

# INSTALLATION MANUAL

VERSION 2.6.5 | 01 AUGUST 2017



## DISCLAIMER

The instructions in this document have been carefully checked for accuracy and are presumed to be reliable. WIWO Enterprises Pvt. Ltd. and its writers assume no responsibility for inaccuracies and reserve the right to modify and revise this document without notice.

It is WIWO's goal to supply accurate and reliable documentation. If you discover a discrepancy in this document, please e-mail your comments to [support@open-school.org](mailto:support@open-school.org)

Unauthorised reproduction in whole or in part is an infringement of copyright. WIWO Enterprises Pvt. Ltd will actively pursue any breach of its copyright.

Published in India by:

WIWO Enterprises Pvt. Ltd  
B3, Pais Avenue,  
Elamkulam, Cochin - 20  
Kerala, India  
Telephone +91 (0484) 6009496

This publication is copyright. Other than for the purposes of and subject to the conditions prescribed under the Copyright Act 1968 (as amended), no part of it may in any form or by any means (electronic, mechanical, micro copying, photocopying, recording or otherwise) be reproduced, stored in a retrieval system or transmitted without prior written permission of the copyright owner. Enquiries should be addressed to WIWO Enterprises Pvt. Ltd.

# PREFACE

## **ABOUT THIS MANUAL**

This manual provides information about downloading and installing the Open-School application. It also throws light on what kind of server configurations you might need to successfully run the application. This document can be used to install any version of Open-School as the process is the same for all.

This manual consists of:

1. Server Requirements
2. Downloading the Open-School package
3. The Installation Process
4. Troubleshooting
5. Changelog
6. Frequently asked Questions
7. Glossary

## **INTENDED AUDIENCE**

This manual is intended for anyone with basic server knowledge, developers and IT professionals. We have tried our best to explain it in layman terms so anyone who doesn't fall in the above category can also install the application. In case you find it difficult to understand and don't have anyone to help you out with it please feel free to reach out to our Happiness Team at [support@open-school.org](mailto:support@open-school.org) or simply use the chat widget on our website [www.open-school.org](http://www.open-school.org).

## **NEW TO THIS RELEASE**

Open-School Version 2.6.5 comes out with a lot of enhancements in functionalities and design making user interaction and operation easier. Below are some of the new features available in this version. A detailed list can be found in the changelog section.

1. New reports in Fees Module
2. Translation Import/Export ability added
3. New look for Admin dashboard
4. Import Module workflow changes

# CONTENTS

## SERVER REQUIREMENTS

[Picking the right server](#)

[Prerequisites for Installation](#)

## DOWNLOADING THE OPEN-SCHOOL PACKAGE

[Downloading Open-School](#)

[License Keys\(s\)](#)

## THE INSTALLATION PROCESS

[Step 1 : System Checks](#)

[Step 2: Environment Settings](#)

[Step 3: Database Setup](#)

[Step 4: Register](#)

[Step 5: Final Step](#)

## TROUBLESHOOTING

[PHP Error : Access Denied \(Step 2\)](#)

[CDbException : Step 3](#)

[CDbCommand Failed to execute](#)

## CHANGELOG

[Version 2.6.5 \(Released on: Aug 1st, 2017\)](#)

[Version 2.6 \(Released on: May 17th, 2017\)](#)

[Version 2.5.5 \(Released on: Feb 3rd, 2017\)](#)

[Version 2.5 \(Released on: Mar 10th, 2016\)](#)

[Version 2.4 \(Released on: Oct 21st, 2015\)](#)

[Version 2.3 \(Released on: Feb 16th, 2015\)](#)

## FREQUENTLY ASKED QUESTIONS (FAQ)

## GLOSSARY

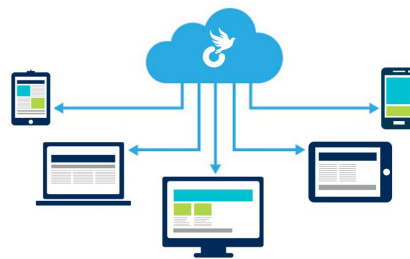
# SERVER REQUIREMENTS

## Picking the right server

This section will help you to understand the right server you will need to host the Open-School application and the required settings for a hassle free operation. Let's take a look at the different types of servers you can host the application on.

