiddleWare</ID>
  <Description>ITEM_MASTER</Description>
  <Location>
    <EquipmentID>C86</EquipmentID>
    <EquipmentElementLevel>Site</EquipmentElementLevel>
  </Location>
  <PublishedDate>2016-04-06T12:43:56-04:00</PublishedDate>
  <ProductDefinition>
    <ID>105D6043P008</ID>
    <Version>100</Version>
    <Description>INDEX TUBE</Description>
    <Location>
      <EquipmentID />
      <EquipmentElementLevel />
    </Location>
    <ProductProductionRule />
    <BillofMaterialsID />
    <BillofResourcesID />
    <ManufacturingBill>
      <ID />
      <Description />
    </ManufacturingBill>
  </ProductDefinition>
</ProductInformation>

```

```

<MaterialClassID />
<Quantity>
  <QuantityString />
  <DataType>string</DataType>
  <UnitOfMeasure />
</Quantity>
<BillofMaterialID />
</ManufacturingBill>
<ProductSegment>
  <ID>000</ID>
  <Description>HEADER</Description>
  <ProcessSegmentID />
  <Parameter>
    <ID>UNIT_OF_MEASURE</ID>
    <Value>
      <ValueString>EA</ValueString>
      <DataType>string</DataType>
      <UnitOfMeasure />
    </Value>
    <Description />
  </Parameter>
  <Parameter>
    <ID>PRODUCT_FAMILY</ID>
    <Value>
      <ValueString>Capacitor</ValueString>
      <DataType>string</DataType>
      <UnitOfMeasure />
    </Value>
    <Description />
  </Parameter>
  <Parameter>
    <ID>ISSERIALIZED1</ID>
    <Value>
      <ValueString>TRUE</ValueString>
      <DataType>string</DataType>
      <UnitOfMeasure />
    </Value>
    <Description />
  </Parameter>
  <Parameter>
    <ID>REVISION_DATE</ID>
    <Value>
      <ValueString>2/20/2016 11:52:44 AM</ValueString>
      <DataType>string</DataType>
      <UnitOfMeasure />
    </Value>
    <Description />
  </Parameter>
  <Parameter>
    <ID>ITEM_CREATION_DATE</ID>
    <Value>
      <ValueString>2/19/2016 4:08:05 PM</ValueString>
      <DataType>string</DataType>

```

```

    <UnitOfMeasure />
  </Value>
  <Description />
</Parameter>
<Parameter>
  <ID>ITEM_DRAWING</ID>
  <Value>
    <ValueString>http://www.google.com/document1</ValueString>
    <DataType>string</DataType>
    <UnitOfMeasure />
  </Value>
  <Description />
</Parameter>
<Parameter>
  <ID>ITEM_DRAWING</ID>
  <Value>
    <ValueString>http://www.google.com/document2</ValueString>
    <DataType>string</DataType>
    <UnitOfMeasure />
  </Value>
  <Description />
</Parameter>
<Parameter>
  <ID>STORAGELOCATION</ID>
  <Value>
    <ValueString>STK</ValueString>
    <DataType>string</DataType>
    <UnitOfMeasure />
  </Value>
  <Description />
</Parameter>
<PersonnelSpecification>
  <PersonnelClassID />
  <PersonID />
  <Description />
  <Quantity>
    <QuantityString />
    <DataType>string</DataType>
    <UnitOfMeasure />
  </Quantity>
  <PersonnelSpecificationProperty>
    <ID />
    <Description />
    <Value>
      <ValueString />
      <DataType>string</DataType>
      <UnitOfMeasure />
    </Value>
    <Quantity>
      <QuantityString />
      <DataType>string</DataType>
      <UnitOfMeasure />
    </Quantity>
  </PersonnelSpecificationProperty>
</PersonnelSpecification>

```



```

    </PersonnelSpecificationProperty>
  </PersonnelSpecification>
  <EquipmentSpecification>
    <EquipmentClassID />
    <EquipmentID />
    <Description />
    <Quantity>
      <QuantityString />
      <DataType>string</DataType>
      <UnitOfMeasure />
    </Quantity>
    <EquipmentSpecificationProperty>
      <ID>ProductionLine</ID>
      <Description />
      <Value>
        <ValueString>Line1</ValueString>
        <DataType>string</DataType>
        <UnitOfMeasure />
      </Value>
      <Quantity>
        <QuantityString />
        <DataType>string</DataType>
        <UnitOfMeasure />
        <Key />
      </Quantity>
    </EquipmentSpecificationProperty>
    <EquipmentSpecificationProperty>
      <ID>StorageZone</ID>
      <Description />
      <Value>
        <ValueString>StorageZone</ValueString>
        <DataType>string</DataType>
        <UnitOfMeasure />
      </Value>
      <Quantity>
        <QuantityString />
        <DataType>string</DataType>
        <UnitOfMeasure />
        <Key />
      </Quantity>
    </EquipmentSpecificationProperty>
    <EquipmentSpecificationProperty>
      <ID>StorageUnit</ID>
      <Description />
      <Value>
        <ValueString>StorageUnit</ValueString>
        <DataType>string</DataType>
        <UnitOfMeasure />
      </Value>
      <Quantity>
        <QuantityString />
        <DataType>string</DataType>
        <UnitOfMeasure />

```

```

    <Key />
  </Quantity>
</EquipmentSpecificationProperty>
</EquipmentSpecification>
<MaterialSpecification>
  <MaterialClassID />
  <MaterialDefinitionID />
  <Description />
  <Quantity>
    <QuantityString />
    <DataType>string</DataType>
    <UnitOfMeasure />
  </Quantity>
  <MaterialSpecificationProperty>
    <ID />
    <Description />
    <Value>
      <ValueString />
      <DataType>string</DataType>
      <UnitOfMeasure />
    </Value>
    <Quantity>
      <QuantityString />
      <DataType>string</DataType>
      <UnitOfMeasure />
    </Quantity>
  </MaterialSpecificationProperty>
</MaterialSpecification>
</ProductSegment>
</ProductDefinition>
</ProductInformation>

```

## Sample Inbound Files for Material Lot

### Message that Contains a Material Lot

```

INSERT INTO erp_integration_inbound_messages (Inserted_Date, Message_Type,
Media_Type, Message, Inserted_By)
VALUES (GETUTCDATE(), 'materialLot' , 'application/json', '{MLID}',
'<username>')

```

where {MLID} is a JSON document that specifies the material lot. For a sample MLID, refer to [JSON Material Lot Import Document \(MLID\) \(page 243\)](#).

If you want to send a B2MML document, replace `application/json` with `application/b2mml`.

Inbound messages are added to the integration database using Microsoft SQL Server 2016 or later.

## *JSON Material Lot Import Document (MLID)*

A JSON material lot import document (MLID) contains all the details of a material lot. The MLID constitutes the body of the HTTP POST request of the ERP Import service, which posts the material to Plant Applications.

Schema versions 4, 3, and 2 are supported in an MLID.


Sometimes, an MLID includes receiver data (represented by `"description": "Receiver"` in the MLID). The material lot that contains receiver data is considered a receiver. All the remaining material lots in a message are linked to the receiver using genealogy. You can perform inspection on receivers using the Receiving Inspection application in Plant Applications Web Client.

The following conditions apply when you send an MLID:

- A message can contain only one receiver. However, it is not mandatory to include a receiver in a message.
- A single unit cannot contain duplicate lot identifiers.
- The units of measure provided for each material lot in the message must match the units of measure for one of the units in the corresponding inventory line in Plant Applications (which is the default value of the inventory line property). If it does not match or if multiple units have the same units of measure, an error occurs. In addition, for a material lot that does not represent a receiver, this unit must contain the same OrgCode that you will provide in the MLID. To find out the OrgCode, check the OrgCode value in the ExtendedInfo property of the unit in Plant Applications Administrator. If, however, you do not provide the OrgCode, the validation will not happen.

### **JSON MLID Schema Version 4**

Using schema version 4, you can update the status, quantity, and properties of a material lot.

 **Note:** The following sample contains two material lots in which the second one is a receiver.

```
{
  "schemaVersion": 4,
  "materialLot": [
    {
      "lotIdentifier": "BKC100",
      "productName": "Bike Cassette",
      "quantity": 100,
      "unitOfMeasure": "EA",
      "status": "Open",
      "description": "",
      "propertyValues": [
        {
          "propertyName": "Integer-Property-Name",
          "propertyValue": "12"
        }
      ]
    }
  ]
}
```

```

    },
    {
      "propertyName": "Float-Property-Name",
      "propertyValue": "12.132"
    },
    {
      "propertyName": "String-Property-Name",
      "propertyValue": "ValidStringValue"
    },
    {
      "propertyName": "String-Property-Name-NULL",
      "propertyValue": ""
    },
    {
      "propertyName": "DateTime-Property-Name",
      "propertyValue": "2019-02-14T14:34:22.666Z"
    }
  ]
},
{
  "lotIdentifier": "SLC50",
  "productName": "Speed Light Chain",
  "quantity": 10000,
  "unitOfMeasure": "cm",
  "status": "XYZ",
  "description": "Receiver",
  "propertyValues": [
    {
      "propertyName": "Array-String-Property-Name",
      "propertyValue": "[\"ValidFirstString\", \"ValidSecondString\"]"
    },
    {
      "propertyName": "Array-DateTime-Property-Name",
      "propertyValue": "[\"2019-02-14T14:34:22.666Z\", \"2020-02-14T14:34:22.666Z\"]"
    }
  ]
}
]
}
}

```

### JSON MLID Schema Versions 2 and 3

- **Schema version 3:** You can import material lots and OSP details - providing the status is not mandatory.
- **Schema version 2:** You can import material lots and OSP details - providing the status is mandatory.

### JSON MLID Using Schema Version 3

```
{
```

```

"schemaVersion": 3,
"materialLot": [
  {
    "lotIdentifier": "BKC100",
    "productName": "Bike Cassette",
    "quantity": 100,
    "unitOfMeasure": "EA",
    "description": "",
    "propertyValues": [
      {
        "propertyName": "Integer-Property-Name",
        "propertyValue": "12"
      },
      {
        "propertyName": "Float-Property-Name",
        "propertyValue": "12.132"
      },
      {
        "propertyName": "String-Property-Name",
        "propertyValue": "ValidStringValue"
      },
      {
        "propertyName": "Empty-String-Property-Name",
        "propertyValue": ""
      },
      {
        "propertyName": "DateTime-Property-Name",
        "propertyValue": "2019-02-14T14:34:22.666Z"
      }
    ]
  },
  {
    "lotIdentifier": "SLC50",
    "productName": "Speed Light Chain",
    "quantity": 10000,
    "unitOfMeasure": "cm",
    "description": "Receiver",
    "propertyValues": [
      {
        "propertyName": "Array-String-Property-Name",
        "propertyValue": "[\"ValidFirstString\", \"ValidSecondString\"]"
      },
      {
        "propertyName": "Array-DateTime-Property-Name",
        "propertyValue": "[\"2019-02-14T14:34:22.666Z\", \"2020-02-14T14:34:22.666Z\"]"
      }
    ]
  }
]
}

```

## JSON MILD Using Schema Version 2

```

{
  "schemaVersion": 2,
  "materialLot": [
    {
      "lotIdentifier": "BKC100",
      "productName": "Bike Cassette",
      "quantity": 100,
      "unitOfMeasure": "EA",
      "status": "Open",
      "description": "",
      "propertyValues": [
        {
          "propertyName": "Integer-Property-Name",
          "propertyValue": "12"
        },
        {
          "propertyName": "Float-Property-Name",
          "propertyValue": "12.132"
        },
        {
          "propertyName": "String-Property-Name",
          "propertyValue": "ValidStringValue"
        },
        {
          "propertyName": "String-Property-Name-NULL",
          "propertyValue": ""
        },
        {
          "propertyName": "DateTime-Property-Name",
          "propertyValue": "2019-02-14T14:34:22.666Z"
        }
      ]
    },
    {
      "lotIdentifier": "SLC50",
      "productName": "Speed Light Chain",
      "quantity": 10000,
      "unitOfMeasure": "cm",
      "status": "Open",
      "description": "Receiver",
      "propertyValues": [
        {
          "propertyName": "Array-String-Property-Name",
          "propertyValue": "[\"ValidFirstString\", \"ValidSecondString\"]"
        },
        {
          "propertyName": "Array-DateTime-Property-Name",
          "propertyValue": "[\"2019-02-14T14:34:22.666Z\", \"2020-02-14T14:34:22.666Z\"]"
        }
      ]
    }
  ]
}

```

```

    ]
  }
]
}

```

## Standard B2MML Material Lot Import Document (MLID)

Instead of a JSON format, you can send an MLID in a standard B2MML format. This topic provides an MLID sample in the standard B2MML format for each schema version.

### Standard B2MML MLID Schema Version 4

Using schema version 4, you can update the status, quantity, and properties of a material lot.

