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Learning WordPress

Länsisalmi, Eppu
Vepsäläinen, Antti

2015 Laurea Kerava



Laurea University of Applied Sciences
Laurea Kerava

Learning WordPress

Länsisalmi, Eppu
Vepsäläinen, Antti
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Länsisalmi Eppu, Vepsäläinen Antti

Learning WordPress

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This Bachelor's thesis focuses on how to teach WordPress content management system to students. As a subject, e-learning is very current offering a completely new way of teaching. The goal of the thesis was to create an online course about content management system called WordPress. The intention was to obtain a rational solution to the problem which is the difficulty of learning. The solution was to develop an online course so the students could get comprehensive understanding of the use of WordPress.

In this thesis an action research method was used. The virtual course was designed according to Laurea's "Learning by Developing" -model. This thesis was combination of theory and practical work. The thesis includes a script which was used as the basis for the online course. The practical work was the online course which consists of video lectures, exercises and quizzes. Course lectures progress gradually to more complex topics.

The result of this thesis was an online course which consists of 15 sections containing over 50 videos, six exercises and ten quizzes covering WordPress website creation from the start to the published version. The course was developed for people interested in website development. The course videos were created short and concise, so that the student's concentration would not slip. The course was published in Udemy online learning platform and so the course can be accessed and accomplished in the internet. The name of the course was Learning WordPress.

Keywords: Content Management System, Course, E-Learning, Online, Video, WordPress

Länsisalmi Eppu, Vepsäläinen Antti

Learning WordPress

Vuosi 2015 Sivumäärä 72

Tämä opinnäytetyö kertoo, kuinka opettaa WordPress sisällönhallintajärjestelmää opiskelijoille. Verkko-opetus on aiheena ajankohtainen, koska se tarjoaa kokonaan uuden tavan opettaa. Opinnäytetyön tavoitteena oli luoda verkkokurssi, jossa opetetaan WordPress-sisällönhallintajärjestelmän käyttöä. Tarkoituksena oli saada järkevä ratkaisu ongelmaan, joka on oppimisen hankaluus. Ratkaisu oli verkkokurssi, jonka avulla opiskelija saa kattavan käsityksen WordPressin käytöstä.

Opinnäytetyössä tutkimusmetodina käytettiin toimintatutkimusta. Verkkokurssi suunniteltiin käyttäen Laurean “kehittämispohjaista oppimisen” -mallia. Opinnäytetyö on yhdistelmä teoriaa ja käytännön työtä. Opinnäytetyö sisältää käsikirjoituksen, jota on käytetty kurssin materiaalina. Käytännön työ on verkkokurssi, joka koostuu videoluennoista, harjoituksista ja kyselyistä. Kurssin luennot etenevät vähitellen vaikeimpiin osiin.

Opinnäytetyön lopputulos oli verkkokurssi, joka koostuu 15 osasta sisältäen yli 50 videota, kuudesta harjoitustehtävästä ja kymmenestä kyselystä opettaen WordPress-sivun luonnin alusta julkaistuun versioon. Kurssi todettiin soveltuvan verkkosivujen teosta kiinnostuneille. Kurssin videomateriaalit luotiin lyhyiksi videoiksi, jotta oppilaan keskittyminen ei heikenny. Kurssi julkaistiin Udemy-verkko-oppimisympäristössä, joten kurssin voi suorittaa kokonaan verkossa. Kurssin nimeksi tuli Learning WordPress.

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1 Introduction

The Internet is filled with impractical and outdated websites that are in need of some serious updating. So there is a real need for new website developers. At the moment the most popular platform for developing a website is the WordPress. This thesis is about creating a course that helps students to understand WordPress. During the course students will learn how to create a professional looking website using this magnificent content management system.

There are several ways to create a website and normally it includes lots of coding. Luckily there are ways to create a website visually without the need for coding. WordPress is a content management system which allows easy access for creating, viewing, editing, and deleting content on a website. It uses themes and plugins for advanced modification of the site and is quite easy to use.

The course developed in the present thesis the students will learn how to setup a local web development environment called XAMPP, how to install WordPress to that environment and how to move the site to the Internet. The course does not require students to run development locally if a student has an already existing web host where the website development can be hosted. The course also contains information about how to setup WordPress settings, how to create and manage content, how to install themes and plugins and how to setup navigation for the site.

The course consists of 15 sections containing over 50 videos. The course includes 6 exercises and 10 quizzes and after completing this course student will be able to create and manage a basic WordPress site containing all necessary components for a proper website.



Illustration 1: Course image

2 E-Learning

E-learning is learning by using electronic technologies to access educational material outside of the school curriculum. It is usually referred as a course or a program. E-learning can also be described as online learning or virtual learning. In some cases e-learning makes it even possible to graduate fully online. Courses can be delivered via the Internet or with an external media, meaning that the students can access the course material from a computer or with a mobile device. The teacher usually influences his or hers students through representation of course material. This material is usually in video/audio format but it might also contain text and pictures as well. The communication between teacher and student is usually done in the comments section. (elearningnc.gov 2015.)

E-teaching can replace normal classroom teaching if deemed necessary. The teacher can create an online session where students can join a chat room with video capabilities. To make the lecture more engaging the teacher can take advantage of screen capture, microphone and webcam. The students are able to communicate with teacher using live chat. Because of live transmission it is possible for students to influence the progression on the lecture. (elearningnc.gov 2015.)

The benefits of e-learning is that the students can do the course independently without distractions of a class. The students do not need to apply to school to gain access to the courses themselves and so the courses can be accomplished alongside while working full time. Anyone who wants to improve themselves can take online courses. E-learning courses vary from being free to chargeable. Some courses might contain quizzes to make the course more interactive. (elearningnc.gov 2015.)

2.1 History of E-Learning

In 1924 the first testing machine was invented which allowed students to test themselves. In 1954 a Harvard Professor BF Skinner invented a teaching machine. In 1960 after the Skinner's invention the first computer based training program was introduced. It was called PLATO-Programmed Logic for Automated Teaching Operations and it was used in schools throughout the area. (Gogos R. 2013.)

Open University began to use Internet-based teaching as a learning tool in the late 1980's and now offers entire degree courses online (Buchan K. 2014). E-learning term was used for the first time in a professional environment in 1999 at the CBT systems seminar. (leerbeleving.nl 2015).

2.2 Present State of E-Learning

In the late 20th century when computers and internet was introduced for the general population the e-learning tools grew and methods expanded. People had the opportunity to gain access to the online information. In the 2000's companies started to train their employees by using e-learning to improve their knowledge and to expand their skill sets. Today e-learning is widely popular with individuals but also in schools and enterprises. There are many e-learning platforms where volunteers and hired employees have published their courses to help people to extend their knowledge and to gain some profit. (talentlms.com 2015.)

In Finland e-learning is increased its popularity. Today there are lots of e-learning providers which offer courses for individuals, schools and for businesses. Some of the Finnish Universities and Universities of Applied Sciences use Moodle as an e-learning platform. It is open source community driven e-learning platform which was released in 2001. It is also used in high schools, primary schools and in other institutions. (moodle.org 2015.)

3 Research Plan

The research method for the thesis is action research. This enables linear process model where a single intervention is tested and measured. The process is modified according to the measurements. In this case the action research also includes the quantitative survey which is displayed after each section making it possible to measure how effectively students have learned that particular subject. At the end of the course there is an open query where students can give feedback, ideas and suggestions for the future of the course. (kamk.fi 2014.)

Purpose for the study is to produce a course that teaches how to use the WordPress content management system. The course includes video footage, tasks and quizzes to identify students' ability to learn during the course material. All questions can be found in a table located in the appendixes.

The purpose of the course is to get started with the system's basic features, plugins which bring additional features and benefits of premium add-ons. This means that in the course there is no coding and the content is produced by using ready-made functions. This makes course completion possible even for those who are not technically oriented.

Materials for the course will include XAMPP development environment, WordPress content management system and a very comprehensive repertoire of instructional videos. In addition the course material also includes quizzes to measure the effectiveness of the course.

3.1 Research Method

The research method is going to be action research which enables continuous development and thus helps to improve the product. The intention is to obtain a rational solution to the problem which is the difficulty of learning. While the topic is vast the thesis is focused on website development with a content management system. The goal is to teach WordPress content management system to a person who hasn't got previous experience on the subject. (kamk.fi 2014.)

Action research is best suited for the thesis project because the sole purpose is not only to produce written documentation but a practical course which teaches how to create a website using WordPress. In this case, learning WordPress is the activity which is made more efficient by the intervention of an online course. (kamk.fi 2014.)

Quantitative- and qualitative research are not alone suitable for the case because they do not contain intervention like action research does. However, the intention is to use quantitative- and qualitative research as part of action research enabling further development of the course. (koppa.jyu.fi 2014.)

3.2 Action Research

Action research is a research method that allows to change or develop something through influence. Aim is not to get general information but accurate information about the matter under examination. Research is a continuous process. At the beginning of the research the current situation is mapped and the operational model is molded. In addition to the attainment of new knowledge it is important that apply the necessary changes for improvements. The subject of action research can be almost any characteristic which is related to human life. (Kuula A. 2010.)

Action research proceeds cyclically and during each new round the aim is to improve results. Previous cycle is used as a base for the next cycle and the idea is to compare changes between the previous cycle and the new cycle. Action and research are done simultaneously during the research project. The research does not focus on how things are but more on how they should be. Research material can be collected from quizzes, interviews, from observations or by using the already existing research data. (amk.fi 2007.)

3.3 Content Selection

Course covers the basics of the WordPress and progressing gradually to more complex parts meaning that the student doesn't need to have any previous knowledge about WordPress before attending the course. The intention is that a beginner will be able to create professional looking websites after completing the course.

Course can be utilized in the future as a basis of an online course. The course can also be applied as a part of classroom lessons in which case the teacher can define the propagation pace and the content can be reviewed together.

3.4 Resources for Content

Materials for the lectures of the course have been collected from WordPress Codex which is online manual for WordPress. Some of the material was collected from other external sources which are provided in the course list. Some of the material was created by using experiences as a source for the material. Exercises and quizzes are created on the basis of lesson materials.

Course covers WordPress website creation from the start to published version so materials were chosen to cover the whole process. There is lots of material related to the topic in the internet. Course is produced by collecting the essential information into one place to make it more accessible.

3.5 Course Timeline and Credits

The course consists of 15 sections containing over 50 videos including 6 exercises and 10 quizzes. Course propagation speed depends on the student's skills and time spent. The course has over 1 hour of video footage. Videos are short and concise so watching them again should not be an issue if needed.

If the course is used in school curriculum the following schedule can be applied. Lesson length is calculated to be 4 hours once in a week which makes it possible for all the students to watch video materials, understand the information and to accomplish all necessary tasks in the sections. Because the course requires lots of time and effort students could receive 3 credits by passing the course.

Week 1:	Section 1: Getting Started With WordPress Section 2: Setting Up Local Environment
Week 2:	Section 3: Install WordPress Section 4: WordPress Dashboard Overview
Week 3:	Section 5: Settings Section 6: Media
Week 4:	Section 7: Pages Section 8: Navigation Menus
Week 5:	Section 9: Posts Section 10: Plugins
Week 6:	Section 11: Widgets Section 12: Themes
Week 7:	Section 13: Moving Local Site To Internet
Week 8:	Section 14: Premium Section 15: Conclusion

Table 1: Schedule for the course

4 Online Content Creation

Online course progress was scripted to avoid sharing of incorrect information and to create lectures which are presented in a logical order. Materials were created to cover WordPress website creation from start to published version. The lectures of the course were kept short making it easier for the students to keep up the concentration during the lectures and to make rewatching the videos less taxing.

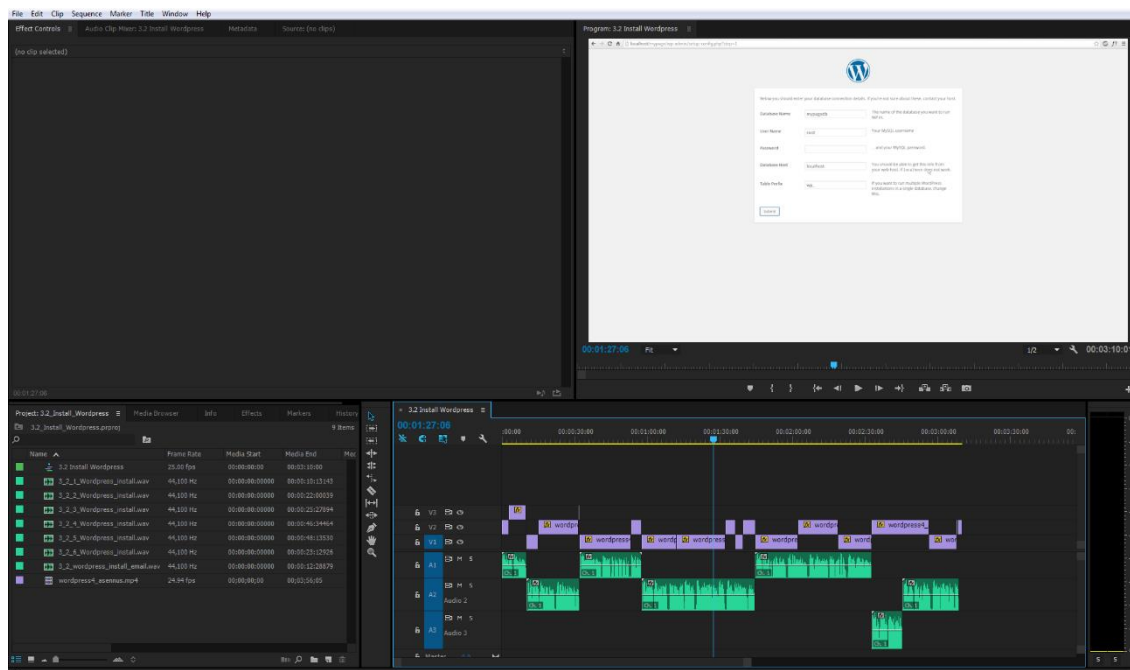


Illustration 2: Adobe Premiere Pro CC project file

At the beginning of the course student obtains general information about the WordPress and XAMPP. While the course progresses the student will learn more difficult aspects of WordPress. Students are tested with exercises and quizzes after each section of the course so the efficiency of the course can be measured.

4.1 Getting Started With WordPress

For today's company, it is of utmost importance to have a professional looking website and to have it "Search Engine Optimized" so that the customers can find the company with a search engine. Websites are also a great way to publish important information about the company.

The course teaches to create a website that is easy to maintain and update. Course contains information about WordPress and practical guidance to help students to understand the basic logic behind WordPress and an explanation for why to use premium plugins and themes.

4.1.1 What Is Content Management System?

There are hundreds of content management systems for many purposes. Main usage of an content management system is to manage information and to allow an easy access to view, save, edit and delete content. Focus of the course will be on a web content management system for developing professional websites.

Web content management system (WCM) is a web application that is used to manage the content of a website. Each Web content management system (WCM) provides a web publishing tool that allow users to publish content in the internet. The editing component is called the content management application (CMA) and the publishing tool is called the content delivery application (CDA). These are the two main components of WordPress. (Rouse M. 1.2011, Content management system.)

4.1.2 WordPress And It's Requirements

WordPress is a content management system (CMS) and it is an open source tool. It is based on PHP and MySQL. It was released on May 27 2003 by its founders Matt Mullenweg and Mike Little. WordPress is the most used self-hosted blogging tool, used by millions of pages in the internet. With WordPress it is possible to create all kinds of websites. Content creators are usually neither web designers nor programmers so with WordPress managing the site becomes fairly easy. (codex.wordpress.org 2014, History; wordpress.org 2014, About WordPress.)

To run WordPress on a server two applications are required PHP and MySQL. (wordpress.org 2014, Requirements.) Both of them are provided in a software called XAMPP that provides ability to host server locally. When the site is published files and the database are transferred to the hosting server. Additional changes will have to be made to the configuration file to allow global hosting. Version requirements can be viewed from WordPress codex (codex.wordpress.org 2014, Server Requirements). A computer and working internet connection are mandatory for the project.

4.2 Setting up Local Environment

There are several ways to set up a WordPress installation. For example it can be installed from web hosting providers' web-site if the host provides this option and the auto installer will make the installation process an easy task. There is also a site Wordpress.com where WordPress site can be hosted with limitations for free. Third option is to move WordPress folder to server via FTP or with a file browser if working locally.

Installing WordPress locally is a great way to start learning WordPress and there are several upsides for it. For example backing up site is an easy task and transferring files to the server can be done via FTP or by sending it as an email attachment to the server administrator. Developing locally is also a completely free way to start developing a website. Keeping that in mind it is smart to invest to a premium theme and plugins for reasons which are explained later on.

XAMPP is an open source PHP development environment. It is an Apache distribution which contains MySQL, PHP and Perl. It is available for Windows, Mac OS X and Linux. (apachefriends.org 2014, XAMPP Apache + MySQL + PHP + Perl.)

XAMPP is a development tool which allows website designers and programmers to test and develop on a local system without need for access to the internet. XAMPP also provides database with MySQL. (apachefriends.org 2014, XAMPP Apache + MySQL + PHP + Perl.)

4.2.1 What is XAMPP & Install XAMPP with Installer

XAMPP is an open source PHP development environment. It is an Apache distribution which contains MySQL, PHP and Perl. It is available for Windows, Mac OS X and Linux. (apachefriends.org 2014, XAMPP Apache + MySQL + PHP + Perl.)

XAMPP is a development tool which allows website designers and programmers to test and develop on a local system without need for access to the internet. XAMPP also provides database with MySQL. (apachefriends.org 2014, XAMPP Apache + MySQL + PHP + Perl.)

Once XAMPP installer has been downloaded the setup can be started. First there is an option to choose which server components are installed. Components for the server are Apache, MySQL, FileZilla FTP Server, Mercury Mail Server and Tomcat. There is also option for "Program Languages" including Perl and PHP. phpMyAdmin, Webalizer and Fake Sendmail are tools for managing database, analyzing the website and for testing websites email functionality. After correct components have been chosen the installation folder for XAMPP has to be set.

After installation is ready XAMPP Control Panel can be opened. (apachefriends.org 2014. Windows Frequently Asked Questions.)

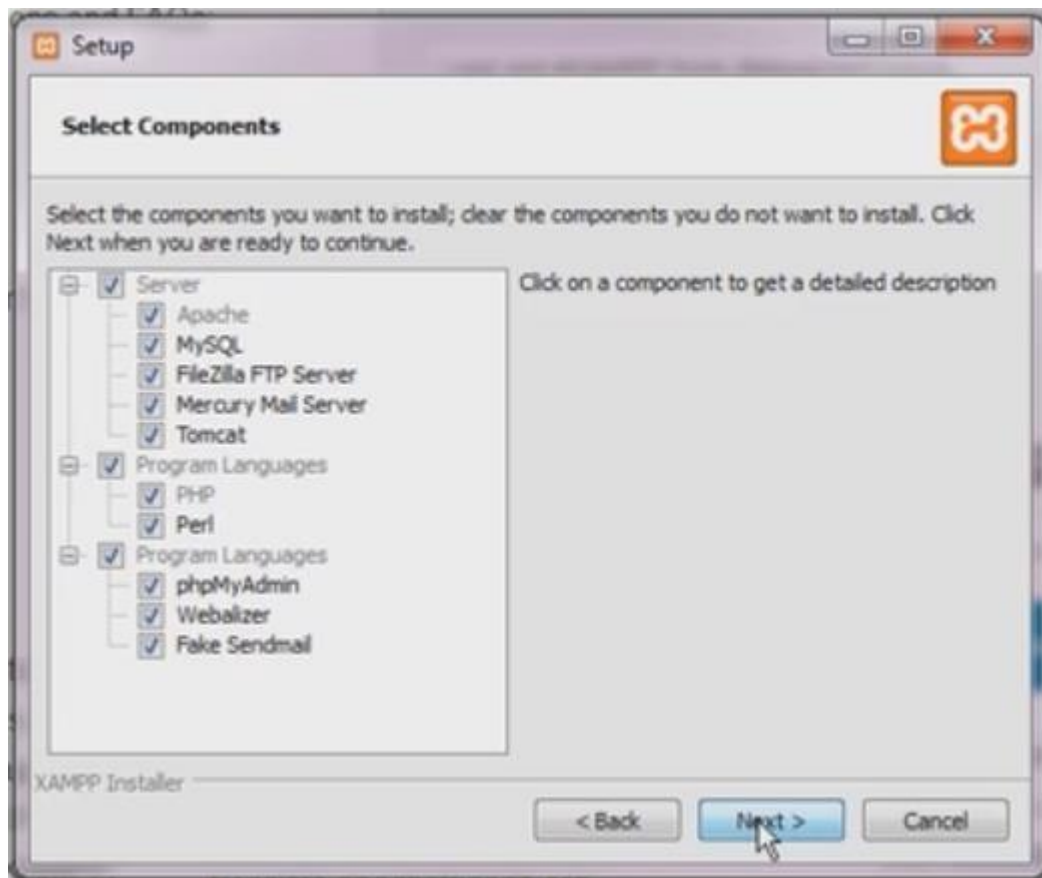


Illustration 3: Setting up XAMPP

XAMPP can be opened from the XAMPP-control executable file. To run local development server Apache and MySQL needs to be started from the control panel. Once needed modules are up and running the local server should be operational. Server is located on localhost and connecting to local server can be done with a web browser from the address bar by typing localhost and pressing enter. (apachefriends.org 2014. Windows Frequently Asked Questions.)

