



Acumatica

The Cloud ERP

M100 Basic Manufacturing Implementation

Chris Pelton

Services - Consultant

Timing and Agenda

June 10, 2024 - 10:00-11:30 AM PT

Day 1

Lesson 1: Preparing the System for Manufacturing Implementation

June 11, 2024 - 10:00-11:30 AM PT

Day 2

Lesson 2: Managing Production Cost Drivers

Lesson 3: Managing Work Centers

Lesson 4: Managing Bills of Material

Timing and Agenda

June 12, 2024 - 10:00-11:30 AM PT

Day 3

Lesson 5: Configuring Production Order Types

Lesson 6: Configuring Production of Lot- or Serial-Tracked Items

Lesson 7: Configuring Outside Processing

June 13, 2024 - 10:00-11:30 AM PT

Day 4

Lesson 8: Configuring Production with Backflushing

Lesson 9: Configuring Scrap and Waste in Production

Lesson 10: Configuring Inventory Planning



Day 1

Scott McLaughlin
Acumatica Sponsored Professional Race Car Driver

Company Structure

The SweetLife Fruits & Jams company is a midsize company located in New York City. The company consists of the following branches:

- **SweetLife Head Office and Wholesale Center:** This branch of the company consists of a jam factory and a large warehouse where the company stores fruit (purchased from wholesale vendors) and the jam it produces. Warehouse workers perform warehouse operations by using barcode scanners or mobile devices with barcode scanning support.
- **SweetLife Store:** This branch has a retail shop with a small warehouse to which the goods to be sold are distributed from the company's main warehouse. This branch is also planning on selling goods via a website created on an e-commerce platform to accept orders online. The e-commerce integration project is underway.
- **SweetLife Service and Equipment Sales Center:** This branch is a service center with a small warehouse where juicers are stored. This branch assembles, sells, installs, and services juicers, in addition to training customers' employees to operate juicers.

Operational Activity

The company has been operating starting in the 01-2023 financial period. In November 2023, the company started using Acumatica ERP as an ERP and CRM system and migrated all data of the main office and retail store to Acumatica ERP. The equipment center has begun its operations in 01-2024 in response to the company's growth.

The base currency of the company and its subsidiaries is the US dollar (USD). All amounts in documents and reports are expressed in US dollars unless otherwise indicated.

SweetLife Company Sales and Services

Each SweetLife company's branch has its own business processes, as follows:

- **SweetLife Head Office and Wholesale Center:** In this branch, jams and fruit are sold to wholesale customers, such as restaurants and cafes. The company also conducts home canning training at the customer's location and webinars on the company's website.
- **SweetLife Store:** In the store, retail customers purchase fresh fruit, berries, and jams, or pick up the goods they have ordered on the website. Some of the goods listed in the website catalog are not stored in the retail warehouse, such as tropical fruits (which are purchased on demand) and tea (which is drop-shipped from a third-party vendor).
- **SweetLife Service and Equipment Sales Center:** This branch assembles juicers, sells juicers, provides training on equipment use, and offers equipment installation, including site review and maintenance services. The branch performs short-term service provision.

The company has local and international customers. The ordered items are delivered by drivers using the company's own vehicle. Customers can pay for orders by using various payment methods (cash, checks, or credit cards).

Company Purchases

The company purchases fruits and spices from large fruit vendors for sale and for jam production. For producing jams and packing jams and fruits, the company purchases jars, labels, and paper bags from various vendors. For the internal needs of the main office and store, the company purchases stationery (printing paper, pens, and pencils), computers, and computer accessories from various vendors.

The company also purchases juicers and juicer parts from large juicer vendors, and it either purchases the installation service for the juicers or provides the installation service on its own, depending on the complexity of the installation.

