

DTD Tutorial

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What is a DTD?

A DTD is a Document Type Definition.

A DTD defines the structure and the legal elements and attributes of an XML document.

Why Use a DTD?

With a DTD, independent groups of people can agree on a standard DTD for interchanging data.

An application can use a DTD to verify that XML data is valid.

An Internal DTD Declaration

If the DTD is declared inside the XML file, it must be wrapped inside the `<!DOCTYPE>` definition:

XML document with an internal DTD

```
<?xml version="1.0"?>
<!DOCTYPE note [
  <!ELEMENT note (to,from,heading,body)>
```

```
]>  
<note>  
<to>Tove</to>  
<from>Jani</from>  
<heading>Reminder</heading>  
<body>Don't forget me this weekend</body>  
</note>
```

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In the XML file, select "view source" to view the DTD.

The DTD above is interpreted like this:

- **!DOCTYPE note** defines that the root element of this document is note
- **!ELEMENT note** defines that the note element must contain four elements: "to,from,heading,body"
- **!ELEMENT to** defines the to element to be of type "#PCDATA"
- **!ELEMENT from** defines the from element to be of type "#PCDATA"
- **!ELEMENT heading** defines the heading element to be of type "#PCDATA"
- **!ELEMENT body** defines the body element to be of type "#PCDATA"

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An External DTD Declaration

XML document with a reference to an external DTD

```
<?xml version="1.0"?>
<!DOCTYPE note SYSTEM "note.dtd">
<note>
  <to>Tove</to>
  <from>Jani</from>
  <heading>Reminder</heading>
  <body>Don't forget me this weekend!</body>
</note>
```

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And here is the file "note.dtd", which contains the DTD:

```
<!ELEMENT note (to,from,heading,body)>
<!ELEMENT to (#PCDATA)>
<!ELEMENT from (#PCDATA)>
<!ELEMENT heading (#PCDATA)>
<!ELEMENT body (#PCDATA)>
```

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