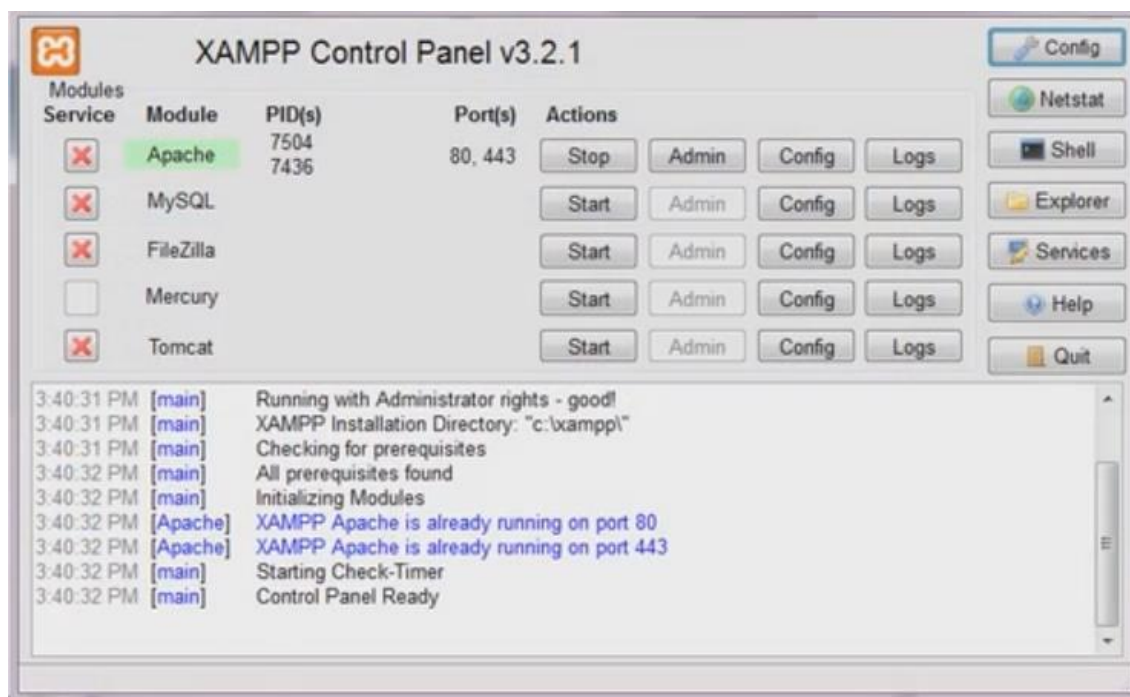
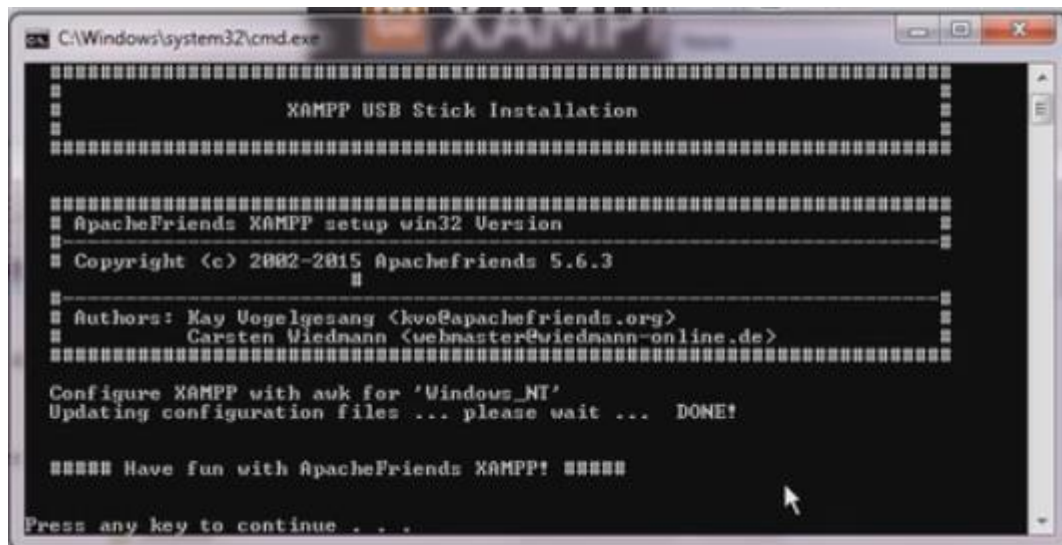


Illustration 4: XAMPP Control Panel

4.2.2 Installing XAMPP Portable

Windows can block users from installing new programs to a computer. Portable version allows to bypass Windows installation restrictions. Allowing to use XAMPP on computers which have user access limitations. In schools and in companies these limitations are common. XAMPP portable version can be executed from hard drive or from USB flash drive. (apachefriends.org 2014. Windows Frequently Asked Questions.)

Installing portable version is a bit different from the normal XAMPP installation. Portable version does not include any installer. To install portable version the .zip file needs to be extracted and the "setup_xampp.bat" file needs to be executed. "setup_xampp.bat" modifies windows registry to accommodate the program. (apachefriends.org 2014. Windows Frequently Asked Questions.)



```
C:\Windows\system32\cmd.exe
#####
#
#           XAMPP USB Stick Installation
#
#####
# ApacheFriends XAMPP setup win32 Version
#-----#
# Copyright (c) 2002-2015 ApacheFriends 5.6.3
#-----#
# Authors: Kay Vogelgesang <kvo@apachefriends.org>
#          Carsten Wiedmann <webmaster@wiedmann-online.de>
#-----#
# Configure XAMPP with awk for 'Windows_NT'
# Updating configuration files ... please wait ... DONE!
#
##### Have fun with ApacheFriends XAMPP! #####
Press any key to continue . . .
```

Illustration 5: Executing setup_xampp.bat

4.3 Install WordPress

First the WordPress has to be downloaded from wordpress.org. After the download has completed the zip file has to be extracted and the folder renamed to correspond to the sites name. Next the folder has to be copied or moved to the “XAMPP”'s subfolder named “htdocs”. (codex.wordpress.org 2014, Installing WordPress.)

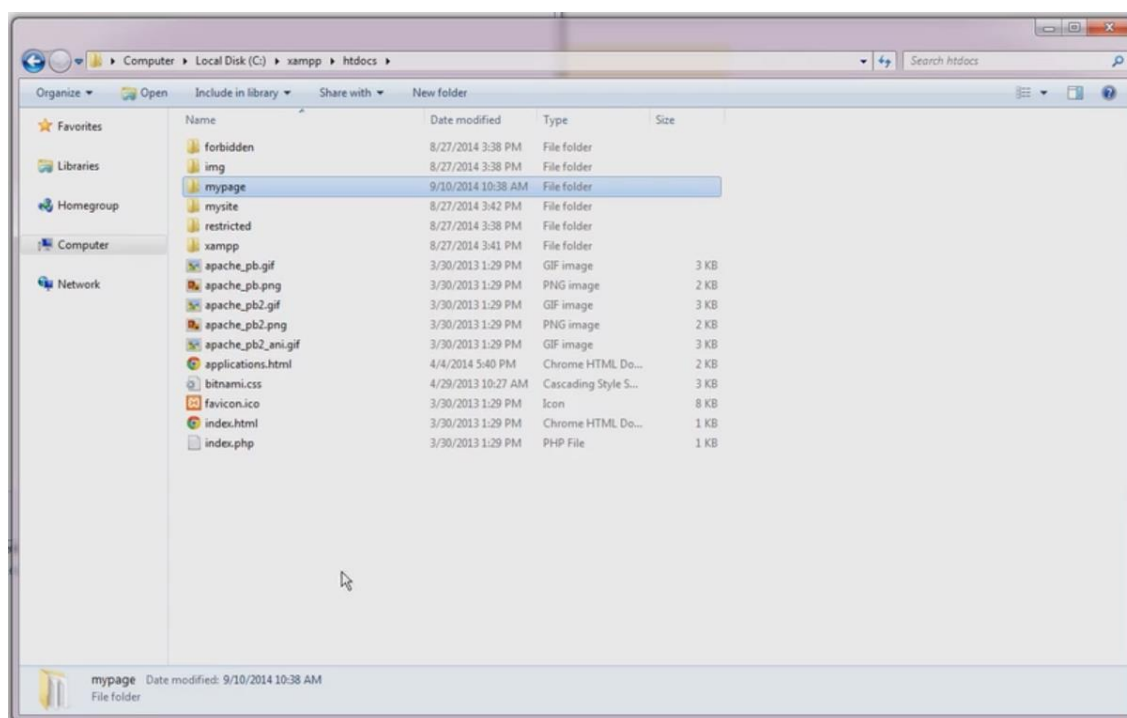


Illustration 6: Location of the WordPress folder in the XAMPP

After the folder has been moved to correct place the browser window should be opened and “localhost/” should be entered in the URL. If the website is not available Apache Server and MySQL should be started from XAMPP control panel. After the page has been reloaded the phpMyAdmin is available via “XAMPP” dashboard. (codex.wordpress.org 2014, Installing WordPress.)

4.3.1 Database

WordPress stores information on MySQL database. Database must be created with correct user permissions. Same database can be used with different table prefixes allowing multiple WordPress installs on single database. By default WordPress database table prefix is “wp_” but it can be changed to accommodate multiple installations. (codex.wordpress.org 2014, Installing Multiple Blogs.)

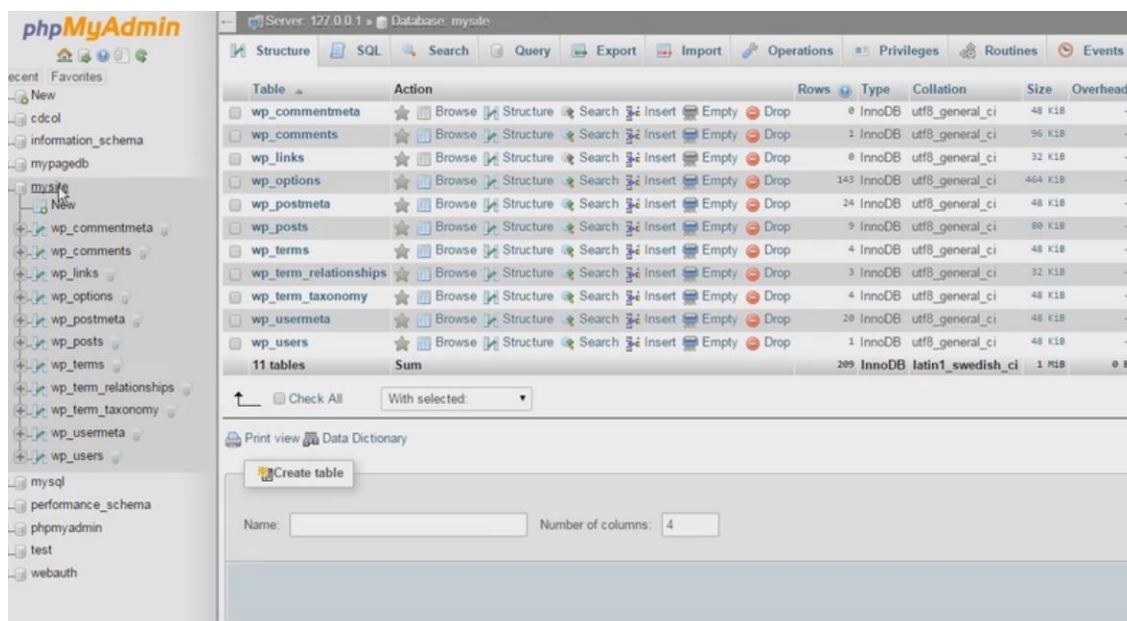


Illustration 7: WordPress database in phpMyAdmin

Log into phpMyAdmin via XAMPP dashboard with correct account permission to make a new database. On XAMPP the default account name is “root” without a password. The lack of password should not be an issue because database is on localhost and therefore cannot be accessed from outside the computer. Using strong password becomes vital when the site is transferred from local server to web server. A strong password makes it more difficult for hackers to access the database. Database should be well protected, because most of the sites information is stored in the database. For example the database contains user information, posts, tags, comments, links and so on. Some plugins also create tables to database for handling data. (wpbeginner.com 2014.)

Once logged in to phpMyAdmin the creation of the database is simple. Open the “Database” tab and enter database name on “Create new database” section. Using utf8_general_ci is recommended for multilingual support on MySQL connection collation. After values have been determined press “Create” and the database is created. Now WordPress can be connected to the database. (wpbeginner.com 2014.)

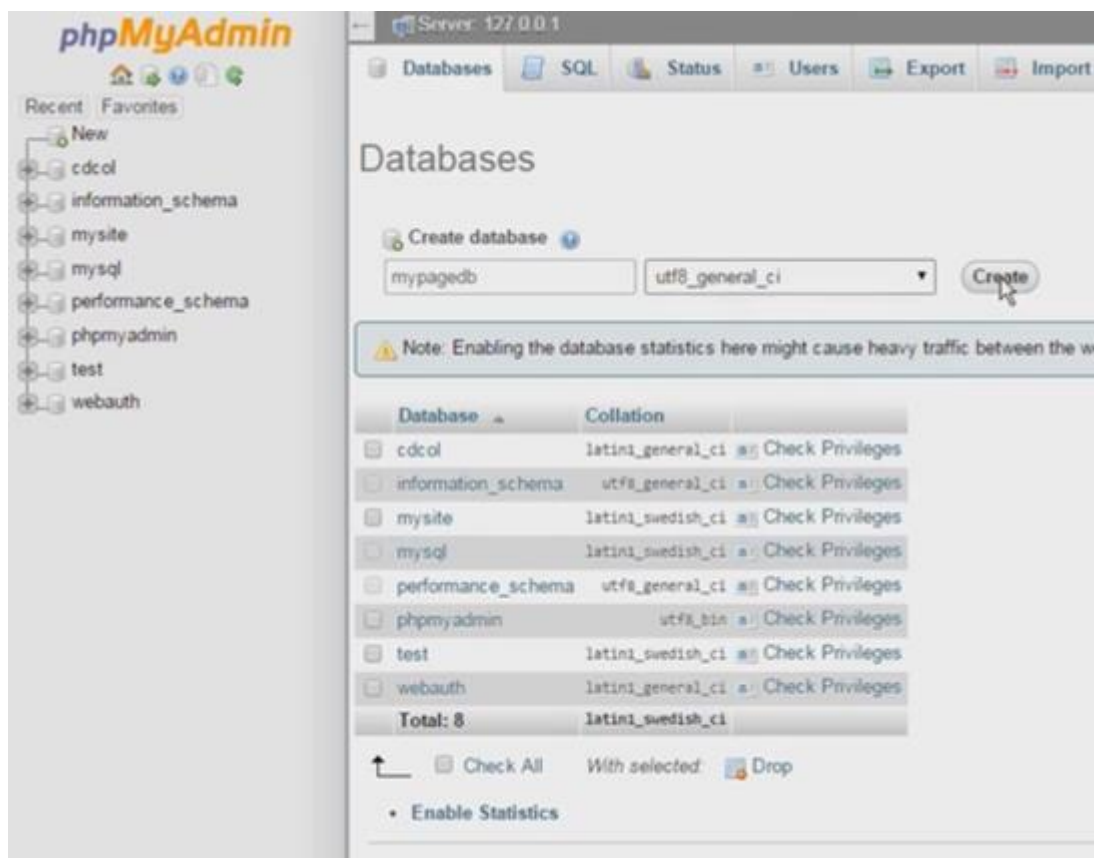


Illustration 8: phpMyAdmin Databases

4.3.2 WordPress Install

WordPress installation can be accessed via browsers address bar. The address is localhost slash folder name of the WordPress installations folder.

First in the installation the user is prompt a language selection section. The selected language will be used as default page language on the site and as admin panel language. It is also possible to create multilingual websites using plugins and with these plugins the admin panel language can be differentiated from default page language. (codex.wordpress.org 2014. WordPress in Your Language.)



Illustration 9: WordPress language selection

After the language selection the installation prompts an information box explaining the requirements and what the installation process actually does. The following information is needed during installation “Database name”, “MySQL username”, “Database password”, “Database host” and “Table prefix”. “Table prefix” are crucial for multi install on single database.

“Database name” should be the name that was given during database creation. “MySQL username” for phpMyAdmin is “root” and the password is left empty. Host should be “localhost” and the “Table Prefix” should be “wp_” unless it is not the first installation in that particular database. In this kind of situation it is crucial that all WordPress installations that have the same “Database Name” to have a differentiating “Table Prefix” so the databases can be accessed separately. After proceeding from the database selection screen WordPress

prompts a screen informing that the WordPress is now able to communicate with the database and the program is ready to process the installation.

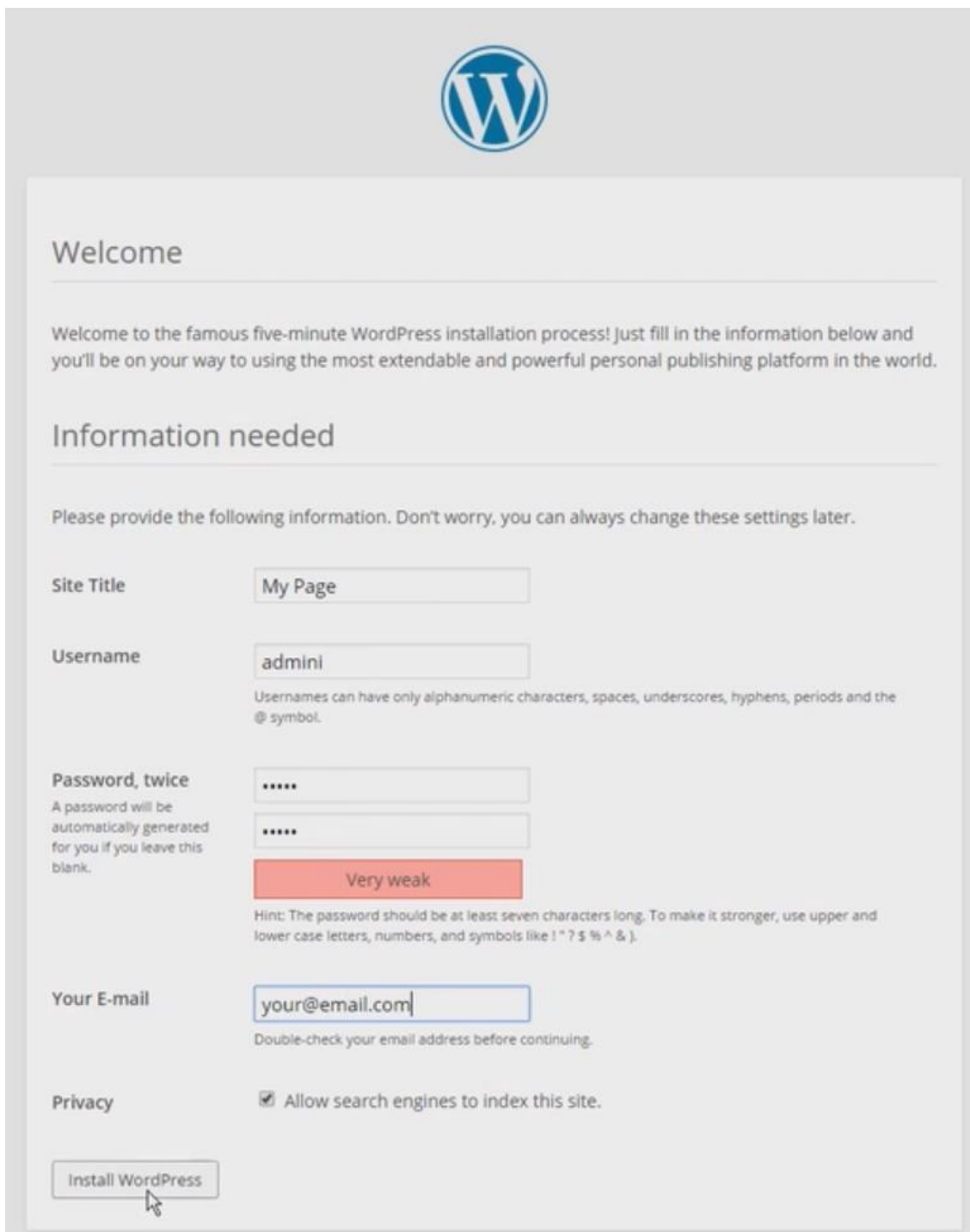
Below you should enter your database connection details. If you're not sure about these, contact your host.


Database Name	<input type="text" value="mypagedb"/>	The name of the database you want to run WP in.
User Name	<input type="text" value="root"/>	Your MySQL username
Password	<input type="password"/>	...and your MySQL password.
Database Host	<input type="text" value="localhost"/>	You should be able to get this info from your web host. if localhost does not work.
Table Prefix	<input type="text" value="wp_"/>	If you want to run multiple WordPress installations in a single database, change this.

Illustration 10: Setting WordPress database settings

It is time for “Information needed” screen. Here are “Site Title”, “Username”, “Password”, “Your E-mail” and lastly an option to allow search engines to find the site via indexing. Title can be anything and depending on the theme and personal decisions it will be shown on different locations throughout the pages. Username should not be “admin” because it is the most common admin username and therefore the most likely target for an attack. Password should not contain any words but it should contain special, upper and lower characters. It is of utmost importance to have a strong password because losing the site for hackers can be frustrating and could cost large amounts of capital for the company.

Inserting correct email address is crucial because password recovery email is sent to this address. Also all the notifications from WordPress to site administrator are sent to this email address.





Welcome

Welcome to the famous five-minute WordPress installation process! Just fill in the information below and you'll be on your way to using the most extendable and powerful personal publishing platform in the world.

Information needed

Please provide the following information. Don't worry, you can always change these settings later.

Site Title

Username

Usernames can have only alphanumeric characters, spaces, underscores, hyphens, periods and the @ symbol.

Password, twice

A password will be automatically generated for you if you leave this blank.

Very weak

Hint: The password should be at least seven characters long. To make it stronger, use upper and lower case letters, numbers, and symbols like ! " ? \$ % ^ & ; .