1. **Cloud**
2. **Local Server / Machine**

Installing on the cloud allows you to utilize the full capacity of Open-School. Portals can be accessed from anywhere around the globe via the internet. Students, parents, teachers and custom users can all access Open-School using the domain or subdomain you have installed it on.



The local area network or local machine installation on the other hand, restricts access of users. A student or teacher will have to be connected to the network every time they need to access the application which would be difficult as they have to be physically present in the vicinity. We do not recommend this kind of installation, especially for the Premium Version as it comes with all the portals.

To install on a local computer you will need a local server with Apache, PHP or MySQL package. Here's the list of servers you can download based on your operating system

1. WAMP (For Windows users) : <http://www.wampserver.com/en/>
2. MAMP (For Mac users) : <https://www.mamp.info/en/downloads/>
3. XAMPP (For all platforms) : <https://www.apachefriends.org/download.html>

If you have decided to go for an online hosting, the next step would be to choose your plan/server type. Now there are two types of hostings provided,

1. Dedicated Hosting
2. Shared Hosting

Open-School requires certain extensions and settings to run smoothly on a server be it online/local. For an online server, these settings could be a problem while going for a shared hosting as it is possible that some of them are disabled by the server provider. In most cases, they(extensions) cannot be enabled in shared hosting. It is not necessary that the required settings are always disabled in every shared hosting, you may check this with the server provider before purchase.

A dedicated server would be of more advantage in this case as you can enable, disable or modify extensions or settings according to your will.

We strongly recommend a dedicated LINUX server for installing Open-School. You can check out the server we use here: <http://mdtm.pl/2j8bbW2>

## **Prerequisites for Installation**

Here are a few points you need to know before installation. Open-School requires certain extensions and settings to be installed successfully and run hassle free. Since the application is developed in the Yii Framework with PHP, the following are required:

1. PHP v5.4x
2. Apache v2.3x
3. MySQL v5.3x (should be compatible with the PHP version)

Extensions and settings required:

1. Apache rewrite module should be enabled

2. PHP: pdo\_mysql extension should be enabled
3. PHP: curl extension should be enabled
4. PHP: max\_execution\_time should be set to at least 3000
5. PHP: post\_max\_size should be set to 8MB
6. PHP: upload\_max\_filesize should be set to 20MB

Points 3,4 and 5 are to ensure smooth running of the application and uploading of large files etc.

Access for the following folders should be changed to 655 (read-write,read-execute) before installation:

1. application-root-folder/assets
2. application-root-folder/protected/runtime
3. application-root-folder/protected/config

Access for the following folders should be changed to 655 (read-write,read-execute) after/before installation:

1. application-root-folder/uploadedfiles
2. application-root-folder/uploads
3. application-root-folder/protected/\_backup

# DOWNLOADING THE OPEN-SCHOOL PACKAGE

Once you have your server up and running with all required settings for Open-School you can go ahead with installation. So the next step would be to download the application file from your **Open-School account**. If you are interested in using the Community Version you can download it from here : <https://sourceforge.net/projects/php-open-school/> , this version does not require a license key to be installed.

After you have purchased an Open-School license you will be able to download the file and access the license key from your Open-School account.

## Downloading Open-School

1. Login to your Open-School account from <https://open-school.org/user/login>
2. Go to **Download Application** under License Center.
3. Click on the download link to start downloading the Open-School zip file. It is usually around 50-60 MB in size.

## License Keys(s)

1. Once logged in, go to **Manage Licenses** under the License Center. This contains all details of your license(s).
2. Status of each license key will be displayed here. You may also check installation details by clicking the details icon of the license key.