```

<?xml version="1.0" encoding="UTF-8"?>
<MaterialInformation
  xmlns="http://www.wbf.org/xml/B2MML-V0401"
  xmlns:Extended="http://www.wbf.org/xml/B2MML-V0401-AllExtensions"
  xmlns:xsd="http://www.w3.org/2001/XMLSchema"
  xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance">
  <ID>1</ID>
  <PublishedDate>2020-06-20T16:09:31-04:00</PublishedDate>
  <MaterialLot>
    <ID>BKC100</ID>
    <Description></Description>
    <MaterialDefinitionID>Bike Cassette</MaterialDefinitionID>
    <Status>Open</Status>
    <MaterialLotProperty>
      <ID>Integer-Property-Name</ID>
      <Value>
        <ValueString>12</ValueString>
        <DataType>integer</DataType>
        <UnitOfMeasure></UnitOfMeasure>
      </Value>
    </MaterialLotProperty>
    <MaterialLotProperty>
      <ID>Float-Property-Name</ID>
      <Value>
        <ValueString>12.132</ValueString>
        <DataType>float</DataType>
        <UnitOfMeasure></UnitOfMeasure>
      </Value>
    </MaterialLotProperty>
    <MaterialLotProperty>
      <ID>String-Property-Name</ID>
      <Value>
        <ValueString>ValidStringValue</ValueString>
        <DataType>string</DataType>
        <UnitOfMeasure></UnitOfMeasure>
      </Value>
    </MaterialLotProperty>
  </MaterialLot>
</MaterialInformation>

```

```

<MaterialLotProperty>
  <ID>Empty-String-Property-Name</ID>
  <Value>
    <ValueString></ValueString>
    <DataType>string</DataType>
    <UnitOfMeasure></UnitOfMeasure>
  </Value>
</MaterialLotProperty>
<MaterialLotProperty>
  <ID>Date-Property-Name</ID>
  <Value>
    <ValueString>2019-02-14T14:34:22.666Z</ValueString>
    <DataType>DateTime</DataType>
    <UnitOfMeasure></UnitOfMeasure>
  </Value>
</MaterialLotProperty>
<Quantity>
  <QuantityString>100</QuantityString>
  <DataType>string</DataType>
  <UnitOfMeasure>EA</UnitOfMeasure>
</Quantity>
</MaterialLot>
<MaterialLot>
  <ID>SLC50</ID>
  <Description>Receiver</Description>
  <MaterialDefinitionID>Speed Light Chain</MaterialDefinitionID>
  <Status>XYZ</Status>
  <MaterialLotProperty>
    <ID>Array-String-Property-Name</ID>
    <Value>
      <ValueString>ValidFirstString</ValueString>
      <DataType>string</DataType>
      <UnitOfMeasure></UnitOfMeasure>
    </Value>
  </MaterialLotProperty>
  <MaterialLotProperty>
    <ID>Array-String-Property-Name</ID>
    <Value>
      <ValueString>ValidSecondString</ValueString>
      <DataType>string</DataType>
      <UnitOfMeasure></UnitOfMeasure>
    </Value>
  </MaterialLotProperty>
  <MaterialLotProperty>
    <ID>Array-Date-Property-Name</ID>
    <Value>
      <ValueString>2019-02-14T14:34:22.666Z</ValueString>
      <DataType>DateTime</DataType>
      <UnitOfMeasure></UnitOfMeasure>
    </Value>
  </MaterialLotProperty>
</MaterialLotProperty>

```



```

        <ID>Array-DateTime-Property-Name</ID>
        <Value>
            <ValueString>2020-02-14T14:34:22.666Z</ValueString>
            <DataType>DateTime</DataType>
            <UnitOfMeasure></UnitOfMeasure>
        </Value>
    </MaterialLotProperty>
    <Quantity>
        <QuantityString>10000</QuantityString>
        <DataType>string</DataType>
        <UnitOfMeasure>cm</UnitOfMeasure>
    </Quantity>
</MaterialLot>
<Extended:SchemaVersion>4</Extended:SchemaVersion>
</MaterialInformation>

```

## Standard B2MML MLID Schema Versions 2 and 3

- **Schema version 3:** You can import material lots and OSP details - providing the status is not mandatory.
- **Schema version 2:** You can import material lots and OSP details - providing the status is mandatory.

## Standard B2MML MLID Schema Version 3

```

<?xml version="1.0" encoding="UTF-8"?>
<MaterialInformation
  xmlns="http://www.wbf.org/xml/B2MML-V0401"
  xmlns:Extended="http://www.wbf.org/xml/B2MML-V0401-AllExtensions"
  xmlns:xsd="http://www.w3.org/2001/XMLSchema"
  xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance">
  <ID>1</ID>
  <PublishedDate>2020-06-20T16:09:31-04:00</PublishedDate>
  <MaterialLot>
    <ID>BKC100</ID>
    <Description></Description>
    <MaterialDefinitionID>Bike Cassette</MaterialDefinitionID>
  <MaterialLotProperty>
    <ID>Integer-Property-Name</ID>
    <Value>
      <ValueString>12</ValueString>
      <DataType>integer</DataType>
      <UnitOfMeasure></UnitOfMeasure>
    </Value>
  </MaterialLotProperty>
  <MaterialLotProperty>
    <ID>Float-Property-Name</ID>
    <Value>
      <ValueString>12.132</ValueString>

```

```

        <DataType>float</DataType>
        <UnitOfMeasure></UnitOfMeasure>
    </Value>
</MaterialLotProperty>
<MaterialLotProperty>
    <ID>String-Property-Name</ID>
    <Value>
        <ValueString>ValidStringValue</ValueString>
        <DataType>string</DataType>
        <UnitOfMeasure></UnitOfMeasure>
    </Value>
</MaterialLotProperty>

<MaterialLotProperty>
    <ID>Empty-String-Property-Name</ID>
    <Value>
        <ValueString></ValueString>
        <DataType>string</DataType>
        <UnitOfMeasure></UnitOfMeasure>
    </Value>
</MaterialLotProperty>
<MaterialLotProperty>
    <ID>DateTime-Property-Name</ID>
    <Value>
        <ValueString>2019-02-14T14:34:22.666Z</ValueString>
        <DataType>DateTime</DataType>
        <UnitOfMeasure></UnitOfMeasure>
    </Value>
</MaterialLotProperty>
<Quantity>
    <QuantityString>100</QuantityString>
    <DataType>string</DataType>
    <UnitOfMeasure>EA</UnitOfMeasure>
</Quantity>
</MaterialLot>
<MaterialLot>
    <ID>SLC50</ID>
    <Description>Receiver</Description>
    <MaterialDefinitionID>Speed Light Chain</MaterialDefinitionID>

<MaterialLotProperty>
    <ID>Array-String-Property-Name</ID>
    <Value>
        <ValueString>ValidFirstString</ValueString>
        <DataType>string</DataType>
        <UnitOfMeasure></UnitOfMeasure>
    </Value>
</MaterialLotProperty>
<MaterialLotProperty>
    <ID>Array-String-Property-Name</ID>
    <Value>
        <ValueString>ValidSecondString</ValueString>
        <DataType>string</DataType>

```

```

        <UnitOfMeasure></UnitOfMeasure>
      </Value>
    </MaterialLotProperty>
    <MaterialLotProperty>
      <ID>Array-DateTime-Property-Name</ID>
      <Value>
        <ValueString>2019-02-14T14:34:22.666Z</ValueString>
        <DataType>DateTime</DataType>
        <UnitOfMeasure></UnitOfMeasure>
      </Value>
    </MaterialLotProperty>
    <MaterialLotProperty>
      <ID>Array-DateTime-Property-Name</ID>
      <Value>
        <ValueString>2020-02-14T14:34:22.666Z</ValueString>
        <DataType>DateTime</DataType>
        <UnitOfMeasure></UnitOfMeasure>
      </Value>
    </MaterialLotProperty>
  </MaterialLot>
  <Quantity>
    <QuantityString>10000</QuantityString>
    <DataType>string</DataType>
    <UnitOfMeasure>cm</UnitOfMeasure>
  </Quantity>
</MaterialLot>
<Extended:SchemaVersion>3</Extended:SchemaVersion>
</MaterialInformation>

```

## Standard B2MML MLID Using Schema Version 2

```

<?xml version="1.0" encoding="UTF-8"?>
<MaterialInformation
  xmlns="http://www.wbf.org/xml/B2MML-V0401"
  xmlns:Extended="http://www.wbf.org/xml/B2MML-V0401-AllExtensions"
  xmlns:xsd="http://www.w3.org/2001/XMLSchema"
  xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance">
  <ID>1</ID>
  <PublishedDate>2020-06-20T16:09:31-04:00</PublishedDate>
  <MaterialLot>
    <ID>BKC100</ID>
    <Description></Description>
    <MaterialDefinitionID>Bike Cassette</MaterialDefinitionID>
    <Status>Open</Status>
  <MaterialLotProperty>
    <ID>Integer-Property-Name</ID>
    <Value>
      <ValueString>12</ValueString>
      <DataType>integer</DataType>
      <UnitOfMeasure></UnitOfMeasure>
    </Value>
  </MaterialLotProperty>
</MaterialInformation>

```

```

    </MaterialLotProperty>
  <MaterialLotProperty>
    <ID>Float-Property-Name</ID>
    <Value>
      <ValueString>12.132</ValueString>
      <DataType>float</DataType>
      <UnitOfMeasure></UnitOfMeasure>
    </Value>
  </MaterialLotProperty>
  <MaterialLotProperty>
    <ID>String-Property-Name</ID>
    <Value>
      <ValueString>ValidStringValue</ValueString>
      <DataType>string</DataType>
      <UnitOfMeasure></UnitOfMeasure>
    </Value>
  </MaterialLotProperty>

  <MaterialLotProperty>
    <ID>Empty-String-Property-Name</ID>
    <Value>
      <ValueString></ValueString>
      <DataType>string</DataType>
      <UnitOfMeasure></UnitOfMeasure>
    </Value>
  </MaterialLotProperty>
  <MaterialLotProperty>
    <ID>DateTime-Property-Name</ID>
    <Value>
      <ValueString>2019-02-14T14:34:22.666Z</ValueString>
      <DataType>DateTime</DataType>
      <UnitOfMeasure></UnitOfMeasure>
    </Value>
  </MaterialLotProperty>
  <Quantity>
    <QuantityString>100</QuantityString>
    <DataType>string</DataType>
    <UnitOfMeasure>EA</UnitOfMeasure>
  </Quantity>
</MaterialLot>
<MaterialLot>
  <ID>SLC50</ID>
  <Description>Receiver</Description>
  <MaterialDefinitionID>Speed Light Chain</MaterialDefinitionID>
  <Status>Open</Status>
  <MaterialLotProperty>
    <ID>Array-String-Property-Name</ID>
    <Value>
      <ValueString>ValidFirstString</ValueString>
      <DataType>string</DataType>
      <UnitOfMeasure></UnitOfMeasure>
    </Value>
  </MaterialLotProperty>

```

```

<MaterialLotProperty>
  <ID>Array-String-Property-Name</ID>
  <Value>
    <ValueString>ValidSecondString</ValueString>
    <DataType>string</DataType>
    <UnitOfMeasure></UnitOfMeasure>
  </Value>
</MaterialLotProperty>
<MaterialLotProperty>
  <ID>Array-DateTime-Property-Name</ID>
  <Value>
    <ValueString>2019-02-14T14:34:22.666Z</ValueString>
    <DataType>DateTime</DataType>
    <UnitOfMeasure></UnitOfMeasure>
  </Value>
</MaterialLotProperty>
<MaterialLotProperty>
  <ID>Array-DateTime-Property-Name</ID>
  <Value>
    <ValueString>2020-02-14T14:34:22.666Z</ValueString>
    <DataType>DateTime</DataType>
    <UnitOfMeasure></UnitOfMeasure>
  </Value>
</MaterialLotProperty>
<Quantity>
  <QuantityString>10000</QuantityString>
  <DataType>string</DataType>
  <UnitOfMeasure>cm</UnitOfMeasure>
</Quantity>
</MaterialLot>
<Extended:SchemaVersion>4</Extended:SchemaVersion>
</MaterialInformation>

```

## *Sample Inbound Files for Outside Processing (OSP)*

### *Message that Contains Outside Processing (OSP)*

```

INSERT INTO erp_integration_inbound_messages (Inserted_Date, Message_Type,
Media_Type, Message, Inserted_By)
VALUES (GETUTCDATE(), 'OSP', 'application/json', '{MLID}', '<username>')

```

where {MLID} is a JSON document that specifies the OSP. For a sample MLID that contains an OSP, refer to [JSON Outside Processing Master Import Document \(page 254\)](#).

If you want to send a B2MML document, replace `application/json` with `application/b2mml`.

Inbound messages that contain OSP are added to the integration database using Microsoft SQL Server 2016 or later.

## *JSON Outside Processing Master Import Document*

A JSON material lot import document (MLID) contains all the details of Outside Processing (OSP). The MLID constitutes the body of the HTTP POST request of the ERP Import service, which posts the OSP to Plant Applications.

Schema versions 2 and 3 are supported in an MLID containing OSP.

### **JSON MLID Schema Version 3 Containing OSP**

Using schema version 3, You can import material lots and OSP details - providing the status is not mandatory.

