

# LAB 5 – Component and Deploy Models

The XYZ university has 300 peoples including many departments such as Electronic, Computer Science, Data Science, Business, Accounting departments, etc...

There are a lot of servers in this university as follows:

- Two web servers are used for university web site running load balancing. Web sites are built by Java technology including JSP, Spring, Java Bean. They connect to Oracle database by 1521 port and run-on APACHE software. This web uses to marketing, teacher, and employee recruitment. Web site run on HTTPS protocol with 443 port. Web site is written with 3-layer model, where the lowest layer using Java Bean, the middle layer using Spring and the other using JSF
- Two mail server providing email for all people in this university running Load balancing. Mail server uses Microsoft Exchange. All people have one local email. All mail servers provide services such as POP3 port 25, IMAP with port 210 and SMTP with port 110.
- One Server for VOIP (telephone) for all departments using to call. It uses SIP protocol and runs on port 310.
- Two oracle database servers are used for university web sites and run on Stand-by mode.
- One web server for student web application. The student can use the web site to registration, tuition payment, view scores and view the results of learning. Student application built as MVC model with C# and connect to SQL database server. This application runs on IIS. Assuming that SQL connects to web site by port 1021, web site running on HTTP protocol with port 80.

## Requirements:

### Implementation Component & Deploy models