



# XALT SAP CONNECTOR

Xalt’s capabilities for mobile and cloud work as a cloud-based enterprise software platform that connects all your administrative database systems to your users on any PC browser or any mobile device. This part of our platform provides a flexible and secure environment for the creation and delivery of an unlimited number of business apps utilising a single download from the Apple App Store or Google Play.

## ARCHITECTURE OVERVIEW

Connectors are pieces of Java code that facilitate the data movement between your data sources and the Xalt Cloud. Connectors reside on the Connector Gateway (Figure 1 below), where they translate the requests issued by the Xalt Cloud into a format consumable by the data source, and then translate the response back into the format needed by the Xalt Cloud. You may think of them as language packs that you snap in when you want to converse with a new system. In Figure 1, the connectors invoke the communication lines between the Connector Gateway and the various data sources. The connectors are also responsible for gathering the metadata used in Xalt. In most cases a single connector is responsible for a single language (such as SQL), but in some cases where the language does not provide a programmatically efficient method of metadata discovery (such

as REST web services), a connector must be custom built to the specifications of the data source.

The metadata gathered by the connector includes the data structures available from the data source, their properties, and the data types that make up those properties. Using a relational database as an example, the connector retrieves a list of tables or views, the columns that make up the tables, and the data types of each column. Aside from gathering metadata, a connector provides four basic data functions: create, read, update, and delete. These functions are the basic interfaces needed to allow Xalt to interact effectively with your data.

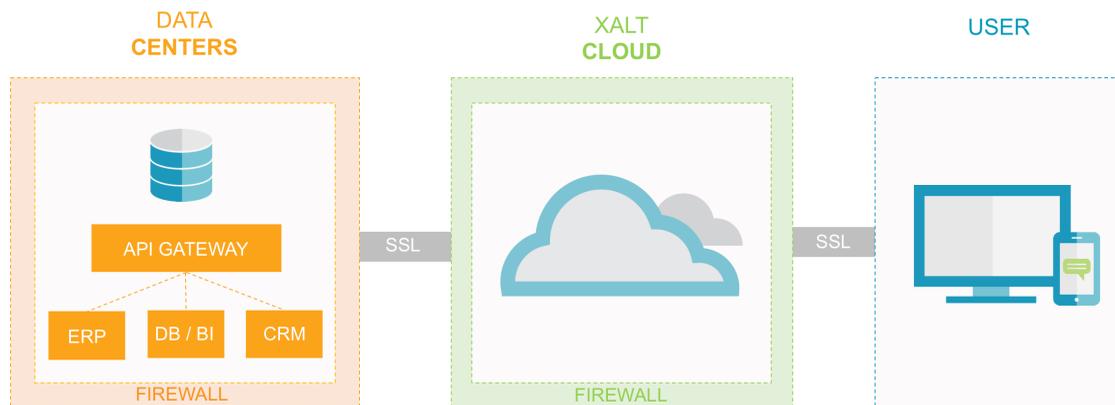


Figure 1

## CONNECTING TO SAP

SAP (via NetWeaver or BAPI) implements the following basic Web services standards: eXtensible Markup Language (XML); Simple Object Access Protocol (SOAP); Web Service Definition Language (WSDL); Universal Description, Discovery, and Integration (UDDI); and open Data Protocol (OData). The Xalt SAP connector takes advantage of these standards to communicate with the SAP installation. A single web service is declared as a data source. There is no limit to the number of data sources that can be created in Xalt; therefore, there is no limit to the number of web services you can connect to. The WSDL is parsed to provide the metadata needed to construct data objects, queries and details from the data source. To provide the functions needed for create, read, update, and delete, a small configuration file is created and copied to the satellite server that maps the relationships between the function and the service call needed. This file is necessary as there is no reliable way to infer the proper function to call based solely on the WSDL. An example configuration file for a single object is shown in Figure 2.

```
<config Name="getPurchaseOrder">
  <create>processPurchaseOrder</create>
  <read>getPurchaseOrder</read>
  <update>processPurchaseOrder</update>
  <delete>processPurchaseOrder</delete>
</config>
```

Figure 2

When the satellite is called upon to read data from an SAP data source, it checks to see if it has the SOAP message format needed to make the call based on the object and function being requested. If it does not have it, the connector calls the WSDL file and retrieves the SOAP format needed. It then stores that format in memory for later use. The call is made and the results are returned to the cloud for distribution to the user. Similar scenarios also occur for creating or editing data. Actions give the user a bit more flexibility as they can call a web service not defined in the data source's WSDL by defining a custom call in the action.

## SUMMARY

By utilising the standard connector interfaces available, Xalt can connect to any SAP module you choose. This model also stores all your business logic inside SAP, so there is no need to alter business processes or duplicate authorisation lists. This allows Xalt to focus on delivering a rich, native interface to your users.

### About Hexagon

Hexagon is a global leader in digital solutions that create Autonomous Connected Ecosystems (ACE), a state where data is connected seamlessly through the convergence of the physical world with the digital, and intelligence is built-in to all processes.

Hexagon's industry-specific solutions leverage domain expertise in sensor technologies, software, and data orchestration to create Smart Digital Realities™ that improve productivity and quality across manufacturing, infrastructure, safety and mobility applications.

Learn more about Hexagon (Nasdaq Stockholm: HEXA B) at [hexagon.com](https://www.hexagon.com) and follow us @HexagonAB.