



# Pentaho Reporting

*Report Designer Tool*

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## About the Tutorial

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Pentaho Reporting is a suite (collection of tools) for creating relational and analytical reports. It can be used to transform data into meaningful information. Pentaho allows generating reports in HTML, Excel, PDF, Text, CSV, and xml.

This tutorial provides a basic understanding of how to generate professional reports using Pentaho Report Designer.

## Audience

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This tutorial is designed for all those readers who want to create, read, write, and modify Dynamic Reports using Java. In addition, it will also be quite useful for those readers who would like to become a Data Analyst.

## Prerequisites

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Before you start proceeding with this tutorial, we assume that you have prior exposure to Core Java, Database Concepts, and SQL Queries.

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# 1. PENTAHO – OVERVIEW

## What is Pentaho Reporting?

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Pentaho Reporting is a suite (collection of tools) for creating relational and analytical reporting. Using Pentaho, we can transform complex data into meaningful reports and draw information out of them. Pentaho supports creating reports in various formats such as HTML, Excel, PDF, Text, CSV, and xml.

Pentaho can accept data from different data sources including SQL databases, OLAP data sources, and even the Pentaho Data Integration ETL tool.

## Features of Pentaho

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Pentaho Reporting primarily includes a Reporting Engine, a Report Designer, a Business Intelligence (BI) Server. It comes loaded with the following features:

- **Report Designer:** Used for creating pixel perfect report.
- **Metadata Editor:** Allows to add user-friendly metadata domain to a data source.
- **Report Designer and Design Studio:** Used for fine-tuning of reports and ad-hoc reporting.
- **Pentaho user console web interface:** Used for easily managing reports and analyzing views.
- **Ad-Hoc reporting interface:** Offers a step-by-step wizard for designing simple reports. Output formats include PDF, RTF, HTML, and XLS.
- **A complex scheduling sub-system:** Allows users to execute reports at given intervals.
- **Mailing:** Users can email a published report to other users.
- **Connectivity:** Connectivity between the reporting tools and the BI server, which allows to publish the content directly to the BI server.

## 2. PENTAHO – INSTALLATION

Let us now learn how to install and configure Pentaho Reporting Designer.

### Prerequisites

The Pentaho Reporting engine requires Java environment. Therefore, before installing Pentaho Reporting, make sure you have Java on your system. Based on the platform you are working on, use a command from the following table to verify your Java installation.

OS	Command	Output
Windows	Open command prompt: >java -version	java version "1.7.0_60" Java(TM) SE Runtime Environment (build 1.7.0_60-b19) Java HotSpot(TM) 64-Bit Server VM (build 24.60-b09, mixed mode)
Linux	Open terminal: \$ java -version	java version "1.7.0_60" OpenJDK Runtime Environment (rhel-2.3.10.4.el6_4-x86_64) OpenJDK 64-Bit Server VM (build 60.7-b01, mixed mode)
Mac OS	Open terminal: \$ java -version	java version "1.7.0_60" Java(TM) SE Runtime Environment (build 1.7.0_60-b19) Java HotSpot(TM) 64-Bit Server VM (build 24.60-b09, mixed mode)

If you do not have Java installed on your system, then download and install the same using the following link [Download and Install Java](#).

### Download Pentaho Reporting

Download the latest versions of Pentaho Reporting Designer using the following links. For this tutorial, we are using version 3.7.0.

OS	URL link for download Pentaho Report Designer
Windows	<a href="#">Pentaho Report Designer 3.7 for Windows</a>
Linux	<a href="#">Pentaho Report Designer 3.7 for Linux</a>
Mac OS	<a href="#">Pentaho Reporting Designer 3.7 for Mac OS</a>

## Install Pentaho Reporting

After downloading the files, you will find an archive file of Pentaho Reporting Designer named **prd-ce-3.7.0-stable**. That archive should be extracted as explained in the following table.

OS	Installation Instructions
<b>Windows</b>	<ul style="list-style-type: none"> <li>• Extract the downloaded file prd-ce-3.7.0-stable.zip using an Unzip tool.</li> <li>• Copy the extracted folder (prd-ce-3.7.0-stable) into c:\ directory.</li> <li>• Open c:\prd-ce-3.7.0-stable\report-designer directory.</li> <li>• Start Pentaho Reporting Designer by double-clicking on the <b>report-designer.bat</b> file.</li> </ul>
<b>Linux</b>	<ul style="list-style-type: none"> <li>• Extract the downloaded file <b>prd-ce-3.7.0-stable.tar.gz</b> using the following command.           <div style="border: 1px solid black; padding: 5px; margin: 5px 0;"> <pre>\$ tar -zxvf prd-ce-3.7.0-stable.tar.gz</pre> </div> </li> <li>• Copy the extracted folder (prd-ce-3.7.0-stable) into "/usr/local/" directory using the following command.           <div style="border: 1px solid black; padding: 5px; margin: 5px 0;"> <pre># mv prd-ce-3.7.0-stable /usr/local/</pre> </div> </li> <li>• Open "/usr/local/prd-ce-3.7.0-stable/report-designer" directory and start Pentaho Reporting Designer using the following commands.           <div style="border: 1px solid black; padding: 5px; margin: 5px 0;"> <pre>\$ cd /usr/local/prd-ce-3.7.0-stable/report-designer \$ report-designer.sh</pre> </div> </li> </ul>
<b>Mac</b>	<ul style="list-style-type: none"> <li>• Extract the downloaded file prd-ce-370-stable.tar.gz.</li> <li>• You will find that folder in the Finder.</li> <li>• Copy and Paste Pentaho Report Designer from Finder into /Application folder.</li> <li>• Start Pentaho Report Designer using the following command.           <div style="border: 1px solid black; padding: 5px; margin: 5px 0;"> <pre>\$ report-designer.sh</pre> </div> </li> </ul>

## Install Database Driver

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Pentaho Reporting Designer requires a database connection to generate relational reports, therefore you need to have a JDBC driver to communicate with the database. By default, Pentaho provides some JDBC drivers of different vendors to support different databases such as MySQL, H2, HypersonicSQL, Hive, etc.

All the default database drivers are available in the **/lib/ directory** of the Pentaho Reporting Designer. If you want to use any other database, then download the respective JDBC driver and copy it into the /lib/ directory of Pentaho Reporting Designer. Otherwise, you can use ODBC driver via JDBC-ODBC bridge driver that comes with the JDK and this bridge driver (JDBC-ODBC) is suitable for all database servers.

For this tutorial, we are using MySQL database server and its respective drivers are already downloaded with the Pentaho lib (/lib/ directory of the Pentaho Reporting Designer) files.

## Install Additional Fonts

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Pentaho Reporting uses different fonts to display text inside reports. When generating PDF files, the Pentaho Reporting Engine needs access to the physical font files. The reporting engine searches system dependent font paths to locate all usable fonts. In addition to these fonts, your Java Runtime Environment may offer additional fonts, depending on your Java and Operating system version.

If you plan to create PDF documents with embedded fonts, please ensure that you only use fonts that are physically accessible for the reporting engine.

Regardless of your operating system, all font files located in **JRE/lib/fonts/** are always usable for all exports.



End of ebook preview

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