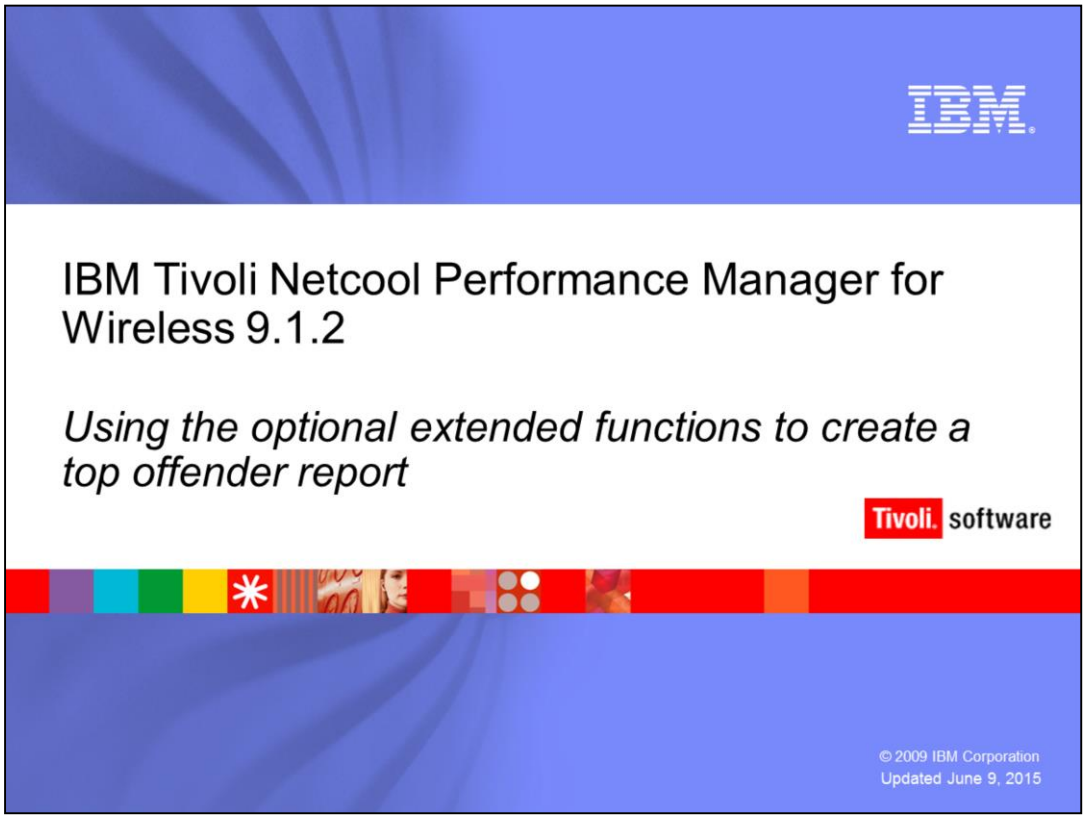
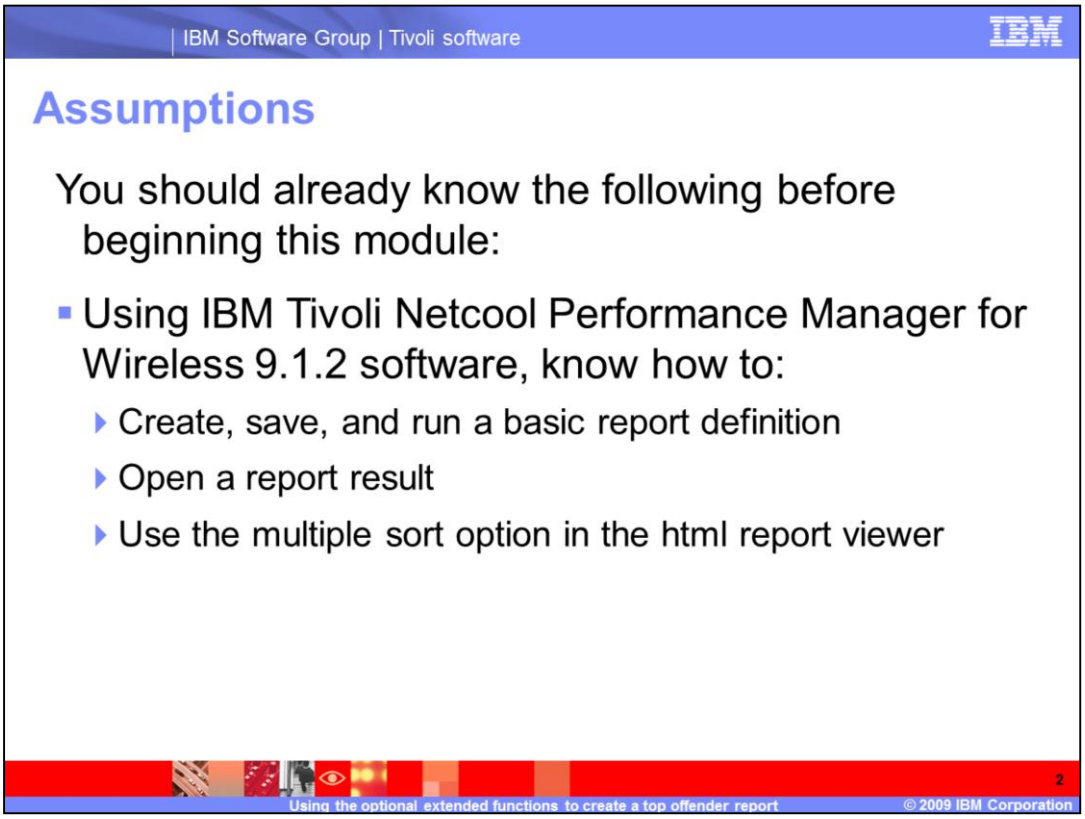


IBM Tivoli Netcool® Performance Manager for Wireless 9.1.2

Using the optional extended functions to create a Top-Offender report

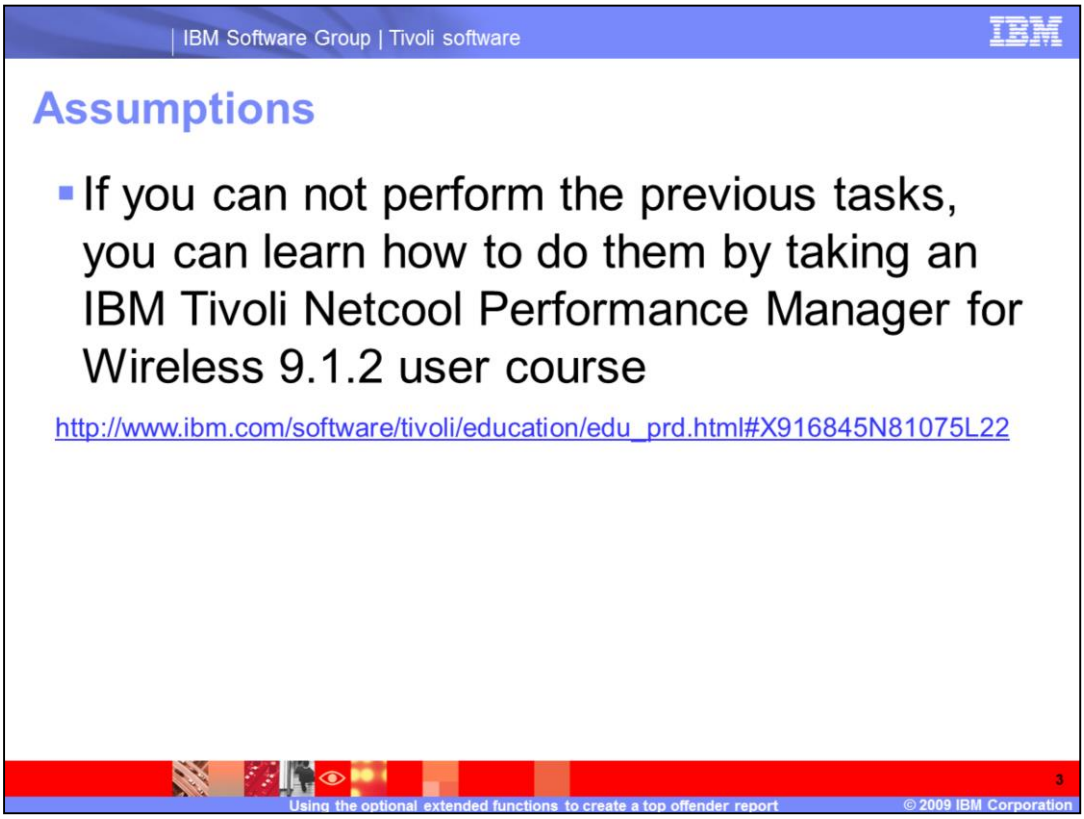


Assumptions

You should already know the following before attempting this module:

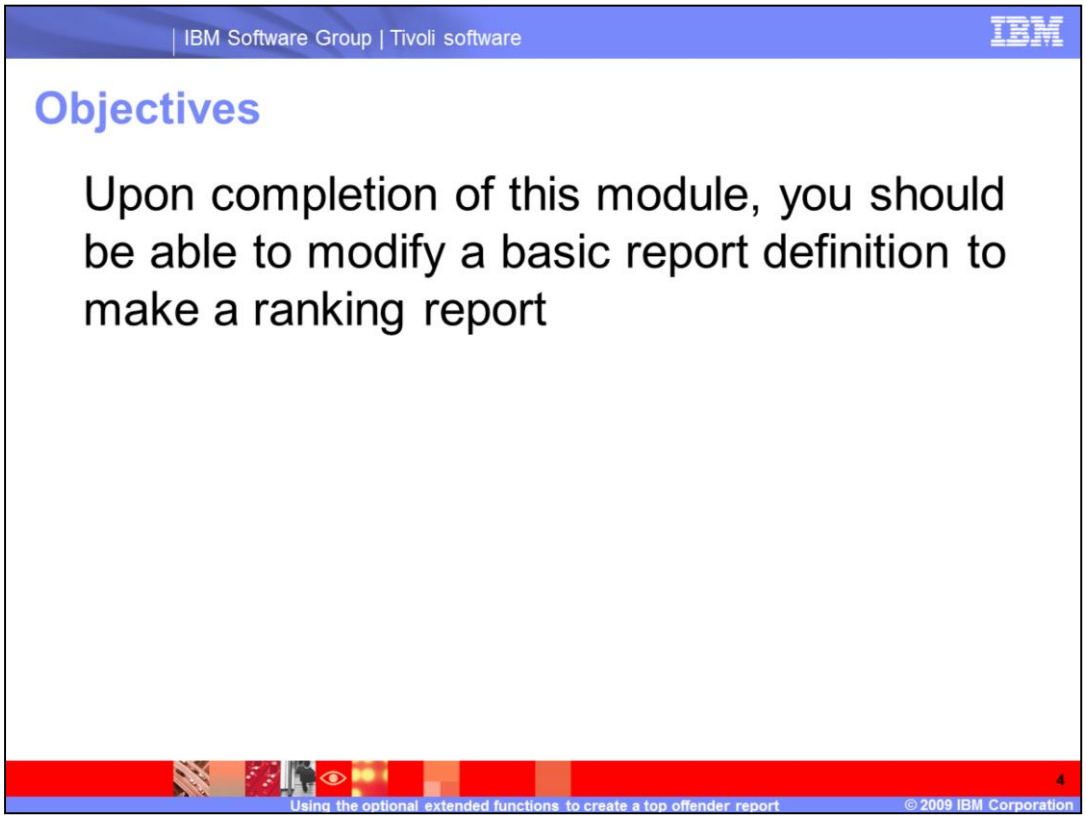
Using IBM Tivoli Netcool Performance Manager for Wireless 9.1.2 software, know how to:

- Create a basic report definition
- Open, save, and run a report result
- Use the multiple sort option in the html report viewer



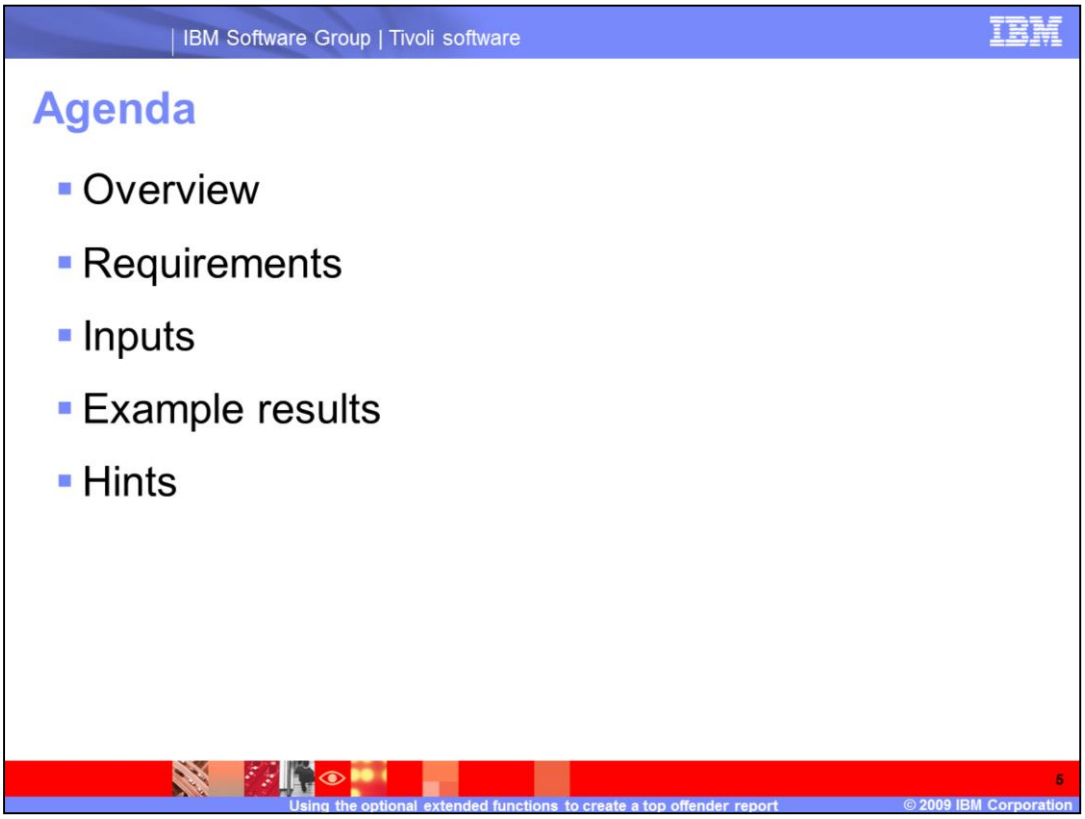
Assumptions

If you can not perform the previous tasks, you can learn how to do them by taking an IBM Tivoli Netcool Performance Manager for Wireless 9.1.2 User course



Objectives

Upon completion of this module, you should be able to modify a basic report definition to make a ranking report



Agenda

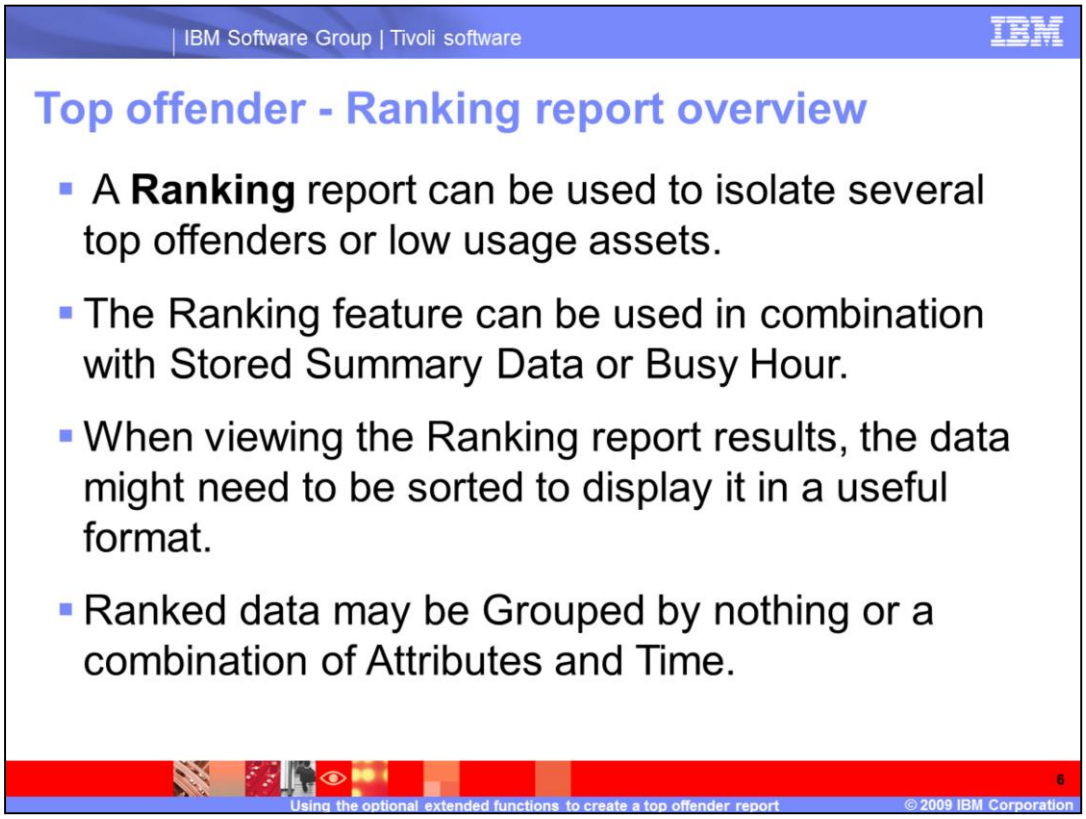
An overview explaining what the Ranking feature is and what it can do for you.