Lesson 1: Preparing the System for Manufacturing Implementation

Learning Objectives

In this lesson, you will learn how to do the following:

- Enable the needed set of features before you start implementing manufacturing
- Specify the required settings to prepare the system for implementing manufacturing
- Create stock items involved in manufacturing

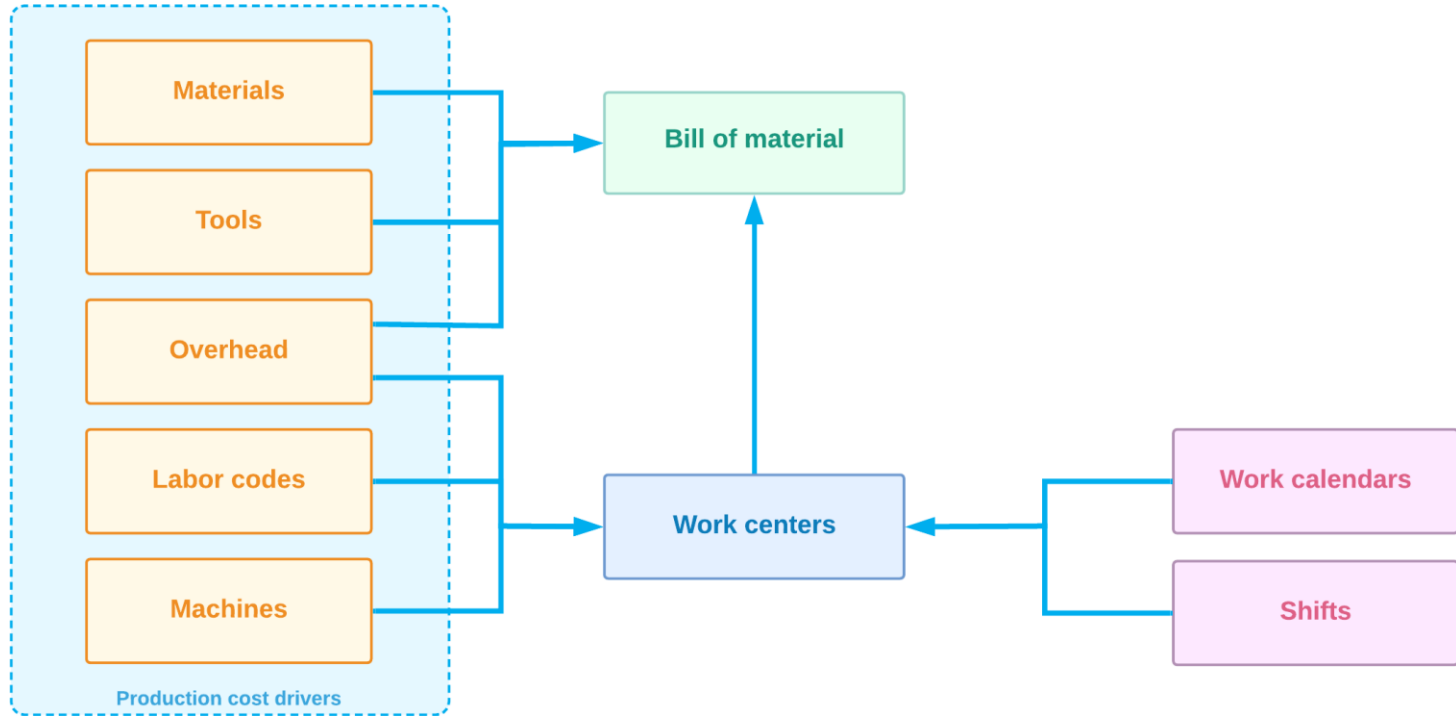
System Preparation for Manufacturing Implementation: Implementation Activity

Story

Suppose that based on requests from customers, SweetLife Fruits & Jams has decided to assemble customized juicers. The company has organized a work center where workers assemble juicers from parts bought from the Squezo Inc. vendor.

As an implementation manager, you need to prepare the system for the specification of manufacturing-specific settings.