```
{
  "schemaVersion": 3,
  "materialLot": [
    {
      "lotIdentifier": "",
      "materialSubLots": [
        {
          "lotIdentifier": "lots1",
          "quantity": 1
        },
        {
          "lotIdentifier": "lots2",
          "quantity": 1
        }
      ],
      "productName": "8.2 Reg Nonser Prod",
      "quantity": 2,
      "unitOfMeasure": "",
      "description": "",
      "propertyValues": [
        {
          "propertyName": "WorkOrder",
          "propertyValue": "SHARMILA OSP Wo"
        },
        {
          "propertyName": "Operation",
          "propertyValue": "op2"
        }
      ]
    },
    {
      "lotIdentifier": "Receiver-osp-002",
      "productName": "",
      "quantity": 1,

```

```
    "unitOfMeasure": "",
    "status": "",
    "description": "receiver",
    "propertyValues": [
      {
        "propertyName": "STORAGELOCATION",
        "propertyValue": "true"
      }
    ]
  }
]
```

## JSON MLID Schema Version 2 Containing OSP

Using schema version 2, you can import material lots and OSP details - providing the status is mandatory.

```
{
  "schemaVersion": 2,
  "materialLot": [
    {
      "lotIdentifier": "",
      "productName": "Prod11",
      "quantity": 4,
      "unitOfMeasure": "",
      "status": "",
      "description": "",
      "propertyValues": [
        {
          "propertyName": "WorkOrder",
          "propertyValue": "WO-OSP-Non-Ser1"
        },
        {
          "propertyName": "WorkOrder",
          "propertyValue": "WO-OSP-Non-Ser1"
        },
        {
          "propertyName": "Operation",
          "propertyValue": "10"
        }
      ]
    },
    "materialSubLots": [
      {
        "lotIdentifier": "JO-3",
        "quantity": 2
      },
      {
        "lotIdentifier": "JO-4",
        "quantity": 2
      }
    ]
  },
}
```

```

{
  "lotIdentifier": "RECEIVEROSP",
  "productName": "",
  "quantity": 5,
  "unitOfMeasure": "",
  "status": "",
  "description": "Receiver",
  "propertyValues": [
    {
      "propertyName": "TestStringProp",
      "propertyValue": "WOProperty"
    },
    {
      "propertyName": "TestIntProp",
      "propertyValue": "[\"1\", \"2\"]"
    }
  ]
}


```

## *Custom B2MML Material Lot Import Document for OSP*

Instead of a JSON format, you can send OSP information in one of the following XML formats:

- Standard B2MML
- Custom B2MML

When you use a custom B2MML, you must first provide an XSL file that contains the mapping information. This topic provides custom B2MML samples of MLID containing OSP information for each schema version. Refer to [XSL File to Map an Outside Processing \(page 259\)](#) for a sample XSL file to map the B2MML samples. If, however, you want to use a standard B2MML format for the MMID, refer to [Standard B2MML Material Lot Import Document for OSP \(page 259\)](#).

 **Note:** When an XML file is processed, some of the special characters are omitted. To prevent this issue, use the escape strings as specified in the following table.

Special Character	Escape String
&	&amp;
<	&lt;
>	&gt;
"	&quot;
'	&apos;



## Custom B2MML MLID Schema Version 3 Containing OSP

Using schema version 3, you can import material lots and OSP details - providing the status is not mandatory.

```
<?xml version="1.0" encoding="UTF-8" standalone="yes"?>
<MaterialInformation
  xmlns:Extended="http://www.wbf.org/xml/B2MML-V0401-AllExtensions"
  xmlns:xsd="http://www.w3.org/2001/XMLSchema"
  xmlns="http://www.wbf.org/xml/B2MML-V0401"
  xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance">
  <ID>1</ID>
  <Description>InterfaceName</Description>
  <PublishedDate>2019-06-20T16:09:31-04:00</PublishedDate>
  <MaterialLot>
    <ID></ID>
    <Description></Description>
    <MaterialDefinitionID>Auto_json_27002</MaterialDefinitionID>
    <Status></Status>
    <MaterialLotProperty>
      <ID>WorkOrder</ID>
      <Value>
        <ValueString>WOID4-Mon Aug 10 14:39:02 IST 2020</ValueString>
        <DataType>string</DataType>
        <UnitOfMeasure></UnitOfMeasure>
      </Value>
    </MaterialLotProperty>
    <MaterialLotProperty>
      <ID>Operation</ID>
      <Value>
        <ValueString>SIT Op1</ValueString>
        <DataType>string</DataType>
        <UnitOfMeasure></UnitOfMeasure>
      </Value>
    </MaterialLotProperty>
    <MaterialSubLot>
      <ID>Lot Identifeirl</ID>
      <Quantity>
        <QuantityString>1</QuantityString>
        <DataType>string</DataType>
        <UnitOfMeasure></UnitOfMeasure>
      </Quantity>
    </MaterialSubLot>
    <MaterialSubLot>
      <ID>Lot Identifeir2</ID>
      <Quantity>
        <QuantityString>1</QuantityString>
        <DataType>string</DataType>
        <UnitOfMeasure></UnitOfMeasure>
      </Quantity>
    </MaterialSubLot>
    <Quantity>
```

```

    <QuantityString>2</QuantityString>
    <DataType>string</DataType>
    <UnitOfMeasure></UnitOfMeasure>
  </Quantity>
</MaterialLot>
<Extended:SchemaVersion>3</Extended:SchemaVersion>
</MaterialInformation>

```

## Custom B2MML MLID Schema Version 2 Containing OSP

Using schema version 2, you can import material lots and OSP details - providing the status is mandatory.

```

<?xml version="1.0" encoding="UTF-8" standalone="yes"?>
<MaterialInformation
  xmlns:Extended="http://www.wbf.org/xml/B2MML-V0401-AllExtensions"
  xmlns:xsd="http://www.w3.org/2001/XMLSchema"
  xmlns="http://www.wbf.org/xml/B2MML-V0401"
  xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance">
  <ID>1</ID>
  <Description>InterfaceName</Description>
  <PublishedDate>2019-06-20T16:09:31-04:00</PublishedDate>
  <MaterialLot>
    <ID></ID>
    <Description></Description>
    <MaterialDefinitionID>Auto_json_27002</MaterialDefinitionID>
    <Status></Status>
    <MaterialLotProperty>
      <ID>WorkOrder</ID>
      <Value>
        <ValueString>WOID4-Mon Aug 10 14:39:02 IST 2020</ValueString>
        <DataType>string</DataType>
        <UnitOfMeasure></UnitOfMeasure>
      </Value>
    </MaterialLotProperty>
    <MaterialLotProperty>
      <ID>Operation</ID>
      <Value>
        <ValueString>SIT Op1</ValueString>
        <DataType>string</DataType>
        <UnitOfMeasure></UnitOfMeasure>
      </Value>
    </MaterialLotProperty>
    <MaterialSubLot>
      <ID>Lot Identifeirl</ID>
      <Quantity>
        <QuantityString>1</QuantityString>
        <DataType>string</DataType>
        <UnitOfMeasure></UnitOfMeasure>
      </Quantity>
    </MaterialSubLot>
    <MaterialSubLot>
      <ID>Lot Identifeir2</ID>

```

```

<Quantity>
  <QuantityString>1</QuantityString>
  <DataType>string</DataType>
  <UnitOfMeasure></UnitOfMeasure>
</Quantity>
</MaterialSubLot>
<Quantity>
  <QuantityString>2</QuantityString>
  <DataType>string</DataType>
  <UnitOfMeasure></UnitOfMeasure>
</Quantity>
</MaterialLot>
<Extended:SchemaVersion>2</Extended:SchemaVersion>
</MaterialInformation>

```

## *XSL File to Map an Outside Processing*

```

<?xml version="1.0" encoding="utf-8"?>
<xsl:stylesheet version="1.0"
  xmlns:xsl="http://www.w3.org/1999/XSL/Transform"
  xmlns:xs="http://www.w3.org/2001/XMLSchema"
  xmlns:fn="http://www.w3.org/2005/xpath-functions">
  <xsl:output method="xml" indent="yes" />
  <xsl:template match="@* | node()">
    <xsl:copy>
      <xsl:apply-templates select="@* | node()" />
    </xsl:copy>
  </xsl:template>
</xsl:stylesheet>

```

## *Standard B2MML Material Lot Import Document for OSP*

Instead of a JSON format, you can send an MMID containing OSP information in one of the following XML formats:

- Standard B2MML
- Custom B2MML

This topic provides an MLID sample containing OSP information in the standard B2MML format for each schema version. If, however, you want to use a custom B2MML format, refer to [Custom B2MML Material Lot Import Document for OSP \(page 256\)](#).

### **Standard B2MML MLID Schema Version 3 Containing OSP**

Using schema version 3, you can import material lots and OSP details - providing the status is not mandatory.

```

<?xml version="1.0" encoding="UTF-8" standalone="yes"?>
<MaterialInformation xmlns:Extended="http://www.wbf.org/xml/B2MML-V0401-
AllExtensions" xmlns:xsd="http://www.w3.org/2001/XMLSchema" xmlns="http://
www.wbf.org/xml/B2MML-V0401" xmlns:xsi="http://www.w3.org/2001/XMLSchema-
instance">
  <ID>1</ID>
  <Description>InterfaceName</Description>
  <PublishedDate>2019-06-20T16:09:31-04:00</PublishedDate>
  <MaterialLot>
    <ID></ID>
    <Description></Description>
    <MaterialDefinitionID>Auto_json_27002</MaterialDefinitionID>
    <Status>Shipped</Status>
    <MaterialLotProperty>
      <ID>WorkOrder</ID>
      <Value>
        <ValueString>WOID4-Mon Aug 10 17:26:56 IST 2020</
ValueString>
        <DataType>string</DataType>
        <UnitOfMeasure></UnitOfMeasure>
      </Value>
    </MaterialLotProperty>
    <MaterialLotProperty>
      <ID>Operation</ID>
      <Value>
        <ValueString>SIT Op1</ValueString>
        <DataType>string</DataType>
        <UnitOfMeasure></UnitOfMeasure>
      </Value>
    </MaterialLotProperty>
    <MaterialSubLot>
      <ID>Lot Identifeir1</ID>
      <Quantity>
        <QuantityString>1</QuantityString>
        <DataType>string</DataType>
        <UnitOfMeasure></UnitOfMeasure>
      </Quantity>
    </MaterialSubLot>
    <MaterialSubLot>
      <ID>Lot Identifeir2</ID>
      <Quantity>
        <QuantityString>1</QuantityString>
        <DataType>string</DataType>
        <UnitOfMeasure></UnitOfMeasure>
      </Quantity>
    </MaterialSubLot>
    <Quantity>
      <QuantityString>2</QuantityString>
      <DataType>string</DataType>
      <UnitOfMeasure></UnitOfMeasure>
    </Quantity>
  </MaterialLot>

```

```
<Extended:SchemaVersion>3</Extended:SchemaVersion>
</MaterialInformation>
```

## Standard B2MML MLID Schema Version 2 Containing OSP

Using schema version 2, you can import material lots and OSP details - providing the status is mandatory.

```
<?xml version="1.0" encoding="UTF-8" standalone="yes"?>
<MaterialInformation xmlns:Extended="http://www.wbf.org/xml/B2MML-V0401-
AllExtensions" xmlns:xsd="http://www.w3.org/2001/XMLSchema" xmlns="http://
www.wbf.org/xml/B2MML-V0401" xmlns:xsi="http://www.w3.org/2001/XMLSchema-
instance">
  <ID>1</ID>
  <Description>InterfaceName</Description>
  <PublishedDate>2019-06-20T16:09:31-04:00</PublishedDate>
  <MaterialLot>
    <ID></ID>
    <Description></Description>
    <MaterialDefinitionID>Auto_json_27002</MaterialDefinitionID>
    <Status>Shipped</Status>
    <MaterialLotProperty>
      <ID>WorkOrder</ID>
      <Value>
        <ValueString>WOID4-Mon Aug 10 17:26:56 IST 2020</
ValueString>
        <DataType>string</DataType>
        <UnitOfMeasure></UnitOfMeasure>
      </Value>
    </MaterialLotProperty>
    <MaterialLotProperty>
      <ID>Operation</ID>
      <Value>
        <ValueString>SIT Op1</ValueString>
        <DataType>string</DataType>
        <UnitOfMeasure></UnitOfMeasure>
      </Value>
    </MaterialLotProperty>
    <MaterialSubLot>
      <ID>Lot Identifeirl</ID>
      <Quantity>
        <QuantityString>1</QuantityString>
        <DataType>string</DataType>
        <UnitOfMeasure></UnitOfMeasure>
      </Quantity>
    </MaterialSubLot>
    <MaterialSubLot>
      <ID>Lot Identifeir2</ID>
      <Quantity>
        <QuantityString>1</QuantityString>
        <DataType>string</DataType>
        <UnitOfMeasure></UnitOfMeasure>
      </Quantity>
  </MaterialLot>
</MaterialInformation>
```