A list of some requirements you need to be aware of when using ranking

Input descriptions

Several examples of report results generated by using a variety of ranking inputs. The results are sorted to make them easier to understand.

Last, a couple of hints that could improve the quality of your results.



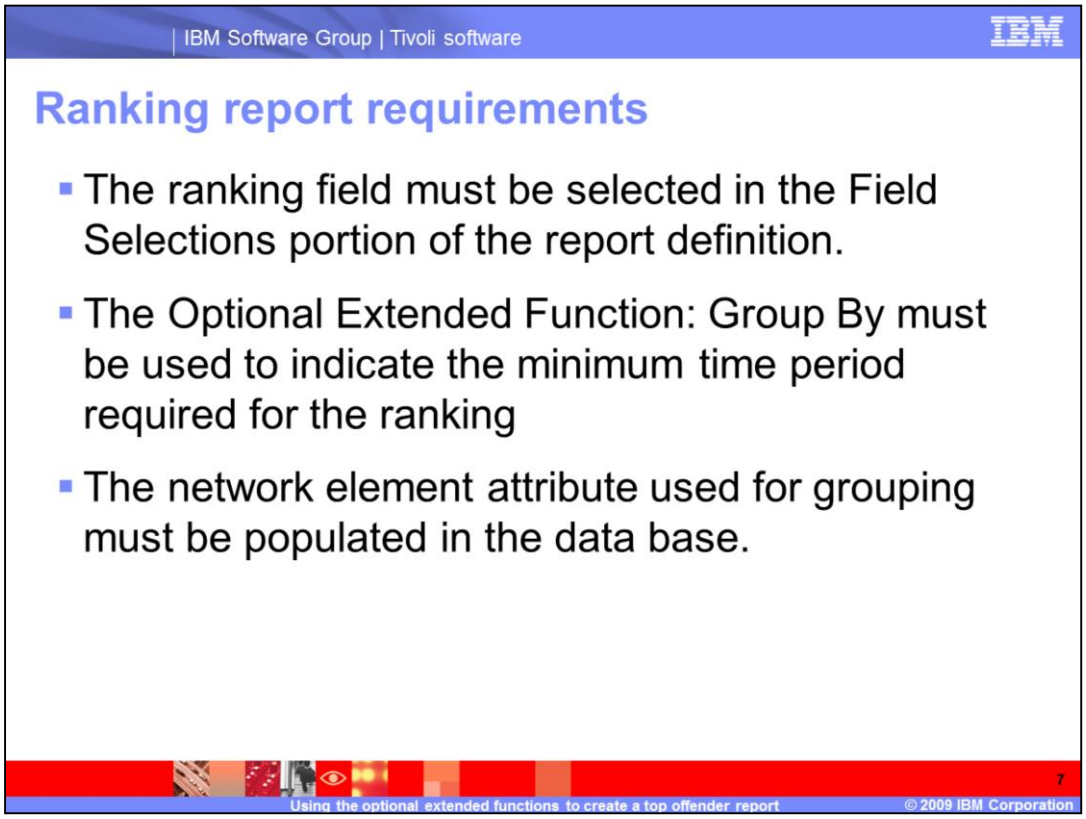
Top Offender - Ranking Report Overview

A **Ranking** report can be used to isolate several top offenders or low usage assets.

The Ranking feature may be used in combination with Stored Summary Data or Busy Hour.

When viewing the Ranking report results, the data might need to be sorted to display it in a useful format.

Ranked data may be Grouped by nothing or a combination of Attributes and Time.

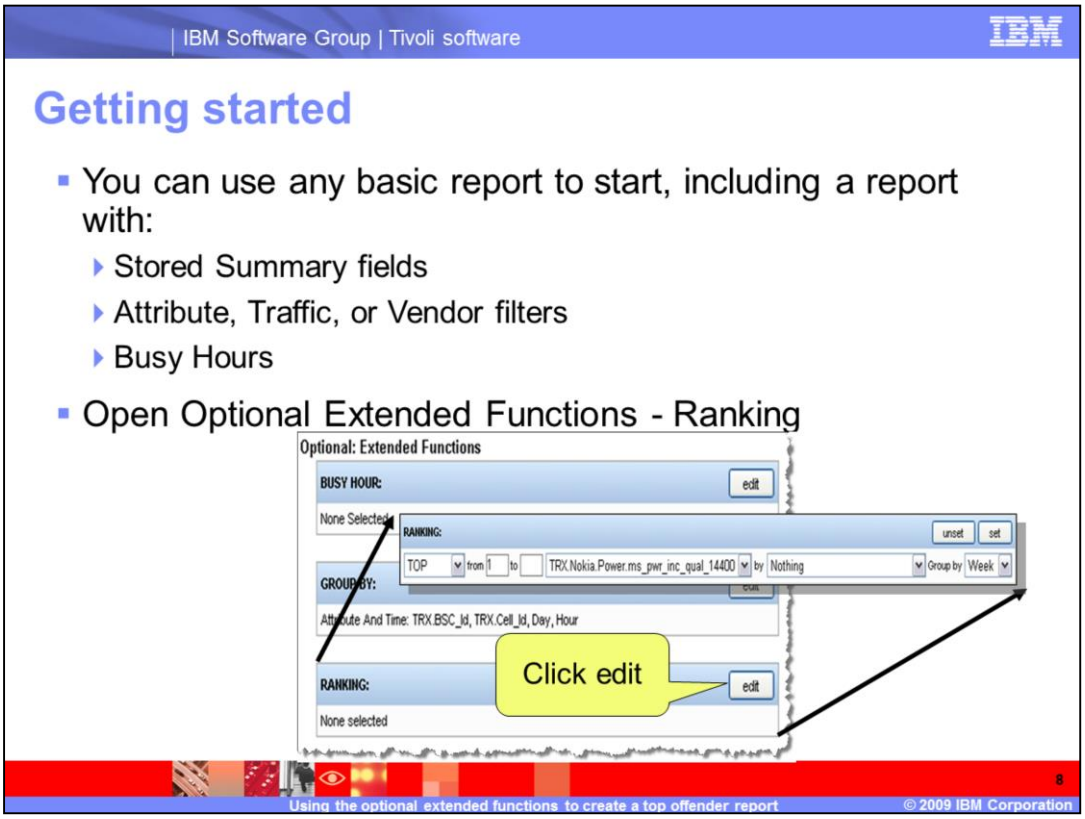


Ranking Report Requirements

The ranking field must be selected in the Field Selections portion of the report definition.

The Optional Extended Function: Group By must be used to indicate the minimum time period required for the ranking

The network element attribute used for grouping must be populated in the data base.