Figure: The order in which you create manufacturing entities





Day 2

 DIAMONDBACK

DiamondBack Covers
Acumatica Customer

Lesson 2: Managing Production Cost Drivers

Learning Objectives

In this lesson, you will learn how to do the following:

- Define the labor codes so that labor costs are included in the cost of a produced item
- Define the overhead entities so that overhead costs are included in the cost of a produced item
- Define the tools so that the tool costs are included in the cost of a produced item
- Define the machines so that the machine costs are included in the cost of a produced item

Configuring Production Cost Drivers: Implementation Activity

Story

Suppose that SweetLife Fruits & Jams has decided to assemble customized juicers according to customers' needs. For accurate calculating of the cost of the juicer, the material costs, machine costs, tool costs, labor costs, and overhead costs must be considered. In the assembly process, such tools as a screwdriver and a hammer are used. For producing small plastic parts, the injection molding machine is used. Two workers are involved in the juicer assembly. The administrative costs, payroll costs, and floor setup costs must be included in the cost of the juicers as well.

As an implementation manager, you need to create records for a machine, tools, overhead, and labor codes so that these costs are included in the cost of the juicers. The costs for the components used in juicers have been specified when the stock items for these components were created in the system, so you will not specify these costs in this activity.

Lesson 3: Managing Work Centers

Learning Objectives

In this lesson, you will learn how to do the following:

- Create a work calendar for overtime work
- Create shifts that will be used in work centers
- Create the work centers that will be involved in manufacturing

Configuring Work Centers: Implementation Activity

Story

Suppose that SweetLife Fruits & Jams has decided to assemble customized juicers according to customers' needs.

Assembly will take place in the Workhouse warehouse of the Service and Equipment Sales Center branch, in a specific work center. Two workers and a manager will be involved in the assembly process, and no machines will be used in this work center. Administrative and payroll overhead costs must be included in the production costs for this work center. Normally, workers will work in the standard shift, but sometimes overtime work will be required, and usually one worker is involved in overtime work. Standard working hours are from Monday to Friday, 10:00 AM to 6:00 PM. Overtime work is from Monday to Friday, 6:00 PM to 9:00 PM.

In a separate work center, an injection molding machine has been installed, which will be used for producing small plastic parts required for juicers. The machine will be used during the standard schedule. One worker will operate the machine during the working hours.

As an implementation manager, you need to create a work calendar for overtime (a work calendar already exists for standard working hours), shifts for standard working hours and for overtime, and work centers for juicer assembly and for the injection molding machine.

Lesson 4: Managing Bills of Material

Learning Objectives

In this lesson, you will learn how to do the following:

- Prepare the system for the creation of bills of material
- Create and activate a bill of material

Bills of Material: Implementation Activity

Story

Suppose that SweetLife Fruits & Jams has decided to assemble customized juicers according to customers' specifications. Assembly will take place in the Workhouse warehouse of the Service and Equipment Sales Center branch, in a specific work center. The process of assembling a juicer consists of one assembly operation and requires juicer parts as materials and a hammer and screwdriver as tools. Overhead costs have been specified at the work center level; you do not need to specify them on the bill of material. In the work center, two workers are involved in juicer assembly. Each worker produces three juicers per hour.

As an implementation manager, you will create the bill of material for the assembly process of the configurable juicer for citrus fruits.

Figure: BOM Cost Summary dialog box

Bill of Material
BOM000001 A - A bill of material for assembly of configurable juicers for citrus fruits

* BOM ID: BOM000001 Inventory ID: CFJCTRUS - Configurable juicer for citrus
 * Revision: A - A bill of material for assem Warehouse: WORKHOUSE - Warehouse for manufacturing ite
 Hold Start Date: 1/1/2023 End Date:

Status: Active
 Description: A bill of

BOM Cost Summary

Lot Size: 1.00

LABOR

Fixed Labor: 10.0000 Variable Labor: 6.6667

OVERHEAD

Fixed Overhead: 15.0000 Variable Overh...: 5.0000

OTHER COSTS

Machine: 0.0000 Tools: 0.2200
 Material: 461.6300

TOTALS

Unit Cost: 498.5167 Total Cost: 498.5167

OK

*Opera ID	*W. C€	Move Time	Bac Lab	Scr Act	Co. Poi
010	W...	00:00	<input type="checkbox"/>	No Ac	<input type="checkbox"/>

MATERIALS STEPS

*Tool ID	Description	Qty Required	Unit Cost
HAMMER	Hammer	1.00	0.0200
SCREWDRIVER	Electric screwdriver	1.00	0.2000



Day 3



Jessica Korda

Acumatica Sponsored Professional Golfer

Lesson 5: Configuring Production Order Types

Learning Objectives

In this lesson, you will learn how to do the following:

- Create a production order type for each of the following categories of production orders: regular, planning, and disassembly.

