



MODE 4201-05

Lab 3

XML and Related Technologies

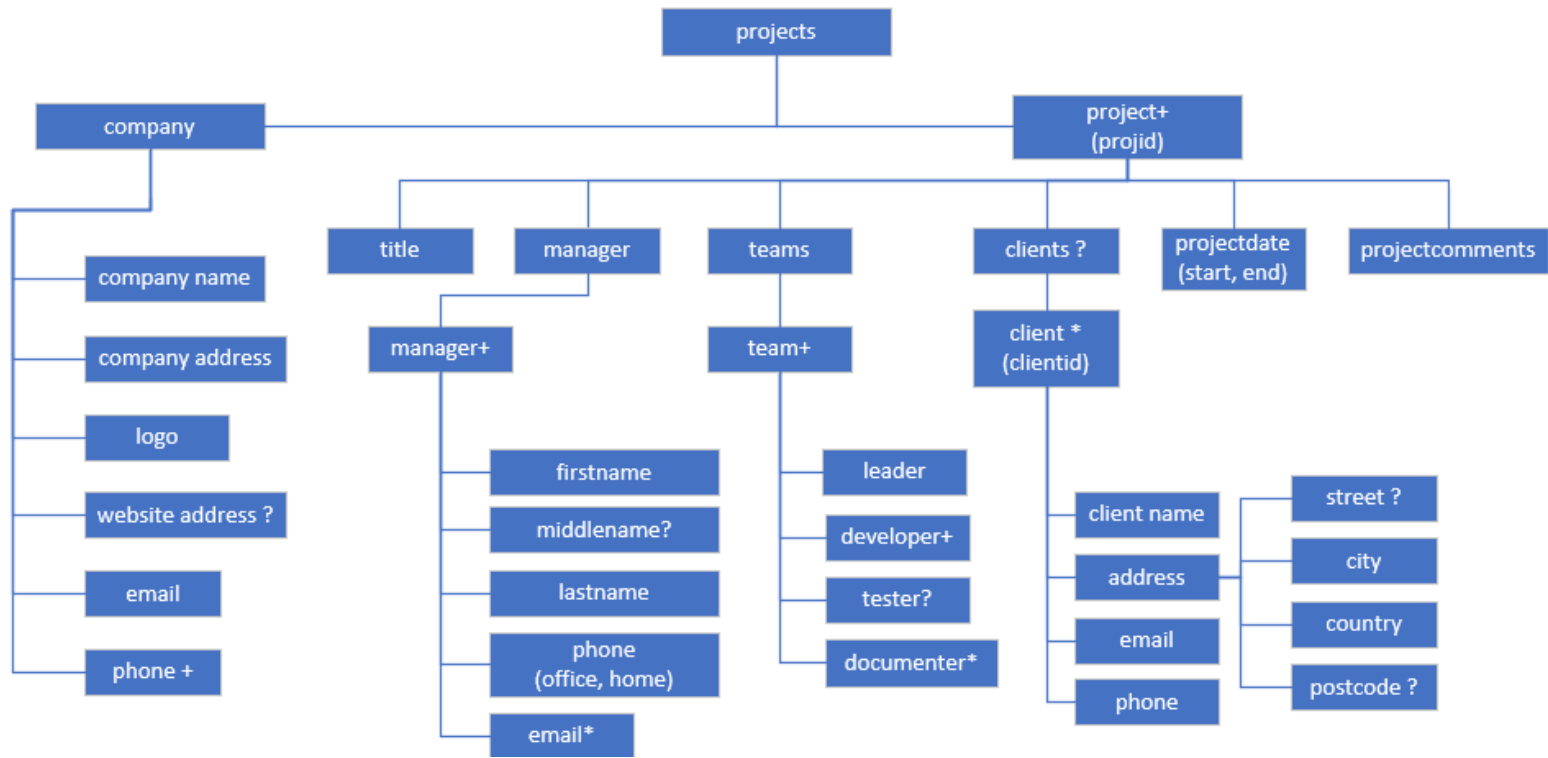
Parth Patel

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1: XML Tree Diagram:



2: projects.dtd:

```
<!ELEMENT projects (company, project+)>
<!ELEMENT company (companyname, companyaddress, logo, websiteaddress?, email,
phone+)>
<!ELEMENT companyname (#PCDATA)>
<!ELEMENT companyaddress (#PCDATA)>
<!ELEMENT logo (#PCDATA)>
<!ELEMENT websiteaddress (#PCDATA)>
<!ELEMENT email (#PCDATA)>
<!ELEMENT phone (#PCDATA)>
<!ATTLIST project projid ID #REQUIRED>
<!ELEMENT project (title, managers, teams, clients?, projectdate,
projectcomments)>
<!ELEMENT title (#PCDATA)>
<!ELEMENT managers (manager+)>
<!ELEMENT manager (firstname, middlename?, lastname, phone, email*)>
<!ELEMENT firstname (#PCDATA)>
<!ELEMENT middlename (#PCDATA)>
<!ELEMENT lastname (#PCDATA)>
<!ATTLIST phone
    office CDATA #IMPLIED
    home CDATA #IMPLIED>
<!ELEMENT teams (team+)>
<!ELEMENT team (leader, developer+, tester?, documenter*)>
<!ELEMENT leader (#PCDATA)>
<!ELEMENT developer (#PCDATA)>
<!ELEMENT tester (#PCDATA)>
<!ELEMENT documenter (#PCDATA)>
<!ELEMENT clients (client*)>
<!ATTLIST client clientid ID #REQUIRED>
<!ELEMENT client (clientname, address, email, phone)>
<!ELEMENT clientname (#PCDATA)>
<!ELEMENT address (street?, city, country, postcode?)>
<!ELEMENT street (#PCDATA)>
<!ELEMENT city (#PCDATA)>
<!ELEMENT country (#PCDATA)>
<!ELEMENT postcode (#PCDATA)>
<!ELEMENT projectdate EMPTY>
<!ATTLIST projectdate
    start CDATA #IMPLIED
    end CDATA #IMPLIED>
<!ELEMENT projectcomments (#PCDATA)>
```

3: projects.xml:

```
<?xml version="1.0"?>
<!DOCTYPE projects SYSTEM "projects.dtd">
<projects>
  <company>
    <companyname>The-PYPatel Inc.</companyname>
    <companyaddress>223-122 Colborne St E, Oshawa, ON,
Canada</companyaddress>
    <logo src="logo.jpg"/>
    <websiteaddress>https://pypatel593m.github.io/</websiteaddress>
    <email>pypatel593m@gmail.com</email>
    <phone>365-688-XXXX</phone>
    <phone>905-447-XXXX</phone>
  </company>
  <project projid="P01">
    <title>Tarneeb</title>
    <managers>
      <manager>
        <firstname>Ethan</firstname>
        <lastname>Bentolila</lastname>
        <managerphone office="180-056-7890"
home="XXX-XXX-4567"/>
        <manageremail>ethan.bentolila@example.com</manageremail>
      </manager>
    </managers>
    <teams>
      <team>
        <leader>Marshall</leader>
        <developer>David</developer>
        <developer>Sid</developer>
        <tester>Taylor</tester>
        <documenter>Alex</documenter>
      </team>
    </teams>
    <clients>
      <client clientid="CL1">
        <clientname>Alladin Adas</clientname>
        <address>
          <street>2000 Simcoe St N</street>
          <city>Oshawa</city>
          <country>Canada</country>
          <postcode>L1G0C5</postcode>
        </address>
        <clientemail>Alladin.adas@dcmail.ca</clientemail>
        <clientphone>123-456-7890</clientphone>
      </client>
    </clients>
  </project>
</projects>
```

```

</clients>
<projectdate start="Jan 7 2022"
             end="April 24 2022"/>
<projectcomments>

```

This was the best project of the company The-PYPatel, it required lot of people to work as a team and proper developement approche was used for this system.

```

</projectcomments>
</project>
<project projid="P02">
  <title>ICC Database Design</title>
  <managers>
    <manager>
      <firstname>Parth</firstname>
      <lastname>Patel</lastname>
      <managerphone office="365-688-XXXX"
                    home="365-000-XXXX"/>
      <manageremail>pypatel1593m@gmail.com</manageremail>
    </manager>
  </managers>
  <teams>
    <team>
      <leader>Shweta</leader>
      <developer>Devanshi</developer>
      <developer>Shweta</developer>
      <developer>Parth</developer>
      <developer>Dhruv</developer>
      <tester>Parth</tester>
      <documenter>Dhruv</documenter>
    </team>
  </teams>
</clients>
  <client clientid="CL2">
    <clientname>Mina Labib</clientname>
    <address>
      <street>2000 Simcoe St N</street>
      <city>Oshawa</city>
      <country>Canada</country>
      <postcode>L1G0C5</postcode>
    </address>
    <clientemail>Mina.labib@dcmail.ca</clientemail>
    <clientphone>109-876-5432</clientphone>
  </client>
  <client clientid="CL3">
    <clientname>Fiona</clientname>
    <address>
      <street>123 Simcoe St N</street>
      <city>Oshawa</city>

```

```

        <country>Canada</country>
        <postcode>A1B2C3</postcode>
    </address>
    <clientemail>fiona.icc@example.com</clientemail>
    <clientphone>555-666-8888</clientphone>
</client>
</clients>
<projectdate start="Sept 7 2022"
              end="Dec 24 2022"/>
<projectcomments>
    This is ongoing project of the company, whose client is a
    Immaculate Cleaning Concepts (ICC), which is a company which provides the
    cleaning services.
    And Our company is supposed to create database and application
    which best suits to the client.
</projectcomments>
</project>
</projects>

```

4: Validate the XML document against the DTD:

