Why we need Jasper Reports Library?

In general if you want to make a Visual format of your data like Pie Chart, Bar Chart, Table into a report. And the report output in the form of PDF,XLS,CSV,HTML,xHTML etc. then you need to write code in any of your convenient language like C#, Java, PHP etc.

The answer to this problem is to use a reporting library. [JasperReports Library](http://community.jaspersoft.com/node/202" \t "_blank) is the world's most popular open source Java reporting library, and iReport Designer is a visual report designer for JasperReports. The library is a report engine that can be integrated in your open or commercial application to generate the reports designed with iReport Designer, display them on screen or export them in a final format like PDF, OpenOffice, DOCX and many others. Alternatively, you can stream the result through a web application or send the final document directly to a printer. JasperReports is in some way the core of iReport Designer.

JasperReports is extremely easy to integrate in an Java application, but if you need an environment to use the reports without having to write a custom application, you may consider using [JasperReports Server](http://community.jaspersoft.com/node/212" \t "_blank).

**Jasper Reports Library:**

Its contains set of library files (jar files) to generate data into report and its produce reports output in different forms like above PDF,XLS,CSV,HTML,xHTML and more.

In order to render your report into your web page / embedding those reports into your webpage by using iframe tag or any one of Web services like SOAP or REST.

**To design a Report:**

Jasper Reports Library is not enough to produce a report. We need tool/software to design a report. That tool is called BI tool i.e **Business Intelligence**.

* iReport Designer
* Jasper Studio

**iReport Designer:**

The Report Development Tool for Jasper Reports and Jasper Reports Server

**IReport is the free, open source report designer for Jasper Reports and Jasper Reports Server.** Create very sophisticated layouts containing charts, images, sub reports, crosstabs and much more. Access your data through JDBC, Table Models, JavaBeans, XML, Hibernate, CSV, and custom sources. Then publish your reports as PDF, RTF, XML, XLS, CSV, HTML, XHTML, text, DOCX, or Open Office.

# What is iReport Designer?

There are several ways to add reporting capabilities to an application. For many web developers, to create a report just means to create a web page, which produces good results on screen but poor results when printed to paper. And to create a report in PDF means write more code... tons of code, making the reports hard to maintain and long to write. When working with other technologies the problem does not change very much. For example, Java provides an extensive API for printing, but there is still a lot of work to write specific code for each document format.

JasperServer provides a web based interface to manage, schedule, and run the reports; a repository to store all the report resources like images, fonts, data sources and much more; a security service to decide who can execute which report; and a web services API to execute the reports from external applications (so you can generate reports from any kind of environment, like PHP or .NET).

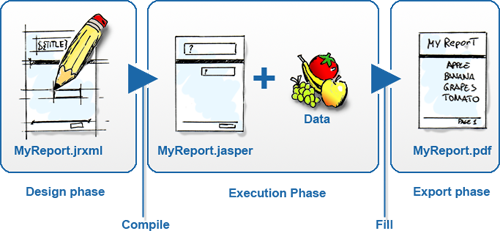
In the big picture, iReport Designer allows you to design reports, JasperReports allows to execute them and generate output in a Java application, and JasperServer allows both end users and external applications to access, view, and publish your reports securely. JasperServer also makes reports interactive by adding drill down and drill up capabilities to your documents.

## Report Life Cycle

Before we start working with iReport Designer, let's learn about the life cycle of a report. When you design a report using iReport Designer you are creating a JRXML file, which is an XML document that contains the definition of the report layout. The layout is completely designed in a visual way, so you can ignore the real structure of the JRXML file. Before executing a report, the JRXML must be compiled in a binary object called a Jasper file. This compilation is done for performance reasons. Jasper files are what you need to ship with your application in order to run the reports.

The report execution is performed by passing a Jasper file and a data source to JasperReports. There are plenty of types of data sources, it's possible to fill a Jasper file from an SQL query, an XML file, a csv file, an HQL(Hibernate Query Language) query, a collection of JavaBeans, etc... If you don't find a suitable data source, JasperReports is very flexible and allows you to write your own custom data source. With a Jasper file and a data source, JasperReports is able to generate the final document in the format you prefer.

iReport Designer also lets you configure data sources and use them to test your reports. In many cases, data-driven wizards can help you design your reports much quicker. iReport Designer includes the JasperReports engine itself to let you preview your report output, test, and refine your reports.



## User Interface