Your E-mail

Double-check your email address before continuing.

Privacy Allow search engines to index this site.

Illustration 11: Setting WordPress admin information

After successful installation it is time to log into WordPress. Inserting username and password and pressing “Log In” will open the dashboard of newly installed WordPress. If the username or the password has been lost there is an option to recover them by clicking “Lost your password?” and entering users email address. Next is the “Dashboard”.

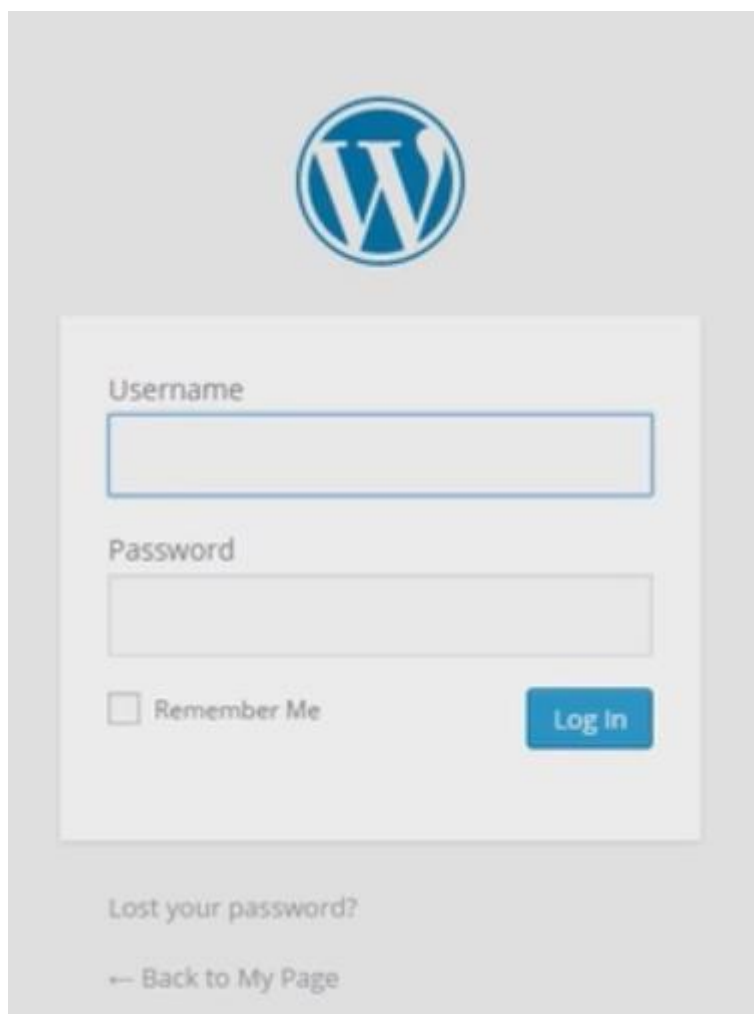


Illustration 12: WordPress admin login screen

4.4 WordPress Dashboard Overview

Dashboard can be accessed from “localhost/wordpress-folder/wp-admin/”. WordPress dashboard opens when logging into back-end. Dashboard is customizable and managing the dashboard content can be done from “Screen Options”. From “Screen Options” it is possible to show or to hide each element on the dashboard. (codex.wordpress.org 2014. Dashboard Screen.)

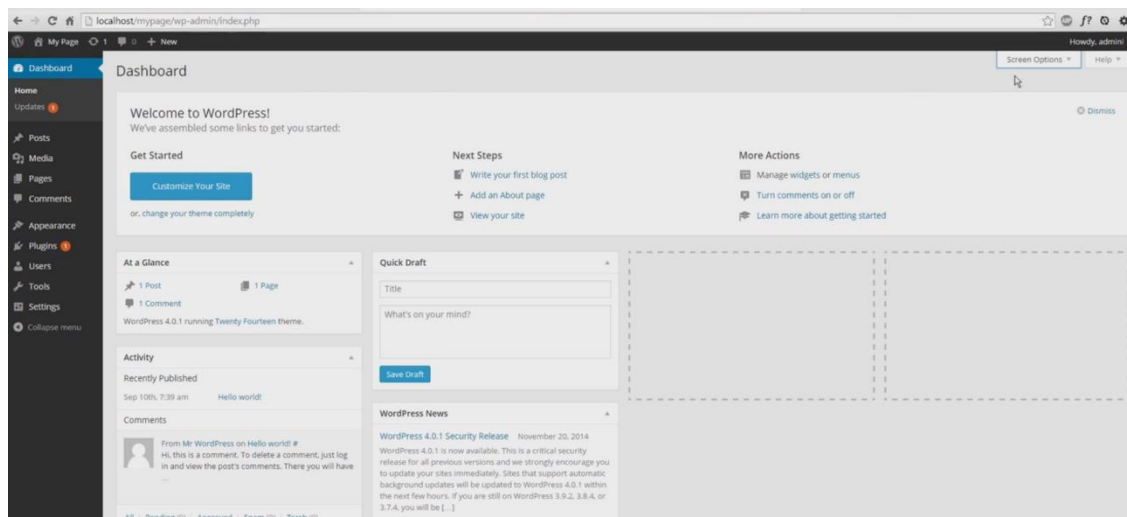


Illustration 13: WordPress Dashboard

Default settings provides quick links for getting started. It includes “Customize Your Site”, Creating Posts/Pages and managing widgets and menus. There is also a quick link to comments section of the settings. (codex.wordpress.org 2014. Dashboard Screen.)

“At a glance” shows the number of posts, pages and comments on the site. “Activity” container shows recently published posts and comments. “Quick Draft” is a quick way to save ideas by creating drafts that can be modified and published later on. There are also “WordPress News” section where WordPress displays latest news about WordPress. (codex.wordpress.org 2014. Dashboard Screen.)

Using plugins for custom dashboard objects requires plugin to have dashboard support capability. For example, “Google Analytics” plugin does not have dashboard functionality but to display this information on the dashboard “Google Analytics Dashboard” plugin has to be installed. (McDonald C. & Valk J. 2014.)

4.4.1 Back-end Navigation Menu

Back-end navigation is displayed on left side of screen. On default it includes “Dashboard”, “Posts”, “Media”, “Pages”, “Comments”, “Appearance”, “Plugins”, “Users”, “Tools” and “Settings”.

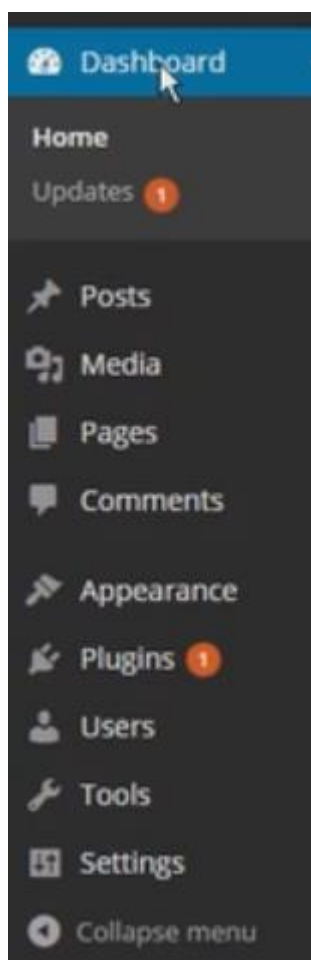


Illustration 14: WordPress back-end navigation

Custom posts are also added to the sidebar and many plugins create their own menu item or submenu items to “Navigation Menu”. Almost all the options can be accessed thru this menu.

The back-end navigation is adjustable. For example, content creator group could only have posts and pages listed on their navigation. Hiding unnecessary options makes the view cleaner.

On top of the page is “Toolbar”. This is a quick access to the front side of the site and for accessing comments and for creating new posts. Many plugins and themes gives an options for quick access via top bar.

4.4.2 Update WordPress and Plugins

WordPress and its plugins should always be updated to the latest version. There are two ways to update. The first is one-click update from “Admin Screen” and the second is manual update. (codex.wordpress.org 2014, Updating WordPress.) WordPress can be configured to automatically update its core-, plugin-, theme- and translation files. Automatic updates can be set by manually configuring “wp-config.php” file or with plugins. It is highly recommended to automatically backup files and databases when using automatic updates. This is because automatic updates overwrite files and database. In this process the updates could destroy the whole site. Returning the site to a working version can be done with backups.

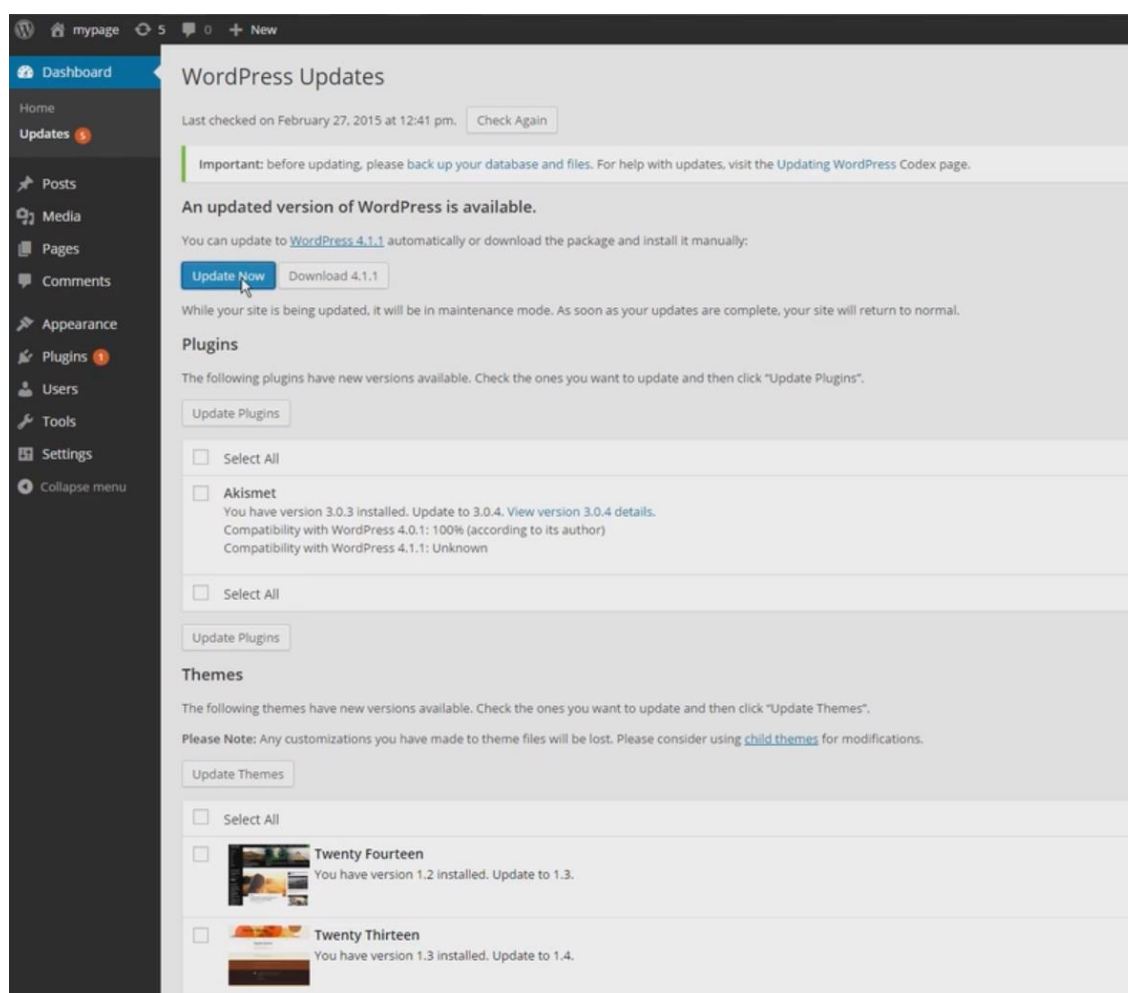


Illustration 15: WordPress Update

WordPress releases updates regularly to improve features and for security and because of bug fixes (mayacrate.com 2014). WordPress pages are often hacked due to outdated versions of PHP, WordPress, themes or plugins (Warner C. 2013).

4.5 Settings

WordPress options are listed in “Settings” navigation menu. Providing options to configure the functionality of the site. It is recommended to adjust settings before starting the page creation. This is to achieve clean and suitable platform for the start with.

Options panel include following items: “General”, “Writing”, “Reading”, “Discussion”, “Media” and “Permalinks”. Every option section has lots of options on how the site functions. Each website has different needs for functionality and how the content is displayed and so there are several ways to setup WordPress settings.

4.5.1 Settings General

From “General setting” site title and tagline can be set and changed. It is smart to have a short and concise tagline and site title. When hosting WordPress site from subdirectory the subdirectory has to be included in the “WordPress Address (URL)” and the URL of the site has to be entered to the “Site Address (URL)”. Moving site to the internet -chapter will have detailed instructions how to configure the “WordPress Address” and “Site Address”. And even more information can be found from behind the link. (codex.wordpress.org 2014, Giving WordPress Its Own Directory.)

“Email Address” is used for several purposes. For example, all notifications and registration requests are sent to this address so it is vital to set correct email address. “Membership” creates an option for site users to register to the site and “New User Default Role” sets the default restrictions when creating a new member. For advanced usage it is possible to create and modify different roles via coding or by using a plugin for the purpose. For normal usage the basic roles should suffice. For additional information WordPress codex should be referred. (codex.wordpress.org 2014, Roles and Capabilities.)

“Timezone” is set to correspond with clients’ time zone. “Date Format” sets the way the date is displayed on the site. There are several predetermined options and a custom one for personal preference. More information can be found from the codex. (codex.wordpress.org 2014, Formatting Date and Time.)

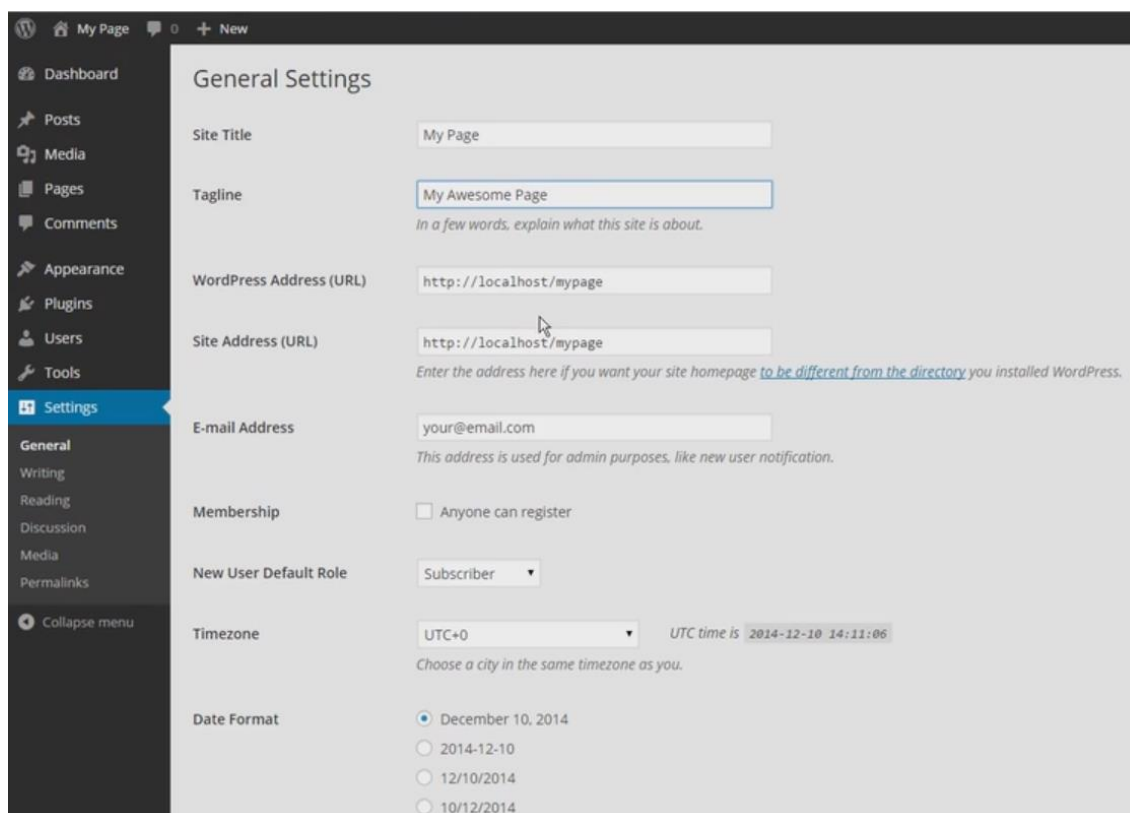


Illustration 16: General Settings

After all is checked the changes should be saved. Next it is time to configure writing portion of the settings.

4.5.2 Settings Writing

“Writing Settings” gives an option for content formatting. WordPress gives an option to convert emoticons into graphical icons. “WordPress should correct invalidly nested XHTML automatically” formatting option enables auto correction of invalid XHTML to help with some errors which might break the website. Unfortunately enabling this option might break some of the plugins. (codex.wordpress.org 2014, Settings Writing Screen.)

From “Default Post Category“ it is possible to set the default category for the posts. If user forgets to set a category for the post the system will automatically set the default category for that post. When deleting a category all the posts from that category will be transferred to the default category. It is also smart to set the default category to be the most used category for convenience. (codex.wordpress.org 2014, Settings Writing Screen.)

“Default Post Format” has a drop-down menu where the default post format can be set. This can be changed for individual posts independently from “Edit Post” -view. Depending on the

used theme the formatting could have significant advantages or the theme developer could have left it out from the theme altogether. (codex.wordpress.org 2014, Settings Writing Screen.)

“Press This” is a browser application that allows user quickly to create new post articles to WordPress site. “Press This” bookmarklet has to be dragged to the bookmark bar and when an interesting article is found the bookmark has to be pressed. The application opens a window for editing a new article. (codex.wordpress.org 2014, Settings Writing Screen.)

It is also possible to release articles via e-mail. Because of its significant limitations it is seldomly used. These limitations include that only plain-text can be received via email. Also multi sites are not supported and all administrators can see the email account information. (Clifford 2012.)

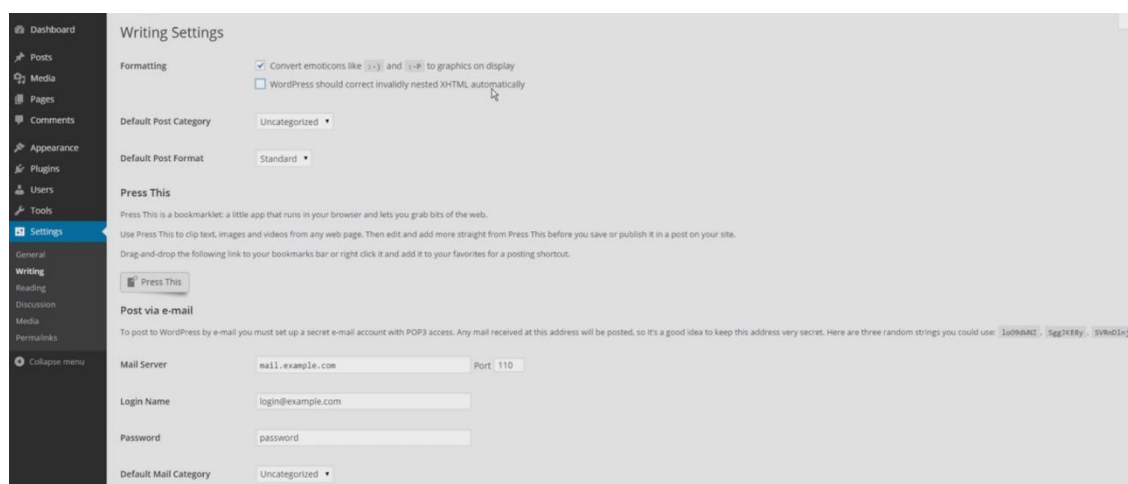


Illustration 17: Writing Settings

4.5.3 Settings Reading

"Reading Settings" provides ability to choose what front page displays. It could be latest posts or a static page. Using a static page provides option to change what page is used as the homepage. Changing the default page for articles can be done as well. The page which is chosen as a default article page contains the posts. For example, front page could be "Homepage" and posts page could be "Blog". (codex.wordpress.org 2014, Settings Reading Screen.)

There is also mail option to choose how many articles are shown on a blog page. Syndication feeds shows how many items are sent out at once via RSS feed. There is also an option to display each article in a feed as a "Full text" or a "Summary". Using summary with long articles makes the feed cleaner and easier to read. (codex.wordpress.org 2014, Settings Reading Screen.)

"Search Engine Visibility" can be modified. "Discourage search engines from indexing this site" makes some search engine spiders ignore the site. (codex.wordpress.org 2014, Settings Reading Screen.)

