AGASTHYA INFOTECH

Optiflow-Le Quick Start Guide

Installing Optiflow LeFP, LeDB, LeDA and LeIC

Download Factory Pack, Factory Intelligence, Data Acquisition, Integration & Collaboration and 'Quick Start Guide'.

Installing Client Modules

System Requirement : Windows XP, 1024 x 768 resolution, 512 MB RAM and 1GB Free Disk Space.

- Double click each .zip file and extract to a new directory.
- Double click each extracted .msi file., one at a time.
- Installer will take you through the installation.

Repeat the procedure for other client modules as well. Please install FP, DB, DA & IC in separate directories.

Installing the Server Module

Server module is a SQL script named Tables.Sql found in the application directory.

System Requirement : MS SQL Server 2000 or later. If you do not have SQL Server installed, you can download SQL Server 2005 Express Edition (Free Edition) from Microsoft downloads site. Please download both Sql Server 2005 Express and Management Studio Express. Also download Microsoft .NET Framework 2x/3x.

- Go to SQL Server Enterprise Manager (2000/2003) / Management Studio (2005/2008)
- Create a New Database with a unique name.
- Select the database you just created from the list
- Select SQL Query Analyzer (2000/2003) / New Query (2005/2008)
- Click 'Open File' icon and select ' tables.sql ' from the application directory
- Click 'Execute' Icon

Install all the cursors at client(s) as well .

Notes :

Do not forget to install all the cursors at the client and provide proper permissions.

Make sure that Sql Server 2005 authentication mode is set to 'Sql Server & Windows authentication mode'. To confirm, start Sql Server 2005, start the Management Studio, click Sql Server Group (at the top), right click and select 'Properties', select 'Security' from the list of properties and set authentication mode as 'Sql Server & Windows authentication mode'. Save it.

Make sure that you do not have Microsoft Development Environment installed on the Client. Microsoft Development Environment includes Visual Studio, C+, Visual C+, Visual Basic, VB.Net, ASP.Net, Ado. Net and Crystal Reports.

Creating new database and login (Sql Server 2005/2008) has been explained, step-by-step, in the last section. If you need installation and implementation support, feel free to contact Support@Optiflow-Le.com.

Getting Started with Optiflow LeFP, LeDB, LeDA and LeIC

When you start Optiflow-Le for the first time, you will be prompted to log-in to the database. This log-in persists so long as you don't switch to another database. Please note that you may have as many databases as you need.

Getting Familiar

Kanban Loops (found at <Constraints – Precedence Constraint - Kanban Loops>) are the basic mechanism to optimize production and to enforce lean manufacturing principles. Select backward allocation (Backward scheduling) to synchronize with Inventory buffers. Kanban loops also provide mechanism for Load-Leveling and to synchronize with downstream operations. Please refer related help topics to learn more.

As and when you make modifications to the job definition, kanban loops are re-set. Re-define Loop quantities, if required.

To schedule workforce, select the Order, Job, <all ops> and click <Start>. Select the required shift and click <Schedule>. Optionally, you may also select the date-range, category and the division. Repeat for all shifts. Save before you exit.

To track workforce assignments and availability, turn <Availability Tracking> 'on' by clicking. Now select a populated row to track availability of workforce, skills and assignments. To narrow the search, select Category / Division / Shift. To broaden the search, select 'Ignore Skill Sets' and set Cats / Shifts / Divs. to 'ALL'.

Customization is the way to tune schedules to pin-point accuracy. You will have to schedule the order once before customizing. Optiflow-Le is built for repeated scheduling.

Planning Board provides interactive mechanism and functions to visually plan start-finish dates and time, dock jobs, manage capacity utilization ... generally manage the entire plant floor. Plant floor can be viewed in three different perspectives, viz., Order Centric, Operation Centric and Equipment Centric. Each of these views provide optimizing opportunities which might not be apparent otherwise. You could also use PB to simulate What-If scenarios.

To get used to the system, play with pre-loaded examples. Consult the user manual to learn more.

Once you are familiar with the system, it is time to define your own jobs.

Getting started with your own jobs

The key is in defining jobs. A careful process definition is all it takes. Please note that a process is made up of one or more operations.

Defining jobs and processes involve defining operations, defining the sequence, defining Kanban Loops, applying constraints and specifying material requirements. Optionally, you may also specify the required skills.

To define jobs, go to <Job Definition> and click <New> to create a new job. Click <Open> to open an existing job.