```


    </MaterialSubLot>
    <Quantity>
      <QuantityString>2</QuantityString>
      <DataType>string</DataType>
      <UnitOfMeasure></UnitOfMeasure>
    </Quantity>
  </MaterialLot>
  <Extended:SchemaVersion>2</Extended:SchemaVersion>
</MaterialInformation>

```

## Sample Outbound Kafka Messages

### ERP Export Service Kafka Topics

The ERP Export service publishes the messages in JSON and/or B2MML format to the following Kafka topics:

Events	Kafka topic
Clock-on and Clock-Off	mes.erp.outbound.messages.laborVouchering
Operation Complete, Material Scrap, Release Route, Process/Work Order Created/Updated/Completed/Deleted	mes.erp.outbound.messages
Messages about unprocessed events are published here.  <b>Note:</b> Check this topic in case of failures.	event.topic.failedeventname: mes.failedevents

#### Note:

Messages for Clock-On and Clock-Off events are generated separately because:

- a lot of messages are generated for these two events and that can adversely impact the system performance
- users who are not interested in messages related to these events can ignore them

### Structure of Messages Published to Kafka Topics

The ERP Export service publishes messages to Kafka topics. These messages contain the following sections:

- **Payload:** Contains the information of the event that is published. The content of the payload matches that of the Message column in the erp\_integration\_outbound\_standard\_messages table.

- **Header:** Contains metadata of the message, such as the topic to which the message has been published, the event type, the unique identifier of the message, etc. The following table describes some of the header fields; this list is not comprehensive.

Field	Description
ID	The unique identifier of the message.
event-type	The type of the event that is published. For example: <ul style="list-style-type: none"> <li>◦ mes.erp.outbound.messages.XMLElementInfo: Indicates an operation complete event.</li> <li>◦ mes.erp.outbound.messages.ProcessOrderEvent: Indicates that the status of the process order has changed.</li> </ul>
event-aggregate-type	The topic to which the event has been published.

## Sample Kafka Messages

### Kafka Message for an Operation Complete Event in B2MML Format

```
{ "payload" : { \ "message" : \
<ProductionPerformance>
  "xmlns:xsd=\\\\"http://www.w3.org/2001/XMLSchema\\" \" xmlns:Extended=
\\\\"http://www.wbf.org/xml/B2MML-V0401-AllExtensions\\" \" xmlns:inp2=
\\\\"http://www.wbf.org/xml/B2MML-V0401\\" \" xmlns:xsi=\\\\"http://
www.w3.org/2001/XMLSchema-instance\\" \" xmlns:erp=\\\\"http://sample.data\\" \"
xmlns=\\\\"http://www.wbf.org/xml/B2MML-V0401\\" \"&gt;
  <ID>000001770792f38c-02420a0002f30000</ID>
  <Description>ERP Export Service</Description>
  <PublishedDate>2021-01-11T21:27:38Z</PublishedDate>
  <ProductionResponse>
    <ID>WOID6-ROUTE-XML-SNOWBIKES</ID>
    <SegmentResponse>
      <ID>TyreMounting</ID>
      <ActualStartTime>2021-01-15T17:49:16Z</ActualStartTime>
      <ActualEndTime>2021-01-15T19:43:26Z</ActualEndTime>
      <ProductionData>
        <ID>status</ID>
        <Value>
          <ValueString>Complete</ValueString>
          <DataType>string</DataType>
          <UnitOfMeasure />
        </Value>
      </ProductionData>
      <ProductionData>
        <ID>completedBy</ID>
        <Value>
          <ValueString>mesadmin</ValueString>
          <DataType>string</DataType>
          <UnitOfMeasure />
        </Value>
      </ProductionData>
    </SegmentResponse>
  </ProductionResponse>
</ProductionPerformance>
}
```

```

    </ProductionData>
    <MaterialProducedActual>
      <MaterialDefinitionID>SNOWBIKE-NONSERIALIZED</
MaterialDefinitionID>
      <MaterialLotID>serinum2</MaterialLotID>
      <Location>
        <EquipmentID>Bikes_Assembly_Line</EquipmentID>
        <EquipmentElementLevel>ProductionLine</
EquipmentElementLevel>
        <Location>
          <EquipmentID>TyreMount</EquipmentID>
          <EquipmentElementLevel>Unit</EquipmentElementLevel>
        </Location>
      </Location>
      <Quantity>
        <QuantityString>5.0</QuantityString>
        <DataType>double</DataType>
        <UnitOfMeasure>EA</UnitOfMeasure>
      </Quantity>
    </MaterialProducedActual>
    <MaterialConsumedActual>
      <MaterialDefinitionID>TubelessTyre</MaterialDefinitionID>
      <MaterialLotID>KITE</MaterialLotID>
      <Quantity>
        <QuantityString>1.0</QuantityString>
        <DataType>float</DataType>
        <UnitOfMeasure>EA</UnitOfMeasure>
      </Quantity>
      <MaterialConsumedActualProperty>
        <ID>quantityPrecision</ID>
        <Value>
          <ValueString>0</ValueString>
          <DataType>integer</DataType>
          <UnitOfMeasure />
        </Value>
      </MaterialConsumedActualProperty>
      <MaterialConsumedActualProperty>
        <ID>lowerTolerance</ID>
        <Value>
          <ValueString>1.0</ValueString>
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## *Payload Structure in JSON Format*

### **Event: Operation Clocked On**

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  "operation": "",
  "laborType": "",
  "operatorName": "",
  "clockedOnTime": "",
  "clockedOnBy": "",
  "lotIdentifier": [],
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```

### **Event: Operation Clocked Off**


```

{
  "workOrderName": "",
  "operation": "",
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  "lotIdentifier": [],
  "clockedOnTime": "",
  "clockedOffTime": "",
  "clockedOffBy": "",
  "unitName": "",
  "productionLine": "",
  "kafkaConsumerId": "",
  "publishedDate": ""
}

```

## Event: Operation Completed

```
{
  "workOrderName": "",
  "lotIdentifier": "",
  "operationInfo": { "name": "" },
  "startTime": "",
  "endTime": "",
  "unitName": "",
  "productionLine": "",
  "status": "",
  "completedBy": "",
  "producedMaterial": "",
  "unitOfMeasure": "",
  "completedQuantity": ,
  "billofMaterials": [],
  "properties": []
}, "kafkaConsumerId": "",
"publishedDate": ""
}
```

 **Note:** Only the properties that are specific to the operation are included in the message for an operation-complete event. Properties specific to the route, material, etc. are not included.

## Event: Route Released

```
{
  "id": "0000016ed6560f38-0242ac12001a0000",
  "name": "Test Route1", "revision": 2,
  "producedMaterialName": "Prod12",
  "plannedLineName": "Line1",
  "publishedDate": "2019-12-05T13:52:45Z",
  "operationsGroup": { "operations": [ { "sequenceNumber": 1,
  "name": "NewOperation",
  "description": "",
  "plannedUnitNames": [ "ConsumedUnit" ],
  "behaviors": [ "requiresClockOn" ],
  "propertyValues": [],
  "billofMaterials": [],
  "documents": [] } ] },
  "route": { "behaviors": [],
  "propertyValues": [],
  "billofMaterials": [ { "materialName": "Prod",
  "unitOfMeasureName": "EA",
  "quantity": 3.0,
  "displayOrder": 3,
  "behaviors": [],
  "propertyValues": [] } ],
  {
  "materialName": "Prod3",
  "unitOfMeasureName": "EA",
```



```

"quantity":3.0,
"displayOrder":2,
"behaviors":[],
"propertyValues":[]
},
{
"materialName":"prod1",
"unitOfMeasureName":"LB",
"quantity":2.0,
"displayOrder":4,
"behaviors":[],
"propertyValues":[]},
"documents":[]}]
}

```

## Event: Material Lot Status Changed

```

{
  "kafkaConsumerId": "",
  "publishedDate": "",
  "materialLot": [
    {
      "lotIdentifier": "",
      "productName": "",
      "status": "",
      "productionUnit": "",
      "quantity": ,
      "productionLine": "",
      "unitOfMeasure": "",
      "properties": [
        {
          "propertyName": "",
          "propertyValue": ""
        },
        {
          "propertyName": "",
          "propertyValue": ""
        },
        {
          "propertyName": "",
          "propertyValue": ""
        },
        {
          "propertyName": "",
          "propertyValue": ""
        },
        {
          "propertyName": "",
          "propertyValue": ""
        }
      ]
    }
  ]
}

```

```

        "propertyValue": ""
      }
    ],
    "materialSubLot": [
      {
        "lotIdentifier": "",
        "productName": "",
        "status": "",
        "productionUnit": "",
        "quantity": ,
        "productionLine": "",
        "unitOfMeasure": "",
        "properties": [
          {
            "propertyName": "",
            "propertyValue": ""
          }
        ]
      }
    ],
    {
      "lotIdentifier": "",
      "productName": "",
      "status": "",
      "productionUnit": "",
      "quantity": ,
      "productionLine": "",
      "unitOfMeasure": "",
      "properties": [
        {
          "propertyName": "",
          "propertyValue": ""
        },
        {
          "propertyName": "",
          "propertyValue": ""
        },
        {
          "propertyName": "",
          "propertyValue": ""
        }
      ]
    }
  ]
}
]
}

```

### Event: Material Lot Status Changed

```

{
  "kafkaConsumerId": "00000177b58e3610-0242ac12001a0000",
  "publishedDate": "2021-02-18T14:22:43Z",

```

```

"materialLot": [
  {
    "lotIdentifier": "ERP_NS_20210218_24_JSON",
    "productName": "MCU",
    "status": "Receiver Complete",
    "productionUnit": "Receiver",
    "quantity": 4,
    "productionLine": "Received Material Lots",
    "unitOfMeasure": "EA",
    "properties": [
      {
        "propertyName": "statusUpdatedBy",
        "propertyValue": "comxclient"
      },
      {
        "propertyName": "statusUpdatedTime",
        "propertyValue": "2021-01-27T11:53:41Z"
      },
      {
        "propertyName": "isSerialized",
        "propertyValue": "false"
      },
      {
        "propertyName": "SCRAP",
        "propertyValue": "1"
      },
      {
        "propertyName": "RTV",
        "propertyValue": "1"
      },
      {
        "propertyName": "ACCEPT",
        "propertyValue": "2"
      }
    ]
  },
  {
    "lotIdentifier": "ERP_NS_20210218_24_JSON_LOT2",
    "productName": "MCU",
    "status": "Accept",
    "productionUnit": "Received Material Lot-Kilograms",
    "quantity": 2,
    "productionLine": "Received Material Lots",
    "unitOfMeasure": "EA",
    "properties": [
      {
        "propertyName": "Accept",
        "propertyValue": "2"
      }
    ]
  },
  {
    "lotIdentifier": "ERP_NS_20210218_24_JSON_LOT1",

```

```

    "productName": "MCU",
    "status": "Scrap",
    "productionUnit": "Received Material Lot-Kilograms",
    "quantity": 2,
    "productionLine": "Received Material Lots",
    "unitOfMeasure": "EA",
    "properties": [
      {
        "propertyName": "OrgCode",
        "propertyValue": "BCO"
      },
      {
        "propertyName": "SCRAP",
        "propertyValue": "1"
      },
      {
        "propertyName": "RTV",
        "propertyValue": "1"
      }
    ]
  }
]
}
]
}
]
}

```

## Event: Process Order Created

```

{
  "schemaVersion" : 1,
  "processOrderName": "PO_TestDemo1",
  "processOrderRouteInfo": {
    "plannedStartTime": "2020-10-01T09:33:00Z",
    "plannedEndTime": "2020-10-03T09:33:00Z",
    "plannedQuantity": 40,
    "actualStartTime": null,
    "actualEndTime": null,
    "line": "Line3",
    "product": "Process_Prod1",
    "status": "PENDING",
    "path": "Path Line3",
    "controlType": "QUANTITY",
    "orderType": "SCHEDULE",
    "impliedSequence": 921219720,
    "extendedInfo": null,
    "engineeringUnit": "cm",
    "entryOn": "2020-11-02T06:42:29Z",
    "sourceProcessOrder": null,
    "userGeneral1" : "UserGeneralValue1",
    "userGeneral2" : "UserGeneralValue2",
    "userGeneral3" : "UserGeneralValue3",
    "properties": [

```

```

{
  "propertyName": "TestProp1",
  "propertyValue": "test1"
},
{
  "propertyName": "IntProp2",
  "propertyValue": "10"
}
]
},
"kafkaConsumerId": "0000017587b15e0c-7f67b3290c000000",
"publishedDate": "2020-11-02T06:29:43Z"
}

```

## Event: Process Order Updated

```

{
  "schemaVersion": 1,
  "processOrderName": "PO_TestDemo1",
  "processOrderRouteInfo": {
    "plannedStartTime": "2020-10-01T09:33:00Z",
    "plannedEndTime": "2020-10-03T09:33:00Z",
    "plannedQuantity": 40,
    "actualStartTime": "null",
    "actualEndTime": null,
    "line": null,
    "product": "Process_Prod1",
    "status": "PENDING",
    "path": null,
    "controlType": "QUANTITY",
    "orderType": "SCHEDULE",
    "impliedSequence": 965452670,
    "extendedInfo": null,
    "engineeringUnit": "cm",
    "entryOn": "2020-11-02T07:11:48Z",
    "sourceProcessOrder": null,
    "userGeneral1": "UserGeneralValue1",
    "userGeneral2": "UserGeneralValue2",
    "userGeneral3": "UserGeneralValue3",
  },
  "properties": [
    {
      "propertyName": "TestProp1",
      "propertyValue": "test1"
    },
    {
      "propertyName": "IntProp2",
      "propertyValue": "10"
    }
  ]
},
"kafkaConsumerId": "0000017587cc35ba-7f67b3290c000000",

```

```

    "publishedDate": "2020-11-02T06:29:43Z"
  }

```

## Event: Process Order Deleted

```

{
  "schemaVersion": 1,
  "processOrderName": "Test_Unbound",
  "processOrderRouteInfo": {
    "plannedStartTime": "2020-10-01T15:48:00Z",
    "plannedEndTime": "2020-10-01T16:48:00Z",
    "plannedQuantity": 40,
    "actualStartTime": "2020-10-01T15:48:00Z",
    "actualEndTime": null,
    "line": "Line3",
    "product": "Process_Prod1",
    "status": "ACTIVE",
    "path": "Path Line3",
    "controlType": "QUANTITY",
    "orderType": "SCHEDULE",
    "impliedSequence": 922224120,
    "extendedInfo": null,
    "engineeringUnit": "cm",
    "entryOn": "2020-11-02T07:19:48Z",
    "sourceProcessOrder": null,
    "userGeneral1": "UserGeneralValue1",
    "userGeneral2": "UserGeneralValue2",
    "userGeneral3": "UserGeneralValue3",
    "properties": [
      {
        "propertyName": "TestProp1",
        "propertyValue": "test1"
      },
      {
        "propertyName": "IntProp2",
        "propertyValue": "10"
      }
    ]
  },
  "kafkaConsumerId": "0000017587d38844-7f67b3290c000000",
  "publishedDate": "2020-11-02T06:29:43Z"
}

```

## Event: Process Order Completed

```

{
  "schemaVersion": 1,
  "processOrderName": "PO_Test116",
  "processOrderRouteInfo": {
    "plannedStartTime": "2017-04-08T09:22:17Z",
    "plannedEndTime": "2019-03-08T09:22:17Z",
    "plannedQuantity": 30,

```

```

"actualStartTime": "2020-10-20T16:49:19Z",
"actualEndTime": "2020-10-28T07:06:13Z",
"line": "Line3",
"product": "Process_Prod1",
"status": "COMPLETE",
"path": "Path Line3",
"controlType": "QUANTITY",
"orderType": "SCHEDULE",
"impliedSequence": 860491337,
"extendedInfo": null,
"engineeringUnit": "cm",
"entryOn": "2020-10-28T07:06:13Z",
"sourceProcessOrder": null,
"userGeneral1": "UserGeneralValue1",
"userGeneral2": "UserGeneralValue2",
"userGeneral3": "UserGeneralValue3",
"actualBadQuantity": 1,
"actualGoodQuantity": 9,
"properties": [
{
"propertyName": "TestProp1",
"propertyValue": "test1"
},
{
"propertyName": "IntProp2",
"propertyValue": "10"
}
],
"kafkaConsumerId": "000001756e077a01-7f67b3290c000000",
"publishedDate": "2020-10-28T06:44:23Z",
"materialLots": [
{
"lotIdentifier": "Production_event1",
"unit": "Unit3",
"producedQuantity": 6,
"unitOfMeasure": "EA"
},
{
"lotIdentifier": "Production_event2",
"unit": "Unit2",
"producedQuantity": 4,
"unitOfMeasure": "CM"
}
]
}

```

## Payload Structure in B2MML Format

### Event: Operation Clocked On

```

<ProductionPerformance
  xmlns:xsd="http://www.w3.org/2001/XMLSchema"
  xmlns:Extended="http://www.wbf.org/xml/B2MML-V0401-AllExtensions"
  xmlns:inp2="http://www.wbf.org/xml/B2MML-V0401"
  xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
  xmlns:erp="http://sample.data"
  xmlns="http://www.wbf.org/xml/B2MML-V0401">
  <ID>0000016fd83ef2ff-02420a000bab0000</ID>
  <Description>ERP Export Service</Description>
  <PublishedDate>2020-01-22T13:57:03Z</PublishedDate>
  <ProductionResponse>
    <ID>REWORK-TEST-WO2</ID>
    <SegmentResponse>
      <ID>op10</ID>
      <PersonnelActual>
        <PersonID>bm_operator_2</PersonID>
        <Location>
          <EquipmentID>KRoute_WO_testing</EquipmentID>
          <EquipmentElementLevel>ProductionLine</EquipmentElementLevel>
          <Location>
            <EquipmentID>KRoute_Unit1</EquipmentID>
            <EquipmentElementLevel>Unit</EquipmentElementLevel>
          </Location>
        </Location>
        <PersonnelActualProperty>
          <ID>laborType</ID>
          <Value>
            <ValueString>Rework</ValueString>
            <DataType>string</DataType>
            <UnitOfMeasure/>
          </Value>
        </PersonnelActualProperty>
        <PersonnelActualProperty>
          <ID>clockedOnTime</ID>
          <Value>
            <ValueString>2020-01-24T15:50:01Z</ValueString>
            <DataType>string</DataType>
            <UnitOfMeasure/>
          </Value>
        </PersonnelActualProperty>
        <PersonnelActualProperty>
          <ID>operatorName</ID>
          <Value>
            <ValueString>bm_operator_2</ValueString>
            <DataType>string</DataType>
            <UnitOfMeasure/>
          </Value>
        </PersonnelActualProperty>
      </PersonnelActual>
    </SegmentResponse>
  </ProductionResponse>
</ProductionPerformance>

```



```

    </Value>
  </PersonnelActualProperty>
</PersonnelActual>
<MaterialProducedActual>
  <MaterialLotID>SN-1</MaterialLotID>
</MaterialProducedActual>
</SegmentResponse>
</ProductionResponse>
</ProductionPerformance>

```

## Event: Operation Clocked Off

```

<ProductionPerformance
  xmlns:xsd="http://www.w3.org/2001/XMLSchema"
  xmlns:Extended="http://www.wbf.org/xml/B2MML-V0401-AllExtensions"
  xmlns:inp2="http://www.wbf.org/xml/B2MML-V0401"
  xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
  xmlns:erp="http://sample.data"
  xmlns="http://www.wbf.org/xml/B2MML-V0401">
  <ID>0000016fd83ea61e-02420a000bab0000</ID>
  <Description>ERP Export Service</Description>
  <PublishedDate>2020-01-22T13:57:03Z</PublishedDate>
  <ProductionResponse>
    <ID>REWORK-TEST-WO2</ID>
    <SegmentResponse>
      <ID>op10</ID>
      <PersonnelActual>
        <PersonID>bm_operator_2</PersonID>
        <Location>
          <EquipmentID>KRoute_WO_testing</EquipmentID>
          <EquipmentElementLevel>ProductionLine</EquipmentElementLevel>
          <Location>
            <EquipmentID>KRoute_Unit1</EquipmentID>
            <EquipmentElementLevel>Unit</EquipmentElementLevel>
          </Location>
        </Location>
        <PersonnelActualProperty>
          <ID>clockedOnTime</ID>
          <Value>
            <ValueString>2020-01-24T15:46:58Z</ValueString>
            <DataType>string</DataType>
            <UnitOfMeasure/>
          </Value>
        </PersonnelActualProperty>
        <PersonnelActualProperty>
          <ID>clockedOffTime</ID>
          <Value>
            <ValueString>2020-01-24T15:49:42Z</ValueString>
            <DataType>string</DataType>
            <UnitOfMeasure/>
          </Value>
        </PersonnelActualProperty>

```

```

    <PersonnelActualProperty>
      <ID>operatorName</ID>
      <Value>
        <ValueString>bm_operator_2</ValueString>
        <DataType>string</DataType>
        <UnitOfMeasure/>
      </Value>
    </PersonnelActualProperty>
  </PersonnelActual>
  <MaterialProducedActual>
    <MaterialLotID>SN-1</MaterialLotID>
  </MaterialProducedActual>
</SegmentResponse>
</ProductionResponse>
</ProductionPerformance>

```

## Event: Operation Completed

```


<ProductionPerformance
  xmlns:xsd="http://www.w3.org/2001/XMLSchema"
  xmlns:Extended="http://www.wbf.org/xml/B2MML-V0401-AllExtensions"
  xmlns:inp2="http://www.wbf.org/xml/B2MML-V0401"
  xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
  xmlns:erp="http://sample.data"
  xmlns="http://www.wbf.org/xml/B2MML-V0401">
  <ID>0000016fd8293f1b-02420a000bab0000</ID>
  <Description>ERP Export Service</Description>
  <PublishedDate>2020-01-22T13:57:03Z</PublishedDate>
  <ProductionResponse>
    <ID>TEST-TEST-WO2</ID>
    <SegmentResponse>
      <ID>op20</ID>
      <ActualStartTime>2020-01-24T15:16:57Z</ActualStartTime>
      <ActualEndTime>2020-01-24T15:26:19Z</ActualEndTime>
      <ProductionData>
        <ID>status</ID>
        <Value>
          <ValueString>Complete</ValueString>
          <DataType>string</DataType>
          <UnitOfMeasure/>
        </Value>
      </ProductionData>
      <ProductionData>
        <ID>completedBy</ID>
        <Value>
          <ValueString>bm_operator_2</ValueString>
          <DataType>string</DataType>
          <UnitOfMeasure/>
        </Value>
      </ProductionData>
      <MaterialProducedActual>
        <MaterialDefinitionID>Test34</MaterialDefinitionID>
      </MaterialProducedActual>
    </SegmentResponse>
  </ProductionResponse>
</ProductionPerformance>

```

```

    <MaterialLotID>SN-1</MaterialLotID>
    <Location>
      <EquipmentID>KRoute_WO_testing</EquipmentID>
      <EquipmentElementLevel>ProductionLine</EquipmentElementLevel>
      <Location>
        <EquipmentID>KRoute_Unit2</EquipmentID>
        <EquipmentElementLevel>Unit</EquipmentElementLevel>
      </Location>
    </Location>
    <Quantity>
      <QuantityString>1.0</QuantityString>
      <DataType>double</DataType>
      <UnitOfMeasure>inch</UnitOfMeasure>
    </Quantity>
  </MaterialProducedActual>
</SegmentResponse>
</ProductionResponse>
</ProductionPerformance>

```

 **Note:** Only the properties that are specific to the operation are included in the message for an operation-complete event. Properties specific to the route, material, etc. are not included.

## Event: Route Released

```

<ProductInformation
  xmlns:Extended="http://www.wbf.org/xml/B2MML-V0401-AllExtensions"
  xmlns:xsd="http://www.w3.org/2001/XMLSchema"
  xmlns:inp2="http://www.wbf.org/xml/B2MML-V0401"
  xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
  xmlns:erp="http://sample.data"
  xmlns="http://www.wbf.org/xml/B2MML-V0401">
  <ID>0000016fd259e9bb-0242ac1400160000</ID>
  <Description>ERP Export Service</Description>
  <Location>
    <EquipmentID/>
    <EquipmentElementLevel>Site</EquipmentElementLevel>
  </Location>
  <PublishedDate>2020-01-22T13:57:05Z</PublishedDate>
  <ProductDefinition>
    <ID>Copy of Setup-labor-route</ID>
    <Version>2</Version>
    <Description/>
    <Location>
      <EquipmentID/>
      <EquipmentElementLevel>Site</EquipmentElementLevel>
    </Location>
    <EquipmentID>KRoute_WO_testing</EquipmentID>
    <EquipmentElementLevel>ProductionLine</EquipmentElementLevel>
  </Location>
  </ProductSegment>
  <ID>ROUTE</ID>

```

```

<Description/>
<MaterialSpecification>
  <MaterialClassID/>
  <MaterialDefinitionID>Test7</MaterialDefinitionID>
  <Quantity>
    <QuantityString>1.0</QuantityString>
    <DataType>string</DataType>
    <UnitOfMeasure>inch</UnitOfMeasure>
  </Quantity>
  <MaterialSpecificationProperty>
    <ID>requiresConsumptionTracking</ID>
    <Description>behaviors</Description>
    <Value>
      <ValueString>>false</ValueString>
      <DataType>string</DataType>
      <UnitOfMeasure/>
    </Value>
  </MaterialSpecificationProperty>
  <MaterialSpecificationProperty>
    <ID>displayOrder</ID>
    <Value>
      <ValueString>1</ValueString>
      <DataType>string</DataType>
      <UnitOfMeasure/>
    </Value>
  </MaterialSpecificationProperty>
</MaterialSpecification>
<MaterialSpecification>
  <MaterialClassID/>
  <MaterialDefinitionID>Test8</MaterialDefinitionID>
  <Quantity>
    <QuantityString>1.0</QuantityString>
    <DataType>string</DataType>
    <UnitOfMeasure>inch</UnitOfMeasure>
  </Quantity>
  <MaterialSpecificationProperty>
    <ID>requiresConsumptionTracking</ID>
    <Description>behaviors</Description>
    <Value>
      <ValueString>>false</ValueString>
      <DataType>string</DataType>
      <UnitOfMeasure/>
    </Value>
  </MaterialSpecificationProperty>
  <MaterialSpecificationProperty>
    <ID>displayOrder</ID>
    <Value>
      <ValueString>2</ValueString>
      <DataType>string</DataType>
      <UnitOfMeasure/>
    </Value>
  </MaterialSpecificationProperty>
</MaterialSpecification>

