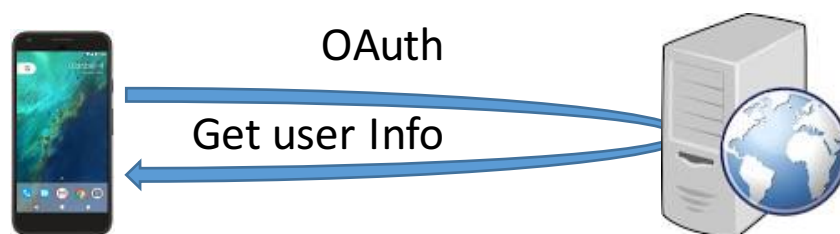


Delegation using OAuth

1 Goal

The goal of the Project is to build a solution where a mobile app accesses a web service in the name of the user.



2 Introduction

The web service and the mobile app purposes are not relevant for the present. Only the authenticated access is relevant. Nevertheless, the students will have to build both a web app and a mobile app. These apps may have a purpose defined by the students or they can be variants or the “Hello World” apps that every tutorial use for example.

The students will use two of the virtual machines of the labs. One to run an android emulator, and the other to run the webserver.

Below the student may find pointers on how to install both machines.

3 DNS

In order to have a local network know by there DNS names, the students should start by installing a DNS Server. DNS may be installed on any of the servers, but must be configured in the other, so that that becomes its primary domain server. Follow the instructions in the link to install a DNS server

<https://www.digitalocean.com/community/tutorials/how-to-configure-bind-as-a-private-network-dns-server-on-ubuntu-14-04>

4 Machine 1 – Android Emulator

To setup the Android Emulator machine the students will have to install the android development environment on one of the Linux machines. The Android development environment comes with a reasonable emulator, however students are free from installing and using any other emulator.

The student may find Android Studio here

<https://developer.android.com/studio/index.html>

To build your first App with Android Studio you may also follow the tutorial on the same site

<https://developer.android.com/training/basics/firstapp/index.html>

Next follow the instructions in

<https://developer.android.com/training/id-auth/authenticate.html>

to configure OAuth in your application.

To understand how OAuth works the students may read one of many internet sites about it, e.g.

<https://www.digitalocean.com/community/tutorials/an-introduction-to-oauth-2>

<https://oauth.net/2/>

5 Machine 2 – Web Server

There are several options to setup a webserver with OAuth, two of the easiest are:

- Apache WebServer + PHP + OAuth lib for PHP
- Nodejs + OAuth lib for javascript

5.1 Instructions for Apache+PHP+OAuth

The Apaches WebServer is already installed in every lab machine.

To install a PHP for Apache2 on Lubuntu follow the instructions in

<https://www.digitalocean.com/community/tutorials/how-to-install-linux-apache-mysql-php-lamp-stack-on-ubuntu-16-04#step-3-install-php>

Follow the instructions in

<https://oauth2.thephpleague.com/installation/>

to install oauth2 for PHP, and the instructions in

<https://www.sitepoint.com/creating-a-php-oauth-server/>

to create a OAuth WebServer

5.2 Instructions for Node.js

Follow the instruction in

<https://www.npmjs.com/package/node-oauth2-server>

to install a nodejs-oauth server

6 Optional features

Optional features that either explore OAuth authentication protocol, or implement complementary authentication protocols like, Ldap, OpenID, CAS, or SAML, will be reward.