- Select a Division (Optional. Defaults to 'ALL')
- Select an Operation from the list of operations above. (Select <Add Resource> to add new operations).
- Select a Resource from the list above (Select <Add Resource> to add equipments and resources).
- Key-in the time required to operate on the number of units as specified in column's caption. (You can modify the number of units in <Setup<General Configuration>> module. Logout and re-start after modifying).
- Define Quantity-ratio-to-Job Quantity, if any. Quantity ratio is the ratio of quantity to be produced to the job quantity. For ex. If Job qty. is 1000 and this particular operation produces 10,000 units which will be finally assembled into 1000 of finished units, ratio will be 10.
- Optionally, key-in number of operators required to complete the job. Leave it blank if you are not sure. Optiflow-Le will determine the number of operators required to complete the job.
- Key-in or select Operator Category (Optional). You may select more than one category and number of operators in each category separated by commas (ex. A-1, B-2, C-3 for Cat A One Operator, Cat B Two Operators and Cat C Three Operators). If you have specified the number of operators, you may have to specify their categories as well. If you are not sure, please leave both 'no of operators' and 'skill classification' blank. Let the system suggest.
- Select the processing method – Unit Processing or Batch Processing from the panel above.
- Save the job.
- Optionally, you may cut and paste the entire job or individual processes from templates by selecting the Template / Process name from the list of available templates above. Click 'template name' to populate the templates table. Select ALL (Ctrl A), Copy (Ctrl C), select an empty row in the table below and Paste (Ctrl V).

- To specify set up time per operation, select an operation by selecting the row and enter the time, in the box above, in minutes. Save it. Please note that every addition / modification needs to be saved. To save, click the button next to the box. Please note that operational set up time over-rides the default set up time (time specified while defining equipments).

- To add tools to individual operations, select the operation by clicking on the row and select a tool from the box above. Double Click to add.

- To Remove the selected tool, click on the tool (in the box below) to remove.

Next step is to define Sequences.

Select <Sequencing> from the menu. Sequences are defined in the chronological order by default. Here you can change the sequence in any manner you want. To change the sequence :

Delete the Sequence (click <Delete> button above to delete).

- Place the cursor in the 'Current Operation' column and select the operation from the drop-down list.
- Place the cursor in the 'Next Operation' column and select from the drop-down list. You may have One-to-Many, Many-to-One and Many-to-Many relationships between predecessor and successor operations.
- Optionally you may also specify whether the current operation needs setup. Select 'Y' for yes and 'N' for No. Leave it blank if it is determined elsewhere.
- Cycle Overlap specifies whether the same operator is allowed to perform more than one operation. This option needs customization. Please contact Support@Optiflow-Le.com for details.

Next Step is to define Kanban Loops

Kanban Loop is are basic mechanism used by lean manufacturing practices to synchronize & optimize supply chain, load leveling and to optimize inventory buffers (both finished goods and work-in-progress).

If you have selected 'Batch Processing' as the processing methodology, default kanban loop quantity will be the batch quantity. If you have selected 'Unit Processing', kanban loop defaults to 1 or the Lot-Size. You can :

- Level loads across the plant by manipulating kanban loop quantity. Rule of thumb is; decrease kanban quantity for smoother operations flow. Increase the quantity to obtain a smooth but buffered flow.
- By specifying kanban quantities as required by inventory buffers and scheduling with backward allocation, you can maintain optimum levels of production and eliminate stock-outs.
- Supply and Material synchronization is automatic and is governed by kanban loop quantities. Check 'Material Replenishment Sequence' with different loop quantities to see the difference. In other words, just specify and amount of buffer you need per operation.

Next step is to apply constraints

You may specify four constraints; viz., Production Rate constraint, Precedence Constraint, Operational Constraint and Inventory Constraint.

- Production Rate Constraint allows you to fix efficiency and rate of output (per day or per shift) per operation. If you need to increase or decrease the efficiency or daily output, just specify it in terms of percentage and quantity respectively.
- Precedence Constraint allows you to specify the change-over time required (apart from the set minutes) and to specify Kanban Loops.
- Operational Constraint allows you to assign individual operations to shifts and to extend shift timings for that particular operation (used in cases where the operations can't be completed within shift timings).
- Inventory Constraint allows you to specify the minimum start date and time. Used in cases where materials / components / parts arrive late. Also used as means of synchronizing with supply chain.

You can manage most scenarios with a combination of these constraints. In tandem with customized preferences, you can arrive at schedules with pin-point accuracy.

Final Step is to specify Material Requirement

To specify materials, components and parts required at various stages by various operations. Select <Materials> from the menu.

Here all the processes are displayed in the specified sequence. To add materials & components, insert a row (right-click on the column for floating menu). Now select materials / component / part from the floating menu to insert.