TYUU-OIUY-6546-MNBV-KKDD

2017-07-27 11:16:52

Not set

Not Used



Please note that a license key can only be used **ONCE**. After successful installation the status of your license will be changed to **USED** and cannot be used for another installation.



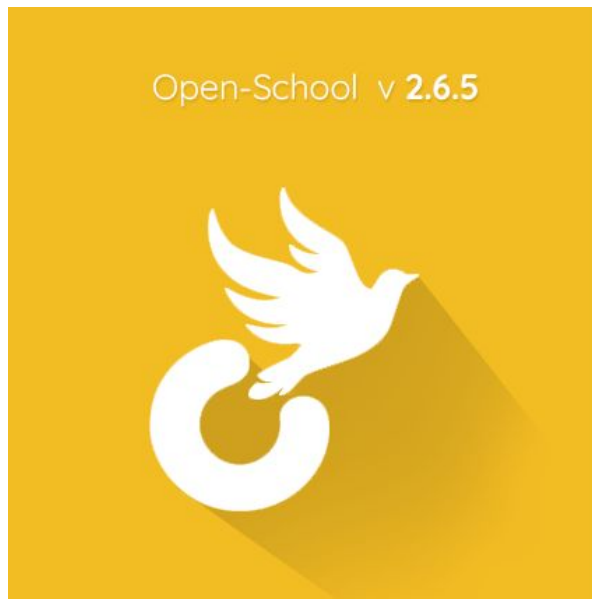
# THE INSTALLATION PROCESS

Once you have your server setup for hosting the Open-School application upload the files to the respective folder.

On an online server, extract the open-school zip file contents to the root folder usually *public\_html* if you are using a domain. If you want to host it under a subdomain put the files in the folder pertaining to it. To know how to create a subdomain on cPanel check out this link: <https://documentation.cpanel.net/display/ALD/Subdomains>

On a local machine running on WAMP, MAMP or XAMPP put the files in a new folder under *www* or *htdocs* folder depending on the server you installed. This folder can be found in the drive you installed the server on, usually C drive for Windows user.

After setting up the files on your server simply run the subdomain / domain on your browser to view the installation page. On a local server it can be accessed by entering *localhost/folder\_name* or *localhost:8888/folder\_name* depending on your server settings.



## Open-School Setup

Open-School Installation Serial No.

Registered E-mail Id:

START

*Tip : Go to Licence Center > Manage Licences to access your Licence Key*

If you have configured your server correctly and setup the files and domain / sub-domain you should be able to see the above screen. Enter the license key(available under licenses in your Open-School account) and the email used to register for it. The Community Version does not require a license key for installation. Click on start to move on to the next step. A valid license and email will allow you to move forward.

**Note:** If installing on a local server please make sure you are connected to the internet for the installation process.

## Step 1 : System Checks

The first step shows a list of system checks needed for Open-School and their status on your server. These settings are the ones mentioned in server requirements.



Build : 2.6.5

The screenshot displays the installation wizard interface. On the left, a vertical progress bar shows five steps: System Checks (1, highlighted in orange), Environment Settings (2), Database Setup (3), Register (4), and Final Step (5). The main content area is divided into two sections:

- System checks:** A box titled "Check if Open-School 2.6.5 is compatible with your environment" lists the following status: "Web server ... OK", "PHP 5 and required modules ... OK", and "Yii 1.1.8 or above ... OK". Below this, it states "The following folders must be writable:" and lists: "C:\wamp\www\osmaster26\assets - OK", "C:\wamp\www\osmaster26\uploadedfiles - OK", and "C:\wamp\www\osmaster26\protected\runtime - OK".
- License Agreement:** A box containing the text of the "SOFTWARE LICENSE AGREEMENT". It includes a note: "NOTE: By downloading the Software, Customer is indicating that Customer has read and agree to the following terms and conditions." and "ARTICLE I: DEFINITIONS; TERM". Under "Article I.1: Definitions", it states: "For purposes of this Software License Agreement ( Agreement ), the following terms shall have the following meanings: WIWO Enterprises Pvt. Ltd. The Licensee of the software". A green "Next" button with a right-pointing arrow is located at the bottom of this section. Below the button, it says: "By clicking Next, you agree to the terms stated in the Open-School License Agreement above."

