Session [4]

- **XML APIs (SAX, DOM) and Databases, Outlook (XSQL, SVG, SOAP)**

- September 25, 2000
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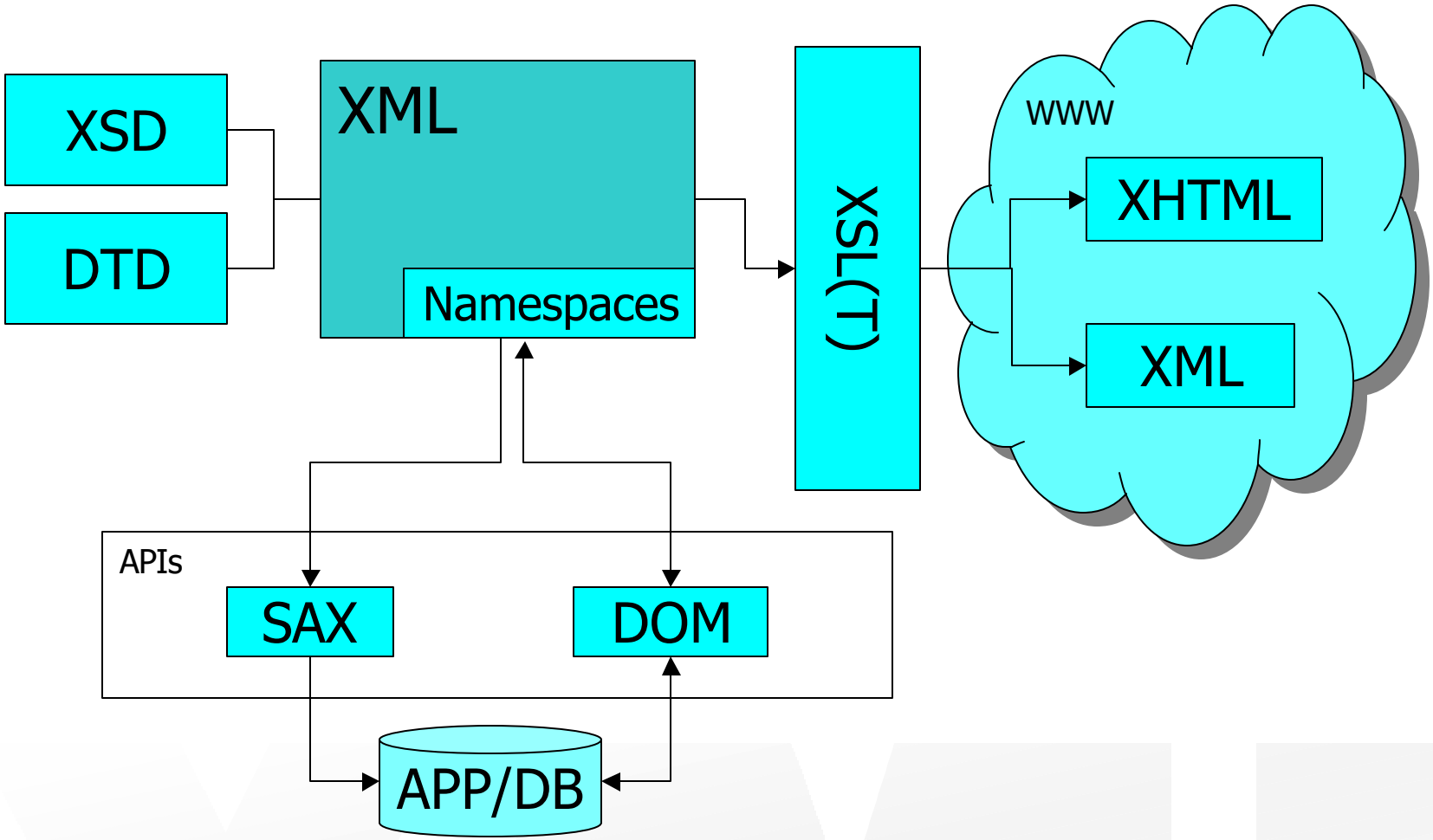
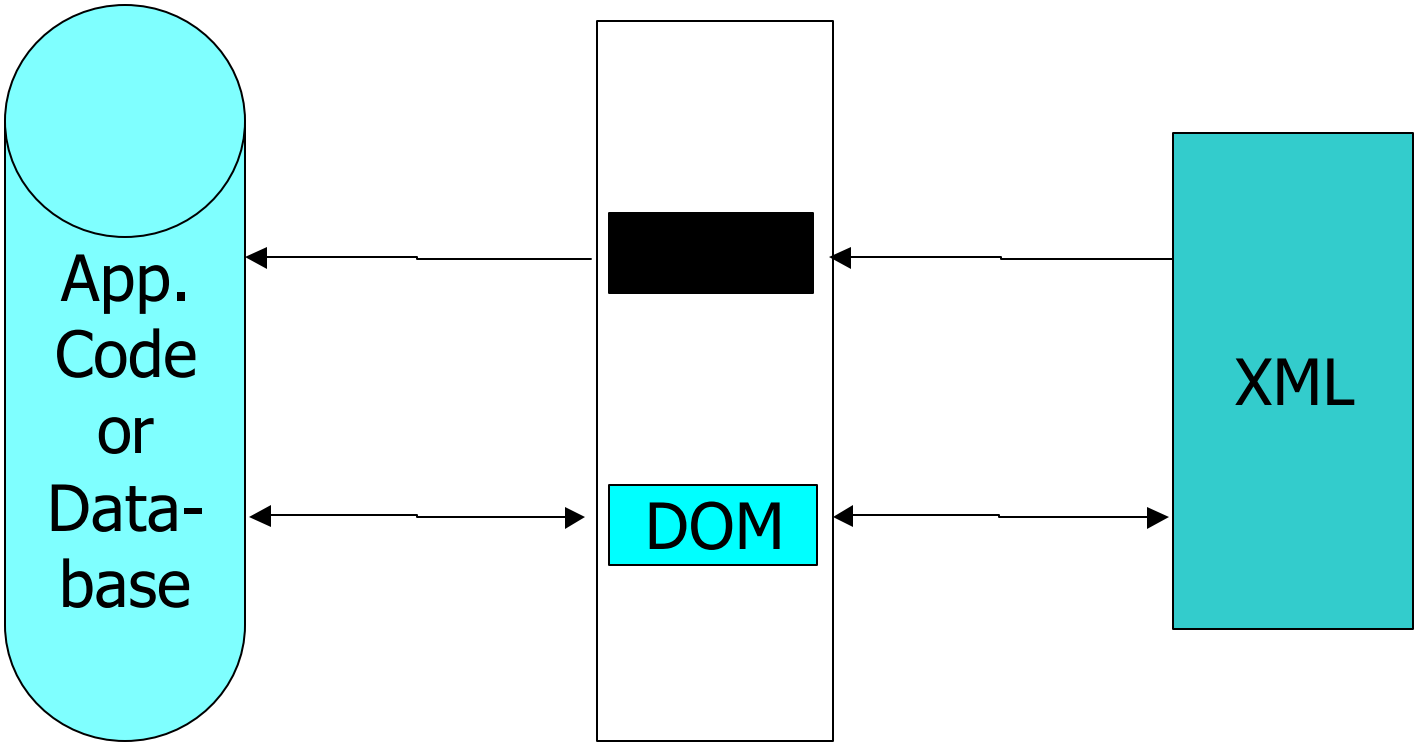
XML Application Program Interfaces



