



Data Distribution Configuration

Quick Guide

LS Retail NAV 5.00

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1 Introduction

The purpose of this document is to give an overview of how to configure the data distribution in LS Retail.

2 Configuring distribution of data in LS Retail

The ability to select which data is sent to which locations is one of the key abilities of LS Retail. The distribution of data can be configured in detail – even down to individual records. This allows the retailer to select exactly which data will be sent to each location.

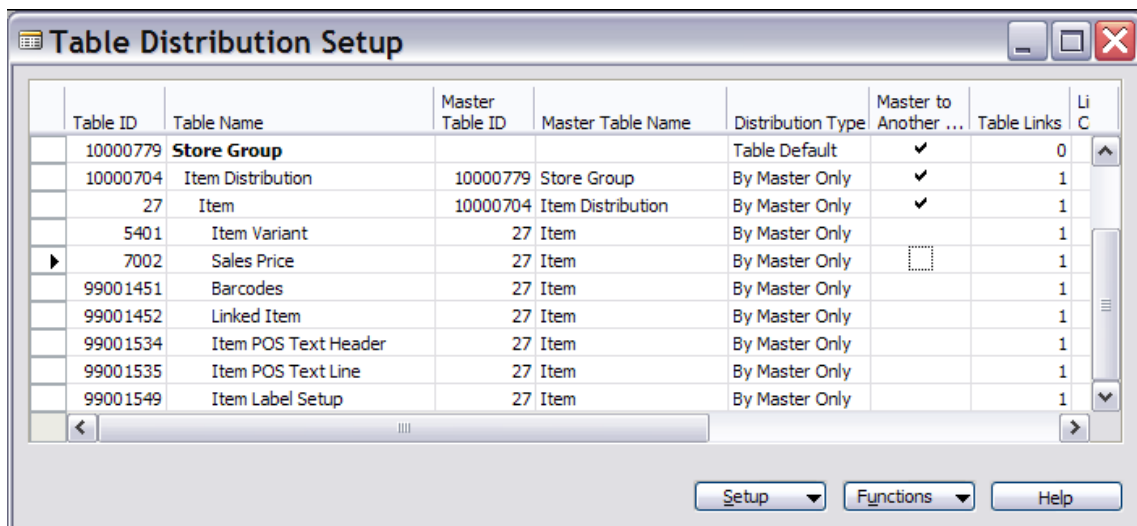
In practice there are two main reasons why retailers use this feature:

- If data should be available selectively in each database. A good example is if prices are not the same between stores and stores should not see each other's prices.
- If the network infrastructure is not able to handle the amount of data that is sent to each store without some sort of filtering. In this case the data distribution helps by reducing the amount of data that needs to be sent to each store.

Other scenarios are of course also possible, but the two mentioned above make up the bulk of the instances where data distribution is used.

2.1 Data Distribution Basics

The **Table Distribution Setup** window is where the core configuration is made. In this window we create the hierarchy that is used to select how the data is distributed. You can access the **Table Distribution Setup** window by clicking **LS Retail – Scheduler, Distribution, Table Distribution Setup**. A window similar to this will appear:



As stated before, the purpose of the Table Distribution Setup is to create a hierarchy which we use to distribute data to the different locations. You can also think of this window as a list of rules which determine how the data is distributed. But what happens if no rules are specified?

In the case of no rules being specified in the **Table Distribution Setup** window the system assumes that all data should be sent to all locations.

This basically means that if you do not specify how a table should be distributed, the system will distribute the table to all locations. Note that we are only talking about the distribution; the actual replication of the table is a different matter which is not covered here. Just note that the

contents of the table will not magically appear in the destination database. In order for that to happen you have to create a replication job for the table in question.

So what does the distribution mechanism control then? The distribution mechanism controls how Actions are created in the systems. LS Retail includes a logging mechanism that makes it possible to keep track of which records in the database have changed. This is a very useful feature since it allows us to send only changed records to the destination locations – instead of the whole table. There are two types of actions in the system – Preactions and Actions.

- Preactions are a subset of the Actions. The Preactions tell us which records have changed, which user changed the record, the time and data when the change took place and so on.
- The Actions contain one additional field which is the **Location Group Filter**. This field tells us how the record should be distributed. So in addition to the information we have from the Preaction we now also know where to send the actual record.

Preactions are the default logging mechanism in the system. They are created each time you modify a table that is used by LS Retail. In order to create Actions you need to run a conversion routine that converts Preactions to Actions. This conversion can be scheduled to happen automatically but it is also possible to run it manually.