## Step 2: Environment Settings

If all system checks have been passed you can move onto Step 2 which involves entering the details of the application database.



Build : 2.6.5

**Environment settings**  
*All fields are required and case sensitive.*

System Checks 1  
Environment Settings 2  
Database Setup 3  
Register 4  
Final Step 5

Base Url   
Base url to your Open-School site.

Database Host   
MySQL database server (usually localhost)

Port   
Port to connect to you MySQL server (usually 3306)

Database Name   
Open-School database name. Existing tables will be dropped!

User Name   
Database username

Password   
Database password.

**Next** ▶

The following details are needed to configure your application with a database.

1. Database Host
2. Database Name
3. Database Username
4. Database Password

Now when using an online server you can use your root username and password to automatically create a database.

Another way is to create the database manually. This can be done by MySQL database wizard depending on your server. Once you have created the database you can add a database user to it.

Create a database user with a password. Make sure you note all these details as it will be necessary in this step of installation. In some cases you might have to link the user to the database, while doing this make sure you have checked 'All Privileges' as the system will need all this to run properly.

In some cases, the host might need to be changed from 'localhost'. This is only needed if the server uses a remote database. You can get the host details from your server account manager or from the database login.

A successful database connection will let you move on to the next step. Refer the Troubleshooting section if you run into an issue here.

### Step 3: Database Setup

Hit Next in Step 3 to start the database creation and initialization process. Please be patient as this step might take a couple of minutes depending on your server performance as the tables required for the application are created here.



Build : 2.6.5

System Checks 1

Environment Settings 2

Database Setup 3

Register 4

Final Step 5

### Database setup

We have all the information we need. Before continuing, backup your database if needed, as existing data will be overwritten.

Install example data

Back Next

## Step 4: Register

We now come to the final stages which include registering your application and school details with us and generating the random password for the Administrator login.

Enter your school details here so we can assist you with future support. After registration you are taken to the finishing step of installation where a random password is generated for you to login.