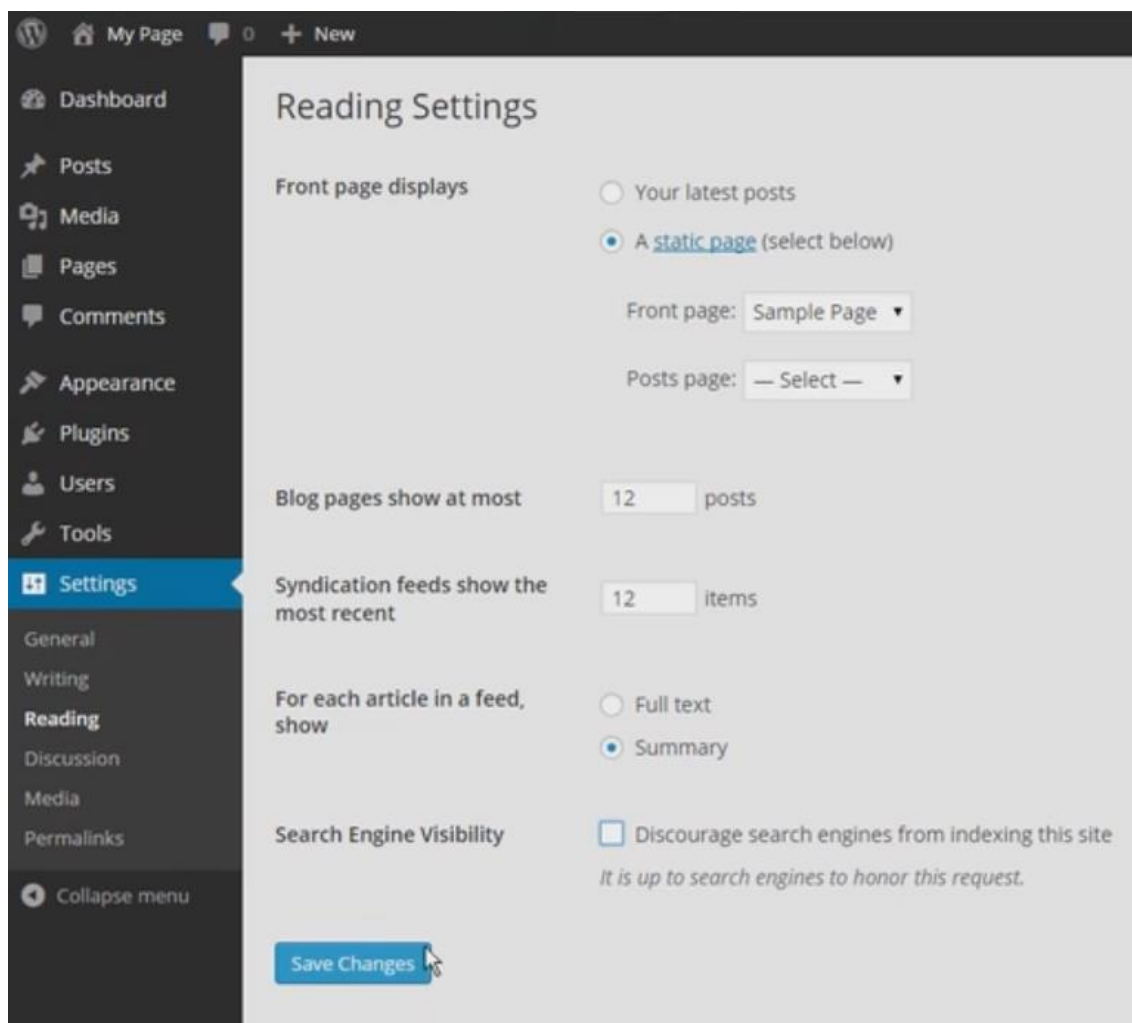


Illustration 18: Reading Settings

4.5.4 Settings Discussion

"Discussion Screen" allows to set options for commenting and for communication between sites. In "Default article setting" there is an option to "Attempt to notify any blogs linked to from the article" this allows the site to attempt to send a notification for all the websites that it has been linked to. Pingback is sent from the linking post to the linked post and this pingback can be displayed in the comments.

There is also an option to allow commenting on new posts automatically. This does not affect posts that have already been published.

"Other comment settings" gives several options for advanced usage of commenting. These include requirements for users when commenting and for example automatic closing of comments in articles of sufficient age. There is also an option to nest comments when they obtain sufficient level or to divide comments into pages based on the amount of the comments. Lastly in the "Other comment settings" there is an option for the display order. There are different ways to display comments so deciding the correct settings will depend on the need. (codex.wordpress.org 2014, Settings Discussion Screen.)

Depending on the settings the WordPress can send email to the sites owner when comment is posted, comment is held for moderation or if someone likes a post. Before a comment appears to the site it can be approved manually by administrator or automatically by WordPress. There is also an option for letting the users to comment freely without need to approve once the first comment is approved. (codex.wordpress.org 2014, Settings Discussion Screen.)

"Comment Moderation" provides ability to hold comments in the queue if they contains excess amounts of links, it is used to block comment spam. Common comment spam has large number of hyperlinks. Also comments which contains blocked words are held in moderation queue. Comments can be blacklisted automatically when comment contains any of blacklisted words. (codex.wordpress.org 2014, Settings Discussion Screen.)

Avatar is a icon which is displayed next to name when commenting on avatar enabled sites. Display of avatar can be enabled or disabled from the settings. Avatar can be generic- or generated icon depending on the chosen option. (codex.wordpress.org 2014, Settings Discussion Screen.)

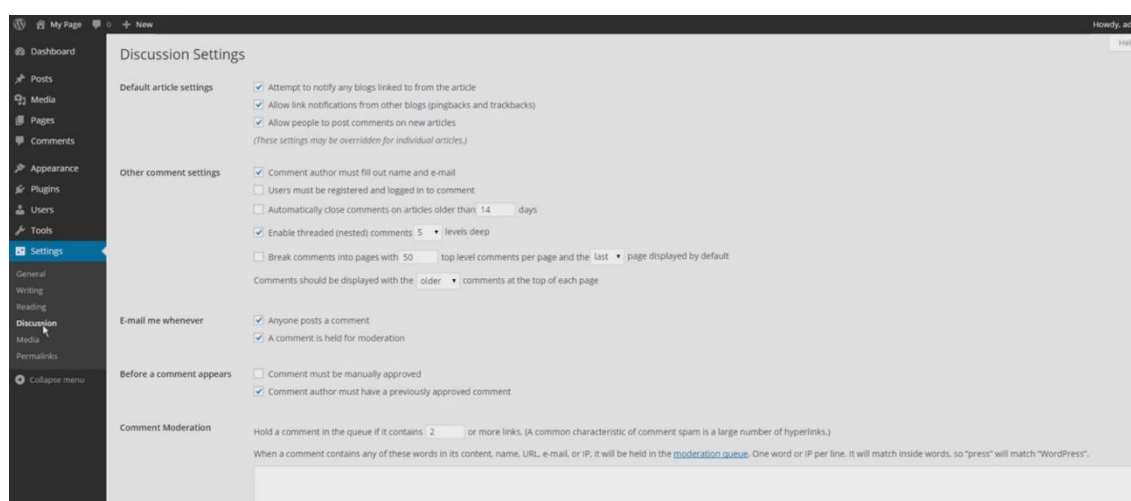


Illustration 19: Discussion Settings

4.5.5 Settings Media

"Media Settings" allows to control how the media is displayed. Options allows to change maximum dimensions in pixels for thumbnail, medium and large image styles. Images will be cropped and resized as configured on settings. Image size can be changed when adding image in the content using thumbnail, medium, large or custom size. (wpbeginner.com 2014. What is: Media Settings.)

Organizing uploads into month- and year- based folders gives hierarchical structure for media uploads on server. This helps to manage and to use media because of understandable and logical foldering structure. (wpbeginner.com 2014. What is: Media Settings.) Uploading all files in the same folder can be done by disabling organizing uploads selection and configuring default media folder from "wp-config.php" file (Wilson R. 2014).

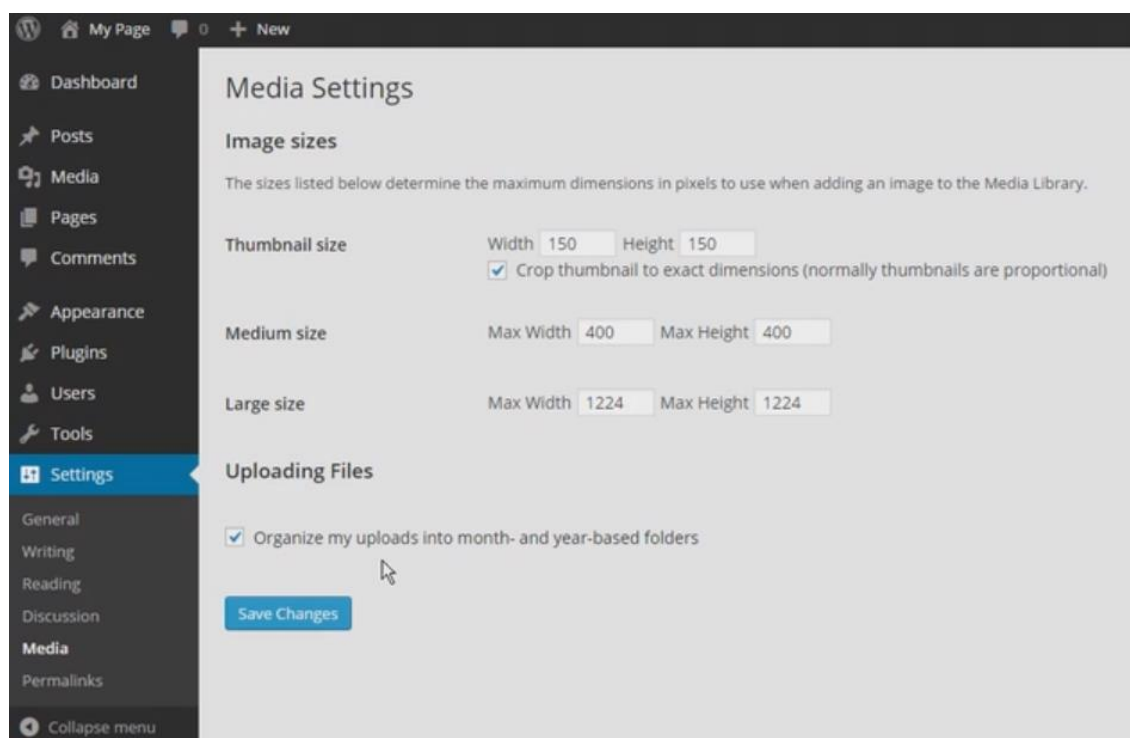


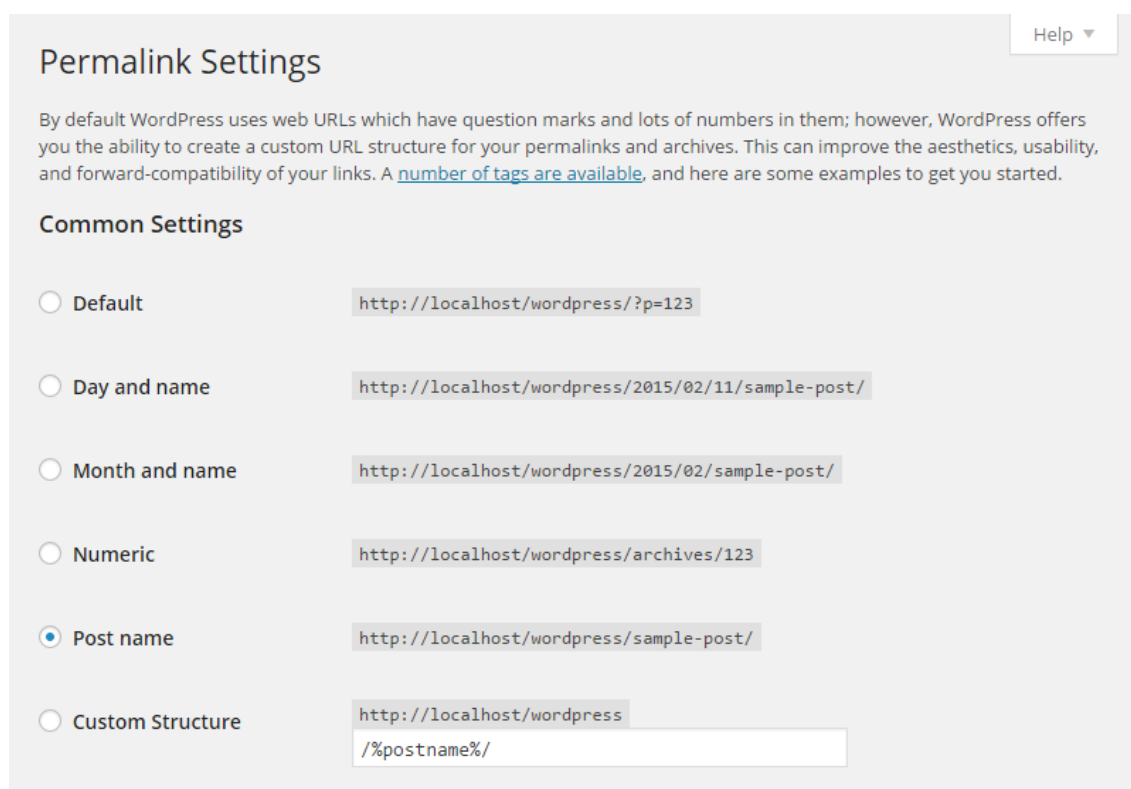
Illustration 20: Media Settings

4.5.6 Settings Permalinks

Permalinks provides permanent URLs to WordPress content so the URL of the content doesn't change. It affects pages, posts and categories. It is recommended to use clear styled permalinks because it helps with Search Engine Optimization and the site URL structure stays readable. Sharing links on social media with human readable URL gives a professional and credible feeling. (codex.wordpress.org 2014, Using Permalinks; Valk J. 2014.)

Recommended permalink is “Post name” because it provides clean and readable URL. Permalink structure depends on the need and how the URL structure is planned to work. For example on a news site it would be better to use “Day and name” setting for getting year, month and day to posts URL. (codex.wordpress.org 2014, Using Permalinks.)

To add category to URL a custom structure is needed. To show a category and postname on the URL category and postname have to be entered to the “Custom Structure” field. (codex.wordpress.org 2014, Using Permalinks.)



The image shows the 'Permalink Settings' page in WordPress. At the top right, there is a 'Help' button with a dropdown arrow. Below the title, a paragraph explains that WordPress offers a custom URL structure for better aesthetics and usability. Under the 'Common Settings' section, there are six radio button options, each with a corresponding URL preview:

- Default: `http://localhost/wordpress/?p=123`
- Day and name: `http://localhost/wordpress/2015/02/11/sample-post/`
- Month and name: `http://localhost/wordpress/2015/02/sample-post/`
- Numeric: `http://localhost/wordpress/archives/123`
- Post name: `http://localhost/wordpress/sample-post/`
- Custom Structure: `http://localhost/wordpress`
`/%postname%/`

Illustration 21: Permalink Settings

4.6 Media

Media library displays images, videos and other uploaded files from the server in a graphical interface. Providing options for uploading-, viewing-, editing-, and deleting files. (codex.wordpress.org 2014, Media Library Screen.)

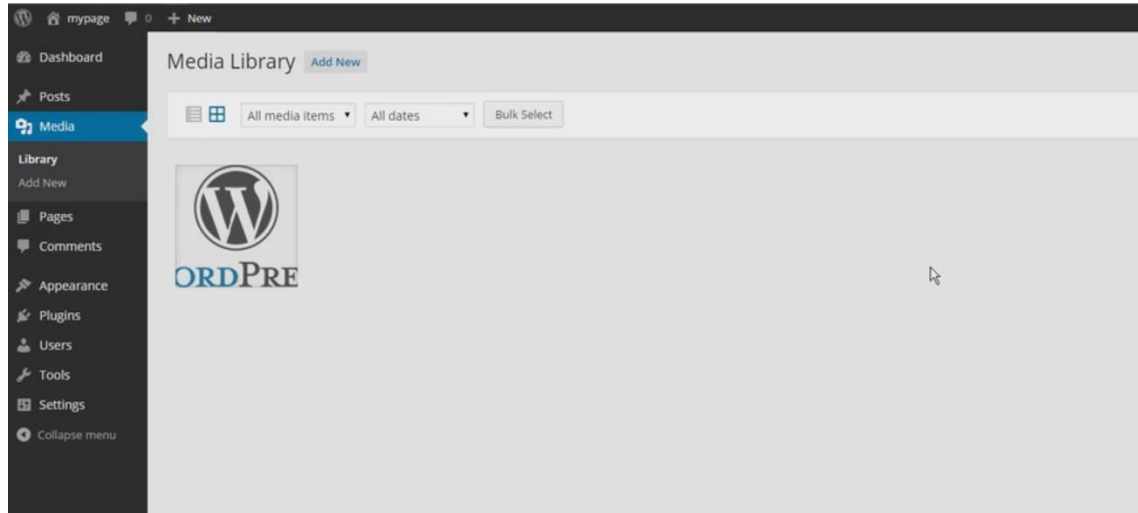


Illustration 22: Media Library

Media is usually uploaded and displayed when creating posts or pages. Another way to add media is from Media > “Add New” for later use. Providing multiple file drag & drop upload option. Media files are usually used on pages, posts and for example in sliders or in photo galleries. (codex.wordpress.org 2014, Media Library Screen.)

Instances have to be edited afterwards to set the correct meta information for the files. Image title and alternative text have to correspond to the page title and the page content to properly optimize site for search engines. (codex.wordpress.org 2014, Media Library Screen.)

File name: wordpress-logo-stacked-rgb.png
File type: image/png
Uploaded on: February 27, 2015
File size: 14 kB
Dimensions: 499 × 310

URL	<input type="text" value="http://localhost/mypage/wp-content/uploads/2015/02/wor"/>
Title	<input type="text" value="wordpress-logo-stacked-rgb"/>
Caption	<input type="text" value="Wordpress logo"/>
Alt Text	<input type="text" value="Wordpress logo"/>
Description	<input type="text" value="Wordpress logo"/>
Uploaded By	username

[View attachment page](#) | [Edit more details](#) | [Delete Permanently](#)

Illustration 23: Image metadata

4.7 Pages

Pages are one of the main elements of WordPress. They work perfectly for content like about-, gallery- and contact- pages. Pages usually stores static information but they can also be generated from dynamic content fields. (codex.wordpress.org 2014, Pages.)

Pages don't have categories or tags to support structuring like Posts do. Content management is easier with well assigned page names and subpage structuring. From making proper page structure subpages are essential. This creates hierarchical structure for the page URL which is essential for "Search Engine Optimization". (codex.wordpress.org 2014, Pages.)

Page layout can be changed and modified with page templates. For example, on homepage if the content area needs to be full width without sidebar, the page layout without sidebar should be chosen. Several different template options might be available depending on the theme. (codex.wordpress.org 2014, Pages.)

4.7.1 Creating Pages

Creating a new Page for WordPress site can be done from the back-end navigation menu via "Pages" > "Add New". Page can be saved as a draft and published later on. (ithemes.com 2014.)

On the top right corner is a "Screen Options" tab which contains additional options like Page Attributes, Featured Image, Custom Fields, Discussion, Slug and Author. After selecting wanted options these options will be shown under the content area. For example to disable comments for a page the "Discussion" option has to be selected and "Allow comments" has to be unchecked. These settings are page specific. (ithemes.com 2014.)

The page status, visibility and publishing time can be changed from the "Publish" section in the right menu of the page. In "Page Attributes" section there is an option to choose a parent page for a subpage. When creating a subpage select the parent page for the subpage from the "Page Parent" drop-down menu. When listing the pages the subpages are nested under parent pages. URL structure should be localhost/wordpress-folder/parent-page/subpage when using correct custom permalink. (ithemes.com 2014.)

Template can be changed from the "Template" drop-down menu. Template option visibility depends on the used theme because some themes don't have custom page layouts. There is also an option to choose "Featured image" for the page. The display of the featured image on

the page will depend on the theme and the template. (codex.wordpress.org 2014, Post Thumbnails.)

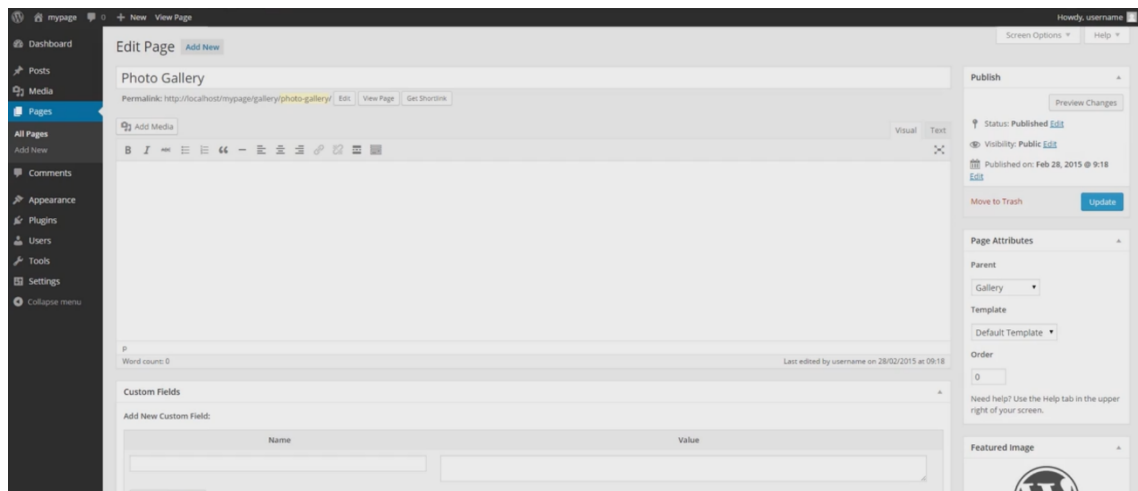


Illustration 24: Edit page

4.7.2 Add Content to Page

After the page settings have been adjusted it's time for content creation. Adding descriptive title for the page is recommended because the title will be shown on navigation if the page is added to the navigation menu. Content can be added to a page with visual editor or with a text editor. Visual editor enables the use of tools for editing content. Text editor is used when writing code to the content.