Production Order Types: To Create a Regular Production Order Type

Story

Suppose that you are an implementation manager who needs to define production orders that will be used for producing items. You need to create the production order type that will generally provide the settings for these production orders, and define it as the default type for the orders.

Production Order Types: To Create a Planning Production Order Type

Story

Suppose that you are an implementation manager who needs to define production orders that will be used to plan production. You need to create the order type that will generally provide the settings for these production orders, and define it as the default type for the orders.

Production Order Types: To Create a Disassembly Production Order Type

Story

Suppose that you are an implementation manager who needs to define production orders that will be used for disassembly. You need to create the production order type that will generally provide the settings for these production orders, and define it as the default type for the orders.

Lesson 6: Configuring Production of Lot- or Serial-Tracked Items

Learning Objectives

In this lesson, you will learn how to do the following:

- Prepare the system to recording the production of lot- or serial-tracked items
- Create a bill of material for producing lot- or serial-tracked items
- For a production order type, specify settings that control the assignment of lot or serial numbers for a production order of the type

Configuration for the Production of Lot- or Serial-Tracked Items: Implementation Activity

Story

Suppose that SweetLife Fruits & Jams has decided to extend its assortment of assembled juicers with a juicer for fruit. The company provides services for the replacement and repairing of the juicers. To make sure that juicers and parts were bought from SweetLife Fruits & Jams, the customer service managers have asked the production department to assign a serial number to each juicer and to assign this serial number to the serial-tracked parts used in the juicer production. A production manager should assign serial numbers to juicers when creating production orders. The manager should also specify settings for the assignment of serial numbers of a produced item to serial-tracked materials when production orders are created. (That is, the manager should specify the option indicating whether workers should assign the serial numbers when materials are issued or when recording the movement of the assembled juicers to stock).

Assembly will take place in a specific work center of the Workhouse warehouse of the Service and Equipment Sales Center branch. The process of assembling a juicer consists of one assembly operation; it requires various juicer parts (such as a motor base) as materials, and a hammer and screwdriver as tools. Overhead costs have been specified at the work center level; you do not need to specify them on the bill of material. In the work center, two workers are involved in juicer assembly, each of whom produces three juicers per hour.

As an implementation manager, you will create the bill of material for the assembly process of the configurable juicer for fruits and vegetables, specify the default settings for assignment of serial numbers to production orders, and review the settings of serial-tracked stock items that are involved in production.

Figure: The settings of the serial class for serial-tracked juicers

Lot/Serial Classes

ASNCFGJCR - Serial class with autogenerated numbers for configurable juicers

NOTES ACTIVITIES FILES CUSTOMIZATION TOOLS ▾

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* Class ID: 🔍

Description:

Tracking Method: **Track Serial Numbers**

Track Expiration Date

Required for Drop-ship

Assignment Method: ▾

Issue Method: ▾

Share Auto-Incremental Value Between All Class It...

Auto-Incremental Value:

Max. Auto-Generate Numbers:

🔄 + × |←| ☒

Segment Number	Type	Value
1	Constant	JC
2	Auto-Incremental Value	

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Lesson 7: Configuring Outside Processing

Learning Objectives

In this lesson, you will learn how to do the following:

- Create a work center dedicated for outside processing
- Create a bill of material that contains an operation outsourced to a subcontractor
- Select the appropriate type of item (stock or non-stock) for recording the subcontractor charges
- Select the appropriate way to store and deliver materials used in outside processing

Outside Processing Configuration: Implementation Activity

Story

Suppose that SweetLife Fruits & Jams has started to receive many customer orders for assembled juicers. The current capacity of work centers has been reached, so the production manager has decided to outsource the assembly of some of the juicers to an outside vendor, Custom Assembly Services. The materials required for juicer assembly will still be stored at the SweetLife Fruits & Jams warehouse and will be shipped to the vendor. The materials are the same as for in-house assembly. The vendor will use their own tools and charge SweetLife Fruits & Jams for their service in the amount of \$50 per juicer. The assembled juicers will be received to the warehouse and then inspected by a warehouse worker. Suppose that the warehouse worker inspects four juicers per hour and no specific setup or tools are required for this operation.

Acting as the implementation manager, you need to configure outside processing for juicer assembly in the system. That is, you need to create a work center for outside processing, a work center for inspection, and a bill of material to be used for the outside assembly of juicers.



Day 4



Boca Terry
Acumatica Customer

Lesson 8: Configuring Production with Backflushing

Learning Objectives

In this lesson, you will learn how to do the following:

- Create a work center with the default settings for backflushing materials or labor
- Create a bill of material for producing items and backflushing materials or labor for some operations

Configuration of Production with Backflushing: Implementation Activity

Story

Suppose that the production department of SweetLife Fruits & Jams started to pack the assembled juicers before shipping them to customers. So the production process will include the assembly operation and the packing operation. Each operation is performed in a specific work center. In the work center where packing is performed, workers put each assembled juicer in a box, fill in the box with packing peanuts, and seal the box with packing tape. For packing a juicer, the following materials are required: one packing box, approximately 3 meters of packing tape, and approximately 2 liters of packing peanuts. The exact quantity of the peanuts and the tape is not known until the workers finish packing, so these materials should be backflushed, as should the box so that production managers do not release any materials for the packing operation manually. Also, the workers of this work center pack not only juicers but other items, so the time they spend on packing juicers should also be backflushed.

Acting as the implementation manager, you need to implement the production of juicers with material and labor backflushing in the system—that is, create a work center dedicated to the packing operation and a bill of material to be used for the assembly and packing of the juicers.

Lesson 9: Configuring Scrap and Waste in Production

Learning Objectives

In this lesson, you will learn how to do the following:

- Set up the costs of material waste to be applied to production orders
- Set up scrap to be recorded in production-related transactions
- Create reason codes for scrap

Configuration of Scrap and Waste in Production: Implementation Activity

Story

Suppose that the production department of SweetLife Fruits & Jams has decided to record the quantities of juicers that are damaged during assembly as scrapped items, write off scrap costs to a specific GL account, and store (or quarantine) the scrapped juicers in a dedicated location of the production warehouse. Further suppose that the quantity of completed items must exclude the quantity of scrapped items because juicers are usually assembled at the request of customers who expect to receive all the juicers they ordered.

Acting as an implementation manager, you will configure the system according to the requirements for tracking scrap.

Lesson 10: Configuring Inventory Planning

Learning Objectives

In this lesson, you will learn how to do the following:

- Create a master production schedule (MPS) type
- Specify system settings for the inventory planning functionality
- Create inventory planning buckets
- Set up the stock items that are involved in inventory planning
- Set up the warehouses that are involved in inventory planning
- Configure the system to include transfers in inventory planning

Inventory Planning Configuration: Implementation Activity

Story

Suppose that you are an implementation manager who needs to prepare the system for inventory planning.

According to the business processes of SweetLife Fruits & Jams, exception messages must be generated for supply orders dated 7 days before the requested date of a demand order and supply orders dated 5 days after this date. The demand time fence and MPS time fence should be 30 days, the same as the grace period for supply orders. You will use the Reorder Point stocking method for replenishing materials. Sales orders, production orders, and purchase orders on hold must be considered by the system during planning. Also, the system should generate lead times dynamically for planned orders.

You need to create periods (or buckets) for inventory planning to aggregate demand and supply data. You will have 13 weekly periods, 1 monthly period, and 1 yearly past due period.

You need to make sure that the warehouse involved in manufacturing has been configured properly for inventory planning.

Also, for stock items that are used as materials, you need to specify replenishment settings, such as the safety stock quantity, the reorder point, the minimum order quantity, and the maximum order quantity.



Thank you!

Chris Pelton