Build : 2.6.5

System Checks **1**

Environment Settings **2**

Database Setup **3**

Register **4**

Final Step **5**

### Register with Open-School

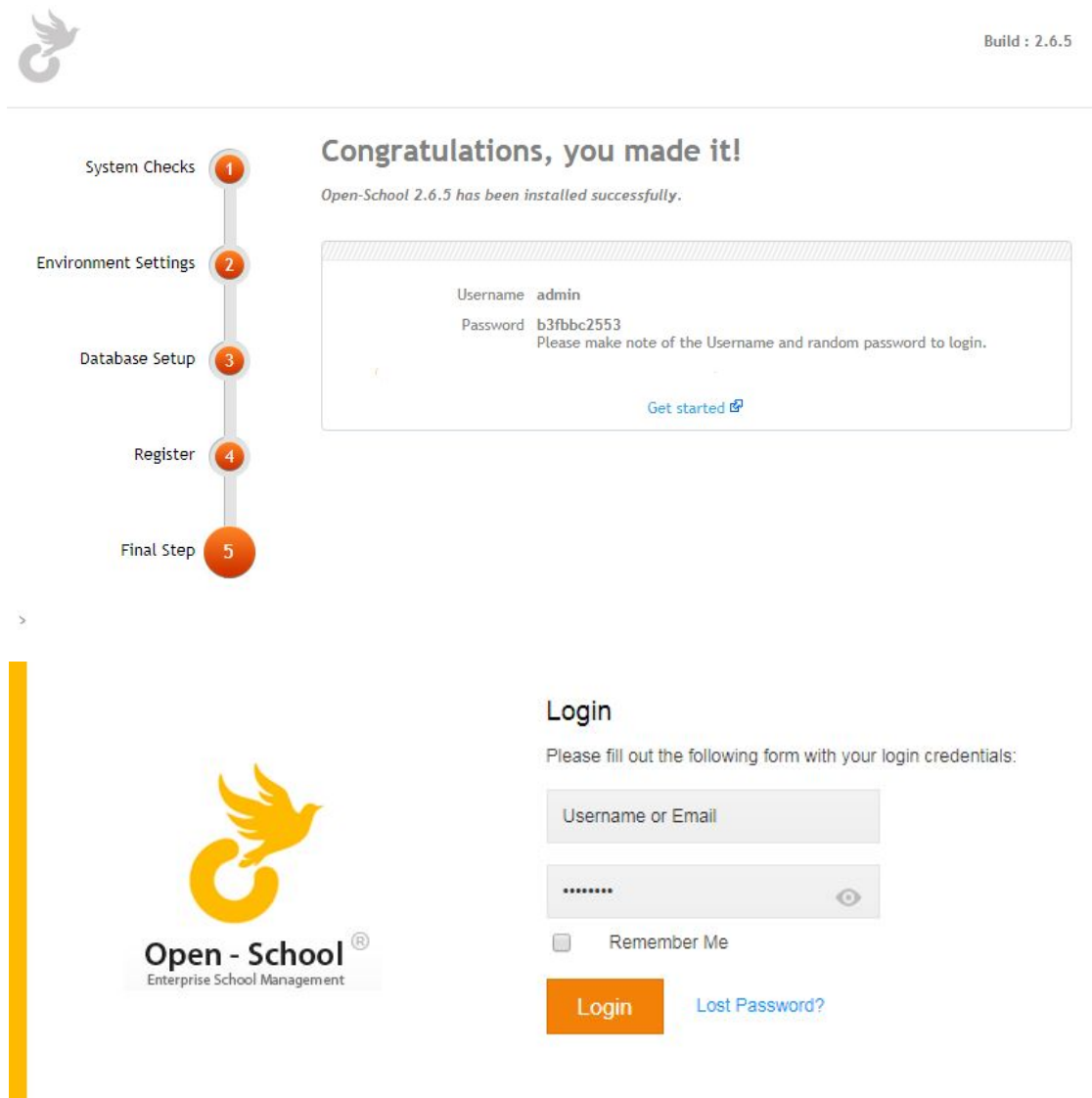
|                 |                      |
|-----------------|----------------------|
| School Name     | <input type="text"/> |
| Address         | <input type="text"/> |
| Country         | <input type="text"/> |
| State           | <input type="text"/> |
| Zip/Postal Code | <input type="text"/> |
| Url             | <input type="text"/> |

**Register** ▶

>

## Step 5: Final Step

It is critical you make a note of the random password before moving forward. Click the '**Get Started**' link to move on to the login page. Enter the username, '**admin**' and your **password** in the login page to access Open-School for the first time.



The image shows two screenshots from the Open-School 2.6.5 installation process. The top screenshot is the 'Congratulations, you made it!' page, which displays a progress bar with five steps: System Checks (1), Environment Settings (2), Database Setup (3), Register (4), and Final Step (5). The 'Final Step' is highlighted. Below the progress bar, the text reads 'Congratulations, you made it!' and 'Open-School 2.6.5 has been installed successfully.' A box contains the following information: Username: admin, Password: b3fbbc2553, and a note: 'Please make note of the Username and random password to login.' A 'Get started' link is also present. The bottom screenshot shows the 'Login' page, which includes the Open-School logo and the text 'Please fill out the following form with your login credentials:'. The form has fields for 'Username or Email' and a password field (masked with dots). There is a 'Remember Me' checkbox and a 'Login' button. A 'Lost Password?' link is also visible.

**Note:** In case you see the installation page again when accessing your application after installation please delete the file '**install.php**' from the folder which contains your application files.

