

## **Tools and Technologies Used**

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# Introduction:

This deliverable is dedicated to explain all tools and technologies used to realize the BI system. In our project we have several perspective and application such as Android and Desktop applications.

## IDE's:



### **IntelliJ IDEA:**

An IDE for Java and Kotlin Development

For more information: <https://www.jetbrains.com/idea/>

### **PhpStorm:**

An IDE for PHP applications developments

For more information: <https://www.jetbrains.com/phpstorm/>

### **DataGrip:**

An IDE for relational Database such us MySQL, Oracle.

For more information: <https://www.jetbrains.com/datagrip/>

## **Android Studio:**

IDE that integrate all what Android Developer Needs

For more information: <https://developer.android.com/studio/>

## **Postman:**

Test tools for REST API End Points and for making documentations.

For more information: <https://www.getpostman.com/>

## **Spyder:**

IDE for Python Application Developments.

For more information: <https://www.spyder-ide.org/>

## **Jupyter Notebook:**

Web Application tools for Python for machine learning

For more information: <https://jupyter.org/>

# Languages:



## **Java:**

Java is a general-purpose computer-programming language that is concurrent, class-based, object-oriented and specifically designed to have as few implementation dependencies as possible

For more information: <https://www.java.com/en/>

## **Kotlin:**

Kotlin is a statically typed programming language that runs on the Java virtual machine and also can be compiled to JavaScript source code or use the LLVM compiler infrastructure

For more information: <https://kotlinlang.org/>

## **PHP:**

PHP Is a server-side scripting language designed for web development but also used as a general purpose programming language

For more information: <http://php.net/>

**Python:**

Python is a programming language that lets you work quickly and integrate systems more effectively, used intensively for machine learning and AI applications.

For more information: <https://www.python.org/>

**SQL:**

SQL is a domain-specific language used in programming and designed for managing data held in a relational database management system (RDBMS)

**JSON:**

JSON is an open-standard file format that uses human-readable text to transmit data objects consisting of attribute–value pairs and array data types

## Database:

### MySQL:



MySQL is an open-source relational database management system (RDBMS).

For more information: <https://www.mysql.com/>

## Technologies:

### Machine Learning:

Machine learning is a set of algorithms and tools to help and teach computers how to learn and how to take decisions based on data.

### Data mining:

Data mining is a subset of machine learning to derive knowledge from a given data.

### RESTs API:

Representational State Transfer (REST) is a software architectural style that defines a set of constraints to be used for creating web services.

**Data warehouse:**

Is a system used for reporting and data analysis, and is considered a core component of business intelligence

**Android:**

Android is a mobile operating system developed by Google, based on a modified version of the Linux kernel and other open source software and designed primarily for touchscreen mobile devices such as smartphones and tablets



For more information: <https://www.android.com/>

**JavaFX:**

Is a software platform for creating and delivering desktop applications, as well as rich Internet applications (RIAs) that can run across a wide variety of devices.



For more information: <https://www.oracle.com/technetwork/java/javafx/overview/index.html>



# Data warehouse tools:

## **Talend ETL:**

Open Studio for Data Integration Features and powerful tool for any integration project



For more information: <https://www.talend.com/products/data-integration/data-integration-open-studio/>

## **Palo:**

Is a memory resident multidimensional (online analytical processing (OLAP) or multidimensional online analytical processing (MOLAP)) database server and typically used as a business intelligence tool for controlling and budgeting purposes with spreadsheet software acting as the user interface

## **Mondrian:**

Is an open source OLAP (online analytical processing) server, written in Java. It supports the MDX (multidimensional expressions) query language and the XML for Analysis and olap4j interface specifications.

## **Anaconda:**

A package manager that hold all the tools that machine learning engineer, data miner and python developer needs such as orange and spyder.



For more information: <https://www.anaconda.com/>

## Tools Relation Diagram:

The following diagram illustrate how this tools are related together for the BI4SS project.