2.2 Configuring Table Distribution Setup

Let us start by revisiting the first Table Distribution Setup window we saw earlier.

Table ID	Table Name	Master Table ID	Master Table Name	Distribution Type	Master to Another ...	Table Links	Li C
10000779	Store Group			Table Default	✓	0	
10000704	Item Distribution	10000779	Store Group	By Master Only	✓	1	
27	Item	10000704	Item Distribution	By Master Only	✓	1	
5401	Item Variant	27	Item	By Master Only		1	
7002	Sales Price	27	Item	By Master Only		1	
99001451	Barcodes	27	Item	By Master Only		1	
99001452	Linked Item	27	Item	By Master Only		1	
99001534	Item POS Text Header	27	Item	By Master Only		1	
99001535	Item POS Text Line	27	Item	By Master Only		1	
99001549	Item Label Setup	27	Item	By Master Only		1	

Here we can see a hierarchy with the **Store Group** table at the top. The level below the Store Group is the **Item Distribution** table, below that we have the **Item** table and below the item table a number of tables related to items in general.

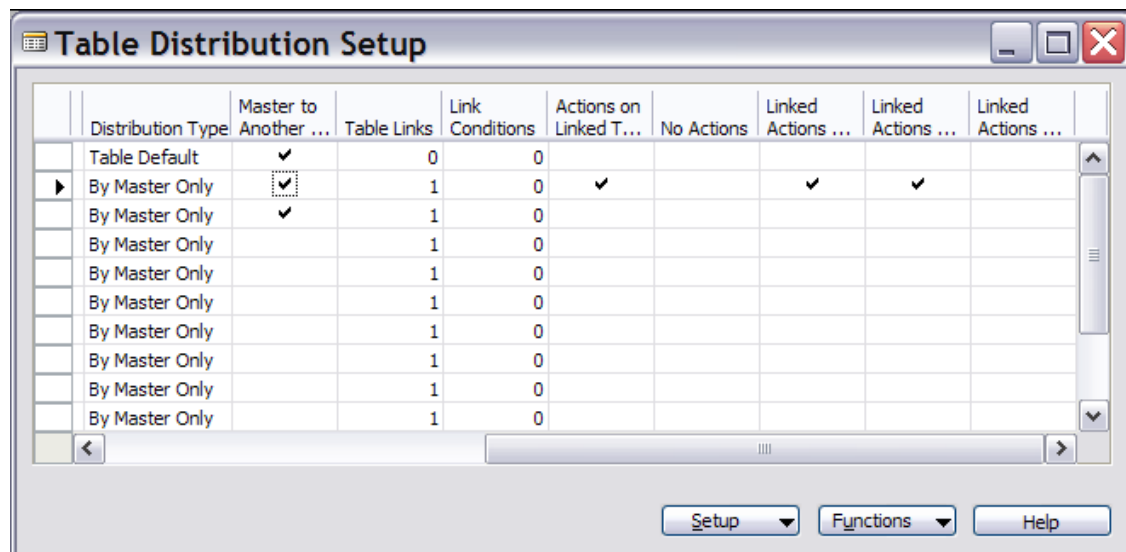
But what does this mean? This hierarchy tells us how Actions will be created when converting Preactions to Actions. Since the only additional information contained in the Action is how the record should be distributed, we only need to look through the Table Distribution Setup in order to figure that out. And remember that if no entry for the table in question is found in the **Table Distribution Setup** we simply send it to all locations.

So what happens if we change a table, say the **Sales Price** table? First of all we get a Preaction telling us exactly which record in the **Sales Price** table has changed. But since we want to distribute the sales price selectively we need to convert the Sales Price Preaction to an Action. During the conversion the system will find the entry for the **Sales Price** table and see that the Master Table it is the **Item** table. We can easily verify this by looking at the figure above. We also see that the **Item** table is linked to the **Item Distribution** table and **Item**

Distribution table to the **Store Group** table. Once we have climbed to the top of the hierarchy we expect to find information on how the table should be distributed. This data is stored in a table called **Distribution List** and is available for most tables in LS Retail – more on that later.

Before we continue we need to take a look at how the tables in the hierarchy are linked together. In order for tables to be linked they need to have some sort of relation. The **Barcode** table can be linked to the **Item** table via the **Item No.** field which is common to both tables. The **Item Distribution** can be linked to the **Store Group** table via the **Store Group code** which is common to both tables. You also need to make sure that the common fields are parts of the primary keys of each table in order to ensure that the performance of the conversion is acceptable.