# TROUBLESHOOTING

This section is based on issues our users have faced during installation. In case you do not find your issue here please write to us at [support@open-school.org](mailto:support@open-school.org).

## PHP Error : Access Denied (Step 2)

A PHP error for access denied as shown below means you have entered the wrong username and password for your database.

### PHP Error

```
mysql::mysqli(): (HY000/1045): Access denied for user 'root'@'localhost' (using password: YES)
```

C:\wamp\www\osmaster26\protected\modules\Install\controllers\DefaultController.php(176)

```
164     *
165     * @return void
166     */
167     public function actionStep2() {
168         Yii::app()->session->remove('env');
169         $model=new ConfigForm();
170         if(isset($_POST['ConfigForm']) == true) {
171             $model->attributes=$_POST['ConfigForm'];
172             $model->password=$_POST['ConfigForm']['password'];
173             if($model->validate() == true) {
174                 if($model->checkConnection() != true) {
175                     //Attempting To Create The Database
176                     $conn = new mysqli($model->host, $model->username, $model->password);
177                     $sql = "CREATE DATABASE $model->dbName";
178                     if ($conn->query($sql) == TRUE) {
179                         $flag_db_created = 1;
180                     } else {
181                         $flag_db_created = 0;
182                     }
183                 }
184                 if($model->checkConnection() == true) {
185                     //create environment file
186                     $configPath = Yii::getPathOfAlias('application.config');
187                     $envSampleFile = $configPath.DIRECTORY_SEPARATOR.'environment-sample.php';
188                     if (file_exists($envSampleFile) == false) {
```

For a local system server using WAMP, MAMP or XAMPP the username is usually root unless you change it in configurations and password is usually blank or in some cases root itself. Try using these combinations if you are using a local server.

If you are using an online server it's best you create the database and user manually before installation as mentioned in the Installation Process section. You can enter the database details and username / password that you used to create it. Or another option is to use the root database username and password if you know it.

## CDbException : Step 3

If you got an error as shown below after hitting next in step 3, it means the database you selected is not empty. It is possible you can get this error when trying to re-install. In this case, simply empty the tables in the database by accessing phpMyAdmin from your cPanel or local server and try again. Make sure all tables are dropped before moving forward.

### CDbException

```
CDbCommand failed to execute the SQL statement: SQLSTATE[23000]: Integrity constraint violation: 1022 Can't write; duplicate key in table '#sql-5a0_14'. The SQL statement executed was:
--
-- Constraints for dumped tables
--
--
-- Constraints for table `authassignment`
--
ALTER TABLE `authassignment`
ADD CONSTRAINT `authassignment_ibfk_1` FOREIGN KEY (`itemname`) REFERENCES `authitem` (`name`) ON DELETE CASCADE ON UPDATE CASCADE
```

## CDbCommand Failed to execute

If you get an error as shown below it's probably because the MySQL strict mode is switched ON in your server. For an online server, please contact your server provider and have it turned to OFF. For a local server, change the **sql\_mode=NO\_ENGINE\_SUBSTITUTION,STRICT\_TRANS\_TABLES** line in your MySQL config file to **sql\_mode=""** usually found in **/bin/mysql/mysql5x/my-default.ini**. Make sure you restart the server once the changes are saved.

```
CDbCommand failed to execute  
the SQL statement:  
SQLSTATE[22007]: Invalid  
datetime format: 1292 Incorrect  
datetime value: '0000-00-00  
00:00:00' for column 'lastvisit_at' at  
row 1...
```



# **CHANGELOG**

Here is a list of features added / modified in each version release of Open-School since version 2.3.