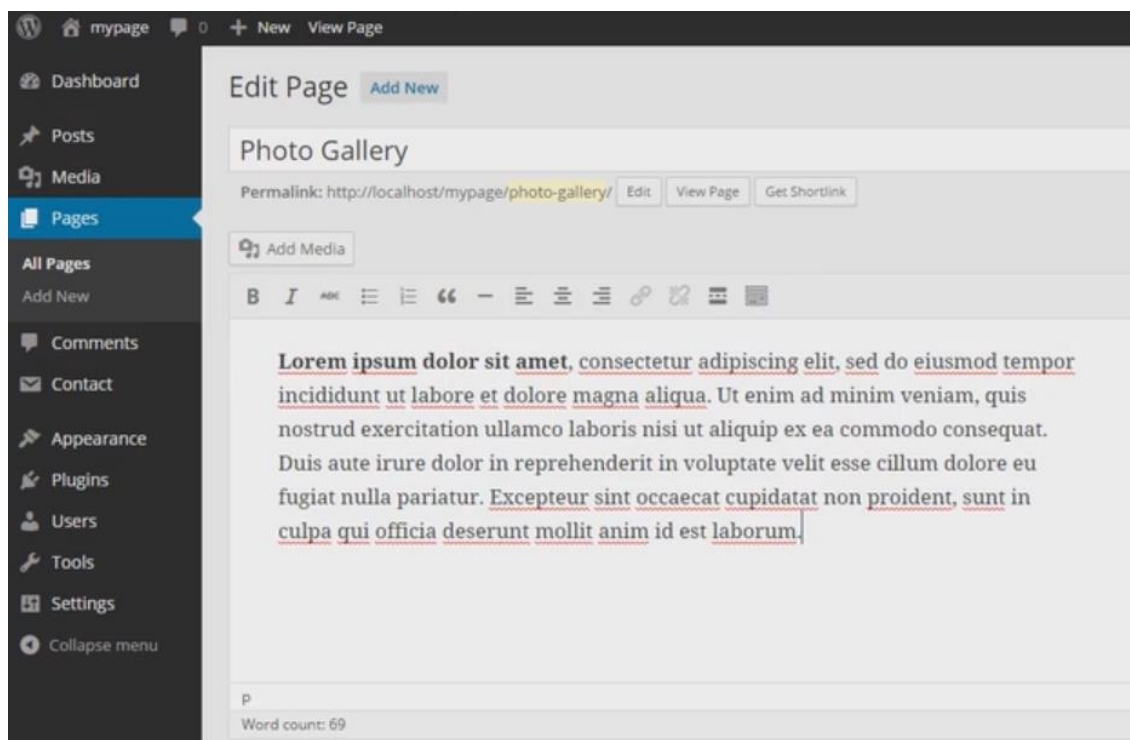


Illustration 25: Adding content to a page

Images can be inserted to the content via “Add Media” button. Files and images can be uploaded to the server via “Upload Files” tab using drag and drop upload or by selecting files from the computer. After uploading the image it is good practice to add title, caption, alt text and description for the images. Image display settings can also be modified from “Attachment display settings”. Options for the image are image alignment, link to and image size. “Insert into page” will add the image to the content.

4.7.3 Exercise 1: Creating a Homepage

Every website has a front-page. This can be a homepage or an article listing page. When creating a homepage it is smart to include most important information about the customer.

Page can be created from back-end navigation via “Pages” > “Add New”. Title for the page could be “Home”. Add the most important information about the website with picture as the content for the page.

Images can be added from “Add Media” button. If the image isn’t uploaded to the server uploading can be done from “Upload Files” tab. After image has been uploaded to the server and “Attachment details” have been filled. Image can be added to the content from “Media Library” tab.

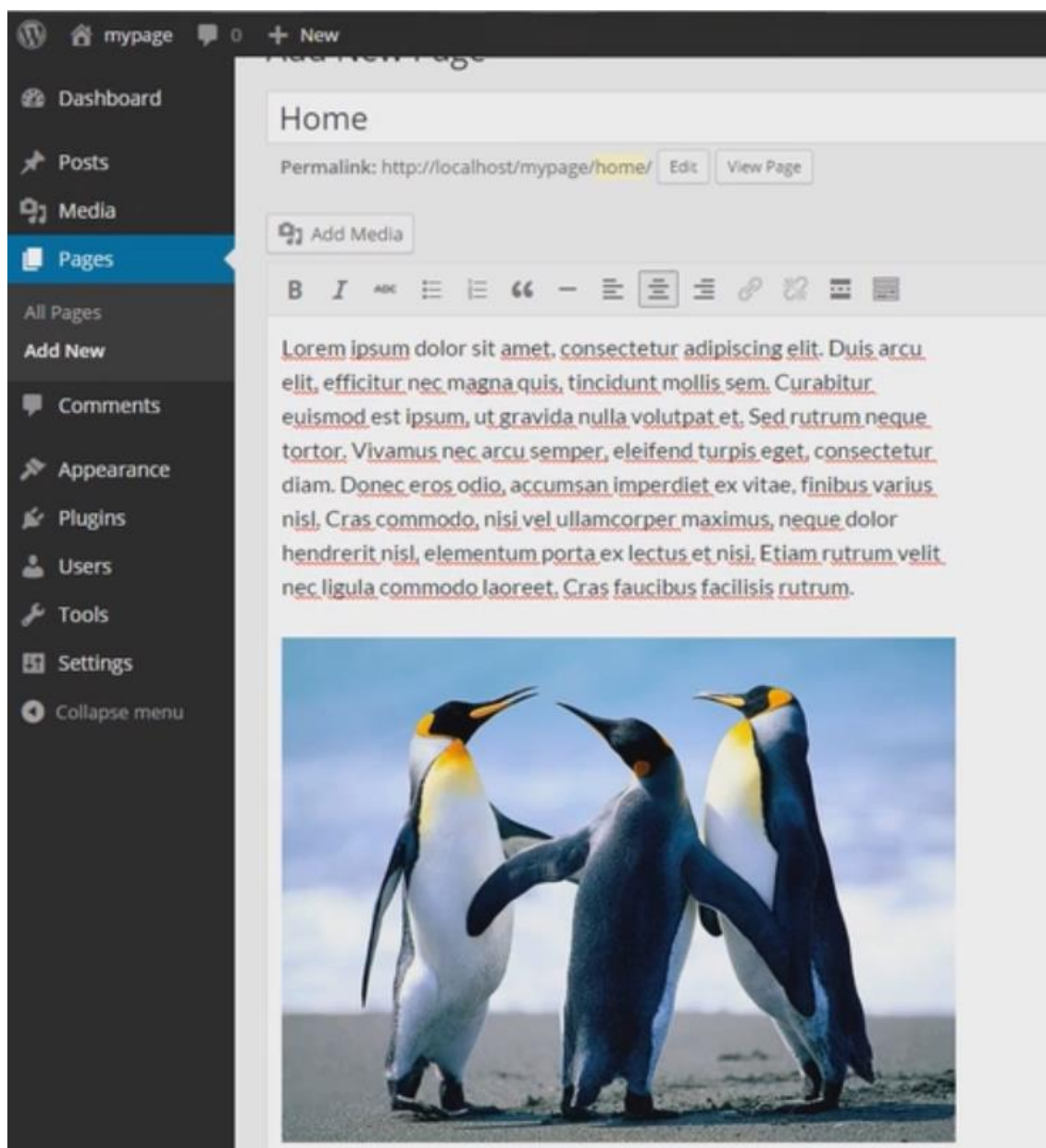


Illustration 26: Adding media to a page

Because this page is the Homepage of the website commenting should be disabled from “Screen Options” select “Discussion” and from “Discussion” section which is located under the content area uncheck option “Allow comments”. This option disables comments on the current page.

After the changes have been made preview the page. If the page looks good then publish it. Now configure the new homepage for the site from back-end navigation menu by going to “Settings” > “Reading”. From “Front page displays” option select “a static page” instead of “Your latest posts” and change the Front page from drop-down menu to newly created homepage and save changes.

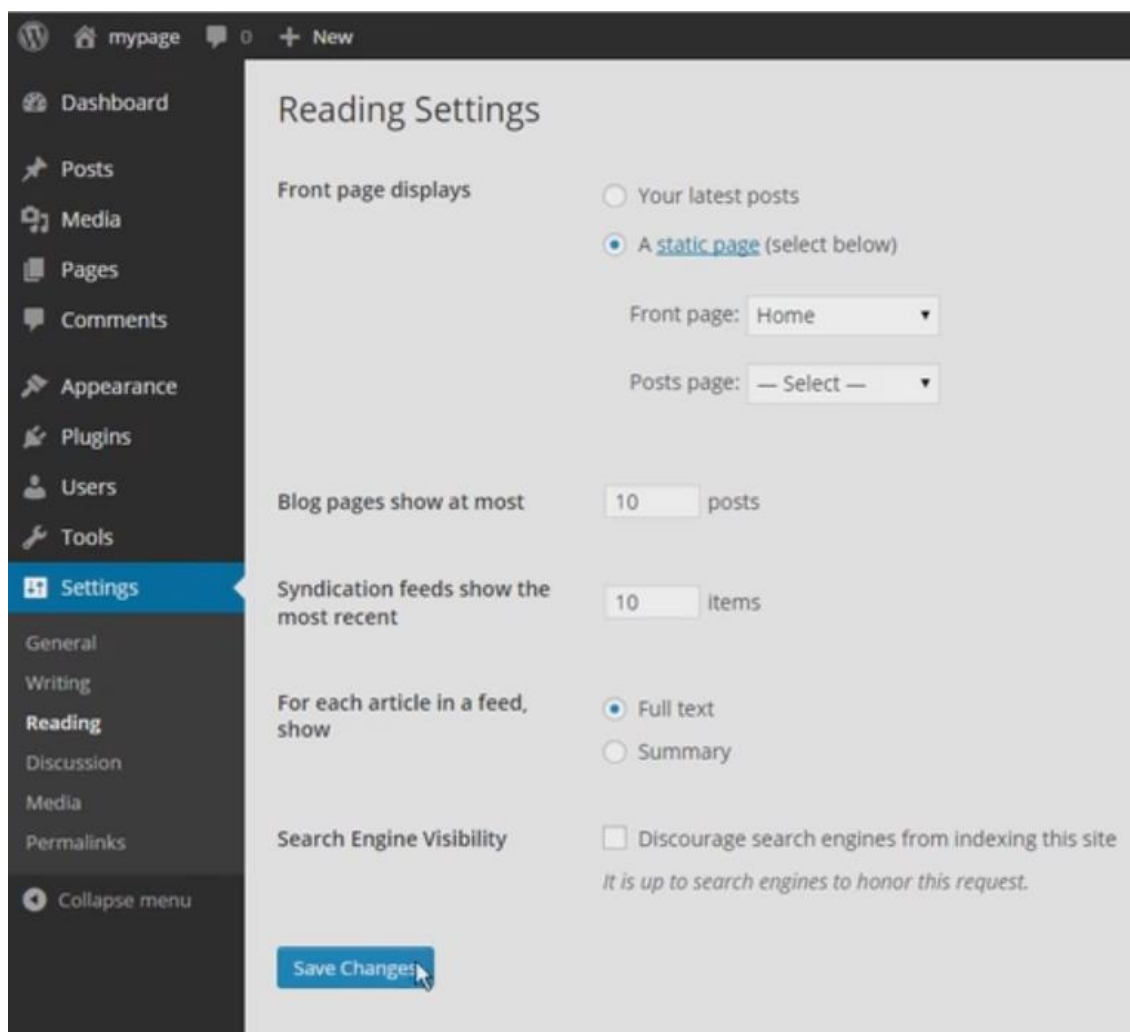


Illustration 27: Setting the homepage

4.7.4 Exercise 2: Creating Gallery Page

Media gallery displays groups of pictures. It is used to show photo galleries on a website. First create page from back-end navigation by navigating to “Pages” > “Add New”. Title for the page should be “Gallery”.

Gallery can be created from “Add Media” button. From the left navigation menu select “Create Gallery” and upload images. After images have been uploaded to the server select images and press “Create a new gallery” button. “Gallery Settings” section provides options to adjust where the image is linked, how many columns have been used, are the pictures on random order and the size of the pictures. After all has been configured press “Insert Gallery” and the gallery will be displayed on the page. Preview the page and if it looks good then publish it.

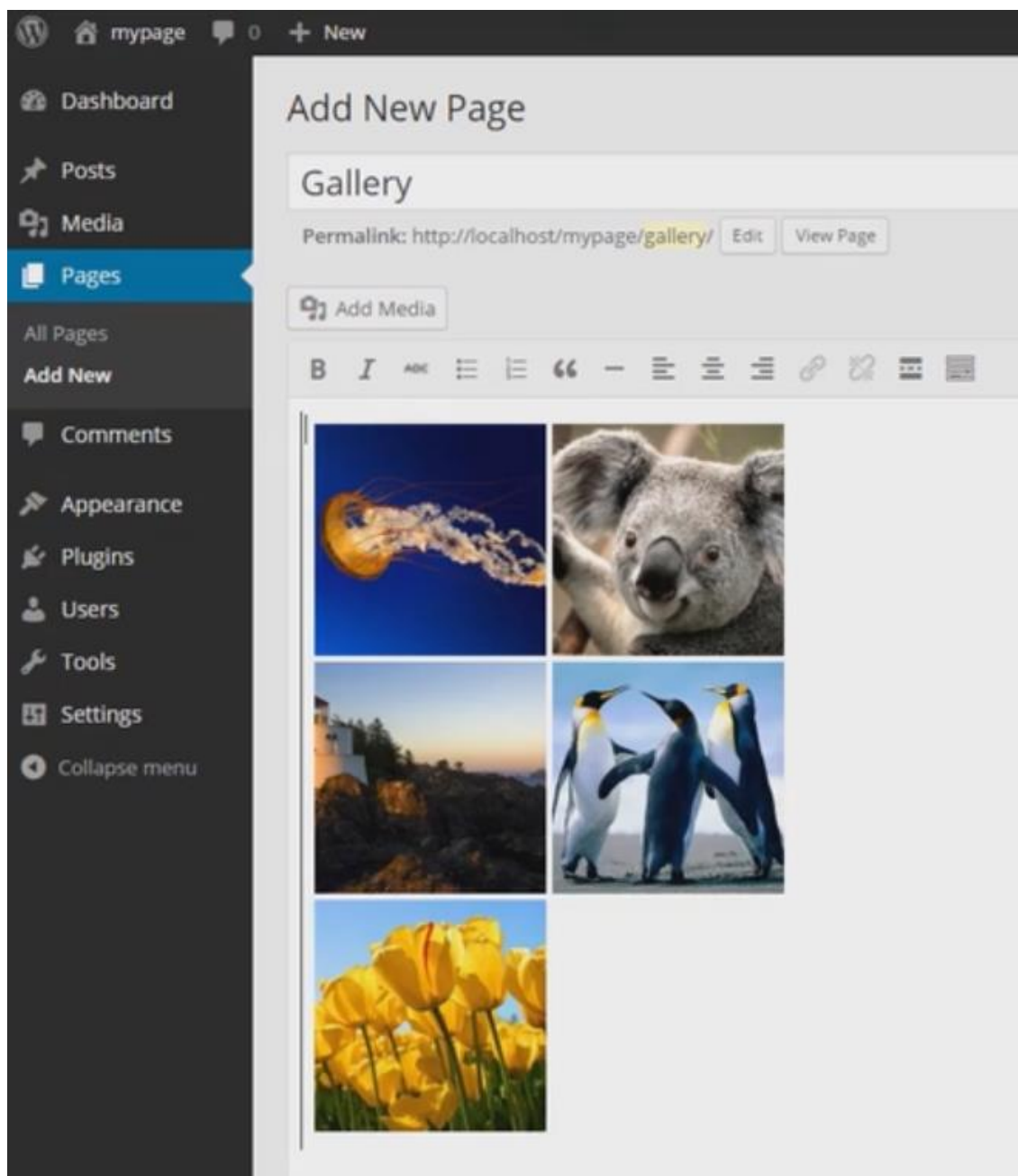


Illustration 28: Creating a gallery

4.7.5 Exercise 3: Creating a Blog Page

Blog page displays all posts that have been published from all categories. Page is created via “Pages” > “Add New”. Title for the page could be “Blog”. Content from the content area is not displayed on the page. Instead the posts are listed on the page as content.

After the page has been created it’s time to set posts to be shown on the page. This is done from “Settings” > “Reading”. Selecting newly created page to “Posts page” can be done from

the drop-down menu of the “Front page displays” -section. Once changes has been made it’s time to save changes.

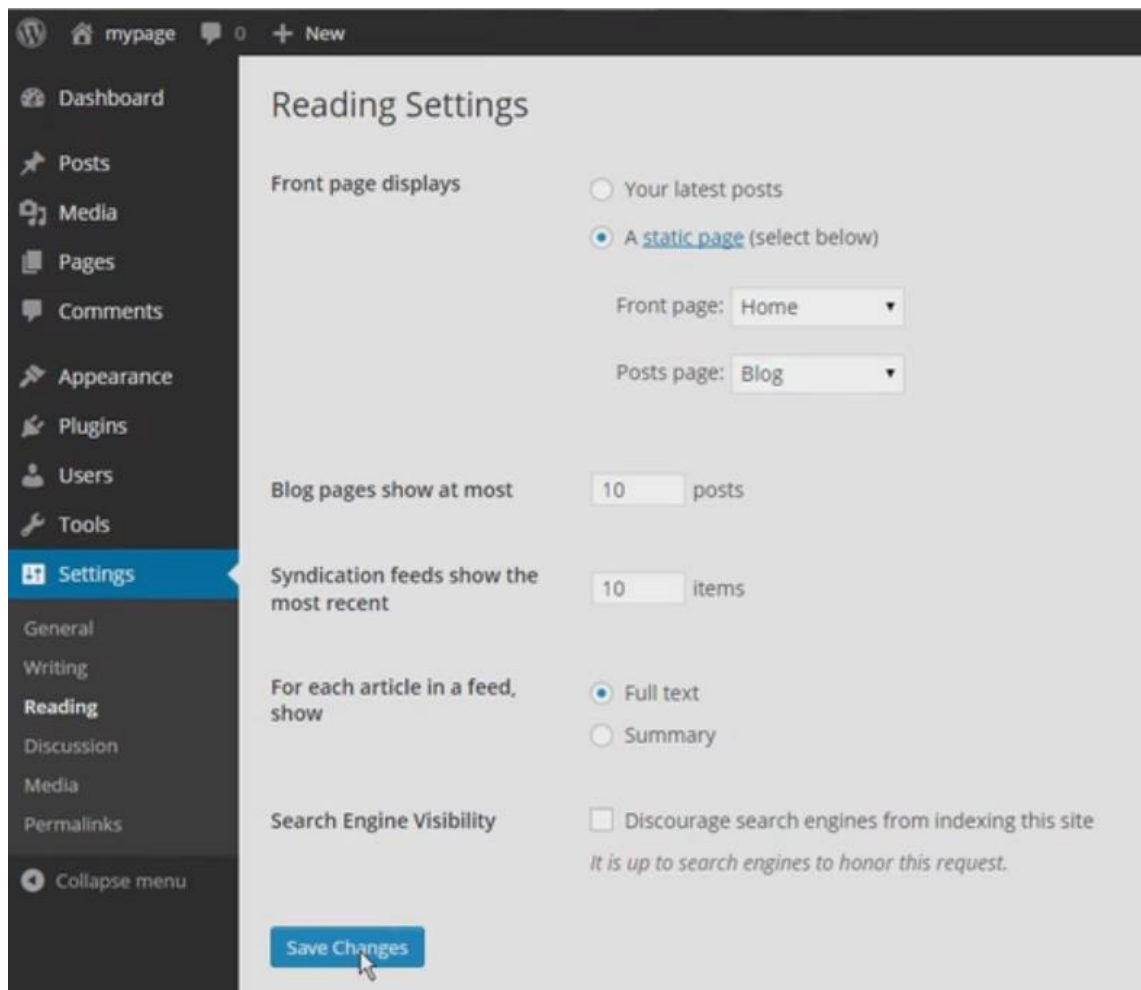


Illustration 29: Setting the blog page

4.8 Navigation Menus

Menus are an excellent way to create navigation for categories, links or pages. Different themes have different locations for menus for example “Primary navigation” or a “Footer Menu”. In most cases this is the most efficient way to display navigation with WordPress. (codex.wordpress.org 2014, Navigation Menus.)

WordPress allows to have multiple menus which can be displayed on different locations throughout the site. Navigation menu is created in “Menus” -section which can be accessed from back-end navigation via “Appearance” > “Menus”. From “Select a menu to edit” section it is possible to choose which menu is edited. Custom menu locations can be created and adjusted from theme files to show the menu in additional locations. (codex.wordpress.org 2014, Navigation Menus.)