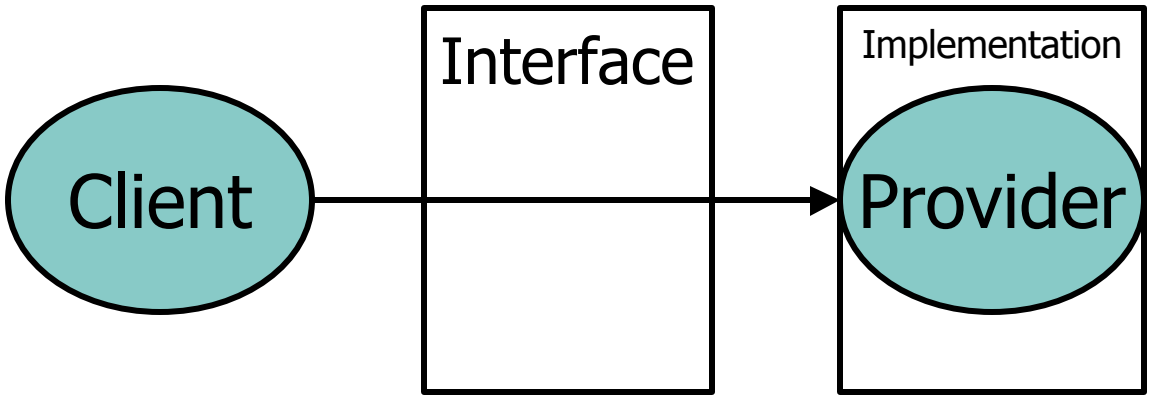
XML Application Program Interfaces



SAX DOM ⟷ Legacy Code

What is a interface?

- Interface specifies the what. Implementation provides the how.



- Different provider can implement the same interface.

What is a parser?