## **Version 2.6.5** (Released on: Aug 1st, 2017)

1. Added Translation import ability
2. Revamped Dashboard in Admin portal
3. Import Module workflow improvements
4. Attendance Module improvements
  - a. Subject wise attendance: daily and weekly views
  - b. Day wise attendance new daily view in Admin and Teachers portal
  - c. Admin can now configure subject wise and day wise modes and can also switch between daily/weekly/monthly views
5. New reports in Fees Module
6. Assignments feature added in Downloads module with notification for students and parents
7. UX updates in complaints module
8. Examination Module - Subject switching and Exam Score entry made easier
9. Online Exam results view in Parent Portal
10. Minor bug fixes in HR Module
11. Added Roll number field for students

## **Version 2.6** (Released on: May 17th, 2017)

### **Purchase Module**

1. The Purchase Module makes purchasing, vendor management and receiving inventory fast and easy
2. Ability to store multiple vendors and their product lists which makes data entry more efficient
3. Teachers or students can make their material request in a single click.
4. Multiple approval level for issuing materials which prevents spam
5. Stock can be updated automatically when an item is added or issued
6. Generate purchase orders quickly
7. Track daily, weekly and monthly sales
8. Track the items that are returned

9. Generate material requests
10. Multi-level request approval process
11. Generate purchase orders
12. Store and Manage vendor list with unique product lists for each
13. Automatic Stock updating
14. Daily, weekly and monthly sale reports
15. Item returns tracking

### **HR Module**

1. Easily manage employee personal details and pay roll
2. Manage leave types and leave requests of employees
3. Easy to manage employee payroll register
4. Generate pay slip for employees
5. Track the monthly salary details
6. View the salary details of employees for every month
7. Manage employee payroll register
8. Generate pay slip for employees
9. Manage Tax, Retirement Fund and Insurance deductions for calculating CTC
10. Manage leave types and leave requests of employees
11. Track Monthly Salary Reports

### **Subject wise Attendance**

1. Easy to switch between daily attendance and subject wise attendance for teachers and students
2. Track the monthly , yearly and overall attendance for the students per subject
3. Student leave can be managed efficiently
4. Parents can easily notified about their child's absence
5. Switch between daily attendance and subject wise attendance for teachers and students
6. Track the monthly , yearly and overall attendance for the students per subject
7. Integrated with Student leave management
8. Integrated with Employee leave management
9. Automatic Notification for Parents

### **Online Examination**

1. Create online exams with different categories like multi choice, true/false , short answer etc
2. Students will be auto graded based on their performance
3. Ability to evaluate the exams for the teachers
4. Students can easily access the answer key and do self evaluation
5. Questions can be re arranged using simple drag and drop
6. Create online exams with different category of questions like multi choice, true/false, short answer etc.
7. Rearrange questions using simple drag and drop
8. Automatic Grading for MCQ and True/False
9. Evaluate and Grade exam results without having to download files
10. Gives option for Student to perform self-evaluation based on answer key

### **Semester Management - For colleges**

1. Enable / disable semesters for the courses
2. Multiple semesters can be added for the courses
3. Semester wise assessments for the students
4. Generate semester wise assessment report for the students
5. Parents and students can access the semester wise results
6. Enable / disable semesters for the courses
7. Multiple semesters can be added for each course individually
8. Create Semester wise assessments for the students
9. Generate semester wise assessment report for the students
10. Parents and students can get access to the semester wise results

### **Version 2.5.5** (Released on: Feb 3rd, 2017)

1. Workflow updates in Student Creation, Update and profile.
2. Live data in Transport Module - Android app for tracking students daily movements.
3. User-friendly labels.
4. Simplified workflows.
5. Major and minor bug fixes

## **Version 2.5** (Released on: Mar 10th, 2016)

1. Smart Android Application: Generate a custom app for your school for better engagement and ideas.
2. Dynamic Forms: Add Custom Fields to user profiles for your convenience.
3. Flexible Payment Options: Now set an easy and compatible payment option for the service.
4. Flawless Invoice System: Crystal invoice of debits, credits, tax and currency now on your finger tip.
5. Advanced CRM: Stay connected with parents using Android app, SMS or through Emails.