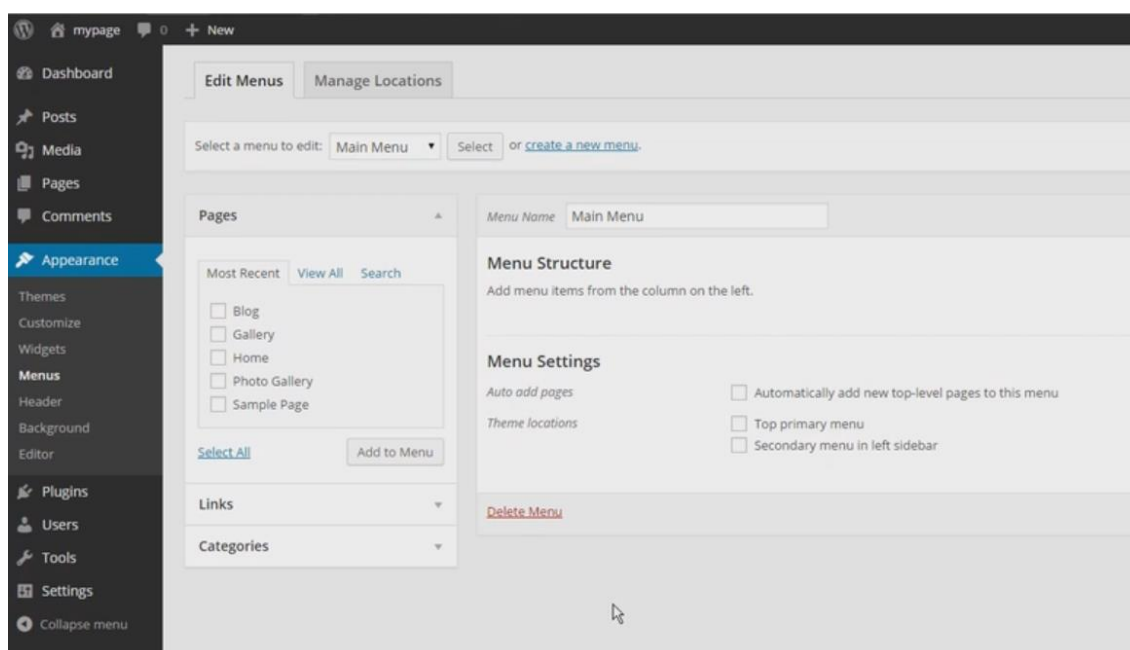


Illustration 30: Navigation Menus

4.8.1 Creating Navigation

Menu name needs to be determined when creating a menu. Pages, links and categories can be added to navigation via “Edit Menu” -view. Pages can be added to menu under “Pages” section, select desired pages to show on menu and press “Add to Menu” button. After the pages have been added the arrangement can be changed by dragging menu items to correct order. It is also possible to change link label by clicking small arrow in the menu item under “Menu

Structure” -section and by entering the new label into the “Navigation Label” -input. This label is displayed in the navigation instead of the page title. (codex.wordpress.org 2014, Navigation Menus.)

External links can be added to menu from “Links” section. For example, navigation could have external link to the customers Facebook site. (codex.wordpress.org 2014, Navigation Menus.)

When displaying posts from particular category the correct category has to be selected and added from the “Categories” -section. When using custom permalinks the URL structure for the navigation link should be localhost/wordpress-folder/category/article-category-name. Removing the “category” from URL can be done with plugins. (codex.wordpress.org 2014, Navigation Menus.)

In “Menu Settings” there are options to automatically add new top-level pages to menu and to choose menu location in the theme. The location can be also chosen via “Menu Locations” -tab where all the themes menu locations can be filled with correct menus. (codex.wordpress.org 2014, Navigation Menus.)

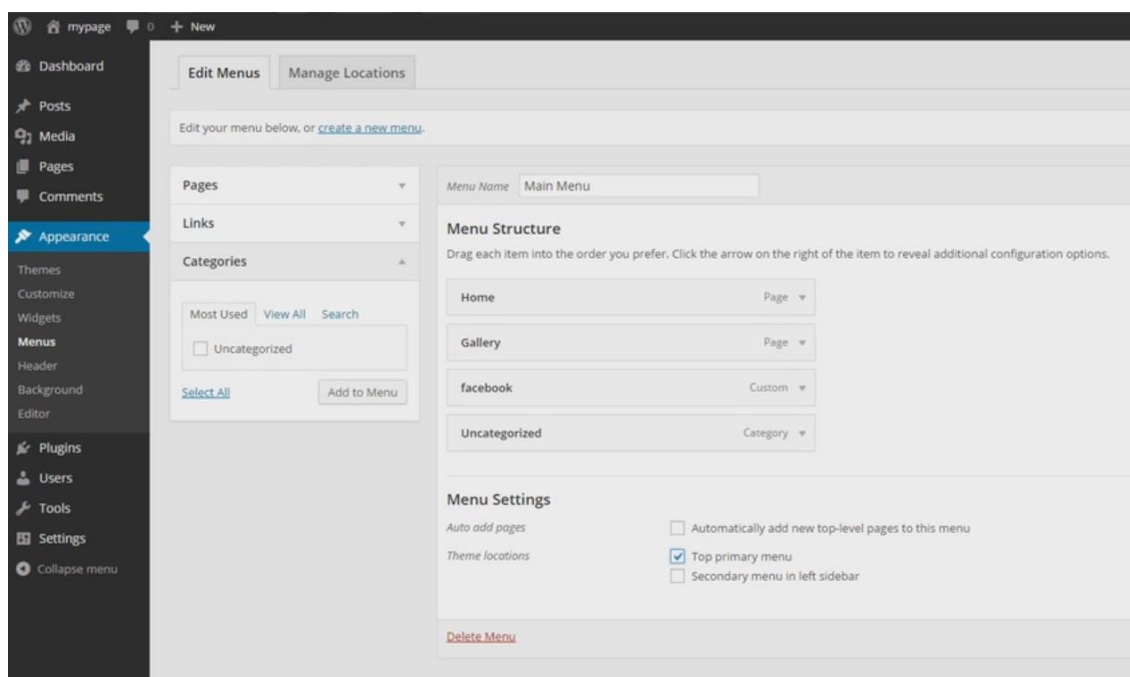


Illustration 31: Adding navigation menu items

4.8.2 Exercise 4: Creating Menu and Adding Pages

In this exercise the task is to create a menu and add the pages that have been created to the menu. It is of utmost importance to save menu after it has been created because these setting will not automatically save themselves. (codex.wordpress.org 2014, Navigation Menus.)

It is vital to set a location for the menu in the theme or the menu won't be displayed on the site. This can be done from the "Menu Setting" -section or from the Menu location. And again depending on the theme that is used the locations vary. (codex.wordpress.org 2014, Navigation Menus.)

4.9 Posts

Posts consists of title, permalink, content, publishing options, format, categories, tags and featured image. There are also additional options behind “Screen Options” button. For example from “Discussion” where commenting can be disabled for a particular post. Comments can also be added or deleted from the “Comments” view and it is also possible to change author of the post from the “Author” view. (codex.wordpress.org 2014, Writing Posts.)

The main difference between posts and pages are categories and tags. These options enable the structuring of the content. Category title could be News, Blog or any other descriptive name. When creating articles it is recommended to use posts instead of pages. Categorizing the posts will make managing the posts a breeze via hierarchical structure. (codex.wordpress.org 2014, Writing Posts.)

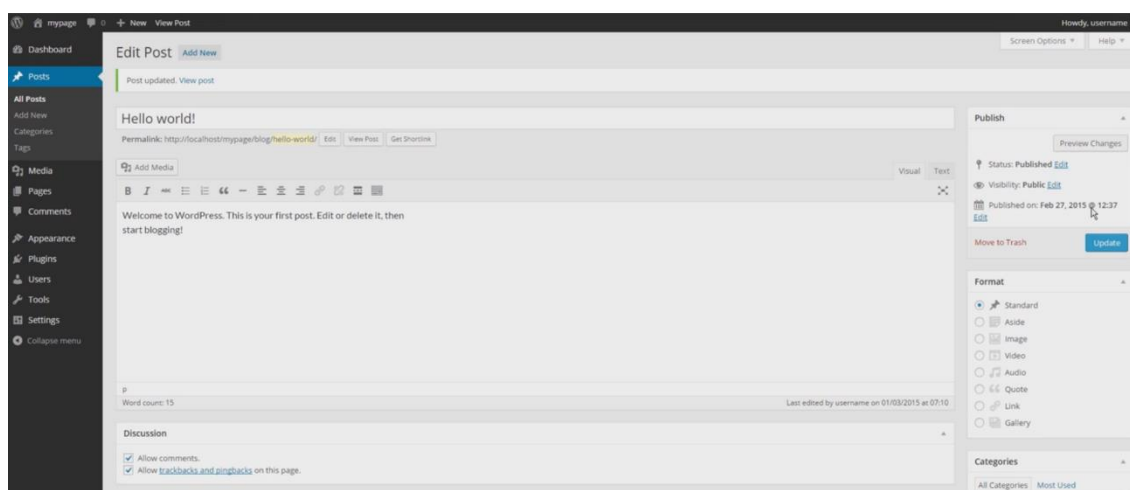


Illustration 32: Edit Post

There is also a possibility for custom posts. These can be used for many purposes and they can be created with a custom code function or with a plugin. Also many themes come with pre-installed custom posts. For example a web shop could have all of its items as custom posts with all the necessary properties including price, title or an picture of the product. (codex.wordpress.org 2014, Posts Types.)

4.9.1 Creating Post Category

All WordPress posts are under some category. Default category is "Uncategorized" and it can be changed from settings. Categories can be assigned to a parent category allowing hierarchical category structures. (codex.wordpress.org 2014, Posts Categories Screen.)

When creating a new post category a name, slug, parent and description have to be decided. Category name should be unique and it should respond to the subject. Category slug has to be unique and it is used in the URL. For example if Category name is “Articles” and the slug is “Posts” URL would be localhost/wordpress-folder/category/posts/. (codex.wordpress.org 2014, Posts Categories Screen.)

Using sub-categories allows the use of hierarchical structure. For example a parent category could be “Images” with subcategories “Cartoons”, “Painted” and “Photos”. Sub-categories are listed under parent category. (codex.wordpress.org 2014, Posts Categories Screen.)

Description is optional, by default WordPress doesn't show description on categories. But some themes have the description of the category shown on the category page. (codex.wordpress.org 2014, Posts Categories Screen.)

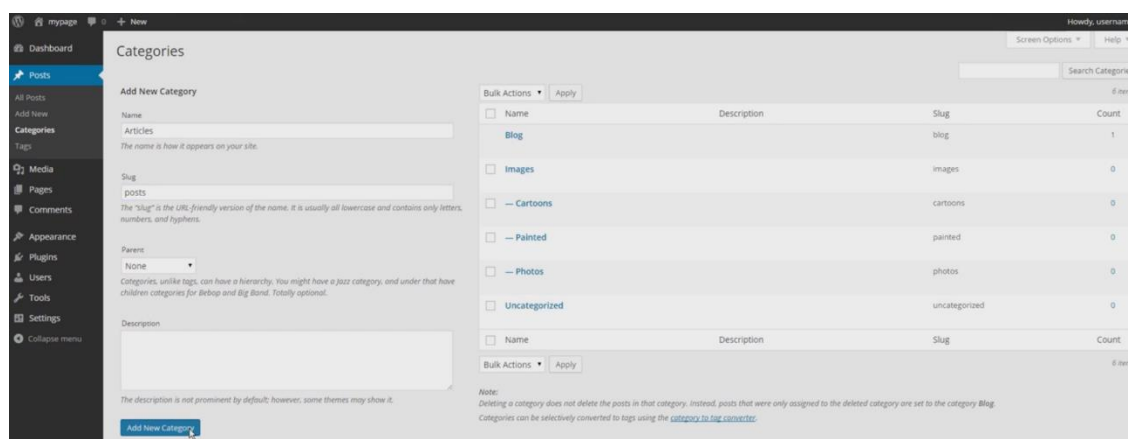


Illustration 33: Post Categories

4.9.2 Creating Posts

Creating posts can be done from the back-end navigation menu via “Posts” > “Add New”. Default URL to posts when permalinks is enabled is localhost/wordpress-folder/article-slug unless custom permalinks has categories slug in it.

From "Publish" section on the right menu the post status, visibility and publishing time can be changed. Also from the right menu there is a theme feature called "Posts Format" and it's used by a theme to customize the display style of the post. These options depend on the theme and how the layouts is coded. These options usually include Aside, Image, Video, Quote, Link, Gallery, Status, Audio and Chat or something completely different depending on the theme.

Every article belongs to a category and the default is “Uncategorized” or the one that is set via settings. From “Categories” section an article can be set to already existing category or to a new category which can be created from “Add New Category”. For example it is good practice to have news articles categorized as “News” to help website users to find correct content that they are looking for.

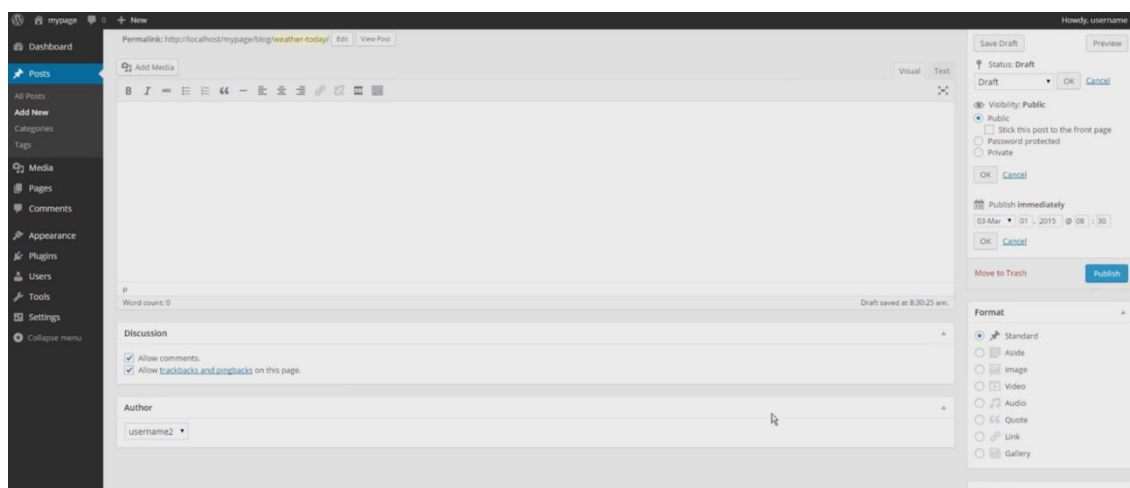


Illustration 34: Post options

From “Tags” section it is possible to add descriptive tags for article. For example if the post concerns about weather tags could be “Summer”, “Rain” or “Sun”. Usually tags are listed under post content and in the post feed but this depends on the theme that is used and its options.

There is also option to choose “Featured image” for the post. If and where the image is displayed depends on the theme. When listing articles the featured image is usually displayed as a thumbnail image near the articles heading.

More settings can be displayed from the top right corner via “Screen Options” tab which contains additional options like Format, Categories, Tags, Featured Image, Excerpt, Send Trackbacks, Custom Fields, Discussion, Slug and Author. After selecting necessary options these options will be shown under the content area or in the right sidebar. For example author for the post can be changed when “Author” is checked and from “Author” -section below the content it is possible to select another author for the post. These settings are post specific.

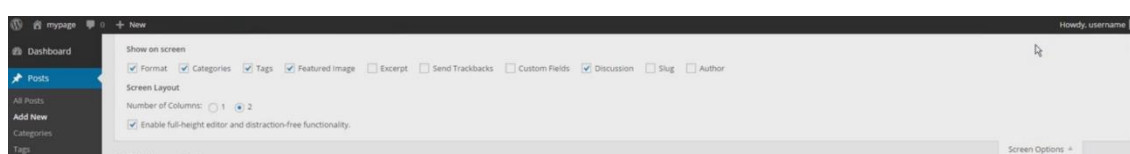


Illustration 35: Additional post options

4.9.3 Exercise 5: Creating a Blog Post

When creating a blog post it is important to think how the post visually looks when published on the page. Using headings and text decorations helps to achieve clean and pleasant reading experience.

First step is to enter descriptive title for the post. Next would be deciding the post format, category, tags and featured image. After settings have been set it is time to think about the content. "Toolbar Toggle" button opens all available tools for editing the content of the post.

In this exercise the focus will be text editing tools. First some text should be entered and a list with some bullet points. Next is to add a subheading and some more text. Additional pictures can be added to the content and justified with visual editing tools. After the content is ready the post should be previewed and if all looks well the post can be published. Now the post should be visible on the blog page that was created earlier.

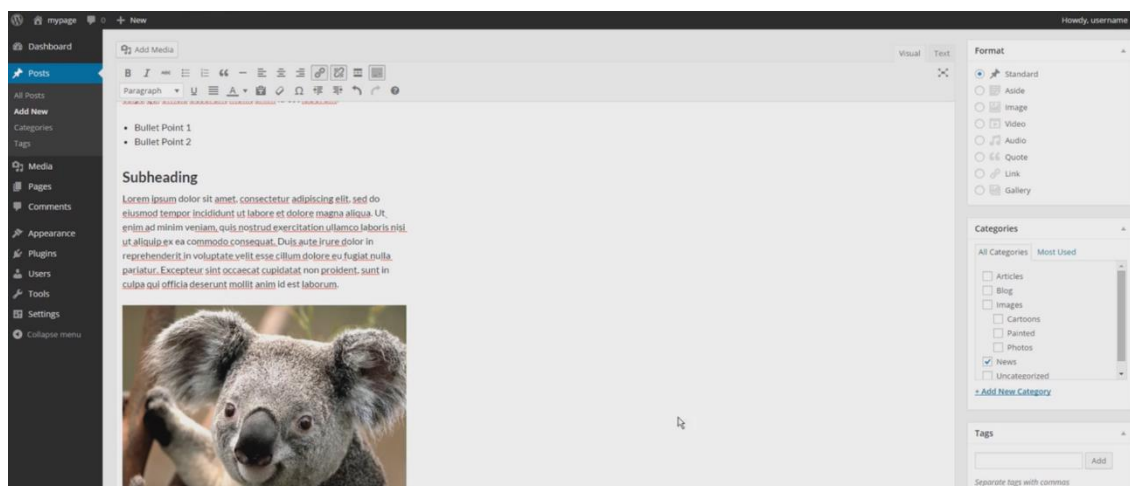


Illustration 36: Adding content to a post

4.10 Plugins

WordPress plugins allow easy modification, customization and enhancement of a site. WordPress plugin is a program or set of a functions usually written in PHP. It is possible that plugin contains other coding languages as well to add styling and functionality. "Plugin Application Program Interface" allows to integrate plugins to WordPress site. (codex.wordpress.org 2014, Writing a Plugin.)

New plugins can be installed manually or by using WordPress. When installing plugins manually the plugin has to be downloaded and extracted to the wp-content/plugins folder which is inside the WordPress installation folder. After the plugin has been installed it has to be activated from WordPress before it can be used.

4.10.1 Install Plugins

Plugins are available via the WordPress Plugins Directory or from Plugins listing via back-end navigation from "Plugins" > "Add New". Plugins which are installed from WordPress are considered thoroughly tested and safe. But some plugins may still contain coding errors and compatibility issues. And because of compatibility issues it's important to read reviews and ratings of the plugin to avoid problems. It is also smart to read comparison reviews to get a wider view of the situation. These can be found with a search engine. (codex.wordpress.org 2014, Managing Plugins)

Plugins can also be downloaded from external sources. These plugins can be free or premium. Some free plugins may have a premium version which has more features. (codex.wordpress.org 2014, Managing Plugins)

Plugins can be installed from "Plugins" > "Add New". WordPress lists Featured-, Popular-, Recommended- and Favorites- plugins for users benefit. This makes finding new plugins easier. From here it is also possible to upload a plugin to the WordPress. Using search is recommended when looking for a specific plugin. After the plugin has been installed it has to be activated. (codex.wordpress.org 2014, Managing Plugins)

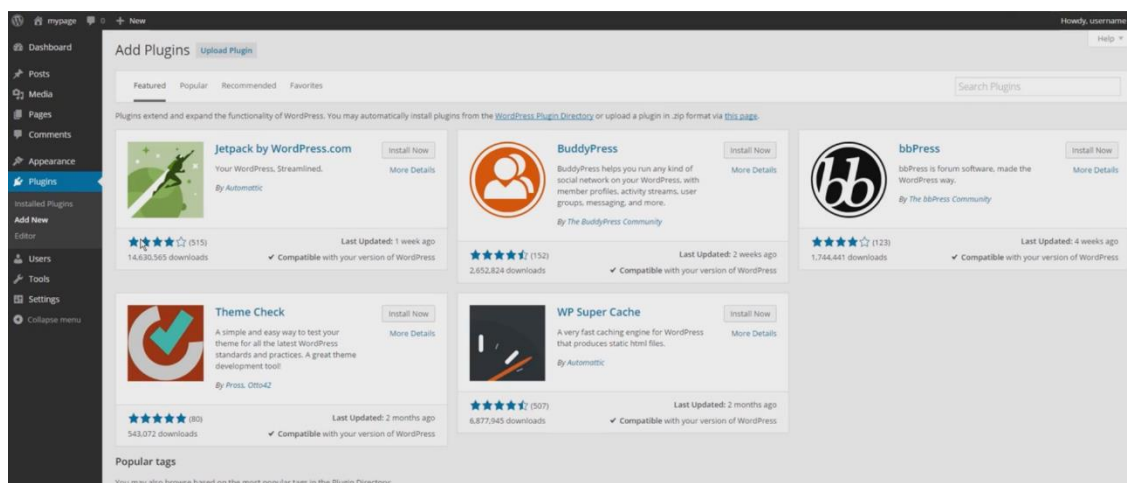


Illustration 37: Adding Plugins

4.10.2 Exercise 6: Creating Contact Page

Websites often have a contact page which includes some static text and contacting form. Creating a page like that can be done by creating normal page and using a plugin for the contact form. There are several contact form -plugins for the task. It is smart to select popular plugin because it will be most likely maintained longer than unpopular one. “Contact form 7” with its’ over 24 million downloads should do the job adequately.

First create page from back-end navigation via “Pages” > “Add New”. Title for the page will be “Contact”. Content for the page could be contact information and contacting form. First thing is to add contacting information to the page so people who don’t want to use the contact form can contact the websites owner. This information is also important because the contact form might not work for some reason. After the static text has been added the page should be saved as a draft.

Next thing is to add the contact form using a plugin. This is very practical and is highly recommended. Installing plugin can be done from the back-end navigation menu via “Plugins” > “Add New”. The correct plugin can be found by typing “Contact Form 7” to the search area and pressing enter. “More Details” will show more information about the chosen plugin and from there it is good to check that the plugin works as intended for the project. After everything looks good installing plugin via “Install Now” button will download installation package, unpack it and install the plugin automatically. After the plugin has been installed it needs to be activated from “Activate plugin”.