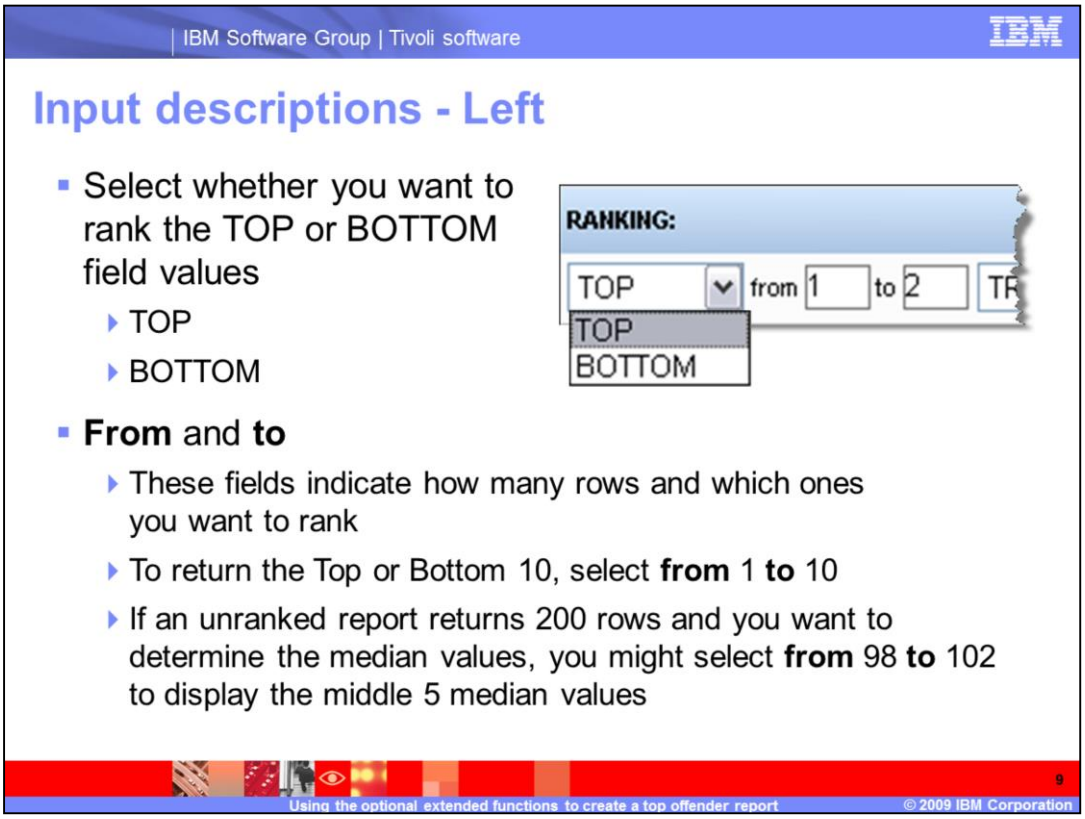


Getting started

You can use any basic report to start, including a report with:

- Stored Summary fields
- Attribute, Traffic, or Vendor filters
- Busy Hours

To open the Optional Extended Functions - Ranking section, click the edit button.



Input Descriptions - Left

The inputs for ranking may be selected in any sequence. For this lesson, I will complete the inputs starting on the left most field.

Select whether you want to rank the TOP or BOTTOM field values.

TOP displays the largest values for the selected field.

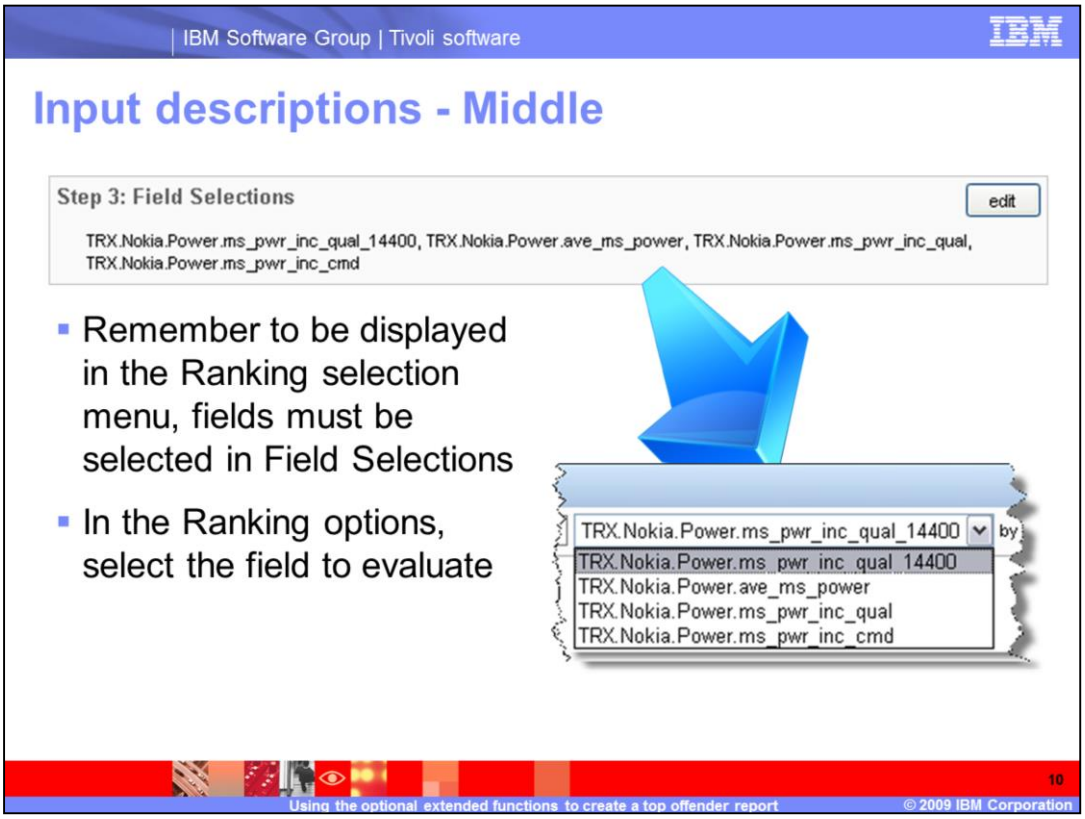
BOTTOM displays the smallest values for the selected field.

From and to

These fields indicate how many rows and which ones you want to rank.

To return the Top or Bottom 10, select from 1 to 10.

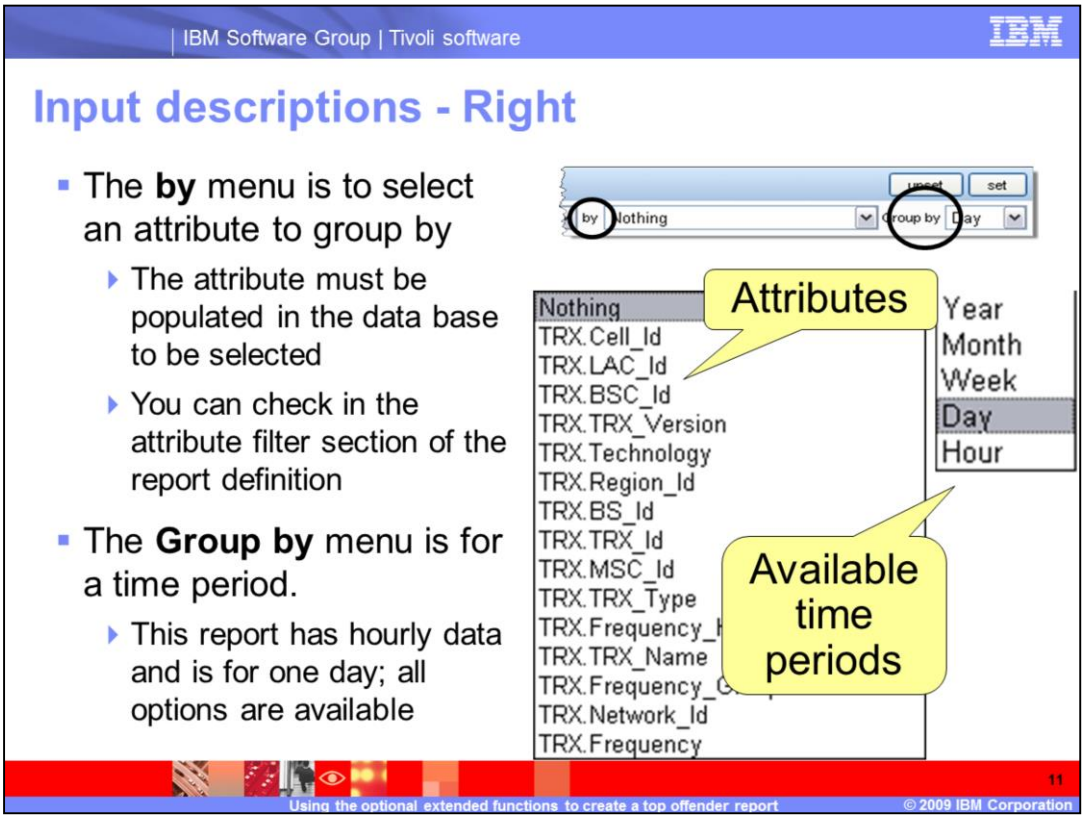
If the unranked report returns 200 rows and you want to determine the median values, you might select from 98 to 102 to display the middle 5 median values.