On the left side of the window you see the following set of fields:



There are a few fields here that are of interest, notably the **Actions on Linked Tables**, **Linked Actions on Insert**, **Linked Actions on Modify** and **Linked Actions on Delete**. We use these fields to generate actions on tables that are below the table in the hierarchy. In this case **Actions on Linked Tables** is set in the **Item Distribution** table since we want to use that table to trigger transfers in this example. What this does is that during the conversion of Preactions to Actions the system will also generate actions for each table lower in the hierarchy. This will be explained with an example later on.

2.3 Example configuration

Let us go through an example of how we can configure the distribution of data using the Store Group as the top level in our hierarchy. Note that other configurations are also possible; LS Retail uses another configuration as default.

Let us take a look at the **Table Distribution Setup** table once more.

Table ID	Table Name	Master Table ID	Master Table Name	Distribution Type	Master to Another ...	Table
10000779	Store Group			Table Default	✓	
10000704	Item Distribution	10000779	Store Group	By Master Only	✓	
27	Item	10000704	Item Distribution	By Master Only	✓	
5401	Item Variant	27	Item	By Master Only		
7002	Sales Price	27	Item	By Master Only		
99001451	Barcodes	27	Item	By Master Only		
99001452	Linked Item	27	Item	By Master Only		
99001534	Item POS Text Header	27	Item	By Master Only		
99001535	Item POS Text Line	27	Item	By Master Only		
99001549	Item Label Setup	27	Item	By Master Only		

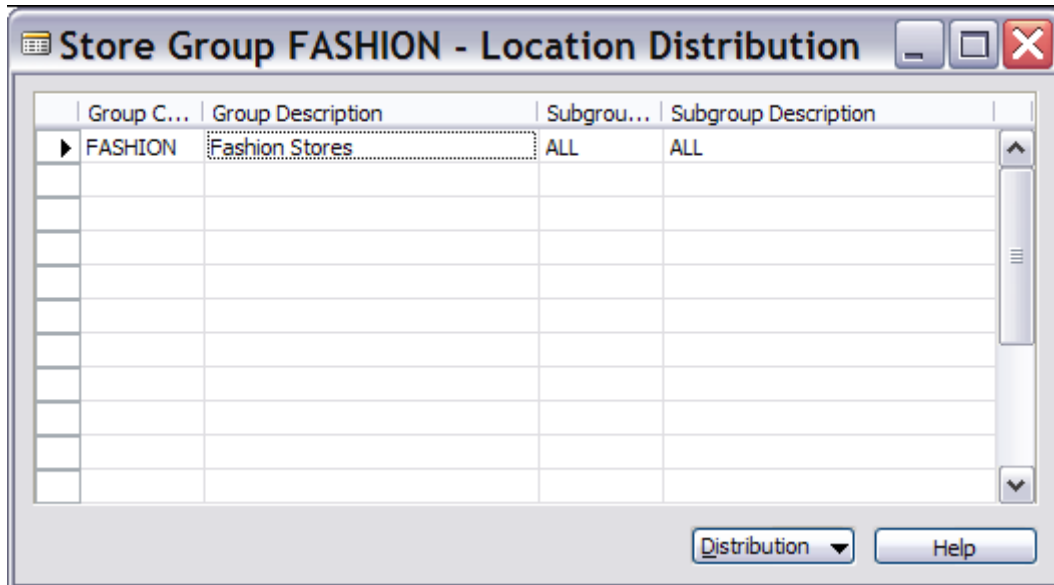
We see that the Store Group is the top level of the hierarchy. The Distribution Type for that table is Table Default which means that they system will create the Distribution List entries automatically. For more information on Distribution Types please refer to the LS Retail online help.

If you have not done so already, fill in the **Table Distribution Setup** table in your database according to the figure.

Before we continue it is a good idea to take a look at the Distribution List entries for the Store Group table. Click **LS Retail – Scheduler, Distribution, Store Groups**. The **Store Groups** window will appear.