```

```

<MaterialSpecification>
  <MaterialClassID/>
  <MaterialDefinitionID>Test34</MaterialDefinitionID>
  <Quantity>
    <QuantityString/>
    <DataType>string</DataType>
    <UnitOfMeasure/>
  </Quantity>
</MaterialSpecification>
</ProductSegment>
<ProductSegment>
  <ID>opl0</ID>
  <Description/>
  <Parameter>
    <ID>requiresClockOn</ID>
    <Value>
      <ValueString>true</ValueString>
      <DataType>string</DataType>
      <UnitOfMeasure/>
    </Value>
    <Description>behaviors</Description>
  </Parameter>
  <EquipmentSpecification>
    <EquipmentClassID/>
    <EquipmentID>KRoute_Unit1</EquipmentID>
    <Quantity>
      <QuantityString/>
      <DataType>string</DataType>
      <UnitOfMeasure/>
    </Quantity>
    <EquipmentSpecificationProperty>
      <ID/>
      <Value>
        <ValueString/>
        <DataType>string</DataType>
        <UnitOfMeasure/>
      </Value>
    </EquipmentSpecificationProperty>
  </EquipmentSpecification>
  <EquipmentSpecification>
    <EquipmentClassID/>
    <EquipmentID>KRoute_Unit2</EquipmentID>
    <Quantity>
      <QuantityString/>
      <DataType>string</DataType>
      <UnitOfMeasure/>
    </Quantity>
    <EquipmentSpecificationProperty>
      <ID/>
      <Value>
        <ValueString/>
        <DataType>string</DataType>
        <UnitOfMeasure/>
      </Value>
    </EquipmentSpecificationProperty>
  </EquipmentSpecification>

```

```

    </Value>
  </EquipmentSpecificationProperty>
</EquipmentSpecification>
<EquipmentSpecification>
  <EquipmentClassID/>
  <EquipmentID>KRoute_Unit4</EquipmentID>
  <Quantity>
    <QuantityString/>
    <DataType>string</DataType>
    <UnitOfMeasure/>
  </Quantity>
  <EquipmentSpecificationProperty>
    <ID/>
    <Value>
      <ValueString/>
      <DataType>string</DataType>
      <UnitOfMeasure/>
    </Value>
  </EquipmentSpecificationProperty>
</EquipmentSpecification>
<EquipmentSpecification>
  <EquipmentClassID/>
  <EquipmentID>KRoute_Unti3</EquipmentID>
  <Quantity>
    <QuantityString/>
    <DataType>string</DataType>
    <UnitOfMeasure/>
  </Quantity>
  <EquipmentSpecificationProperty>
    <ID/>
    <Value>
      <ValueString/>
      <DataType>string</DataType>
      <UnitOfMeasure/>
    </Value>
  </EquipmentSpecificationProperty>
</EquipmentSpecification>
</ProductSegment>
<ProductSegment>
  <ID>op20</ID>
  <Description/>
  <Parameter>
    <ID>requiresClockOn</ID>
    <Value>
      <ValueString>true</ValueString>
      <DataType>string</DataType>
      <UnitOfMeasure/>
    </Value>
    <Description>behaviors</Description>
  </Parameter>
  <EquipmentSpecification>
    <EquipmentClassID/>
    <EquipmentID>KRoute_Unit2</EquipmentID>

```

```

<Quantity>
  <QuantityString/>
  <DataType>string</DataType>
  <UnitOfMeasure/>
</Quantity>
<EquipmentSpecificationProperty>
  <ID/>
  <Value>
    <ValueString/>
    <DataType>string</DataType>
    <UnitOfMeasure/>
  </Value>
</EquipmentSpecificationProperty>
</EquipmentSpecification>
<EquipmentSpecification>
  <EquipmentClassID/>
  <EquipmentID>KRoute_Unit1</EquipmentID>
  <Quantity>
    <QuantityString/>
    <DataType>string</DataType>
    <UnitOfMeasure/>
  </Quantity>
  <EquipmentSpecificationProperty>
    <ID/>
    <Value>
      <ValueString/>
      <DataType>string</DataType>
      <UnitOfMeasure/>
    </Value>
  </EquipmentSpecificationProperty>
</EquipmentSpecification>
<EquipmentSpecification>
  <EquipmentClassID/>
  <EquipmentID>KRoute_Unit4</EquipmentID>
  <Quantity>
    <QuantityString/>
    <DataType>string</DataType>
    <UnitOfMeasure/>
  </Quantity>
  <EquipmentSpecificationProperty>
    <ID/>
    <Value>
      <ValueString/>
      <DataType>string</DataType>
      <UnitOfMeasure/>
    </Value>
  </EquipmentSpecificationProperty>
</EquipmentSpecification>
<EquipmentSpecification>
  <EquipmentClassID/>
  <EquipmentID>KRoute_Unti3</EquipmentID>
  <Quantity>
    <QuantityString/>

```

```

    <DataType>string</DataType>
    <UnitOfMeasure/>
  </Quantity>
  <EquipmentSpecificationProperty>
    <ID/>
    <Value>
      <ValueString/>
      <DataType>string</DataType>
      <UnitOfMeasure/>
    </Value>
  </EquipmentSpecificationProperty>
</EquipmentSpecification>
</ProductSegment>
</ProductDefinition>
</ProductInformation>

```

## Event: Material Lot Status Changed

```

<MaterialInformation
  xmlns:inp2="http://www.wbf.org/xml/B2MML-V0401"
  xmlns:erp="http://sample.data">
  <ID>00000177b5abc6ed-0242ac12001a0000</ID>
  <Description/>
  <Location>
    <EquipmentID/>
    <EquipmentElementLevel>Site</EquipmentElementLevel>
  </Location>
  <PublishedDate>2021-02-18T14:48:22Z</PublishedDate>
  <MaterialLot>
    <ID>NSER_180221_7</ID>
    <Description/>
    <MaterialDefinitionID>MCU</MaterialDefinitionID>
    <Status>Receiver Complete</Status>
    <MaterialLotProperty>
      <ID>statusUpdatedBy</ID>
      <Description/>
      <Value>
        <ValueString>comxclient</ValueString>
        <DataType>string</DataType>
        <UnitOfMeasure/>
      </Value>
    </MaterialLotProperty>
    <MaterialLotProperty>
      <ID>statusUpdatedTime</ID>
      <Description/>
      <Value>
        <ValueString>2021-01-27T11:53:41Z</ValueString>
        <DataType>string</DataType>
        <UnitOfMeasure/>
      </Value>
    </MaterialLotProperty>
    <MaterialLotProperty>

```



```

<ID>isSerialized</ID>
<Description/>
<Value>
  <ValueString>>false</ValueString>
  <DataType>string</DataType>
  <UnitOfMeasure/>
</Value>
</MaterialLotProperty>
<MaterialLotProperty>
  <ID>SCRAP</ID>
  <Description/>
  <Value>
    <ValueString>1</ValueString>
    <DataType>string</DataType>
    <UnitOfMeasure/>
  </Value>
</MaterialLotProperty>
<MaterialLotProperty>
  <ID>RTV</ID>
  <Description/>
  <Value>
    <ValueString>1</ValueString>
    <DataType>string</DataType>
    <UnitOfMeasure/>
  </Value>
</MaterialLotProperty>
<MaterialLotProperty>
  <ID>ACCEPT</ID>
  <Description/>
  <Value>
    <ValueString>2</ValueString>
    <DataType>string</DataType>
    <UnitOfMeasure/>
  </Value>
</MaterialLotProperty>
<MaterialSubLot>
  <ID>NSER_180221_7_SN1</ID>
  <Description/>
  <Status>Accept</Status>
  <MaterialSublotProperty>
    <ID>OrgCode</ID>
    <Description/>
    <Value>
      <ValueString>BCO</ValueString>
      <DataType>string</DataType>
      <UnitOfMeasure/>
    </Value>
  </MaterialSublotProperty>
  <MaterialSublotProperty>
    <ID>Accept</ID>
    <Description/>
    <Value>
      <ValueString>2</ValueString>

```

```

    <DataType>string</DataType>
    <UnitOfMeasure/>
  </Value>
</MaterialSublotProperty>
<MaterialSublotProperty>
  <ID>MaterialDefinitionID</ID>
  <Description/>
  <Value>
    <ValueString>MCU</ValueString>
    <DataType>string</DataType>
    <UnitOfMeasure/>
  </Value>
</MaterialSublotProperty>
<MaterialSublotProperty>
  <ID>ProductionLine</ID>
  <Description/>
  <Value>
    <ValueString>Received Material Lots</ValueString>
    <DataType>string</DataType>
    <UnitOfMeasure/>
  </Value>
</MaterialSublotProperty>
<MaterialSublotProperty>
  <ID>Unit</ID>
  <Description/>
  <Value>
    <ValueString>Received Material Lot-Kilograms</ValueString>
    <DataType>string</DataType>
    <UnitOfMeasure/>
  </Value>
</MaterialSublotProperty>
<Quantity>
  <QuantityString>2</QuantityString>
  <DataType>string</DataType>
  <UnitOfMeasure>EA</UnitOfMeasure>
</Quantity>
</MaterialSubLot>
<MaterialSubLot>
  <ID>NSER_180221_7_SN2</ID>
  <Description/>
  <Status>Scrap</Status>
  <MaterialSublotProperty>
    <ID>SCRAP</ID>
    <Description/>
    <Value>
      <ValueString>1</ValueString>
      <DataType>string</DataType>
      <UnitOfMeasure/>
    </Value>
  </MaterialSublotProperty>
  <MaterialSublotProperty>
    <ID>RTV</ID>
    <Description/>

```

```

<Value>
  <ValueString>1</ValueString>
  <DataType>string</DataType>
  <UnitOfMeasure/>
</Value>
</MaterialSublotProperty>
<MaterialSublotProperty>
  <ID>MaterialDefinitionID</ID>
  <Description/>
  <Value>
    <ValueString>MCU</ValueString>
    <DataType>string</DataType>
    <UnitOfMeasure/>
  </Value>
</MaterialSublotProperty>
<MaterialSublotProperty>
  <ID>ProductionLine</ID>
  <Description/>
  <Value>
    <ValueString>Received Material Lots</ValueString>
    <DataType>string</DataType>
    <UnitOfMeasure/>
  </Value>
</MaterialSublotProperty>
<MaterialSublotProperty>
  <ID>Unit</ID>
  <Description/>
  <Value>
    <ValueString>Received Material Lot-Kilograms</ValueString>
    <DataType>string</DataType>
    <UnitOfMeasure/>
  </Value>
</MaterialSublotProperty>
<Quantity>
  <QuantityString>2</QuantityString>
  <DataType>string</DataType>
  <UnitOfMeasure>EA</UnitOfMeasure>
</Quantity>
</MaterialSubLot>
<Location>
  <EquipmentID/>
  <EquipmentElementLevel>Site</EquipmentElementLevel>
</Location>
  <EquipmentID>Received Material Lots</EquipmentID>
  <EquipmentElementLevel>ProductionLine</EquipmentElementLevel>
</Location>
  <EquipmentID>Receiver</EquipmentID>
  <EquipmentElementLevel>Unit</EquipmentElementLevel>
</Location>
</Location>
</Location>
<Quantity>
  <QuantityString>4</QuantityString>

```

```

    <DataType>string</DataType>
    <UnitOfMeasure>EA</UnitOfMeasure>
  </Quantity>
</MaterialLot>
</MaterialInformation>

```

## Event: Process Order Created

```

<ProductionPerformance
  xmlns:xsd="http://www.w3.org/2001/XMLSchema"
  xmlns:Extended="http://www.wbf.org/xml/B2MML-V0401-AllExtensions"
  xmlns:inp2="http://www.wbf.org/xml/B2MML-V0401"
  xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
  xmlns:erp="http://sample.data"
  xmlns="http://www.wbf.org/xml/B2MML-V0401">
  <ID>0000017587b15e0c-7f67b3290c000000</ID>
  <Description>ERP Export Service</Description>
  <PublishedDate>2020-11-02T06:29:43Z</PublishedDate>
  <ProductionResponse>
    <ID>PO_TestDemol</ID>
    <SegmentResponse>
      <ID>000</ID>
      <ProductionData>
        <ID>plannedStartTime</ID>
        <Value>
          <ValueString>2020-10-01T09:33:00Z</ValueString>
          <DataType>string</DataType>
          <UnitOfMeasure/>
        </Value>
      </ProductionData>
      <ProductionData>
        <ID>plannedEndTime</ID>
        <Value>
          <ValueString>2020-10-03T09:33:00Z</ValueString>
          <DataType>string</DataType>
          <UnitOfMeasure/>
        </Value>
      </ProductionData>
      <ProductionData>
        <ID>plannedQuantity</ID>
        <Value>
          <ValueString>40</ValueString>
          <DataType>string</DataType>
          <UnitOfMeasure/>
        </Value>
      </ProductionData>
      <ProductionData>
        <ID>engineeringUnit</ID>
        <Value>
          <ValueString>cm</ValueString>
          <DataType>string</DataType>
          <UnitOfMeasure/>
        </Value>
      </ProductionData>
    </SegmentResponse>
  </ProductionResponse>
</ProductionPerformance>