Once Contact Form 7 plugin has been activated it can be found from back-end navigation via “Contact” section. New contact form with correct language can be created via “Contact” > “Add New” by selecting correct language and pressing “Add new”. Title should be added and

the form saved. Saving the form will create the form. Once contact form has been created the shortcode for the form is shown beneath the form title. To make the form visible on a contact page copy and paste the shortcode to the content of the contact page and publish the page.



Illustration 38: Edit Contact Form

4.11 Widgets

Widgets add content and features to sidebars and can be configured from “Widgets” under “Appearance” menu in the admin panel. Widgets can appear on multiple locations on the site depending on the theme, plugins and changes made by the developer. (codex.wordpress.org 2014, WordPress Widgets.)

Widgets are used in widget areas which are defined in the theme. Areas can be set anywhere on the page but generally they are used for header, footer and sidebars. To add a new widget area to the theme one of the themes PHP files has to be edited via coding or with a plugin which creates new widget areas. (codex.wordpress.org 2014, WordPress Widgets.)

There can be several different widgets depending on the need of the client and ingenuity of the developers. Basic WordPress gives several options on the start. These include: “Archive”, “Calendar”, “Categories”, “Custom Menu”, “Meta”, “Pages”, “Recent Comments”, “Recent Posts”, “RSS”, “Search”, “Tag Cloud” and “Text”. Descriptions can be found below the widget. (codex.wordpress.org 2014, WordPress Widgets.)

There are thousands of plugins for creating, adding and controlling widgets. For example, there could be a questioner poll widget or a “YouTube Channel Gallery” widget. There is also a widget for “Opening Hours” if the site is for a restaurant or for a shop. Weather and Twitter feed widget plugins are bringing dynamic content to the site and it’s always good idea to add some social options to widget bar. (Muldoon 2014.)

Widget management can be done from back-end navigation via “Appearance” > “Widgets”. In the widget page there are sections for Available widgets, Widget areas and Inactive Widgets. (codex.wordpress.org 2014, WordPress Widgets.)

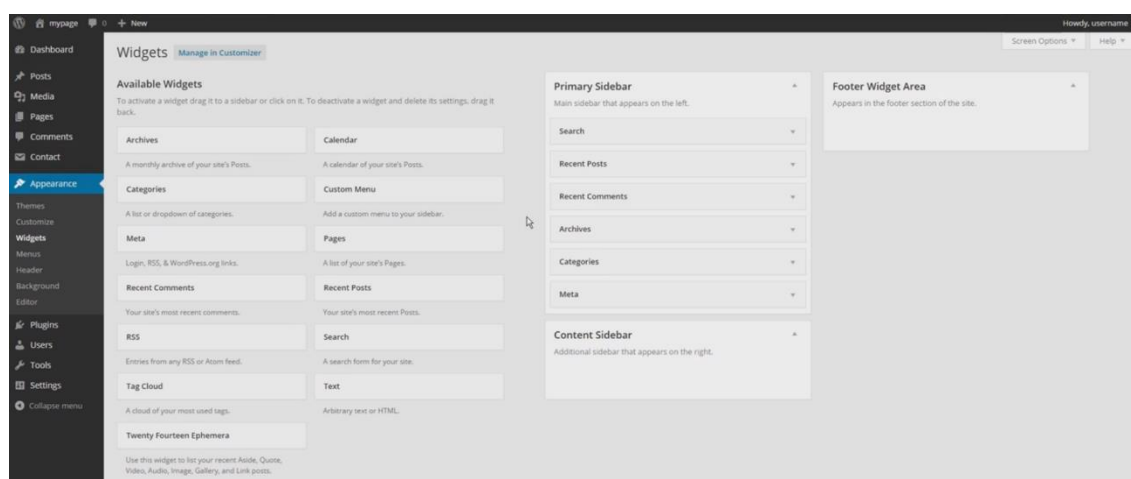


Illustration 39: Widgets

Available widgets can be set to widget area by clicking the widget and selecting the widget area where it should be displayed. Another way is to drag & drop widget to the correct widget area. Depending on the theme there is usually at least one widget area where widgets can be displayed. In most cases it is sidebar which is displayed next to the content. (codex.wordpress.org 2014, WordPress Widgets.)

Removing widgets from widget area can be done by dragging the widget outside of the widget area or clicking delete inside of the widget. Removing the widget removes all settings which are used in that widget. By moving the widget to “Inactive Widgets” -section WordPress keeps all the used settings of that widget enabling to re-use that particular widget. There are also plugins which add more functions to widgets. For example allowing to choose pages where the widgets are displayed. (codex.wordpress.org 2014, WordPress Widgets.)

Another way to manage widgets is from “Appearance” > “Customize” and selecting “Widgets” from the left menu. This approach includes live preview of the widget area. (codex.wordpress.org 2014, WordPress Widgets.)

4.12 Themes

WordPress uses a web template system with template processor which is also called template engine. Template engine includes features like variables and functions. WordPress has a lot of free and premium themes to choose from. Developers can download or create a brand new theme for their website. (codex.wordpress.org 2014, Using Themes.)

Themes are managed via back-end navigation from “Appearance” > “Themes”. All installed themes are displayed here and they can be previewed by clicking “Live preview” and activated with “Activate” button. Once theme is activated it can be customized by clicking “Customize” button. (codex.wordpress.org 2014, Using Themes.)

Today’s themes are responsive which makes websites work correctly in mobile devices and computers. WordPress currently has four themes included: Twenty Fifteen, Twenty Fourteen, Twenty Thirteen and Twenty Twelve. Using the original themes for the project is optional. (codex.wordpress.org 2014, Using Themes.)

WordPress themes consist of files called template files that work together with WordPress to produce a graphical interface for the website. Themes may have some built-in functionality for website for example custom posts which are displayed as portfolio items. (codex.wordpress.org 2014, Using Themes.)

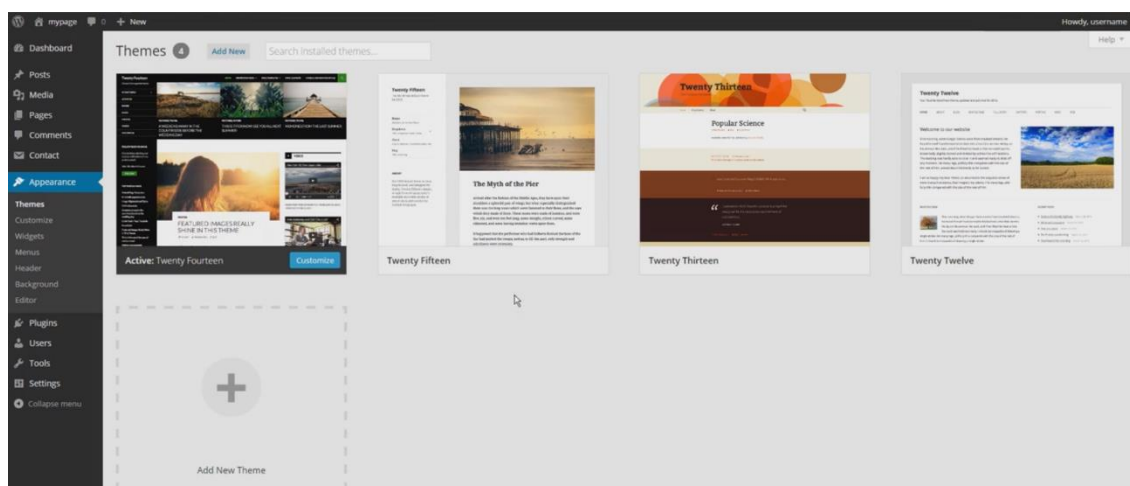


Illustration 40: Themes

4.12.1 Installing New Theme from Back-end

New themes can be installed from back-end navigation via "Appearance" > "Themes" > "Add New". When installing a new theme it's important to think how the website should look be-

fore installing the theme. WordPress gives several filters to make searching of the theme easier. These include following filters: "Featured", "Popular" and "Latest" themes. "Feature Filter" opens an accordion which includes more filters to limit the search. Additional options include: colors, layout, features and subject for the theme. (codex.wordpress.org 2014, Using Themes.)

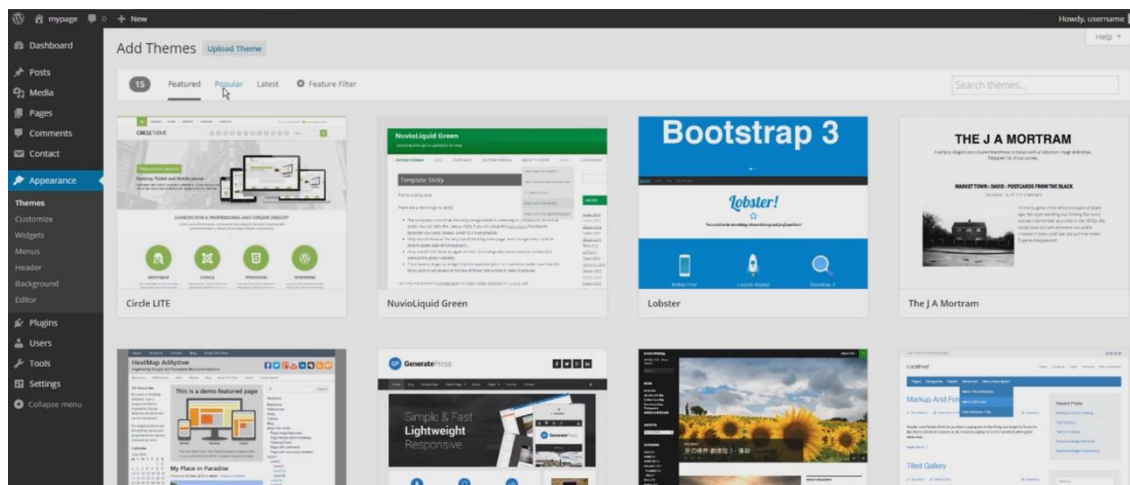


Illustration 41: Add Themes

Themes can be previewed before installation by clicking "Preview" on the selected theme. It helps to see how the theme looks when displayed. Theme can be installed by clicking "Install" button which will download install package, unpacks it and installs the theme. After the theme is installed it can be activated by clicking "Activate". Some themes may create a new submenu items in "Appearance" -menu where theme options are usually located. (codex.wordpress.org 2014, Using Themes.)

Themes can be downloaded from WordPress Themes directory or from external sources. Uploading a theme from computer to server can be done via "Upload theme" button and by selecting the .zip file from local computer. (codex.wordpress.org 2014, Using Themes.)

4.12.2 Child Theme

Using child theme is highly recommended if any theme files are modified. Child theme inherits functionality and styling from the parent theme and overrides parent theme files with modified child theme files to achieve advanced modification of the website. Updating the parent theme is highly recommended because of security updates and functionality improvements. Because all the modified files are located in the child themes folder all modifications stay intact when the parent theme is updated. (codex.wordpress.org 2014, Child themes.)

A child theme usually consists of the child theme directory, style.css and functions.php files. Stylesheet file is for styling the website using CSS and functions file is for adding more functions using PHP. (codex.wordpress.org 2014, Child themes.)

Child themes can be created manually or by using a plugin for the purpose (Alejande L. 2.1.2013). Using a child theme makes the developing easier because parent themes code isn't displayed when modifying child theme's code. Child theme inherits the functions and styling from the parent theme allowing cleaner view of the modification code within the child theme. (codex.wordpress.org 2014, Child themes.)

4.13 Moving Local Site to Internet

First step to avoid problems before starting the transfer process is to backup files and the database from server to a local computer. Site recovery can be done with backups. (McCollin R. 2013.)

There are many ways to move WordPress to another server. It can be done manually or by using plugin for the purpose. Moving the site to another server means that all WordPress files have to be transferred to the new server. Because WordPress uses database the database has to be exported from the current server and imported to the new server. (codex.wordpress.org 2014, Moving WordPress.)

For the WordPress site to work on a new server it is important that the new server fulfills all the requirements of WordPress including correct versions of PHP and MySQL. Correct versions can be checked from Wordpress.org. (McCollin R. 2013.)

4.13.1 Backing up Database from phpMyAdmin

Database can be exported from localhost/phpmyadmin/. Databases can be found via "Databases" tab. (codex.wordpress.org 2014, Moving WordPress.)

Database can be opened by clicking it. Clicking "Export" tab will open exporting options. Using "Quick" as an export method and SQL as format should suffice. Pressing "Go" will save the database file to local computer. (codex.wordpress.org 2014, Moving WordPress.)

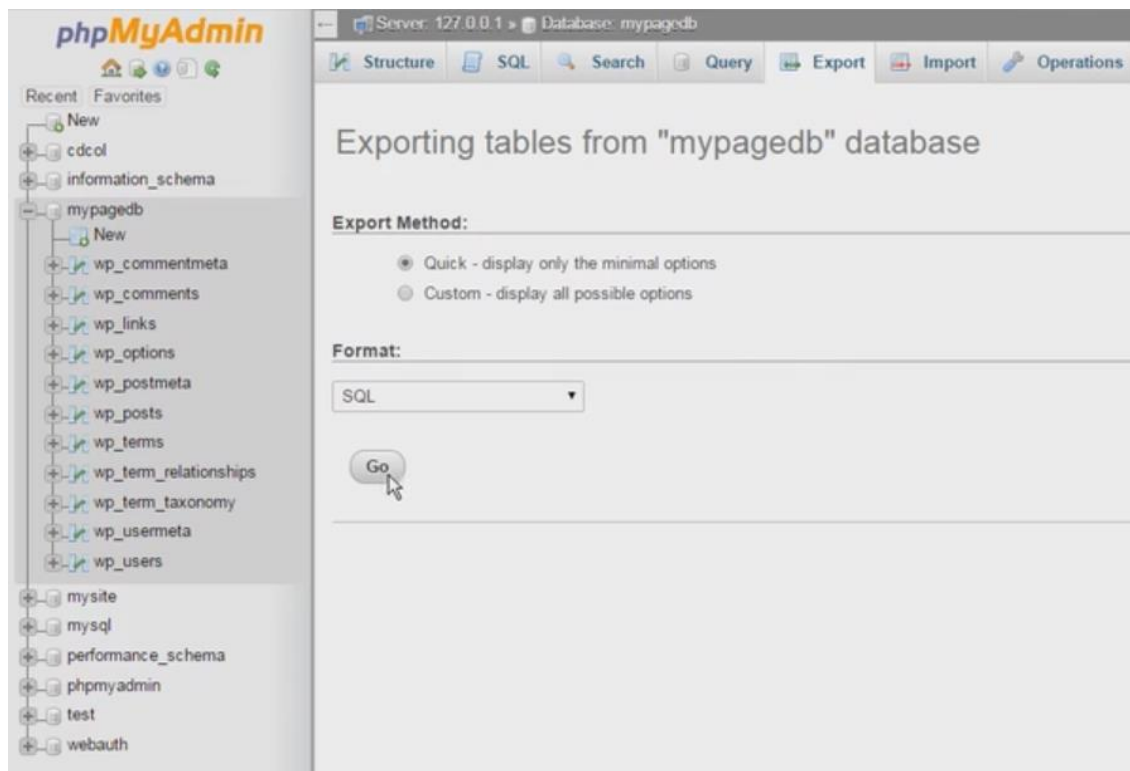


Illustration 42: Exporting tables from database

4.13.2 Backing up WordPress Folder

In XAMPP the WordPress is located in `xampp/htdocs/wordpress-folder`. It can be copied by right clicking the folder and selecting “Copy”. Now the WordPress folder can be pasted to another location. (codex.wordpress.org 2014, Moving WordPress.)

Good practice is to keep files and database backups in the same folder. Folder name could be site name and date of backup. This will make managing backups easier afterwards. There are also several plugins for backing up WordPress. (codex.wordpress.org 2014, WordPress Backups.)

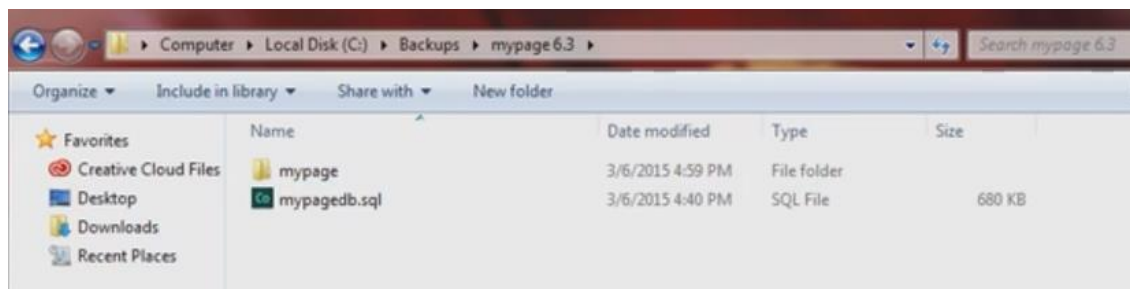


Illustration 43: Backing up WordPress folder

4.13.3 Preparing For Transfer and Database Exporting

Before WordPress site can be transferred manually it has to be configured via back-end navigation from "Settings" > "General". The "WordPress Address" has to be changed to correspond the location of the WordPress core folder and "Site Address" has to be changed to match new URL defining the sites new address. These can also be changed from the database in the options table in rows that contain option names "siteurl" and "home". (codex.wordpress.org 2014, Moving WordPress.)

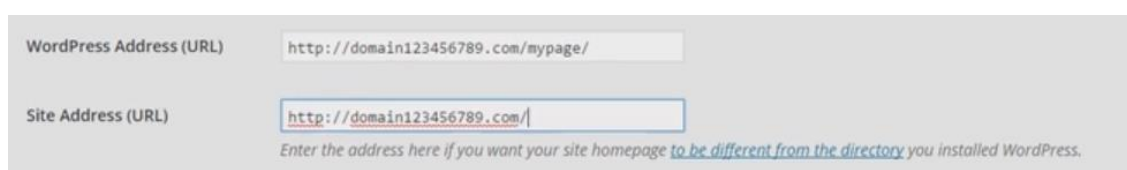
A screenshot of the WordPress General Settings page. It shows two input fields: "WordPress Address (URL)" with the value "http://domain123456789.com/mypage/" and "Site Address (URL)" with the value "http://domain123456789.com/". Below the "Site Address (URL)" field, there is a note: "Enter the address here if you want your site homepage to be different from the directory you installed WordPress." The "Site Address (URL)" field is highlighted with a blue border.

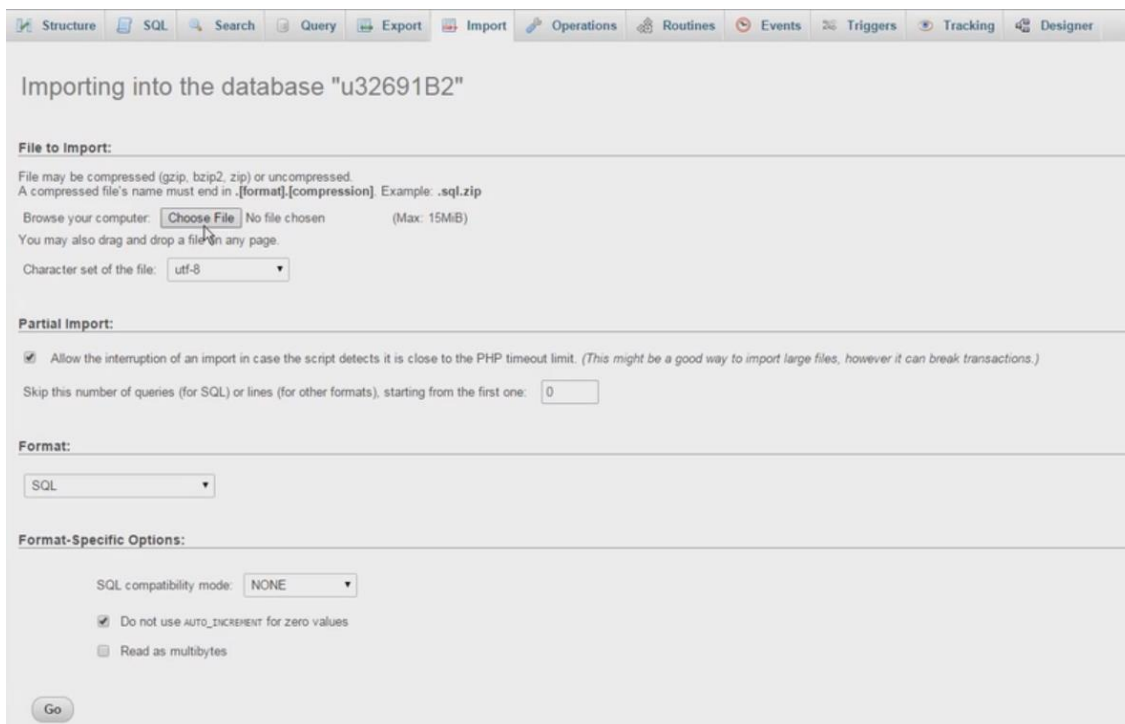
Illustration 44: Setting the new URL from General Settings

Without changing these values the new installation will direct to the old address and will not work. After changes have been made the database can be exported from localhost/phpmyadmin/. (codex.wordpress.org 2014, Moving WordPress.)

4.13.4 Import Database via phpMyAdmin and Uploading Files

Database can be imported from hosting providers' phpMyAdmin with sufficient account permissions. Some hosting providers block the database creation and create databases automatically. If the database has not been created there is an option to "Create database". Database consists of tables which store the data. Opening a new database will notify that no tables are present in the database meaning that the database is empty. (codex.wordpress.org 2014, Moving WordPress.)