Input Descriptions - Middle

In the middle of the ranking input area is the field menu. Remember to be displayed in the Ranking selection menu, fields must be selected in Field Selections.

In the Ranking options, select the field to evaluate.



Input Descriptions - Right

The last two fields on the right of the ranking area are **by** and **Group by**.

The **by** menu is used to select an attribute to group the results by.

> The attribute must be populated in the data base to be selected. The attributes listed might not be populated in the data base. You can check in the attribute filter section of the report definition

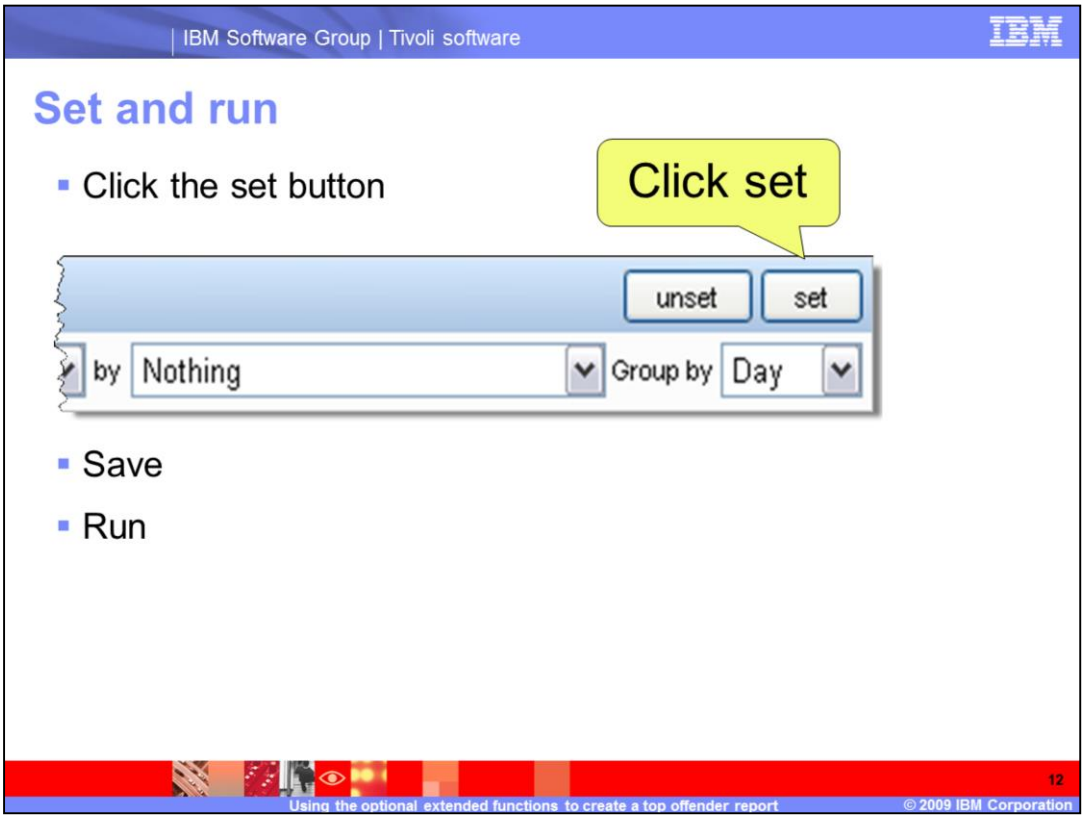
The **Group by** menu is for a time period. This report has hourly data and is for one day; all options are available. If you select a period longer than the smallest value, then the results might have multiple rows for the same network element.

Using sort by multiple in the report viewer, you can sort the data to group by time or attribute first to best organize the results for analysis. The examples shown later demonstrate sorted data. You might need to go the Optional Extended Function's Group By and change the period of time to get the ranked results that you desire.

If the report is generating 30 minute data and you select Group by hour in ranking, the data fields are evaluated for 30 min. One hour is the smallest Ranking group by time option.

If you select to sort by only Cell_Id in the Optional Extended Function's Group By and then in Ranking, using **by** the cell's parent entity **BSC_Id**, you generate the correct number of rows of data, but the **BSC_Id** column is not present in the report results to use for sorting.

Be consistent with the Group by settings in both the Optional Extended Functions: Group by and the Ranking Group by values. Ensure they make sense to get the best results.



Set and run

When all values are selected, click the set button.

The screen updates and the report definition is ready to save and run.

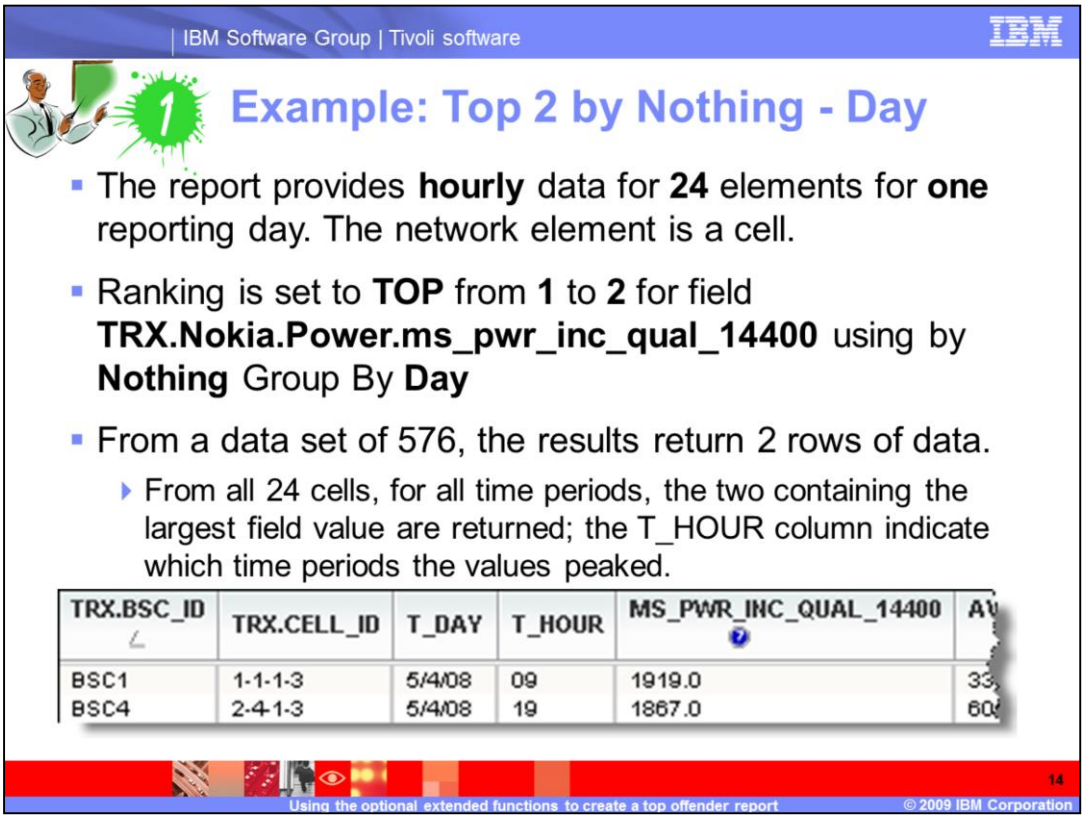
Next you will see four examples of the settings and results using the Ranking feature.

First, a **Top 2** report with settings of *by* Nothing and *Group by* Day.

Second, a **Top 2** report with settings of *by* Nothing *Group by* Hour.

Third, a **Top 2** report with settings of *by* BSC *Group by* Day.

Fourth, a **Bottom 5** report with settings of *by* Nothing *Group by* Day.



First example, a **Top 2** report with settings of *by* Nothing and *Group by* Day.

