

Difference between JSON and XML

JSON and XML are the two main data exchange standards that Web 2.0 applications commonly use. They are data formats that allow sending and receiving data between the client and the web server.

Both technologies play an important role in organizing data into a readable format that many programming languages natively support.

Although JSON is more popular than XML, XML is still used in web development. To understand how these two data formats are related, you need to explore their history, similarities, and purpose.

What is XML?



XML (Extensible Markup Language) is a markup language that defines rules for storing data. It supports information exchange between web servers, databases and web applications.

XML is one of the earliest data exchange formats. In the 1900s, a group of engineers created XML to provide a way to define and execute structured content.

The creation of XML provided a way for the industry to streamline specifications for data exchange. The ability to specify semantics and structure allows you to use XML to create your own custom markup language. XML solved the incompatibility problem of exchanging common data between dissimilar technology systems.

Here is an example of an XML document that stores information about a company's employees:

???? ?????????Mary Jane ???? ???? ?????????Brad Pitt ???? ???? ?????????
Angelina Jolie ???? ?

There are predefined rules that make it easier to send data over XML, showing the user how to structure the data so that it can flow seamlessly over any network. In this way, users can effectively send accurate data.

The structure of XML uses markup symbols called tags. Tags provide more information about the data. Software, such as browsers and other clients, uses tags to read and process data efficiently. The tags carry sophisticated data encryption to integrate information flows across disparate systems.

There are free online XML editors that you can use to write and format documents.

Advantages of using XML

XML facilitates easier and faster data transfer between applications. For example, companies can easily exchange information about goods and services. These XML files allow them to specify specific details about the items.

XML ensures data integrity because the data description is clearly defined. It transfers descriptive data. This ensures the data reaches the right recipient and for the right purpose. This process makes it easy to verify, customize data for the right users, and store it properly.

XML improves the web server's search efficiency. Since the data is clearly defined, it is easier for applications to process. XML documents help applications interpret data more efficiently.

XML allows you to design flexible applications. Modern technologies that come with XML support can read and process XML data files. You don't have to reformat your entire database to store XML data.

What is JSON?



JSON (JavaScript Object Notation) is a popular data exchange format. Just like XML, humans and machines can easily read JSON files. JSON supports data exchange in many different programming languages, not just JavaScript. So you can use it as API output for apps created in any language.

JSON was born around 2001 when engineers tried to simplify the exchange of information between applications using AJAX (asynchronous JavaScript and XML).

The semantics of JSON combine with JavaScript syntax, making it the preferred data interchange format for the language. Developers started creating JSON parsers in different languages because they found it easier to work with than XML. You can now read and write JSON files in Python and many other languages.

JSON represents structured data in two ways, using objects and arrays. This code shows how a company presents information about its employees:

```
{ "employees": [ { "firstName": "Mary", "lastName": "Jane" }, { "firstName": "Brad", "lastName": "Pitt" }, { "firstName": "Angelina", "lastName": "Jolie" } ]};
```

Advantages of using JSON

JSON is the best choice when sending real-time data. It works well with applications that need to quickly exchange large amounts of data. An enterprise can use JSON to store operational data in a file format. This makes it easier to retrieve data without too many protocols.

JSON is well-suited for content management applications such as blogs and video platforms. It stores large amounts of data in a single file. So if there is an update, you can work on specific documents instead of changing the entire schema.

You can define specific data attributes in JSON, making it ideal for online profiles. With JSON, users can define personal information to their liking. You can store user profiles with unique attributes in a JSON document. This way, your data will have a high degree of segregation and flexibility.

Similarities Between JSON and XML

XML and JSON are similar in many ways, including:

1. JSON and XML both define data, making them readable to both humans and machines.
2. JSON and XML can store hierarchical (nested) values.
3. Many programming languages can parse and use JSON and XML data.
4. An XMLHttpRequest can fetch both JSON and XML.

Difference between JSON and XML

The differences between these two data formats include:

1. JSON is based on JavaScript syntax. XML is an SGML (Simple Generalized Markup Language) like .
2. JSON represents data as objects while XML uses a tag structure to represent data items.
3. XML provides a namespace for data, but JSON does not.
4. JSON supports arrays, but XML does not.
5. JSON files are easier to read and interpret than XML.
6. JSON is generally shorter than XML.

7. XML supports comments, but JSON does not.
8. XML supports many different encodings, while JSON only supports UTF-8.

JSON and XML are more different than the same, and both formats have their own use cases for web development. XML is widely used for secure document exchange and in web services that exchange arbitrary data.

Most API documentation tools like Postman combine JSON and XML visualization formats; so you should choose the right format for your application.

Is JSON better than XML?

The popularity of JavaScript has raised the popularity of JSON. Many developers who work with JavaScript prefer a simple JSON syntax that is easier to read than a complex XML structure.

JSON is easier to parse than XML. You can parse JSON files into ready-to-use objects that can be read by humans and machines. However, XML still holds a place in the technology industry. Despite the decline in usage, it is still a suitable format for exchanging documents and structured content.

You finished reading the article "**Difference between JSON and XML**" edited by the [TipsMake](#) team. We hope this article has provided you with many useful tech tips and tricks. You can search for similar articles on tips and guides. Thank you for reading and for following us regularly.