- A set of tools that **provide an interface to a XML document** by exposing its structure.
- A parser lets you read, process and write to an XML document.
- It **implements the DOM or/and SAX** API or custom APIs
- Parsers can be validating or non-validating (i.e. MSXML (used in IE) is non-validating)

SAX and DOM - Overview

- SAX - Simple API
  - Event based (fires event at certain points)
  - **Read only**
  - 20 page specification
  - SAX parsing faster than DOM parsing
- DOM - Document Object Model
  - Tree based (exposes the whole XML tree at once)
  - **Read and write**
  - 500 page specification

SAX - Features

- Streaming parser
  - Event based parser
  - Simple to use
  - Efficient - Does not create a node tree
  - Read only
  - History is not available from parser: One-pass parser

SAX - Event generation example

XML Document:	Fired events:
…	`startDocument()`
`<x>`	`startElement("x")`
`<y>`	`startElement("y")`
`Hello`	`Characters("Hello")`
`</y>`	`endElement("y")`
`</x>`	`endElement("x")`
…	`endDocument()`

SAX - ContentHandler Interface

- public void **startdocument**()
- public void **endDocument**()
- public void **setDocumentLocator**(Locator locator)
- public void **startElement**(String namespaceURI, String localName, String qualifiedName, Attributes atts)
- public void **endElement**(String namespaceURI, String localName, String qName)

SLIDES MISSING HERE !

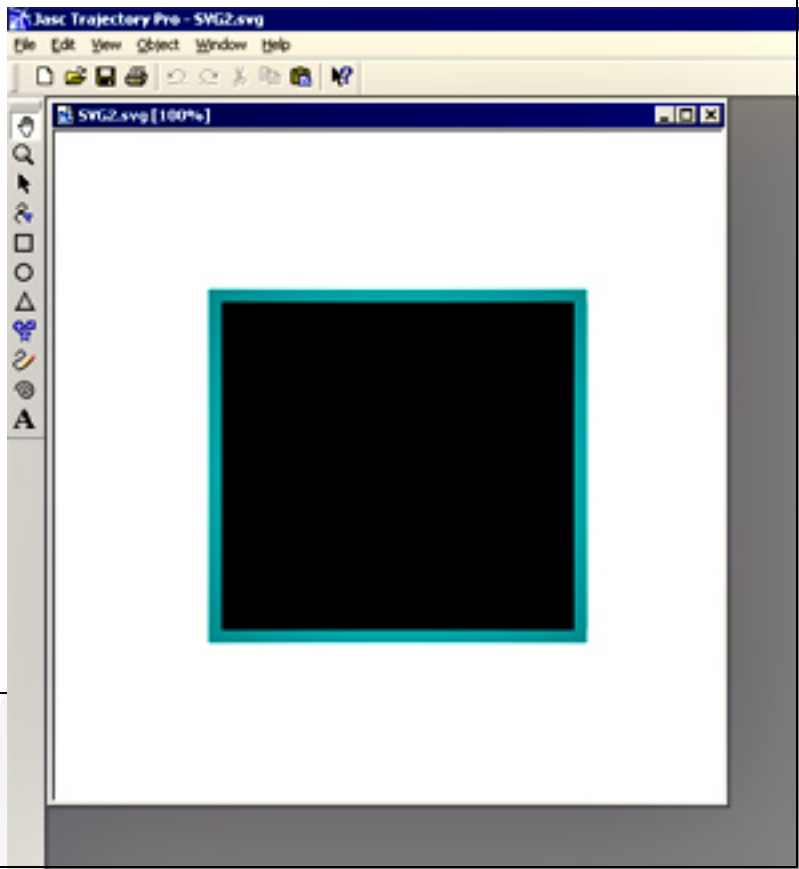
SVG - Scalable Vector Graphics

- What is SVG?
  - Open XML-based standard for web vector graphics
- Why SVG?
  - Open standard
  - Web-enabled
  - You can modify SVG with a text editor

SVG - How does it look?

- <?xml version="1.0" standalone="no"?>

```
<svg width="500" height="500">
<rect
    style="stroke:#009999;
    stroke-width:10;
    stroke-opacity:1;
    fill:#000000;
    fill-opacity:1"
    x="120" y="123"
    width="274" height="255"/>
</svg>
```



SVG - Key benefits

- Fast downloads (vector based)
- Scalability (quality display and printing)
- Dynamic control (change parameters on the fly)
- Open standard
- SVG is XML! Can be processed by XML tools!
- Works with existing technologies, such as JavaScript
- Can be embedded in HTML

SVG - Drawing elements

- Shapes
  - Circles, rectangles, polygons, arcs, text, …
- Features
  - Fills, strokes, styles, gradients, tramsformation (via matrices), user defined filters, animated

SVG - Tools & Tutorials

- Adobe SVG Viewer and Illustrator 8 and 9
- Corel Draw
- JASC Trajectory Pro
- http://www.adobe.com/svg/tutorial/intro.html
- Check http://www.w3.org/Graphics/SVG/Overview.htm8 for a list of new programs and tools

SVG - Some examples

- You need a SVG Plug-in to view these examples:
- http://www.adobe.com/svg/demos/clock.html
- http://www.adobe.com/svg/demos/bumpy.html
- http://www.adobe.com/svg/demos/animfilter2.html

That’s all folks!

Questions / Comments to:

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