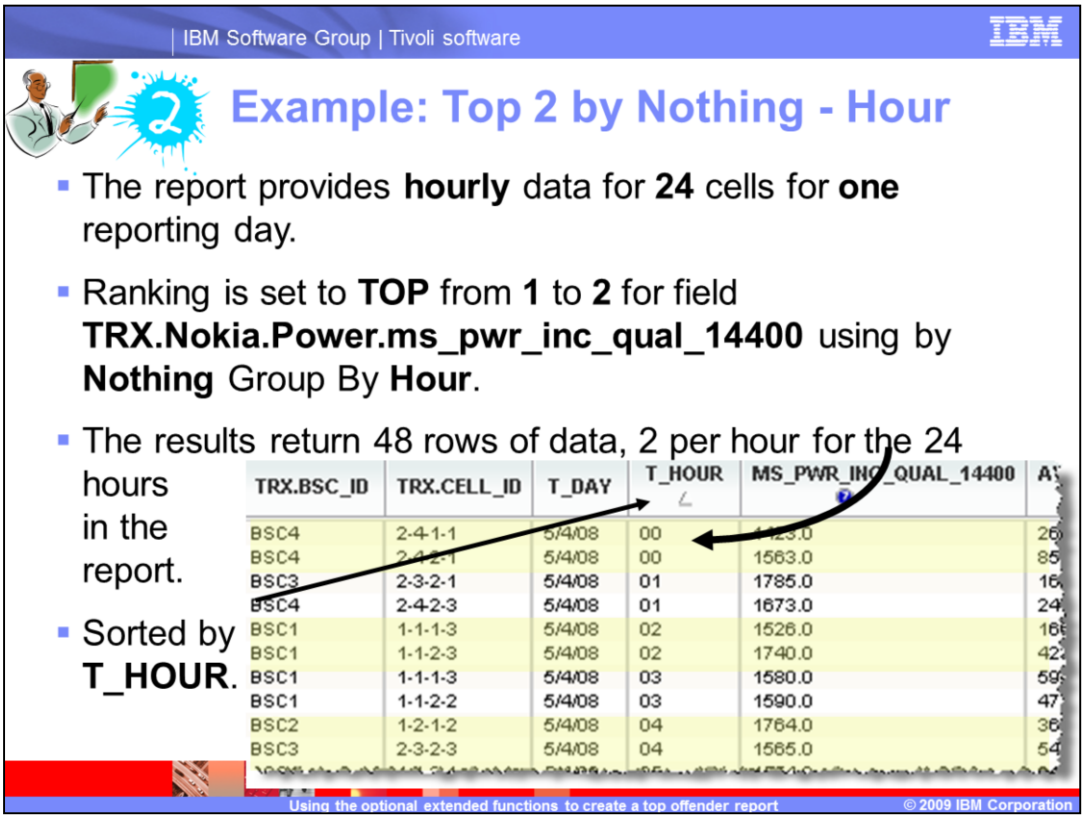
The report provides **hourly** data for **24** elements for **one** reporting day. The network element is a cell. **Cell** is the focal entity of the report definition.

Ranking is set to **TOP** from **1** to **2** for field **TRX.Nokia.Power.ms_pwr_inc_qual_14400** using by **Nothing** Group By **Day**

From a data set of 576, the results return 2 rows of data.

> From all 24 cells, for all time periods, the two containing the largest field value are returned; the T_HOUR column indicate which time periods the values peaked.

The default sort is on the first column. You can sort by the field column, by clicking on the column heading.



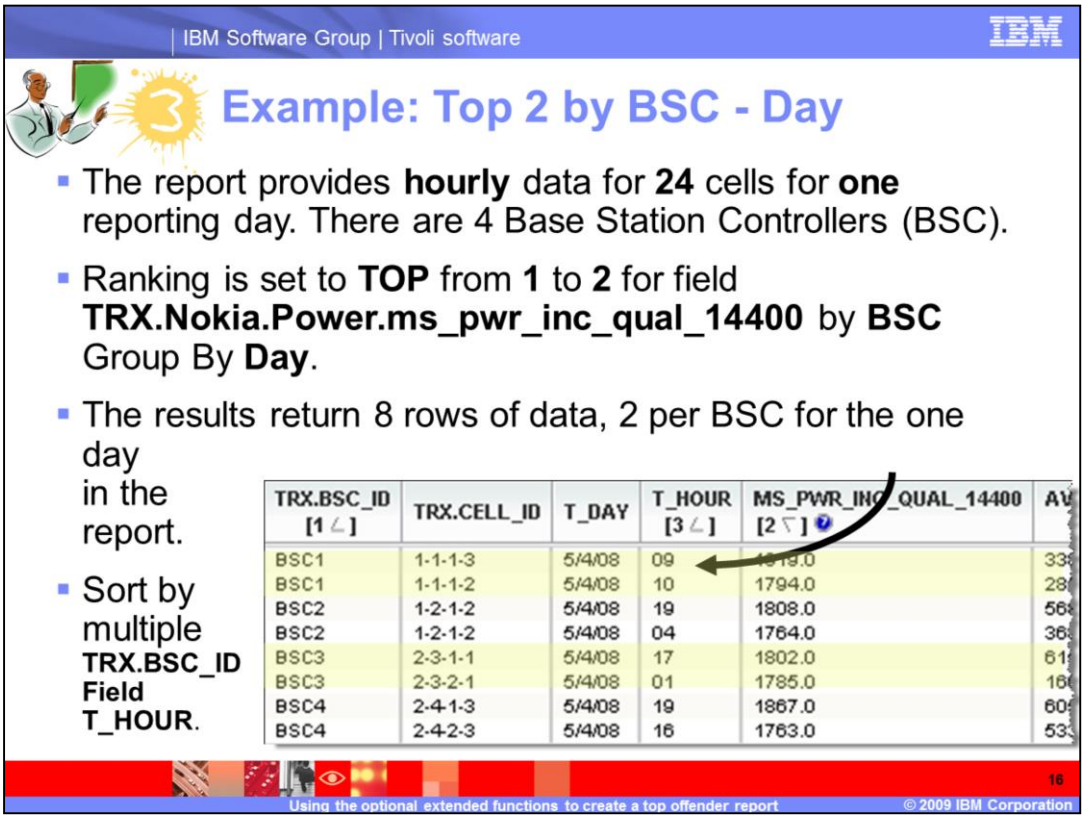
Second example, a **Top 2** report with settings of *by* Nothing *Group by* Hour.

The report provides **hourly** data for 24 cells for **one** reporting day.

Ranking is set to **TOP** from **1** to **2** for field **TRX.Nokia.Power.ms_pwr_inc_qual_14400** using by **Nothing** Group By **Hour**.

The results return 48 rows of data, 2 per hour for the 24 hours in the report.

The results are sorted by T_HOUR ascending.



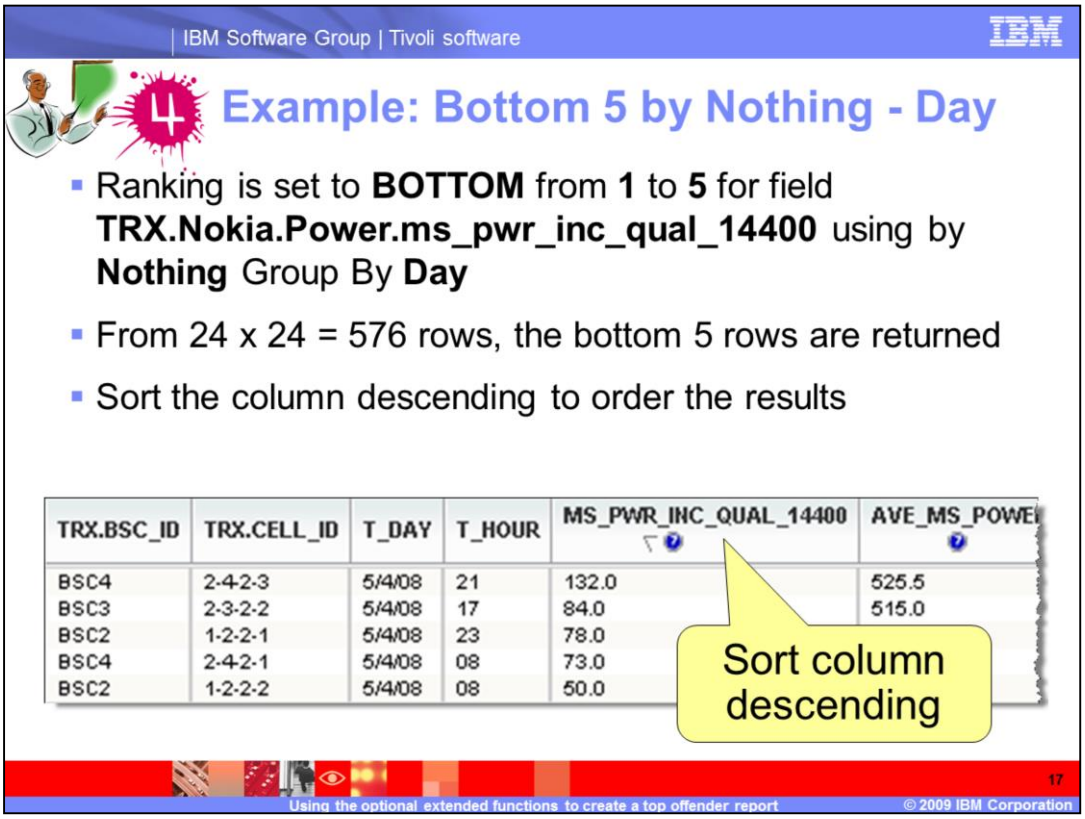
Third example, a **Top 2** report with settings of *by* BSC *Group by* Day.