## **Version 2.4** (Released on: Oct 21st, 2015)

1. New fees module with one page fee-setup for the entire institution.
2. New material design with custom color-themes.
3. Full featured translate module, that can change 200 words in one click.
4. One-click Backup and restore feature.
5. New and improved collaborative Dashboard.
6. Advanced attendance module with employee leave Management.
7. Student/Teacher rewards and achievements module.
8. Off-Line mode: admin can make entire application off-line with one click.
9. User specific language setting: each user can select their own language from their portal.
10. Complaints and feedback management module.
11. Advanced Activity Log with user name and IP tracking.

**Version 2.3** (Released on: Feb 16th, 2015)

1. New User Interface
2. Mobile Responsive Portals
3. Student Registration & Approval
4. User Role Management
5. Academic Year modifications
6. Notify Module enhancements
7. Notification Settings and Email Html Templates
8. Employee Leave Management
9. Student Log enhancements
10. SMS Counter enhancements
11. Employee Leave Application
12. Improved Import module
13. Improved Export Module

## **FREQUENTLY ASKED QUESTIONS (FAQ)**

**Q: Do I need a license key to install the Community Edition?**

**A:** No, the Community Edition is a free version and does not require a license key for installation. You can either leave the license field as it is or leave it blank. Make sure you are connected to the internet for installation process.

**Q: I do not know how to setup a server or install this software? Will you team help me do it?**

**A:** Yes, definitely. Our team will help you install the application or even do it for you. But make sure you have an online server purchased beforehand if you're planning to install it on the cloud.

**Q: Can I use the license key for multiple installations?**

**A:** No, the license key provided to you can be used only once but has a lifelong validity. To install another application you will have to purchase a new license.

**Q: I need to move my installation to another server. How do I go about doing this?**

**A:** Our team will need access to both old and new server credentials and will help you in migrating the application.

**Q: I have already been using Open-School but would like to start fresh in the same installation without purchasing a new license, is this possible?**

**A:** Yes, our team will help you reset the application so you can start fresh without having to purchase a new license.

**Q: I'm using an older version of Open-School. Is it possible for me to upgrade to a new one? What is the procedure?**

**A:** Yes, you contact our Support Team at [support@open-school.org](mailto:support@open-school.org) for further details.

For any queries that you do not find answers to in this guide feel free to write to us at:

[support@open-school.org](mailto:support@open-school.org) (Support team)

[sales@open-school.org](mailto:sales@open-school.org) (Sales Team)

You can also reach us through chat using the widget on our website [www.open-school.org](http://www.open-school.org).

We're available 9:00 am - 6:00 pm IST; MON - FRI except for National holidays.

# **GLOSSARY**

**Dedicated Hosting:** Dedicated hosting is a hosting configuration in which a server is devoted to a single organisation or for a single purpose, such as a website. This is in contrast to shared hosting, in which a server acts as a host to multiple clients.

**Shared Hosting:** Shared hosting is Web hosting in which the service provider serves pages for multiple Web sites, each having its own Internet domain name, from a single Web server. ... Although shared hosting is a less expensive way for businesses to create a Web presence, it is usually not sufficient for Web sites with high traffic.

**WAMP:** WAMP is sometimes used as an abbreviated name for the software stack Windows, Apache, MySQL, PHP. It is derived from LAMP which stands for Linux, Apache, MySQL, and PHP. As the name implies, while LAMP is used on Linux servers, WAMP is used on Windows servers.

**MAMP:** MAMP stands for Macintosh, Apache, MySQL, and PHP. MAMP is an application you can install on your Mac which allows you to have access to a local PHP server and MySQL server. Essentially, MAMP gives you all of the tools you need to run WordPress on your machine, for development and testing purposes.

**XAMPP:** XAMPP is a free and open source cross-platform web server solution stack package developed by Apache Friends, consisting mainly of the Apache HTTP Server, MariaDB database, and interpreters for scripts written in the PHP and Perl programming languages.

**MCQ:** Multiple choice questions

**UX:** User experience design (UX, UXD, UED or XD) is the process of enhancing user satisfaction with a product by improving the usability, accessibility, and pleasure provided in the interaction with the product.