```

```

        </Value>
    </ProductionData>
    <ProductionData>
        <ID>path</ID>
        <Value>
            <ValueString>Path Line3</ValueString>
            <DataType>string</DataType>
            <UnitOfMeasure/>
        </Value>
    </ProductionData>
    <ProductionData>
        <ID>controlType</ID>
        <Value>
            <ValueString>QUANTITY</ValueString>
            <DataType>string</DataType>
            <UnitOfMeasure/>
        </Value>
    </ProductionData>
    <ProductionData>
        <ID>impliedSequence</ID>
        <Value>
            <ValueString>921219720</ValueString>
            <DataType>string</DataType>
            <UnitOfMeasure/>
        </Value>
    </ProductionData>
    <ProductionData>
        <ID>extendedInfo</ID>
        <Value>
            <ValueString>null</ValueString>
            <DataType>string</DataType>
            <UnitOfMeasure/>
        </Value>
    </ProductionData>
    <ProductionData>
        <ID>orderType</ID>
        <Value>
            <ValueString>SCHEDULE</ValueString>
            <DataType>string</DataType>
            <UnitOfMeasure/>
        </Value>
    </ProductionData>
    <ProductionData>
        <ID>entryOn</ID>
        <Value>
            <ValueString>2020-11-02T06:42:29Z</ValueString>
            <DataType>string</DataType>
            <UnitOfMeasure/>
        </Value>
    </ProductionData>
    <ProductionData>
        <ID>status</ID>
        <Value>

```

```

        <ValueString>PENDING</ValueString>
        <DataType>string</DataType>
        <UnitOfMeasure/>
    </Value>
</ProductionData>
<ProductionData>
    <ID>sourceProcessOrder</ID>
    <Value>
        <ValueString>>null</ValueString>
        <DataType>string</DataType>
        <UnitOfMeasure/>
    </Value>
</ProductionData>
<ProductionData>
    <ID>userGeneral1</ID>
    <Value>
        <ValueString>UserGeneralValue1</ValueString>
        <DataType>string</DataType>
        <UnitOfMeasure/>
    </Value>
</ProductionData>
<ProductionData>
    <ID>userGeneral2</ID>
    <Value>
        <ValueString>UserGeneralValue2</ValueString>
        <DataType>string</DataType>
        <UnitOfMeasure/>
    </Value>
</ProductionData>
<ProductionData>
    <ID>userGeneral3</ID>
    <Value>
        <ValueString>UserGeneralValue3</ValueString>
        <DataType>string</DataType>
        <UnitOfMeasure/>
    </Value>
</ProductionData>
<ProductionData>
    <ID>TestProp1</ID>
    <Value>
        <ValueString>test1</ValueString>
        <DataType>string</DataType>
        <UnitOfMeasure/>
    </Value>
</ProductionData>
<ProductionData>
    <ID>IntProp2</ID>
    <Value>
        <ValueString>10</ValueString>
        <DataType>string</DataType>
        <UnitOfMeasure/>
    </Value>
</ProductionData>

```

```

        <MaterialProducedActual>
            <MaterialDefinitionID>Process_Prod1</MaterialDefinitionID>
            <Location>
                <EquipmentID>Line3</EquipmentID>
                <EquipmentElementLevel>ProductionLine</
EquipmentElementLevel>
            </Location>
        </MaterialProducedActual>
    </SegmentResponse>
    <Extended:SchemaVersion>1</Extended:SchemaVersion>
</ProductionResponse>
</ProductionPerformance>

```

## Event: Process Order Updated

```

<ProductionPerformance
  xmlns:xsd="http://www.w3.org/2001/XMLSchema"
  xmlns:Extended="http://www.wbf.org/xml/B2MML-V0401-AllExtensions"
  xmlns:inp2="http://www.wbf.org/xml/B2MML-V0401"
  xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
  xmlns:erp="http://sample.data"
  xmlns="http://www.wbf.org/xml/B2MML-V0401">
  <ID>0000017587cc35ba-7f67b3290c000000</ID>
  <Description>ERP Export Service</Description>
  <PublishedDate>2020-11-02T06:29:43Z</PublishedDate>
  <ProductionResponse>
    <ID>PO_TestDemol</ID>
    <SegmentResponse>
      <ID>000</ID>
      <ProductionData>
        <ID>plannedStartTime</ID>
        <Value>
          <ValueString>2020-10-01T09:33:00Z</ValueString>
          <DataType>string</DataType>
          <UnitOfMeasure/>
        </Value>
      </ProductionData>
      <ProductionData>
        <ID>plannedEndTime</ID>
        <Value>
          <ValueString>2020-10-03T09:33:00Z</ValueString>
          <DataType>string</DataType>
          <UnitOfMeasure/>
        </Value>
      </ProductionData>
      <ProductionData>
        <ID>plannedQuantity</ID>
        <Value>
          <ValueString>40</ValueString>
          <DataType>string</DataType>
          <UnitOfMeasure/>
        </Value>
      </ProductionData>
    </SegmentResponse>
  </ProductionResponse>
</ProductionPerformance>

```

```

</ProductionData>
<ProductionData>
  <ID>engineeringUnit</ID>
  <Value>
    <ValueString>cm</ValueString>
    <DataType>string</DataType>
    <UnitOfMeasure/>
  </Value>
</ProductionData>
<ProductionData>
  <ID>path</ID>
  <Value>
    <ValueString>null</ValueString>
    <DataType>string</DataType>
    <UnitOfMeasure/>
  </Value>
</ProductionData>
<ProductionData>
  <ID>controlType</ID>
  <Value>
    <ValueString>QUANTITY</ValueString>
    <DataType>string</DataType>
    <UnitOfMeasure/>
  </Value>
</ProductionData>
<ProductionData>
  <ID>impliedSequence</ID>
  <Value>
    <ValueString>965452670</ValueString>
    <DataType>string</DataType>
    <UnitOfMeasure/>
  </Value>
</ProductionData>
<ProductionData>
  <ID>extendedInfo</ID>
  <Value>
    <ValueString>null</ValueString>
    <DataType>string</DataType>
    <UnitOfMeasure/>
  </Value>
</ProductionData>
<ProductionData>
  <ID>orderType</ID>
  <Value>
    <ValueString>SCHEDULE</ValueString>
    <DataType>string</DataType>
    <UnitOfMeasure/>
  </Value>
</ProductionData>
<ProductionData>
  <ID>entryOn</ID>
  <Value>
    <ValueString>2020-11-02T07:11:48Z</ValueString>

```



```

        <DataType>string</DataType>
        <UnitOfMeasure/>
    </Value>
</ProductionData>
<ProductionData>
    <ID>status</ID>
    <Value>
        <ValueString>PENDING</ValueString>
        <DataType>string</DataType>
        <UnitOfMeasure/>
    </Value>
</ProductionData>
<ProductionData>
    <ID>sourceProcessOrder</ID>
    <Value>
        <ValueString>null</ValueString>
        <DataType>string</DataType>
        <UnitOfMeasure/>
    </Value>
</ProductionData>
<ProductionData>
    <ID>userGeneral1</ID>
    <Value>
        <ValueString>UserGeneralValue1</ValueString>
        <DataType>string</DataType>
        <UnitOfMeasure/>
    </Value>
</ProductionData>
<ProductionData>
    <ID>userGeneral2</ID>
    <Value>
        <ValueString>UserGeneralValue2</ValueString>
        <DataType>string</DataType>
        <UnitOfMeasure/>
    </Value>
</ProductionData>
<ProductionData>
    <ID>userGeneral3</ID>
    <Value>
        <ValueString>UserGeneralValue3</ValueString>
        <DataType>string</DataType>
        <UnitOfMeasure/>
    </Value>
</ProductionData>
<ProductionData>
    <ID>TestProp1</ID>
    <Value>
        <ValueString>test1</ValueString>
        <DataType>string</DataType>
        <UnitOfMeasure/>
    </Value>
</ProductionData>
</ProductionData>

```

```

        <ID>IntProp2</ID>
        <Value>
            <ValueString>10</ValueString>
            <DataType>string</DataType>
            <UnitOfMeasure/>
        </Value>
    </ProductionData>
    <MaterialProducedActual>
        <MaterialDefinitionID>Process_Prod1</MaterialDefinitionID>
        <Location>
            <EquipmentID>>null</EquipmentID>
            <EquipmentElementLevel>ProductionLine</
EquipmentElementLevel>
        </Location>
    </MaterialProducedActual>
</SegmentResponse>
    <Extended:SchemaVersion>1</Extended:SchemaVersion>
</ProductionResponse>
</ProductionPerformance>

```

## Event: Process Order Deleted

```

<ProductionPerformance
  xmlns:xsd="http://www.w3.org/2001/XMLSchema"
  xmlns:Extended="http://www.wbf.org/xml/B2MML-V0401-AllExtensions"
  xmlns:inp2="http://www.wbf.org/xml/B2MML-V0401"
  xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
  xmlns:erp="http://sample.data"
  xmlns="http://www.wbf.org/xml/B2MML-V0401">
  <ID>0000017587d38844-7f67b3290c000000</ID>
  <Description>ERP Export Service</Description>
  <PublishedDate>2020-11-02T06:29:43Z</PublishedDate>
  <ProductionResponse>
    <ID>Test_Unbound</ID>
    <SegmentResponse>
      <ID>000</ID>
      <ActualStartTime>2020-10-01T15:48:00Z</ActualStartTime>
      <ProductionData>
        <ID>plannedStartTime</ID>
        <Value>
          <ValueString>2020-10-01T15:48:00Z</ValueString>
          <DataType>string</DataType>
          <UnitOfMeasure/>
        </Value>
      </ProductionData>
      <ProductionData>
        <ID>plannedEndTime</ID>
        <Value>
          <ValueString>2020-10-01T16:48:00Z</ValueString>
          <DataType>string</DataType>
          <UnitOfMeasure/>
        </Value>
      </ProductionData>
    </SegmentResponse>
  </ProductionResponse>
</ProductionPerformance>

```

```

</ProductionData>
<ProductionData>
  <ID>plannedQuantity</ID>
  <Value>
    <ValueString>40</ValueString>
    <DataType>string</DataType>
    <UnitOfMeasure/>
  </Value>
</ProductionData>
<ProductionData>
  <ID>engineeringUnit</ID>
  <Value>
    <ValueString>cm</ValueString>
    <DataType>string</DataType>
    <UnitOfMeasure/>
  </Value>
</ProductionData>
<ProductionData>
  <ID>path</ID>
  <Value>
    <ValueString>Path Line3</ValueString>
    <DataType>string</DataType>
    <UnitOfMeasure/>
  </Value>
</ProductionData>
<ProductionData>
  <ID>controlType</ID>
  <Value>
    <ValueString>QUANTITY</ValueString>
    <DataType>string</DataType>
    <UnitOfMeasure/>
  </Value>
</ProductionData>
<ProductionData>
  <ID>impliedSequence</ID>
  <Value>
    <ValueString>922224120</ValueString>
    <DataType>string</DataType>
    <UnitOfMeasure/>
  </Value>
</ProductionData>
<ProductionData>
  <ID>extendedInfo</ID>
  <Value>
    <ValueString>null</ValueString>
    <DataType>string</DataType>
    <UnitOfMeasure/>
  </Value>
</ProductionData>
<ProductionData>
  <ID>orderType</ID>
  <Value>
    <ValueString>SCHEDULE</ValueString>

```

```

        <DataType>string</DataType>
        <UnitOfMeasure/>
    </Value>
</ProductionData>
<ProductionData>
    <ID>entryOn</ID>
    <Value>
        <ValueString>2020-11-02T07:19:48Z</ValueString>
        <DataType>string</DataType>
        <UnitOfMeasure/>
    </Value>
</ProductionData>
<ProductionData>
    <ID>status</ID>
    <Value>
        <ValueString>ACTIVE</ValueString>
        <DataType>string</DataType>
        <UnitOfMeasure/>
    </Value>
</ProductionData>
<ProductionData>
    <ID>sourceProcessOrder</ID>
    <Value>
        <ValueString>null</ValueString>
        <DataType>string</DataType>
        <UnitOfMeasure/>
    </Value>
</ProductionData>
<ProductionData>
    <ID>userGeneral1</ID>
    <Value>
        <ValueString>UserGeneralValue1</ValueString>
        <DataType>string</DataType>
        <UnitOfMeasure/>
    </Value>
</ProductionData>
<ProductionData>
    <ID>userGeneral2</ID>
    <Value>
        <ValueString>UserGeneralValue2</ValueString>
        <DataType>string</DataType>
        <UnitOfMeasure/>
    </Value>
</ProductionData>
<ProductionData>
    <ID>userGeneral3</ID>
    <Value>
        <ValueString>UserGeneralValue3</ValueString>
        <DataType>string</DataType>
        <UnitOfMeasure/>
    </Value>
</ProductionData>
</ProductionData>

