

LEARNING DATA SERIALIZATION FROM OUR LECTURING PREPARING

In a connected system, services and clients depend on the exchange of data to accomplish any task. As a developer of a service or client, you must also understand how Windows Communication Foundation (WCF) handles data and data serialization in order to create applications that are efficient and easy to maintain.

What is data serialization?

Serialization is the process of converting a data structure or object into a sequence of bits so that it can be stored in file or memory file.

It may be a little hard to understand data serialization only based on its definition.

So let's know more about serialization.

Why we want to data serialization?

It is a very interesting topic to talk about why.

Just like the video showing in our group's lecture, data serialization is very important in our daily life. It can save your life in critical time. Da you still remember the killer and the police officer.

I'd like to use XML as an example to show the benefit of data serialization.

1. Common language for sharing

- In the real world, computer systems and databases contain data in incompatible formats. XML data is stored in plain text format. This provides a software- and hardware-independent way of storing data. This makes it much easier to create data that can be shared by different applications.
- The main benefit of XML is that you can use it to take data from a program like MSSQL (Microsoft SQL), convert it into XML, then share that XML with a slough of other programs and platforms. Each of these receiving platforms can then convert the XML into a structure the platform uses normally, and presto! You have just communicated between two platforms which are potentially very different!
- What makes XML truly powerful is the international acceptance it has received. Many individuals and corporations have put forth their hard work to make XML interfaces for databases, programming, office application, mobile phones and more. It is because of this hard work that the tools exist to do these conversions from whatever platform into standardized XML data or convert XML into a format used by that platform.

- Upgrading to new systems (hardware or software platforms), is always time consuming. Large amounts of data must be converted and incompatible data is often lost. XML data is stored in text format. This makes it easier to expand or upgrade to new operating systems, new applications, or new browsers, without losing data.
- Increased Availability
 - Different applications can access your data, not only in HTML pages, but also from XML data sources.
 - With XML, your data can be available to all kinds of "reading machines" (Handheld computers, voice machines, news feeds, etc), and make it more available for blind people, or people with other disabilities.

2. Data Transport

- One of the most time-consuming challenges for developers is to exchange data between incompatible systems over the Internet. Exchanging data as XML greatly reduces this complexity, since the data can be read by different incompatible applications.

3. Data Storage/persistence

- If you need to display dynamic data in your HTML document, it will take a lot of work to edit the HTML each time the data changes. With XML, data can be stored in separate XML files. This way you can concentrate on using HTML for layout and display, and be sure that changes in the underlying data will not require any changes to the HTML. With a few lines of JavaScript code, you can read an external XML file and update the data content of your web page.

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