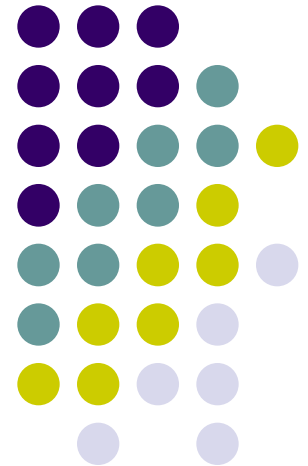


Advanced Aspects and New Trends in XML (and Related) Technologies

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Labs 3. Native XML Databases – Oracle BDB XML





Usage

- Download:
 - <http://www.oracle.com/technetwork/products/berkeleydb/downloads/index.html>
 - Sets path and classpath
- Directory: `bin\`
- Command shell:
`dbxml`

`help`

`help createContainer`

Oracle BDB XML

Console Commands



```
help
help createContainer

createContainer parts.dbxml
setAutoIndexing off

putDocument "" '
for $i in (0 to 9999)
return
  <part number="{ $i}">
    <description>Description of { $i}</description>
    <category>{ $i mod 10}</category>
    {
      if (( $i mod 10) = 0)
      then <parent-part>{ $i mod 3}</parent-part>
      else ""
    }
  </part>' q
```

Oracle BDB XML

Indexing



```
query 'collection("parts.dbxml")/part[parent-part]`  
print  
  
time query 'collection("parts.dbxml")/part[parent-part]`  
addIndex "" parent-part node-element-presence-none  
time query 'collection("parts.dbxml")/part[parent-part]`  
  
time query 'collection("parts.dbxml")/part[parent-part = 1]`  
addIndex "" parent-part node-element-equality-double  
time query 'collection("parts.dbxml")/part[parent-part = 1]`  
  
time query 'collection("parts.dbxml")/part[@number > 100 and  
@number < 105]`  
addIndex "" number node-attribute-equality-double  
time query 'collection("parts.dbxml")/part[@number > 100 and  
@number < 105]`
```

Oracle BDB XML

C++/Java API



- `dbxml\examples\index.html`
 - HelloWorld + Query
- Java:
 - http://docs.oracle.com/cd/E17276_01/html/gsg_xml/java/index.html
- C++
 - http://docs.oracle.com/cd/E17276_01/html/gsg_xml/cxx/index.html



Task

- Store sample XML data from the previous tasks into Berkeley DB XML
- Create a sample application (Java/C++) which retrieves selected data using XQuery on the basis of user-specified parameters
- Experiment with Berkeley DB XML indexing to improve query evaluation