The report provides **hourly** data for 24 cells for **one** reporting day. There are 4 Base Station Controllers (BSC).

Ranking is set to **TOP** from **1** to **2** for field **TRX.Nokia.Power.ms_pwr_inc_qual_14400** by **BSC** Group By **Day**.

The results return 8 rows of data, 2 per BSC for the one day in the report.

Sort by multiple TRX.BSC_ID ascending, Field descending, and T_HOUR ascending.

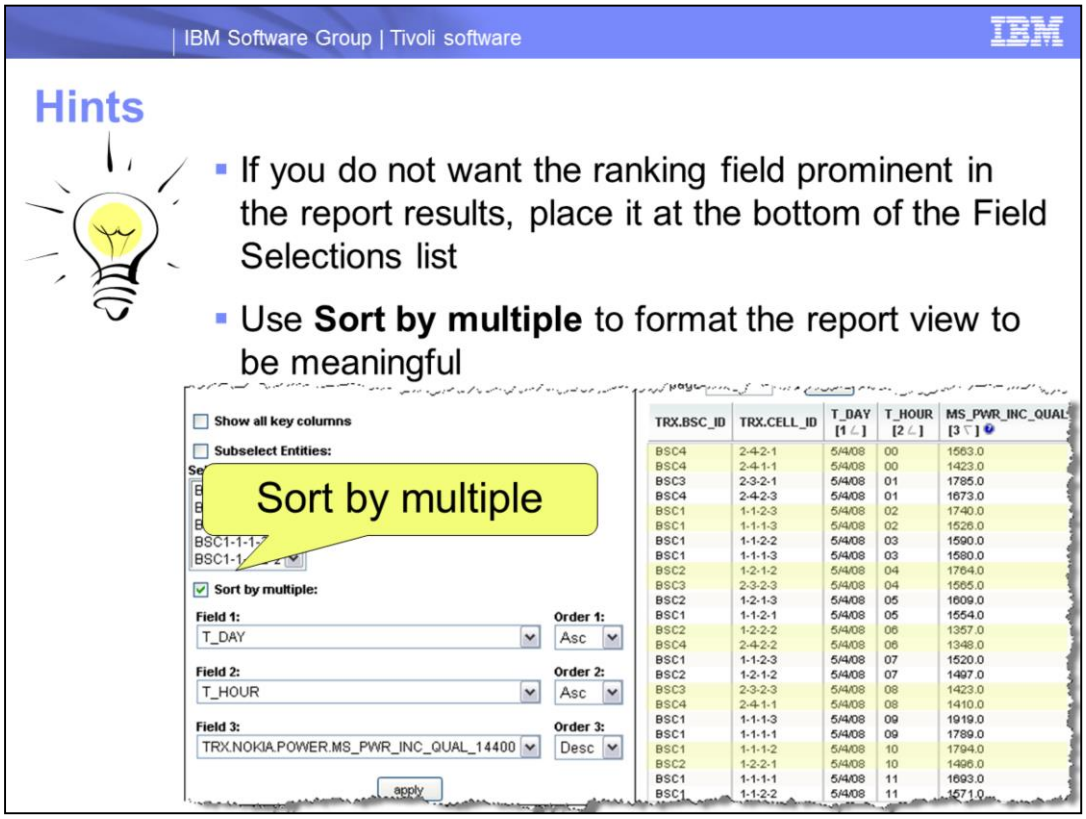


Fourth example, a **Bottom 5** report with settings of *by* Nothing *Group by* Day.

Ranking is set to **BOTTOM** from **1** to **5** for field **TRX.Nokia.Power.ms_pwr_inc_qual_14400** using by **Nothing** Group By **Day**

From 24 x 24 = 576 rows, the bottom 5 rows are returned.

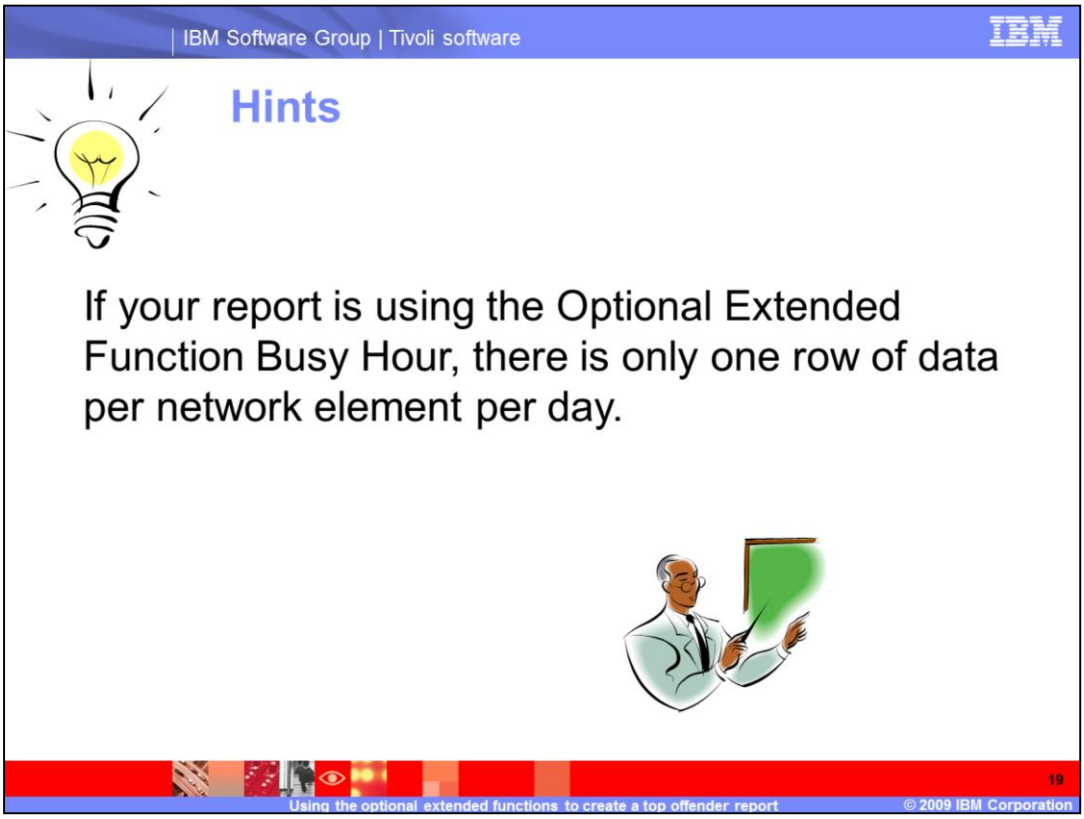
Sort the column descending to order the results.



Hints

If you do not want the ranking field prominent in the report results, place it at the bottom of the Field Selections list so it will be the last column on the right of the report output.

Use **Sort by multiple** to format the report view to be meaningful.