Exported database can be imported from "Import" tab by selecting the database file from the local computer. Clicking "Go" will import tables to the database. (codex.wordpress.org 2014, Moving WordPress.)



The screenshot shows the MySQL Import wizard interface. At the top, there is a navigation bar with tabs for Structure, SQL, Search, Query, Export, Import, Operations, Routines, Events, Triggers, Tracking, and Designer. The main title is "Importing into the database 'u32691B2'".

File to Import:

File may be compressed (gzip, bzip2, zip) or uncompressed.
A compressed file's name must end in `.[format].[compression]`. Example: `.sql.zip`

Browse your computer: No file chosen (Max: 15MiB)
You may also drag and drop a file on any page.

Character set of the file:

Partial Import:

Allow the interruption of an import in case the script detects it is close to the PHP timeout limit. (This might be a good way to import large files, however it can break transactions.)

Skip this number of queries (for SQL) or lines (for other formats), starting from the first one:

Format:

Format-Specific Options:

SQL compatibility mode:

Do not use `AUTO_INCREMENT` for zero values

Read as multibytes

Illustration 45: Importing the database

To move WordPress folder to a new server “File Transfer Protocol” program is needed. Host will provide account information for connecting to the server using FTP. Once connected to the server the WordPress folder can be moved to the `public_html/` folder. `Public_html/` is usually the root directory but depending on the hosting provider it can also be `var/www/` or something similar. (codex.wordpress.org 2014, Moving WordPress.)

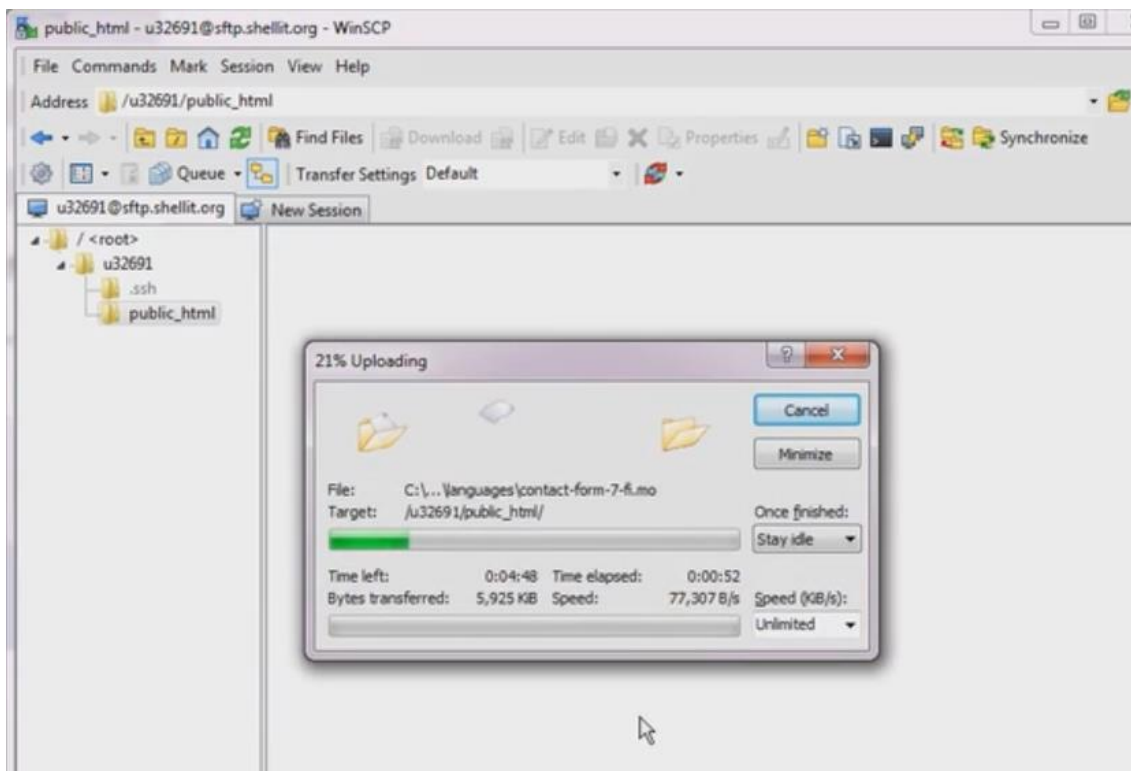


Illustration 46: Moving WordPress folder via FTP

4.13.5 Configure WordPress to New Settings

To run WordPress out of subdirectory index.php and .htaccess files have to be copied to the root directory. Index.php file which is inside the root directory has to be modified to support the subdirectory structure. Inside the index.php requiring the environment has to include the subfolder where the WordPress is installed for WordPress to work.

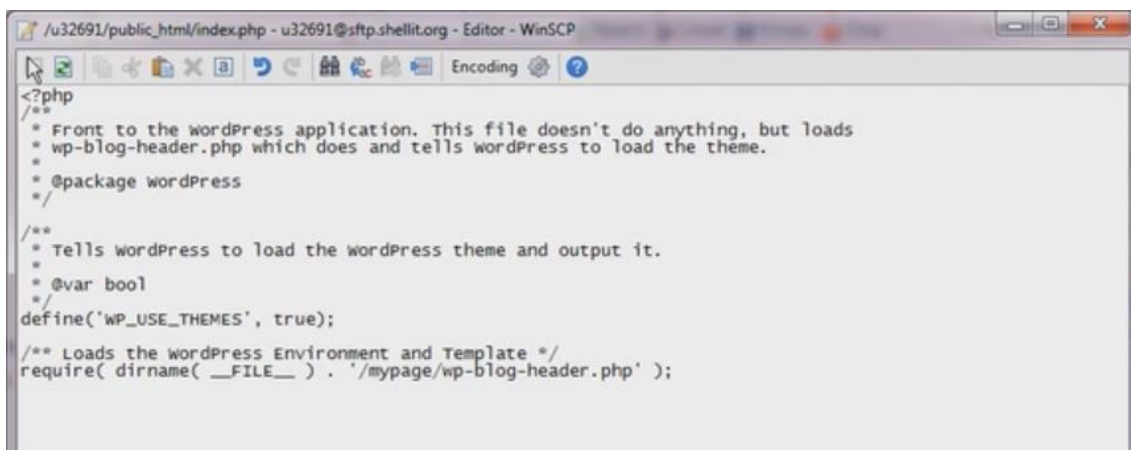



Illustration 47: Editing index.php

Before WordPress can communicate with database it has to be configured with new hosting information. By removing wp-config.php file WordPress can create new configuration file. Configuration can be done by connecting to WordPress using browser. This opens installation screen where new hosting information can be entered after choosing installation language. (codex.wordpress.org 2014, Moving WordPress.)



The image shows the WordPress installation database configuration screen. At the top center is the WordPress logo. Below it, a text instruction reads: "Below you should enter your database connection details. If you're not sure about these, contact your host." The form contains five input fields, each with a label and a description:

Field Label	Value	Description
Database Name	u32691B2	The name of the database you want to run WP in.
User Name	u32691	Your MySQL username
Password	[Redacted]	...and your MySQL password.
Database Host	mysql.shellit.org	You should be able to get this info from your web host, if localhost does not work.
Table Prefix	wp_	If you want to run multiple WordPress installations in a single database, change this.

At the bottom left of the form is a "Submit" button with a mouse cursor pointing to it.

Illustration 48: Reconfiguring WordPress install

More advanced tactic is to edit "wp-config.php" file and set new database name, database username, and database password and database hostname. After changes have been made the WordPress should be operational. (codex.wordpress.org 2014, Moving WordPress.)

4.14 Premium

WordPress is the most popular content managing system and for this reason there is an endless supply of premium add-ons for all purposes. These include all kinds of different themes and plugins. (ithemes.com 2014.)

Benefits of premium is that the add-on is constantly updated to new standards of security and functionality. Also customer service is on another level compared to the free add-ons. Another benefit is the quality of the product. Where the free version seem to lack the quality and functionality the premium version comes together with excellent outcomes. (ithemes.com 2014.)

High-end add-ons include premium website for tutorials and a forum where one could find all necessary information for modifying the add-on. Some even have professionals advising how to make more profit out of already existing content. (ithemes.com 2014.)

Most of the premium add-ons include thousands of lines of professional code for very cheap price. So duplicating such features would cost much more if done in-house. It is always smart to invest in a premium themes and plugins for this exact reason. (ithemes.com 2014.)

In most cases the free add-on is developed and supported by a singular person in his or hers free time and so the support might be lacking or it might even be absent altogether. While the premium add-on might have a team or even a full company behind the product. This guarantees more reliable upkeep and support for the premium product. (ithemes.com 2014.)

4.14.1 Premium Themes

When selecting a premium theme few things should be taken into consideration. The first thing should be that the theme fits the need. For example there are themes that are designed solely for web shop purposes. Second is the popularity of the theme. If the theme is unpopular the updates will be less frequent or even nonexistent. And so if the theme is popular the updates are frequent and the developers are more obligated to create improvements' to indulge peoples wishes. Popularity also provides more capital for the theme developers to improve the theme. (ithemes.com 2014.)

Benefits of using premium theme are vast. One of the benefits is the themes customizability. With premium themes the customization of the theme is usually an easy task and there are

lots of options to make the site look unique and awesome. Also there is usually an well written manual for configuring the theme. Another benefit is the support. When faced with a problem the premium support is usually fast and efficient. (ithemes.com 2014.)

Most of the premium themes also include advanced premium plugins which will make the content creation and management much easier. When selecting the theme it is important to find out what other benefits the theme might include besides the styling of the pages. (ithemes.com 2014.)

4.14.2 Premium Plugins

For more advanced site features the premium plugins should be considered because of their quality and support. Some free plugins are quite good but in the end most of the advanced and high-end features are premium. This is due mostly because the level of skill and time that it takes to develop more advanced features. (ithemes.com 2014.)

For example to create a multilingual WordPress site a plugin called “WordPress Multilingual” is an great premium plugin which makes creating a multilingual site an easy task. One of the benefits is that the plugins creators have taken into consideration the search engine optimization and gone into great lengths to optimize the content for popular search engines like Google. Many premium theme makers have also optimized their themes to support “WordPress Multilingual” so the translation of the theme would be easier. (wpml.org 2014.)

Another great premium plugin is “Slider Revolution” which is one of the most used premium sliders. It is very high end and can perform some neat tricks. Those include fully responsive layout for better mobile viewing, parallax sliders, video sliders, layers and timing. Also all the options are very easy to configure. (wpexplorer.com 2014.)

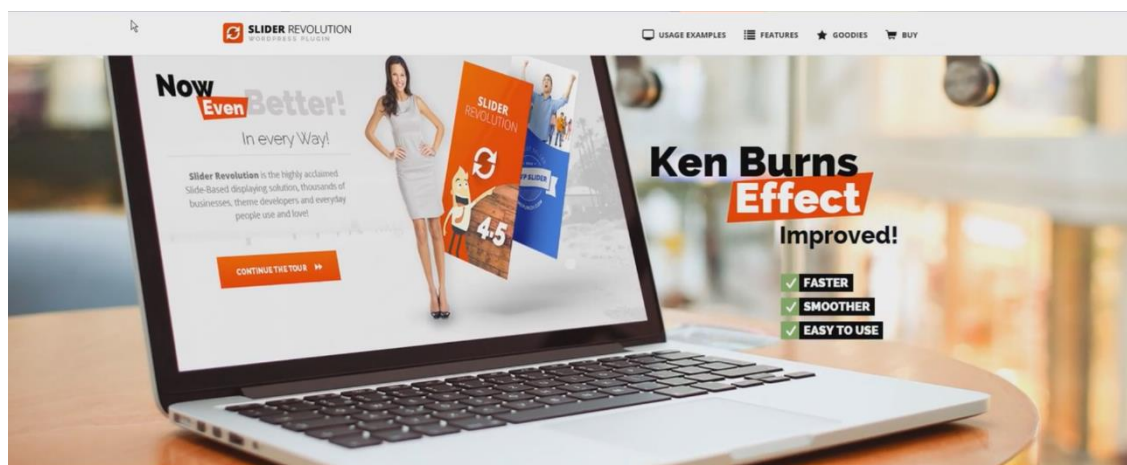


Illustration 49: Premium plugin Slider Revolution

One of the most useful premium plugin is “Visual Composer” which allows building of pages with advanced visual interface. It shows all of the components that can be used on the page. These components can be easily added and arranged to ones’ liking. “Visual Composer” works by drag and drop principles. (wpbakery.com 2011.)

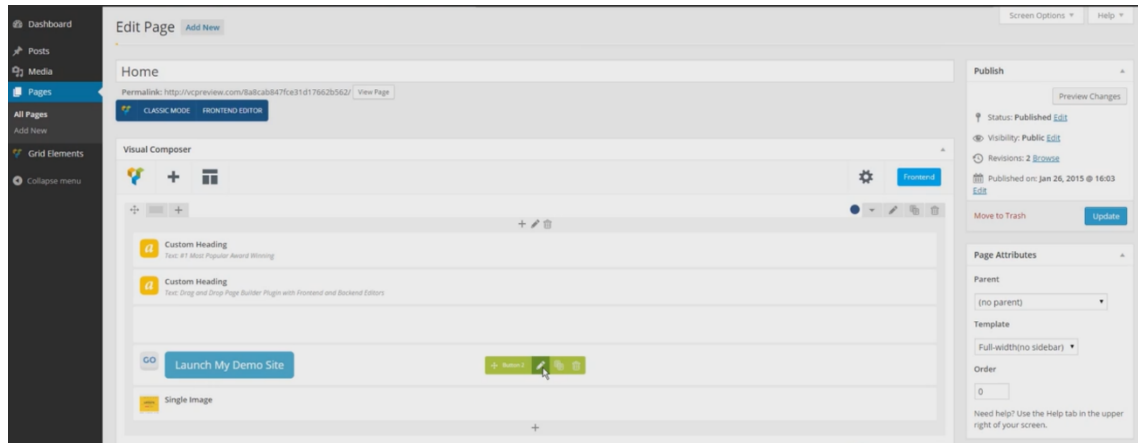


Illustration 50: Premium plugin Visual Composer

4.15 Course Conclusion

You've just completed an online course on WordPress. Thank you for your participation. Please remember to write feedback so together we can make the course even better.

Now you know how to install XAMPP Apache server local development environment, how to install WordPress and how to setup settings for the WordPress. You also have a basic understanding how to create and manage a WordPress site and you know how to find necessary settings via the back-end navigation menu. Managing dashboard content has also become a breeze.

You can now take advantage of plugins when creating a website. You know how to create content for pages and posts using visual editing tools and how to publishing those posts and pages. You now know how to manage and install new widgets and how to add them to desired widget areas. You also know how to create, edit, add and delete multiple menus in different menu locations throughout the site.

You can download and set a new theme for the website and the importance of a child theme when modifying theme files should be clear. You understand how to backup information and you know how a website can be transferred from local host to the internet. You have been informed how the premium themes and plugins can speed up development of a website and how the premium support can help you to develop even more advanced features.

With these skills you can become a developer/administrator of a WordPress site. The next step to continue your learning process is to create even more stunning websites using the skills already learned from this course. To access additional information visit WordPress Codex and thank you again for your participation.

5 Going Live on UdeMy Platform

UdeMy is online learning marketplace where students can take courses in everything from programming to sports and much more. At the moment UdeMy has over 25,000 courses taught by expert instructors. (udemy.com 2015.)

To get the course to UdeMy platform the first step was to create an account to UdeMy. After the registration it was possible to create a course as Instructor and the only required field was course name. After the creation of the course it was time to get more information about how to add content and what to do next. Luckily there was a course about course creation which offered good basis for the creation of the course. (udemy.com 2015.)



Next step was to add basic information about the course, course image and course goals for the course. Course goals included what the students are able to do after the course, who should attend to the course and who should not and the basic requirements for the students. Course structure had already been created and it just had to be added to the system. Structure contained sections, lectures, exercises and quizzes. (udemy.com 2015.)


UdeMy rafter uploading a test video UdeMy experts provided feedback which contained suggestions for improvements. After the video was edited the test video was sent again and approved. So the creation of the course material could continue. The only problems were that the audio was too quiet and it needed some enhancements. The problem was solved by increasing the volume level of existing audio tracks and by applying preexisting effect set with Adobe Audition. (udemy.com 2015.)

After materials were exported from Adobe Premiere Pro CC they could be uploaded to UdeMy server with mass upload program which UdeMy provided. After the upload the materials were attached to the correct sections in the course. Every section, lecture and exercise has a description text which contains information about the topic. After each section excluding the section which contained exercises there was quiz added to test the students. (udemy.com 2015.)

Section 11: Widgets

After this section students will be able to locate widgets from admin panel, manage widgets by adding, removing ...

Lecture 37:  Widgets 



11Widgets.mp4

01:36

[Edit Content](#)



[Preview](#) [Publish](#)


Widgets

This lecture helps to locate widgets from admin panel and to understand where widgets can be displayed. Also we will get to know default WordPress widgets.

[Add Resources](#)

[Add Captions](#)

Lecture 38:  Managing Widgets 



11.1ManagingWidgets.mp4

01:21

[Edit Content](#)


[Preview](#) [Publish](#)

Managing Widgets

This lecture advice how to manage widgets by adding, removing and rearranging widgets.

[Add Resources](#)

[Add Captions](#)

Quiz 7: Widgets 

Questions

[+ New Question](#)

[Preview](#) [Publish Quiz](#)

1. Where are widgets displayed? multiple-choice
2. Widgets can bring dynamic content to a webpage. true-false
3. New widget areas cannot be created manually. true-false

Illustration 51: Udemy curriculum

The course had to have a summary which explains what the course contains. So the summary had to be written. After all had been checked and tested it was possible to submit the course for review. (udemy.com 2015.)

6 Conclusion

Research question of the thesis was how to teach beginners the use of WordPress content management system. The result was to create an online course which teaches the usage of WordPress. The online courses are the most modern way to teach without being physically present. The subject of the thesis is current because popularity of e-learning courses have increased. Skills learned from this course can be applied at work as a basis for WordPress web development.

The course is also suitable for a company which may not be working in the IT industry. These companies often have a person who manages the company's website and that person can be trained with this online course.

The thesis consist of online course material which can be used as a guidance for WordPress website creation from the start to published version. The course contains information videos, exercises and quizzes to make studying more effective. The course also provides some advanced information about WordPress in order to avoid unpleasant consequences of uneducated web development.

After completing the course students are able to create and edit a website using WordPress content management system. Students can create their own website during the course using video material as guidance.

To create an online course first the material for the course was create. Content creation started with creation of the text content that was used as audio material. Audio records were made with Audacity audio editor and the audio enhancement was done with Adobe Audition CC. VLC media player's screen capture tool was used to capture raw video material from screen. After video materials had been recorded they had to be edited together with the audio tracks to achieve the final result. Adobe Premiere Pro CC was selected for the video editing because of its popularity among video editing software for Windows.

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Appendixes

Appendix 1: Table of Questions 82

Question	Correct answer	Wrong answers	Section
Question 1: What does CMS stand for?	CMS stands for Content Management System	CMS stands for Content Marketing System CMS stands for Customer Management System	Getting Started With WordPress
Question 2: What is the most used CMS?	WordPress	Drupal Joomla	Getting Started With WordPress
Question 3: Requirements for current WordPress can be checked from WordPress Codex.	True	False	Getting Started With WordPress
Question 1: XAMPP portable is more suited for schools than the normal version?	True	False	Setting Up Local Environment
Question 2: XAMPP requires working internet connection to function.	False	True	Setting Up Local Environment
Question 3: * has to be executed for portable XAMPP to work.	setup_xampp.bat		Setting Up Local Environment
Question 1: WordPress can be downloaded from:	www.wordpress.org	www.wordpress.com www.wordpress.net	Install WordPress
Question 2: What is the default WordPress table prefix?	wp_	wp wp-	Install WordPress
Question 3: WordPress install can be accessed via browsers address bar by entering	__lo- calhost__/ <u>folder_name</u> /		Install WordPress
Question 1: Additional options can be displayed from "Screen Options"?	True	False	WordPress Dashboard Overview

Question 2: Even more features can be added to the dashboard with?	Plugins	Themes	WordPress Dashboard Overview
Question 3: Updating your WordPress is very important because of security updates and bug fixes.	True	False	WordPress Dashboard Overview
Question 1: Site title and tagline can be changed from	__General__ Settings.		Settings
Question 2: Comment can be sent to trash automatically.	True	False	Settings
Question 3: Correct custom permalink for showing category and postname in URL is	__/%category%//%post-name%/__		Settings
Question 1: Multiple files can be uploaded simultaneously.	True	False	Media
Question 2: Image alt- text helps with search engine optimization.	True	False	Media
Question 3: Only images can be uploaded.	False	True	Media
Question 1: Where are widgets displayed?	Widget areas	Dashboard Widget space	Widgets
Question 2: Widgets can bring dynamic content to a webpage.	True	False	Widgets
Question 3: New widget areas cannot be created manually.	False	True	Widgets

Question 1: Themes can be installed via back-end.	True	False	Themes
Question 2: Themes cannot be installed manually.	False	True	Themes
Question 3: Using child theme is important when modifying theme files	True	False	Themes
Question 1: Did you remember to backup your database?	Yes	No	Moving Local Site To Internet
Question 2: Did you remember to backup your WordPress folder?	Yes	No	Moving Local Site To Internet
Question 3: Site URL cannot be modified from the phpMyAdmin.	False	True	Moving Local Site To Internet
Question 1: Premium add-ons include	__themes__ and __plugins__.		Premium
Question 2: Buying premium add-ons is usually cheaper than developing feature in-house.	True	False	Premium
Question 3: Premium support is on another level when compared to free.	True	False	Premium
Question 4: Premium themes might have premium plugins included.	True	False	Premium

Table 2: Table of Questions

Appendix 1: Table of Questions