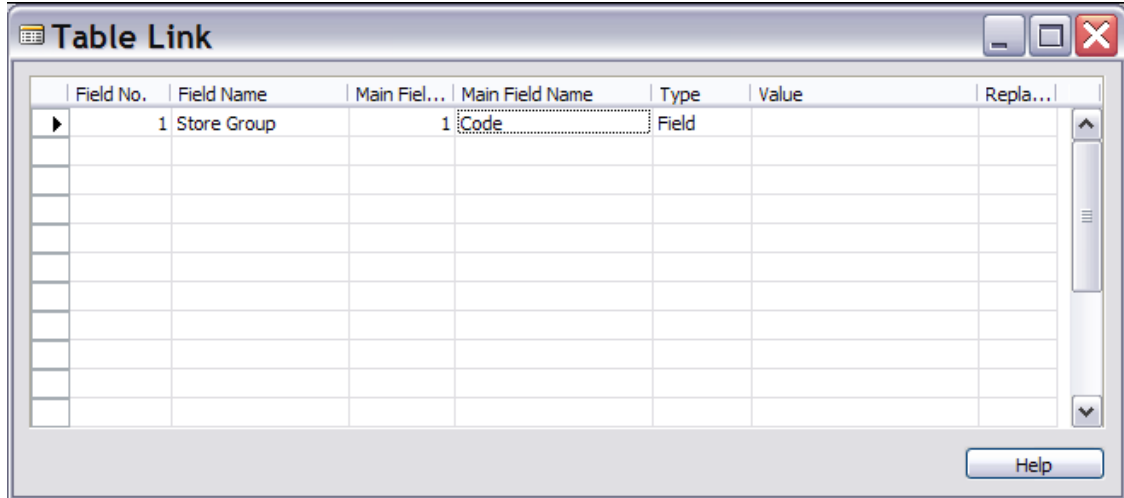
Type	Code	Description	No Filter	Distribution Group Code	Distribution Subgroup...
All	ALL	All Stores	✓	ALL	ALL
Group	FASHION	Fashion Stores		FASHION	ALL
Group	FOOD	Food Markets		FOOD	ALL
Group	STORES	Default Group for Stores		STORES	ALL
Store	HO	Head Office		STORES	HO
Store	S0001	Cronus Food Market South	↑	FOOD	S0001
Store	S0002	Cronus Food Market North		FOOD	S0002
Store	S0003	Cronus Food Market East		FOOD	S0003
Store	S0004	Cronus Fashion Store		FASHION	S0004

Here we see the Store Groups that have been configured in the system. Each group has been assigned a Distribution Group and a Distribution Subgroup. The contents of these two fields are used to create the Distribution List entry for the table. Remember that since this is the top-level of our hierarchy we want each record to have a Distribution List entry. In order to view the Distribution List entries click **Group, Location Distribution**. The following window will appear:



This tells us that this group should be distributed to all stores in the FASHION group. If you view the Distribution List for other groups you'll see similar results.

Let us return to the **Table Distribution Setup** window. Select the line containing the Item Distribution table and drill down on the Table Links field. The Table Link window should appear:



This is where we fill in the links between a table and its master table. In our case the link is the Store Group code which is common to the primary keys of both tables. We populate the line according to the figure and close the window. Repeat the process for other tables in the Table Distribution Setup. The rest of the tables are all linked using the **Item No.** field so this should be a straightforward task.

Finally, remember to check the linked actions flags for the line containing the Item Distribution table.

Once this is done the configuration is complete and we can start to distribute items according to our new setup. Start by clicking **LS Retail – Back Office, Retail Item Card**. Select item 50000 and click the **Distribution** tab. The window should look something like this:

50000 Briefcase, Leather - Retail Item Card

Sortorder: . No. Filters:

Item Description

No. 50000

Description Briefcase, Leather

Division Code

Item Category Code . . . STATIONARY

Product Group Code . . . BRIEFCASES

Unit Price 90,00

Unit Price Including VAT . . . 112,50

Price Includes VAT . . .