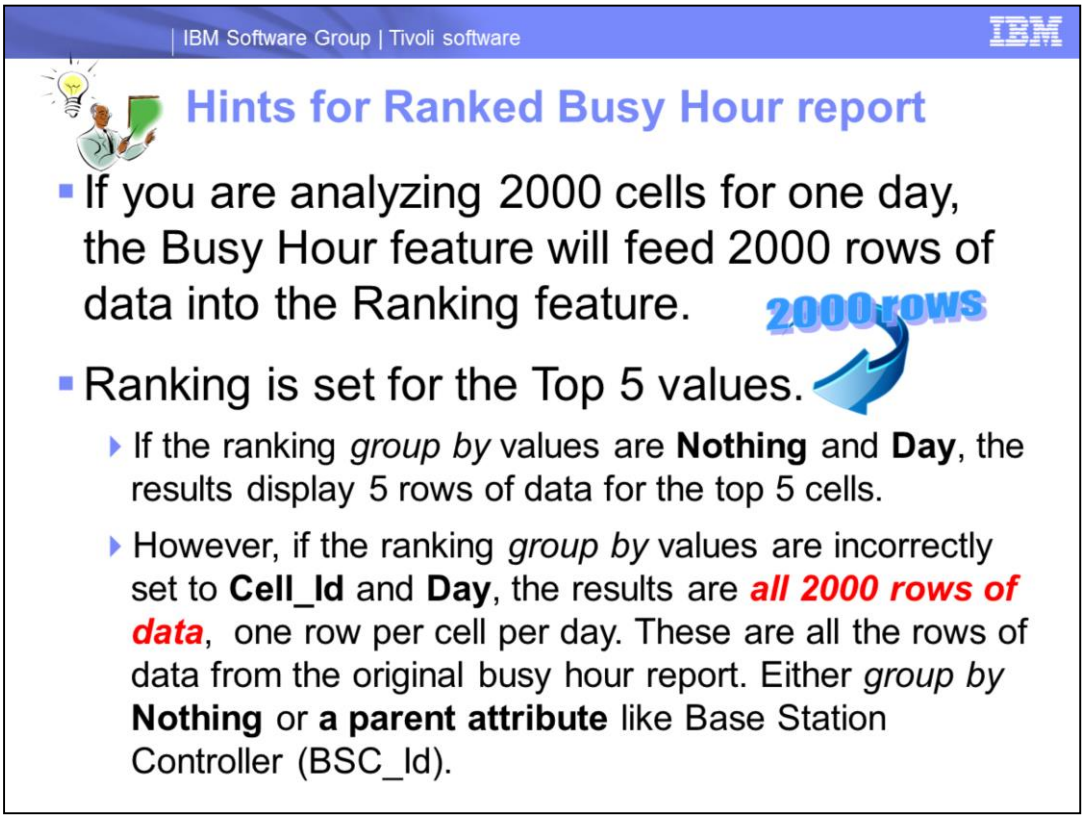


Hints

Remember the Optional Extended Functions feed results from one section to the next.

If your report is using the Optional Extended Function Busy Hour, there is only one row of data per network element per day.

Let us look at an example next.



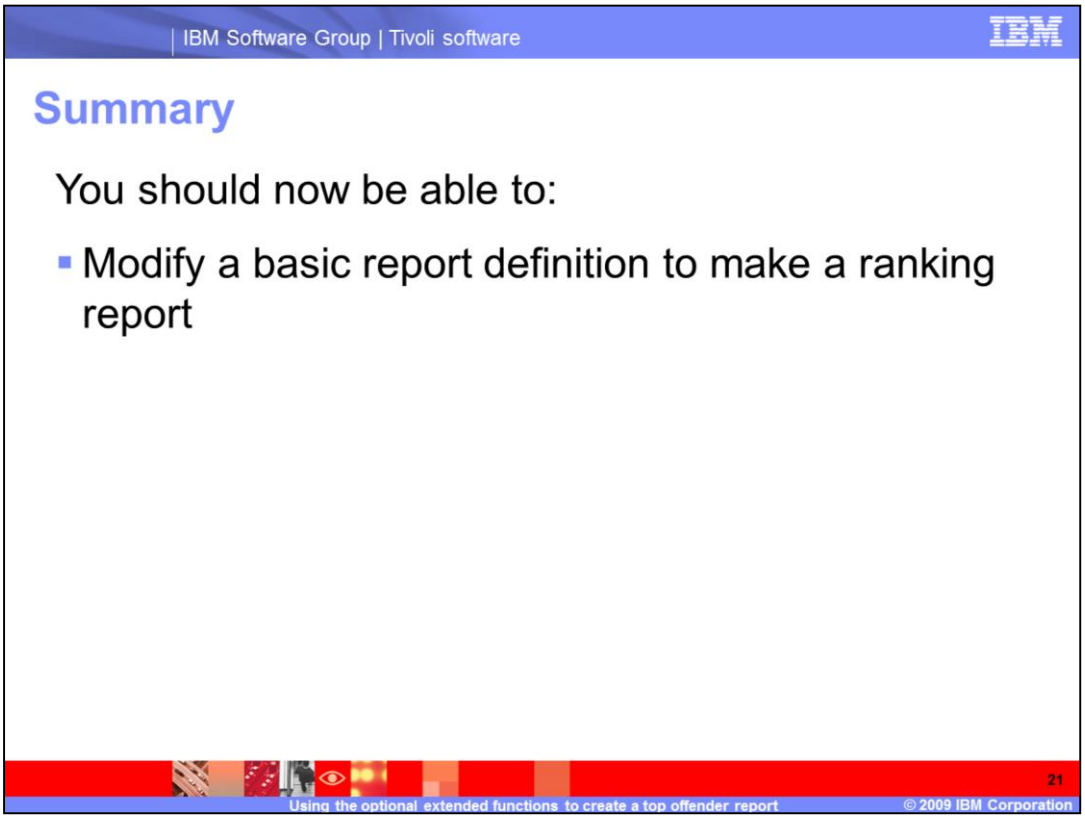
Audio

Hints for Ranked Busy Hour report

If you are analyzing 2000 cells for one day, the Busy Hour feature will feed 2000 rows of data into the Ranking feature.

Ranking is set for the Top 5 values.

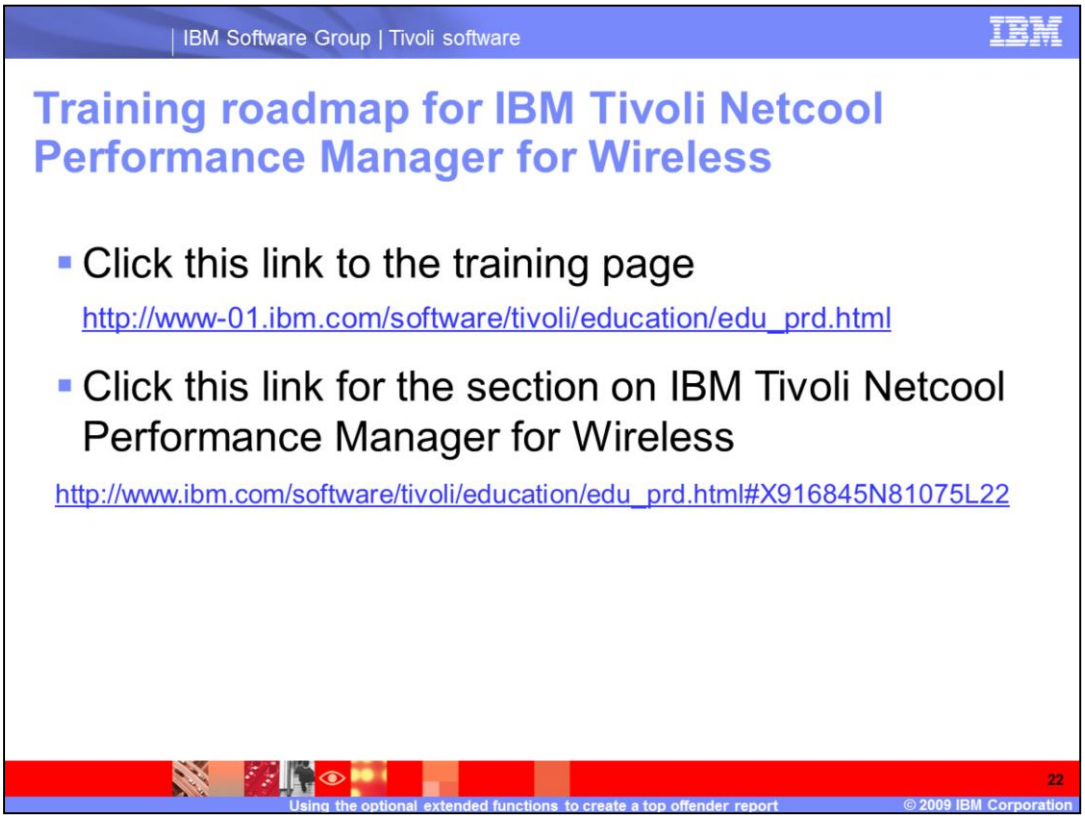
- If the ranking *group by* values are **Nothing** and **Day**, the results display 5 rows of data for the top 5 cells.
- However, if the ranking *group by* values are incorrectly set to **Cell_Id** and **Day**, the results are ***all 2000 rows of data***, one row per cell per day. These are all the rows of data from the original busy hour report. Either *group by* **Nothing** or **a parent attribute** like Base Station Controller (BSC_Id).



Summary

You should now be able to:

Modify a basic report definition to make a ranking report



Training roadmap for IBM Tivoli Netcool Performance Manager for Wireless

Click this link to the training page
http://www-01.ibm.com/software/tivoli/education/edu_prd.html

Click this link for the section on
IBM Tivoli Netcool Performance Manager for Wireless

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