Lecture 6

- **Software as a Service (SaaS)**
- **Public Cloud**

What is SaaS

- **IaaS** is a software delivery method that provides access to software and its functions remotely as a Web-based service.

- **IaaS** allows organizations to access business functionality at a cost typically less than paying for licensed applications since SaaS pricing is based on a ***monthly fee***.

- Users don't need to invest as much in hardware, server support, security audits and need fewer in house IT staff.

categories

- SaaS is one of three main categories of cloud computing, alongside infrastructure as a service (**IaaS**) and platform as a service (**PaaS**). A range of IT professionals, business users and personal users use SaaS applications.

How does SaaS work?

- SaaS operates through the cloud delivery model. To host the application and related data, a software provider will either apply its own servers, databases, networking, and computing resources.

Or

- SaaS may be an independent software vendor (ISV) that contracts a cloud provider to host the application in the provider's data center. Any device with a network connection will have access to the application. Typically, web browsers are employed to access SaaS applications.

SaaS architecture

- SaaS applications and services typically use a multi-tenant approach, which means a single instance of the SaaS application will be running on the host servers, and that single instance will serve each subscribing customer or cloud tenant. The application will run on a single version and configuration across all customers, or tenants. Though different subscribing customers will run on the same cloud instance with a common infrastructure and platform, the data from different customers will still be segregated.

SaaS Maturity Levels
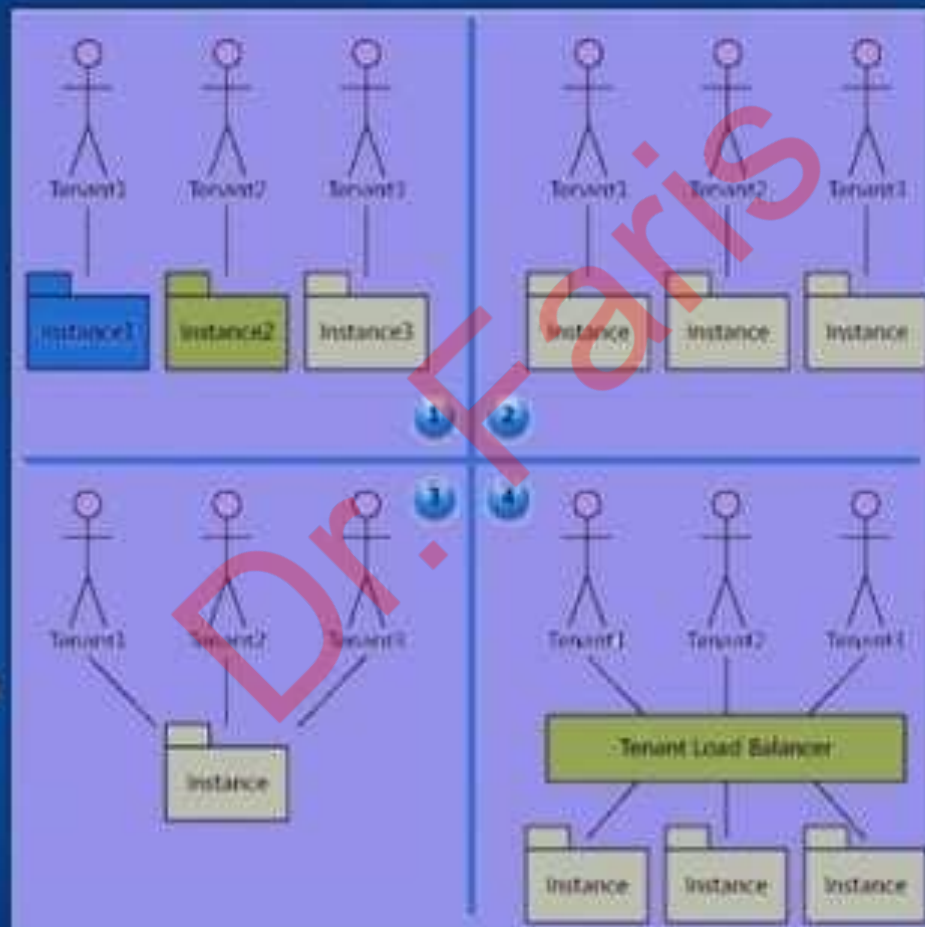
Flexible payments

- Rather than purchasing software to install, or additional hardware to support it, customers subscribe to a SaaS offering. Transitioning costs to a recurring operating expense allows many businesses to exercise better and more predictable budgeting. Users can also terminate SaaS offerings at any time to stop those recurring costs.

Scalable usage

- Cloud services like SaaS offer high Vertical scalability, which gives customers the option to access more or fewer services or features on demand.

Automatic updates

- Rather than purchasing new software, customers can rely on a SaaS provider to automatically perform updates and patch management. This further reduces the burden on in-house IT staff.

challenges and risks of SaaS

❑ SaaS also release some potential risks and challenges, as businesses must rely on outside vendors to provide the software, keep that software up and running, track and report accurate billing and facilitate a secure environment for the business's data.

Advantages for the End User

❑ Lower Costs. The user need not pay a single (usually large) licensing fee. He only needs to pay recurring subscription fees.

❑ Smaller Storage and Hardware Requirements. The user need not store software or data stored on his computer.

❑ Fewer Personnel. SaaS reduces the need for specially trained IT personnel to handle maintenance, monitoring and software updates.

Advantages for the Vendor

❑ Continuous and recurring stream of income.

❑ Reduced losses from piracy and unlicensed use of software.

❑ Greater valuation for the company.

SaaS Characteristics

❑ Network delivered access to commercially available software.

❑ Application delivery is one-to-many model.

❑ Built on optimized and robust platform

❑ Customer pays for as much as they need when they need it.

The types of SaaS

There are two types of SaaS:

1- the Ups of SaaS

- No need to buy the applications , deploy them and maintain them.
- No need to maintain the equipment and Infrastructure
- Lower costs

2- The Downs of SaaS

- Dependency of the SaaS providers
- Security problem
- Limited applications