Best practices to be followed while designing Jasper Reports :

1. Report units contain references to the resources they use: images, styles, sub-reports, queries, input controls.
2. Never hard code an entire repository path to resource, the image *repo:/reports/images/image.png* should come in as a reference like *repo:image.png.*
3. Create shared input controls if they apply to more than one report, bring them in as a link.
4. Have a unique entry point to change datasource details (ip:port:credentials).
5. **First before creating report keep in mind following things:**

* Set page (report) properties

Eg:-Page height,width,left-right margin, orientation.

* Set Same properties for palette elements  like text,static

Eg:-Font style,size,horizontal –vertical alignment,

Position type, stretch type.

1. **Report Margins:**

When you develop reports for dashboards, it is advisable to keep all the margins with 0 pixels.

*By default margins will be*Left margin         20Right margin       20Top margin         20Bottom margin    20

*Change the values to 0*

Left margin         0Right margin       0Top margin         0Bottom margin  0

1. **Bands to keep the components**

Do not keep table component, cross tab component in Detail band. Keep all the components either in Title band or in Summary Band as per the requirement. It is advisable to create custom bands to keep the different charts if you need to develop a report with multiple charts.

Why it is not recommended to keep the components in Detail band?

Details band falls into loop till the end of the row/data for fields hence if you keep any other component it will fall in a loop and will give you unexpected behaviour of iReport with bad output.

1. **Parameter Naming conventions**
2. It is advisable to give good naming conventions for parameters. For example parameter name could be **param\_paramName or p\_paramName**

Eg : 1)  p\_startDate 2) p\_endDate

1. **Bands**

**Title band:**

·         Every report must have some name, give the name of the report in this band.

·         Blue colour back ground with white colour font is preferable to give the titles.

·         Logos of the company are recommended to be placed left side of the band in title band under the title of the report.

**Page Header:**

·         Page header consists of the page numbers and date type of information. It is recommended to give page header information for long reports with heavy text involved in the reports.

**Column Header:**

·         This band is used for giving column headers for the fields. You can change the font style, size, give the borders, back ground colours and etc.

**Detail band:**

·         Detail band is used to display the output of the report using fields fetched by the query.

·         You need to drag and drop required fields to create the report to Detail band format them accordingly.

·         Detail band falls into for loop so we should keep only fields in this band rather than keeping any other component like table , cross tab, chart components.

**Column footer:**

 ·         This band is used to find the total, max, min of the columns from the details band.

·         You need to create variable for this and drag that variables under the column where you want see the sum, max or min

**Page footer:**

·         Page footer is used to place the page numbers, confidential type of text for the company etc.

**Summary:**

·         Summary of the report will be placed in the summary band.

·         Generally we keep the chart component, table component, cross tab component to summarize the report.

1. Requirements – Requirements in report writing need to be static. We have all come across a moving target and we want to avoid that scenario. If we do not get a solid report requirement the design phase runs around in a continuous loop, wasting time and money.
2. Wireframing – Once we gather our requirements the best practice is to wireframe them so the expectation of the reporting layout or the output is set. Even though Jasper reports support various output types it is always the best practice to know what your desired primary output would be.
3. Data source – Identifying the best way to connect and retrieve the data required to create the report is another very important pre-design step.
4. Report Design – Benchmark your queries if you are using a database and your data source to set your expectation of report output timing and print fill.
5. Fields & Columns – Avoid calling unnecessary fields and columns and creating unnecessary parameters and variables. Having unnecessary fields not only increased your output time but also creates confusion if editing is required down the road.
6. Information choice – Avoid unnecessary information in the reports.
7. Design – Use as much white space as possible for easy to read reports.
8. Data and Time – It is always a good idea to use standard date and time practice with time zone if required.