RepLot - Minimum transferable quantity or Adjusted transferable quantity from stores to the work center. Read in conjunction with consumption and unit of measurement.

Consumption - Consumption per RepLot. In cases where consumption per unit is too small or RepLot quantity is different from consumption per unit, you can specify a RepLot and enter consumption per RepLot.

In cases where material quantity and consumption per unit is in the ratio of 1:1, just specify RepLot as 1 and Consumption as 1.

Example - If Rep-Lot is 1 Cylinder and you can draw 50,000 mtrs of cable per Cylinder, then Rep-Lot is 1 and Consumption is 50,000.

Consumption and RepLot are always read together. RepLot specifies the minimum quantity that can be transferred from stores to the work center. Consumption specifies as to how may units consume that quantity.

You can automate this process by importing data from your existing BOM modules. Please refer help topics on Integration & Collaboration for details.

You may save material specifications as templates and copy from templates to fill material requirement. Only those materials that are applicable are copied. You may use this feature for recipe management.

Workforce scheduling

Select <Workforce Scheduling> and select <Order> <Job> and check 'ALL Ops.'.
Scheduling period defaults to one month starting on the date. To modify, click date box to select a different date range.

You have all the operations and resources listed in the specified sequence. Select a shift and click <Schedule> button. You may also select categories and divisions. Move the cursor to 'operations' column for period of run. Select 'Clear Column' from floating menu to remove individual assignments. Select <Delete> to remove all assignments.

To track assignments, turn tracking 'on' by clicking. Now select a populated row to track availability of workforce, skills and assignments. To narrow the search, select Category / Division / Shift. To broaden the search, select 'Ignore Skill Sets' and set Cats / Shifts / Divs. to 'ALL'.

Replenishment sequences and tracking

From <WIP> menu :

- Select Kanban Replenishment sequence to track workflow sequence, movement of materials & WIP within the plant floor and for Plant Floor Optimization.
- Select Material Replenishment sequence to track movement of materials from suppliers and for Supply Chain Optimization.
- Select Finished Goods Pull sequence to track Inventory Buffers, Distribution Optimization and to forecast delivery schedule to customers.

Testing

Now select <Testing Tool> from <WIP> menu. Select an Order and a corresponding Job. Specify percentage of 'Efficiency' (output), 'Quality', Rejects' and 'Reworks' . Click <Start> to populate work-in-progress.

Factory Intelligence

Start **Optiflow-LeDB**. Check for Overall Equipment Effectiveness (OEE), Overall Labor Effectiveness (OLE), Overall Capacity Utilization (OCU), Workforce Intelligence, Variance Analysis , Supplier and Customer forecasts, various efficiencies and other KPI's. Also play with Product Data Management (PDM) functions. You have all the functionality necessary to manage product data & product lifecycle.

Integration & Collaboration

Finally, start **Optiflow-LeIc**. Add generic external routines / applications to 'External Scripts' (Ex. Add Word documents , PDF documents, Text documents etc.). Click '+' sign to add. Select 'Custom' as the event and provide interval minutes. Save and Activate. Select <Activate Autorun> to switch to automatic mode. Refer on-line help to learn more.

Please feel free to contact support@Optiflow-Le.com for clarifications and assistance.

Creating New Database & Login (Sql Server 2005) explained

While installing Sql Server 2005/2008, select 'Authentication mode' as 'SQL SERVER & Windows Authentication'.

Start the SQL SERVER Configuration Manager . Select <SQL Server Services>. Right click <SQL Server> and select <Start>. Exit.

Start SQL Server Management Studio.

- Login with ' Windows Authentication '
- Select <Security>
- Right click <Logins> and select <New Login>
- Enter the new Login name.
- Select ' SQL Server Authentication ' radio button
- Enter a password containing letters and numbers. Not the same as your login name.
- Uncheck <User must change password at the next login>
- Select <Server Roles> and check all boxes
- Click <OK> and Logout

Start SQL Server Management Studio again.

- Select authentication as <SQL Server Authentication>
- Enter Login name and password you just created and click <Connect>
- Right click Server Name (Top Left) and select <Properties>
- Select <Permissions>
- Check all <Grant> boxes under Explicit Permissions.
- Click <OK>

- Right click <Databases> and select <New Database>
- Enter a database name and click <OK>
- Expand <Databases> and select (double click) the database you just created
- Select <New Query> and click <Open> icon.
- Select (double click) file ' Tables.Sql ' from Optiflow-LeFp's application directory
- Click <Execute> button to create database tables
- Select (double click) <Tables> to make sure that the tables are created.
- Logout