VAT Bus. Posting Gr. (... NATIONAL

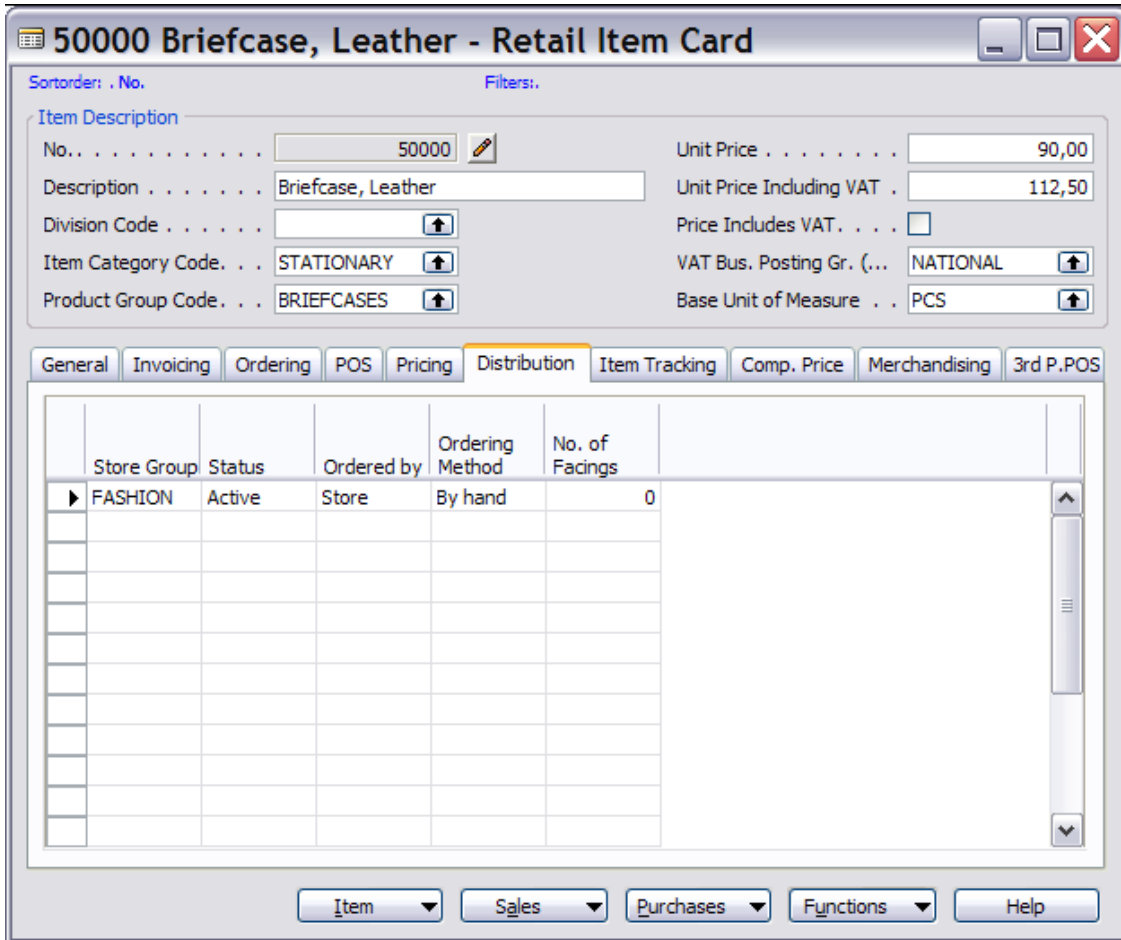
Base Unit of Measure . . . PCS

General Invoicing Ordering POS Pricing Distribution Item Tracking Comp. Price Merchandising 3rd P.POS

	Store Group	Status	Ordered by	Ordering Method	No. of Facings
*▶		Active	Store	By hand	0

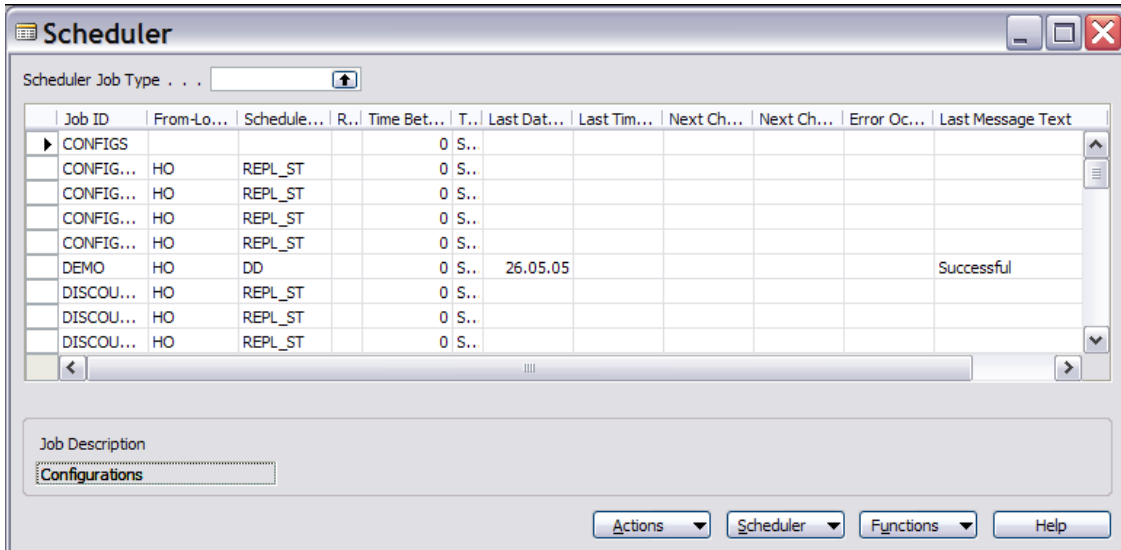
Item Sales Purchases Functions Help

Enter FASHION in the **Store Group** field so that the window looks like this:



We have now stated that this item should be distributed only to the stores in the FASHION group.

The next step is to check which Preactions have been created and how they look. Click **LS Retail – Scheduler, Scheduler**. The following window will appear:



From here click the Actions button and select the Preaction item. A window similar to this will appear:

Entry No.	Table No.	Location ...	A..	Key	Link Down	Date	Time	User ID
21	99001497	ALL±ALL	D..	10000779;P0010;STORES;P0010		20.06.07	15:35:32	DADI
22	10000779	ALL±ALL	D..	P0010		20.06.07	15:35:32	DADI
23	99001497	ALL±ALL	D..	10000779;P0011;STORES;P0011		20.06.07	15:35:33	DADI
24	10000779	ALL±ALL	D..	P0011		20.06.07	15:35:33	DADI
25	99001497	ALL±ALL	D..	10000779;P0012;STORES;P0012		20.06.07	15:35:34	DADI
26	10000779	ALL±ALL	D..	P0012		20.06.07	15:35:34	DADI
27	99001497	ALL±ALL	D..	10000779;P0013;STORES;P0013		20.06.07	15:35:34	DADI
28	10000779	ALL±ALL	D..	P0013		20.06.07	15:35:34	DADI
29	99001497	ALL±ALL	D..	10000779;S0005;STORES;S0005		20.06.07	15:35:38	DADI
30	10000779	ALL±ALL	D..	S0005		20.06.07	15:35:38	DADI
31	10000704	ALL±ALL	I..	FASHION;50000	✓	20.06.07	15:53:40	DADI

Notice the last line. It is based on table 10000704, the **Item Distribution** table. It is an Insert action meaning that we inserted a new line. The **Key** field corresponds to the primary key of the record we just created and the Link Down flag is set as true.

Close the window. Click **Actions, Convert Preactions** to convert the Preactions to Actions. Once the conversion is done click **Actions, Actions** to view the Actions that the system just created. A window similar to this should appear:

Entry No.	A..	Table No.	Key	Location ...	Date	Time	User ID
32	D..	10000779	P0013	ALL±ALL	20.06.07	16:00:24	DADI
33	D..	10000779	S0005	STORES...	20.06.07	16:00:24	DADI
34	D..	10000779	S0005	ALL±ALL	20.06.07	16:00:24	DADI
35	U..	10000704	FASHION;50000	FASHIO...	20.06.07	16:00:24	DADI
36	U..	27	50000	FASHIO...	20.06.07	16:00:24	DADI
37	U..	7002	50000;1;ALL;;;0	FASHIO...	20.06.07	16:00:24	DADI
38	U..	7002	50000;1;ALL;;;BOX;0	FASHIO...	20.06.07	16:00:24	DADI
39	U..	99001451	55511	FASHIO...	20.06.07	16:00:24	DADI
40	U..	99001451	55512	FASHIO...	20.06.07	16:00:24	DADI
41	U..	99001572	50000;ALL;A4 LANDSCAPE 2X4	FASHIO...	20.06.07	16:00:24	DADI

Action Table Name
Shelf Label Setup

Notice the bottom 7 lines. First we have the original Preaction which we converted. After that we have Actions for all the records linked to the Item Distribution record we just created. This includes the Item table (27), Sales Price (7002), Barcodes (99001451) and finally the Shelf Label Setup table (99001572). Also note that the Location Filter for these actions is FASHION±ALL meaning that these records will only be sent to stores belonging to the FASHION group.

This outlines how to configure data distribution in LS Retail. The LS Retail demonstration database also contains other examples which can give you ideas on how to distribute data. The LS Retail online help also has some chapters on data distribution as well as the LS Retail training material.