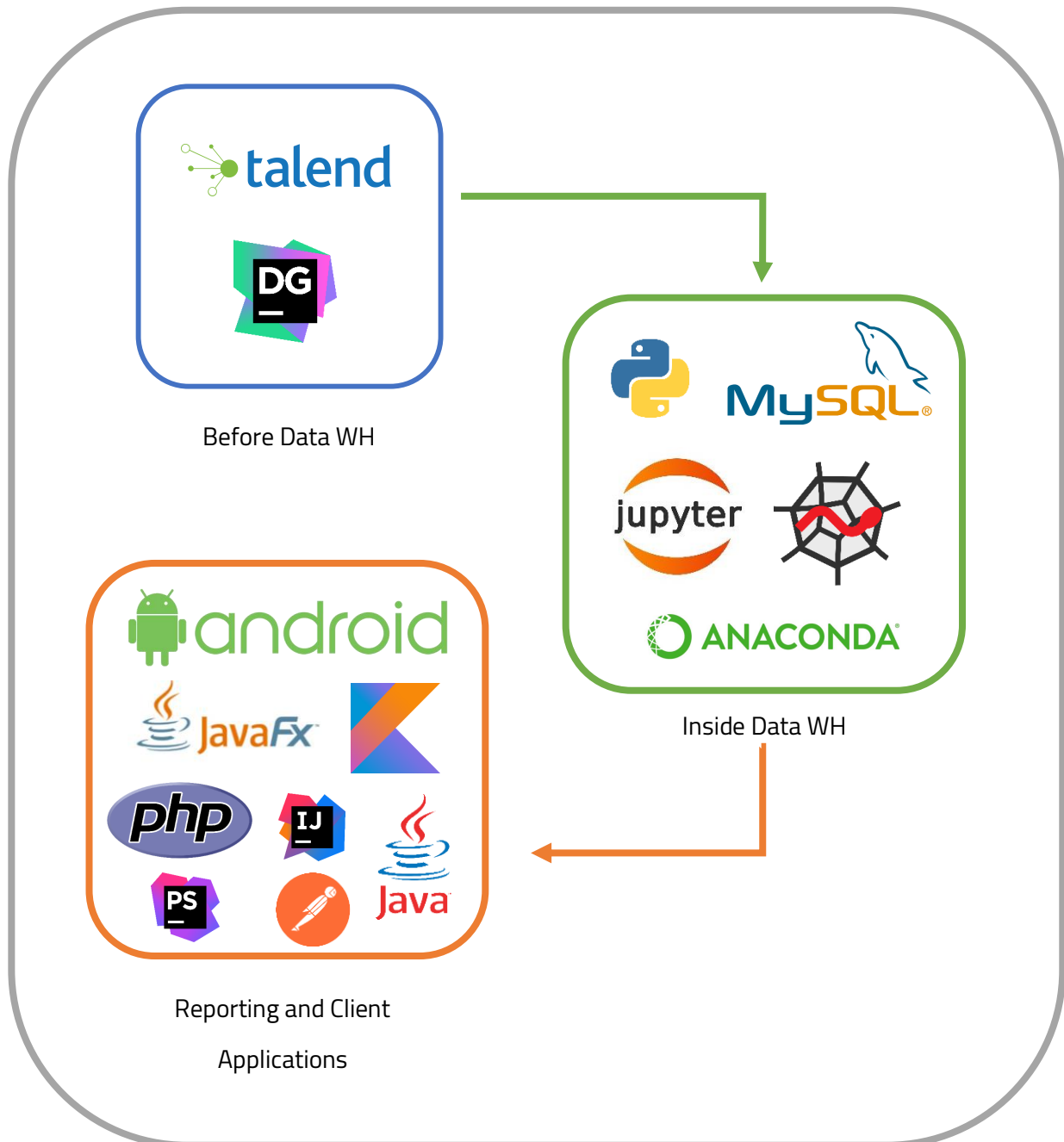


Figure 1 BI4SS Project tools

## Conclusion:

At the end we want to mention that this techniques and tools are widely used in all around the world, as a consequence the community provide a lot of tutorials and documentation to help us.