```

```

        <ID>TestProp1</ID>
        <Value>
            <ValueString>test1</ValueString>
            <DataType>string</DataType>
            <UnitOfMeasure/>
        </Value>
    </ProductionData>
    <ProductionData>
        <ID>IntProp2</ID>
        <Value>
            <ValueString>10</ValueString>
            <DataType>string</DataType>
            <UnitOfMeasure/>
        </Value>
    </ProductionData>
    <MaterialProducedActual>
        <MaterialDefinitionID>Process_Prod1</MaterialDefinitionID>
        <Location>
            <EquipmentID>Line3</EquipmentID>
            <EquipmentElementLevel>ProductionLine</
EquipmentElementLevel>
        </Location>
    </MaterialProducedActual>
</SegmentResponse>
    <Extended:SchemaVersion>1</Extended:SchemaVersion>
</ProductionResponse>
</ProductionPerformance>

```

## Event: Process Order Completed

```

<ProductionPerformance
  xmlns:xsd="http://www.w3.org/2001/XMLSchema"
  xmlns:Extended="http://www.wbf.org/xml/B2MML-V0401-AllExtensions"
  xmlns:inp2="http://www.wbf.org/xml/B2MML-V0401"
  xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
  xmlns:erp="http://sample.data"
  xmlns="http://www.wbf.org/xml/B2MML-V0401">
  <ID>000001756e077a01-7f67b3290c000000</ID>
  <Description>ERP Export Service</Description>
  <PublishedDate>2020-10-28T06:44:23Z</PublishedDate>
  <ProductionResponse>
    <ID>PO_Test116</ID>
    <SegmentResponse>
      <ID>000</ID>
      <ActualStartTime>2020-10-20T16:49:19Z</ActualStartTime>
      <ActualEndTime>2020-10-28T07:06:13Z</ActualEndTime>
      <ProductionData>
        <ID>PlannedStartTime</ID>
        <Value>
          <ValueString>2017-04-08T09:22:17Z</ValueString>
          <DataType>string</DataType>
          <UnitOfMeasure/>

```

```

    </Value>
  </ProductionData>
  <ProductionData>
    <ID>PlannedEndTime</ID>
    <Value>
      <ValueString>2019-03-08T09:22:17Z</ValueString>
      <DataType>string</DataType>
      <UnitOfMeasure/>
    </Value>
  </ProductionData>
  <ProductionData>
    <ID>plannedQuantity</ID>
    <Value>
      <ValueString>30</ValueString>
      <DataType>float</DataType>
      <UnitOfMeasure/>
    </Value>
  </ProductionData>
  <ProductionData>
    <ID>actualBadQuantity</ID>
    <Value>
      <ValueString>1</ValueString>
      <DataType>float</DataType>
      <UnitOfMeasure/>
    </Value>
  </ProductionData>
  <ProductionData>
    <ID>actualGoodQuantity</ID>
    <Value>
      <ValueString>9</ValueString>
      <DataType>float</DataType>
      <UnitOfMeasure/>
    </Value>
  </ProductionData>
  <ProductionData>
    <ID>engineeringUnit</ID>
    <Value>
      <ValueString>cm</ValueString>
      <DataType>string</DataType>
      <UnitOfMeasure/>
    </Value>
  </ProductionData>
  <ProductionData>
    <ID>Path</ID>
    <Value>
      <ValueString>Path Line3</ValueString>
      <DataType>string</DataType>
      <UnitOfMeasure/>
    </Value>
  </ProductionData>
  <ProductionData>
    <ID>controlType</ID>
    <Value>

```

```

    <ValueString>QUANTITY</ValueString>
    <DataType>string</DataType>
    <UnitOfMeasure/>
  </Value>
</ProductionData>
<ProductionData>
  <ID>impliedSequence</ID>
  <Value>
    <ValueString>860491337</ValueString>
    <DataType>string</DataType>
    <UnitOfMeasure/>
  </Value>
</ProductionData>
<ProductionData>
  <ID>extendedInfo</ID>
  <Value>
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## Response Codes

The ERP Integration database contains HTTP response codes and response messages returned by the ERP Import service. The responses provide the status of the import process. This topic provides the response codes, messages, and their description for each type of response.

**Table 2. Success Messages**

Response Code	Response Message	Description
<a href="#">200</a>	OK	The record (that is, the work order, process order, or material) was successfully imported.
<a href="#">202</a>	Accepted	The record has been accepted for import processing. The final status is pending.

**Table 3. Error Messages from the Client**

Response Code	Response Message	Description
<a href="#">400</a>	Bad Request	The inbound message could not be validated or could not be converted into a format suitable for importing.

Response Code	Response Message	Description
<a href="#">401</a>	Unauthorized	The import failed because the request lacked valid authentication credentials.
<a href="#">404</a>	Not Found	The import service was unable to retrieve the status of the record.
<a href="#">422</a>	Unprocessable Entity	The import service is attempting to create a record for materials that are not in the Plant Applications system.

**Table 4. Error Messages from the Server**

Response Code	Response Message	Description
<a href="#">500</a>	Internal Server Error	A server error occurred while importing a record or while retrieving the status of a record.
<a href="#">503</a>	Service Unavailable	The connection was refused or the server was unable to import a record or retrieve the status of a record due to a temporary server overload or other transitory condition.

## *ERP Export Service Tables*

The ERP Export service publishes messages in a JSON and/or B2MML format to the following tables:

Events	Table
<ul style="list-style-type: none"> <li>• mes.erp.outbound.messages.ClockOffEvent</li> <li>• mes.erp.outbound.messages.ClockOnEvent</li> </ul>	erp.erp_integration_outbound_laborVouchering_messages
<ul style="list-style-type: none"> <li>• mes.erp.outbound.messages.MaterialLotStatusChangedEvent (event generated when the status of a material lot is changed)</li> <li>• mes.erp.outbound.messages.OperationCompletedEvent</li> <li>• mes.erp.outbound.messages.ProcessOrderCompletedEvent</li> <li>• mes.erp.outbound.messages.ProcessOrderCreatedEvent</li> <li>• mes.erp.outbound.messages.ProcessOrderDeletedEvent</li> <li>• mes.erp.outbound.messages.ProcessOrderUpdatedEvent</li> <li>• mes.route.releasedRoutes.RouteReleasedEvent</li> </ul>	erp.erp_outbound_integration_standard_messages

The table contains the following columns:

Column	Description
Id	The ID of the message.

Column	Description
Event_Type	The type of the event.
Message	The body of the message.
Inserted_By	The user or system that sent the message.
Inserted_Date	The date on which the message was initiated.
Message_Type	The format of the message (application/xml or application/JSON).

The following optional fields allow the external integration to track the progress of the integration, and can also be used by support teams to troubleshoot any failed transactions through the integration.

Column	Description
Process_Start_Date	This property is null unless populated by a custom integration service. It can be used by any custom integration to set the start time when an external process begins accepting or processing this record.
Process_Completion_Date	This property is null unless populated by a custom integration service. It can be used by any custom integration to set the completion time when an external process finishes accepting or processing this record.
Response_Code	This property is null unless populated by a custom integration service. It can be used by any custom integration to set a response code about the status of the processing of the record.
Response_Message	This property is null unless populated by a custom integration service. It can be used by any custom integration to set a response message about the detailed status of the processing of the record.

## *Modifications and Additions to Properties in Plant Applications Web Client 8.1*

The following table lists the properties that are removed from Plant Applications Web Client 8.0 and modified and added properties for Plant Applications Web Client 8.1.

Plant Applications 8.0	Plant Applications 8.1	Comment
ROUTE_WORKORDER_CATEGORY	ERP APP	ROUTE_WORKORDER_CATEGORY is removed in Plant Applications 8.1.  The ERP application is added in Plant Applications 8.1 to consolidate ERP related groups under one category.

<b>Plant Applications 8.0</b>	<b>Plant Applications 8.1</b>	<b>Comment</b>
ROUTE_WORKORDER_GROUP	WorkOrder Import	<p>ROUTE_WORKORDER_GROUP is renamed WorkOrder Import. Any properties configured in the older group are moved to the new group during installation.</p> <p>The ERP application uses the properties from the new group while creating a work order.</p>
ROUTE_MATERIAL_CATEGORY	ERP APP	The category of properties is removed from Plant Applications 8.1.
ROUTE_MATERIAL_GROUP	Material Import	<p>ROUTE_MATERIAL_GROUP is renamed Material Import. Any properties configured in the older group are moved to the new group during installation.</p> <p>The ERP application uses the properties from the new group while creating material.</p>
-	MaterialLot Import	<p>Added in Plant Applications 8.1.</p> <p>The ERP application uses the properties from this group while creating a material lot.</p>

# Chapter 5. Release Notes

## Version 8.2

This topic provides a list of product changes for ERP Integration for this release.

**Table 5. Enhancements and New Features**

*The following enhancements and new features have been added.*

Description	Tracking ID
<p>In addition to schema version 1, the ERP integration services now use schema version 2 to import a process order.</p> <p>Using schema version 2, you can provide values of the process order properties. If the process order is not yet started, it is deleted and a new one is created with the properties and values that you provide in the process order import document (POID). In addition, providing the production line is not mandatory, and you can include production lines with multiple execution paths.</p>	F53700
<p>In addition to schema versions 2 and 3, the ERP integration services now use schema version 4 to import a material lot.</p> <p>Using schema version 4, you can update the following components of a material lot using a material lot import document (MLID) for a non-serialized product:</p> <ul style="list-style-type: none"><li>• Status</li><li>• Quantity</li><li>• Properties</li></ul>	F53220
<p>The ERP Export service can now send events to an ERP system (or middleware/interfacing system) when the following events occur:</p> <ul style="list-style-type: none"><li>• A process order is created, updated, completed, or deleted.</li><li>• The status of a process order is changed.</li></ul>	F47345

Description	Tracking ID
<p>In addition to schema versions 3 and 4, the ERP integration services now use schema versions 5 and 6 to import a work order.</p> <p>Using schema version 5, you can override the following route components in a work order:</p> <ul style="list-style-type: none"> <li>• BOM items of a route</li> <li>• BOM items of individual operations in a route</li> <li>• Values of BOM item properties</li> <li>• Values of route-level and operation-level properties</li> </ul> <p>If these components exist in the route, after importing the work order, they are replaced with the ones in the work order import document (WOID). If they do not exist, they are created (only for the work order, not for the parent route). Properties, however, are not created in this case.</p> <p>In addition, for schema versions 5 and later, specifying the route revision is not required. If you do not specify the revision, the latest revision of the route is considered.</p> <p>Using schema version 6, you can provide the following values:</p> <ul style="list-style-type: none"> <li>• Upper and lower tolerances of a BOM item and their precision</li> <li>• Scrap factor (the percentage of the material predicted to be scrapped)</li> <li>• Precision of the quantity of a BOM item</li> <li>• The default storage unit of a BOM item</li> </ul> <p>In addition, you can specify whether an operation can be skipped.</p>	<ul style="list-style-type: none"> <li>• F53677</li> <li>• F53218</li> <li>• F37407</li> </ul>
<p>The ERP integration services now provide error messages that are descriptive and easy to follow.</p>	<p>F53218</p>

## Version 8.1

This topic provides a list of product changes for ERP Integration for this release.

### Table 6. Enhancements and New Features

*The following enhancements and new features have been added.*

Description	Tracking ID
<p>In addition to Work Orders, Process Orders, and Materials, you can now import Material Lot and Outside Processing (OSP) to Plant Applications. To facilitate this enhancement:</p> <ul style="list-style-type: none"> <li>• The required properties of a Material Lot (such as OrgCode) must be created in Property Definition.</li> <li>• Values of these properties must be defined in Plant Applications Administrator.</li> <li>• The Material Lot Import Document (MLID) must contain all the required properties of the Material Lot.</li> </ul>	<p>F48473</p>
<p>An ERP-Export service is introduced. The ERP Export service sends the events from the Plant Applications Web Client to the ERP system (or middleware / interfacing system). The ERP Export service sends notifications from the Plant Applications Web Client to the ERP system when the following events occur:</p> <ul style="list-style-type: none"> <li>• Operation Complete</li> <li>• Clock on a serial/lot</li> <li>• Clock off a serial/lot</li> <li>• Material Scrap</li> <li>• Route Release</li> </ul>	<p>F46586 F37771 F45626</p>
<p>ERP Integration now supports serialized and non-serialized import of Work Orders and Materials.</p>	<p>F45347</p>
<p>Notifications are now sent to ERP when the following events occur in Plant Applications Web Client:</p> <ul style="list-style-type: none"> <li>• A route is released</li> <li>• An operation is clocked on or clocked off</li> <li>• An operation is complete</li> </ul>	<p>F45988</p>
<p>When raw materials are sent to an ERP system, the Plant Applications Web Client can access and process messages that are generated when a raw material is received and represent the associated material lots.</p>	<p>F46587</p>

## Version 8.0

This topic provides a list of product changes for ERP integration for this release.

### Table 7. Enhancements and New Features

*The following enhancements and new features have been added.*

<b>Description</b>	<b>Tracking ID</b>
In addition to work orders, you can now import process orders and materials to Plant Applications.	F43913
In addition to a JSON format, you can now send work order, process order, or material information in an XML or B2MML format. To facilitate this enhancement, a new service, ERP Transformation, has been introduced, which converts the XML or B2MML file to a JSON file before it is imported to Plant Applications.	<ul style="list-style-type: none"><li>• F37772</li><li>• F37770</li></ul>