This lecture is a work in progress - original lecture has already been tested successfully at Paris University, and current version has been tested at HDU in China.

How to Become a Cloud Provider in 24 hours and Start Doing Business (Extended Edition)			
Level:	Undergraduate / Graduate	**Duration:**	5 x 8 hours
Technical requirements:	Internet connexion with standard compliant webbrowser	**Contributors:**	Luke Nowak, Jean-Paul Smets, Rafael Monnerat, Vivien Alger, Cedric de Saint Martin
Description:			

- The first goal is to **teach that Cloud Computing is about Business rather than about Technology**. Due to the progress of Cloud Computing in our societies, many IT jobs will soon become irrelevant, following a process introduced by American Economist and EU Political Advisor Jeremy Rifkin. Yet, software developers can also create new jobs by understanding how Cloud Computing works and by adopting SlapOS Distributed Cloud Computing.
- The second goal is to **teach how Cloud Provisionning and Accounting can be implemented with a Standard Open Source ERP Model**, which in addition provides billing and backoffice at not extra cost, as well as CRM for user support, with the same level of workflow automation as in large companies.
- The third goal is to **teach how an easy API, based on single method modelled after standard business metaphors, can unify IaaS, PaaS and SaaS** . This lecture shows in particular how the unified request method of SlapOS provides an easy way to combine all the resources of the Cloud without having to learn hundreds of incompatible APIs. It uses the example of typical Linux Apache MySQL PHP stack (LAMP) and explains how to create a SlapOS Software Release, step by step, by only using a standard Web Browser.
- The fourth goal is to **teach how to start selling your software on the Cloud**, either by adding your software to the VIFIB Store or by creating your own SlapOS Master node. In addition, we explain during this lecture how to contribute to SlapOS Community Cloud by registering your servers to it.

SlapOS PaaS ⇒ Slaprunner usage

For users developing inside SlapOS PaaS: here is documentation on how to use your Slaprunner

Day 1: Installing and Using SlapOS

During this first day, students will learn:

How to configure a SlapOS Node:

- SlapOS Architecture (Presentation)
- Install SlapOS Node (Presentation)
- Run SlapOS Node on your computer (Presentation)
- Optional: How to install USB keys and bootstrap instantly SlapOS nodes (Presentation)
- Optional: How to install SlapOS Node on VMWare (Presentation)
- Optional: Allow use of virtual machines on SlapOS Node (Presentation)
- How to make some software available for your SlapOS Node using Wordpress as an example (Presentation)
- Optional: How to upgrade a SlapOS Node
- Appendix: slapos command line usage documentation
- Appendix: Installing SlapOS Node from sources (Presentation)
- Appendix: What is Buildout? (Presentation)

How to use SlapOS to request and use instances:

- Create new instance (=service) from web (Presentation)
- Optional: How to install SlapOS client software (Presentation)
- Optional: Create new instance from API (console) (Presentation)
- How to create a mariadb instance and connect to it (Presentation)
- Optional: How to create a kvm instance and connect to it (Presentation)
- Optional: How to setup windows guests in a KVM instance
- Optional: How to create a kumofs instance on SlapOS and connect to it (Presentation)
- Optional: How to create an ERP5 instance with SlapOS, configure it as an UNG server and connect to it (Presentation)
- Optional: How to create an ERP5 instance with SlapOS, configure it as a SlapOS Master and connect to it (Presentation)

Requirements:

- One PC per student
- Linux installed on every PC with root access
- Access to IPv4 Internet on port 80 and 443

Strongly Recommended:

- Access to a global /64 IPv6 subnet for every PC. If this is not possible, OpenVPN will be installed on every PC to provide an IPv6 subnet to every PC.

Day 2: Creating Recipes with SlapOS Cookbook

For those tutorials, you will need to request a slaprunner instance on slapos.org.

How to port an application to SlapOS using pre-existing stack like PHP:

- Theory: How to use the SlapOS Web Runner (Presentation)
- Theory: SlapOS Node explained (Presentation)
- How to Install phpMyAdmin (Presentation)
- Theory: SlapOS Request Method (Presentation)

How to port a new application to SlapOS from scratch:

Warning: Write in progress.

- Theory: Exploring SlapOS Internals (Presentation)
- How to Add New Component(s) to fit your needs(Presentation)
- How to use Network Cache feature
- How to write Software Instance profile
- How to add promises to a Software Release
- Theory: The "bang" method explained
- SlapOS Git Repository Layout

Day 3: Testing NoSQL Scalability with SlapOS

During this session, we will learn how to use SlapOS to run scalability tests. This will include:

- Scalability Minimal Theory (Presentation)
- Performance Testing with ERP5 (Presentation)
- Scalability Testing with ERP5 (Presentation)

Day 4: Research Topics

During the last day, various articles of research will be introduced:

- Bin packing algorithms
- Future developments of SlapOS as part of French and European research projects (cloud federation, resilience)
- Business sucess stories

The rest of the day will be used to discuss future collaborations.