King Saud University
College of Computers and Information Science
Department of Information Systems

IS479 (Practical Training)
COOP Training Report

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Acknowledgement:

My university, which helped me during my training period, deserves praise. Then, I want to thank the SharedTech Company, its staff, and Mr. Hussain Alhaddad, who was there to help me and provide guidance. The CEO and staff shared a wealth of expertise with me, and the welcoming atmosphere the business created helped me have a positive time there. Last but not least, I want to thank the King Saud University and Dr. Bader Alkhamiss for his training advice and guidance. Therefore, without their support and direction, this training will not be successful.

Summary:

I've been attending King Saud University to study. Additionally, completing a training program is a requirement for graduation. Therefore, SharedTech has a training program for me. I was chosen by the organization SharedTech for a two-month training program. For the duration of this two-month training program, which ran from September 24, 2023, to July 8, 2021. This training program lasted for eight weeks. In this report, I'll start by discussing the training program, which will be discussed after the introduction of the company. Basically, a training plan is a list of the schedules for various activities. I'll next go over what I discovered over my eight-week training sessions before wrapping up my report.

Introduction:

The majority of firms are looking for the best strategy to advance in today's quick-paced environment. They therefore give it their all to dominate the market and be at the top. The majority of these entities employ information-using techniques. SharedTech, a Saudi company founded in 2011 with interests in developing websites, programming, and internet services and working with top-tier suppliers of goods and services, King Saud University gives an opportunity to their students that they can work on any kind of training for eight weeks, The purpose of providing this opportunity is to ensure that students have a thorough understanding of how technology functions and what their job prospects would be after earning this degree.

I started my training program at SharedTech on sep 24 2023, until July 08, 2021. The management of the company gave me sufficient training about the technologies they own such as dealing with content and content type, build web sites, internet services etc. The company has to monitor that IT demand in the market is fulfilled effectively with sufficient technologies. So, in this report I will be talking about my training in the company and then I will be discussing training schedule, company profile in which I will be elaborating the structure of the company. Then, I will be discussing in detail what I learnt in these eight weeks and then concluding my report.

About the company :

A group of individuals with the best knowledge and abilities make up SharedTech. The company's staff members are eager to impart their skills and knowledge to the other team members. SharedTech wants to make professionalism and experience accessible to the company's stakeholders. The company's goal is to give all of its clients the greatest technologies and solutions to deal with any problems, whether they are in the public or private sectors of society. Reliability, ethics, and professionalism are the cornerstone of SharedTech. These are the main pillars on which the company's connections with its partners or stakeholders are built. SharedTech strives to keep one step ahead of the competition and offer strong and trustworthy solutions.

The SharedTech organization was founded in 2011 and has been growing and changing ever since. Up until this point, SharedTech has continued to offer its services and has expanded by working with a variety of interested parties, including universities, ministries, and institutions, to build websites using PHP and "Drupal" work in the details of sites and their content. A team or group of people with the best talents and expertise is called SharedTech. The company's staff members are eager to impart their skills and knowledge to the other team members. SharedTech wants to make professionalism and experience accessible to the company's stakeholders.

In SharedTech there is many departments, each of them related to certain matters and performing a specific task:

Drupal	PHP	UX/UI

1- Drupal
in sharedtech drupal used to create web content management system by drupal you can create a content type such as : news, article and any type of content you want to add, with drupal you can make the form filled with text feilds and upload any file to add it to the content like pictures, pdf files or links

2- PHP
PHP is a server-side scripting language widely used for web development. It was originally designed for creating dynamic web pages and has evolved into a versatile language capable of handling a wide range of tasks. One of the key strengths of PHP is its ability to seamlessly integrate with HTML, allowing developers to embed PHP code directly into web pages. This enables the creation of dynamic content, such as generating HTML on the fly, interacting with databases, and handling form submissions.

3- UX/UI
UX (User Experience) and UI (User Interface) are two crucial components of modern design that work together to enhance the overall user satisfaction and usability of digital products. UX focuses on understanding and optimizing the user journey and interaction with a product, aiming to create a seamless and enjoyable experience. It involves research, analysis, and prototyping to ensure that the product meets the needs and expectations of its target users,On the other hand, UI design focuses on the visual and interactive elements of a digital product. It encompasses the aesthetics, layout, and responsiveness of the user interface.

SharedTech clients :

1. Universities and colleges
2. Ministries and organizations
3. Institutions
4. Hospitals and healthcare providers
5. Tourism companies

Training Plan :

My training plan at SharedTech was about eight weeks of duties contains things I will learn and work, it shows how is my training will be from the basics in the first week until advanced level in the last week, I hope to beneficiate from it thankful for my supervisor in SharedTech for create this plan.

- **Week 1: Understand the basics of web development**
- **Week 2: Build a small project using the chosen framework.**
- **Week 3: Learn Git and use it for version control, Collaborate with others on a coding project using Git.**
- **Week 4: Learn about database management systems and SQL**
- **Week 5: Learn a simple web application with the back-end functionality, Back-end development**
- **Week 6: Dive deeper into advanced topics such as algorithms, data structures and design patterns**
- **Week 7: Understand data storage options for mobile apps (local storage, databases, APIs), 2- Learn about web testing techniques and tools.**
- **Week 8: Test and debug an app on different devices and platforms, 2- Learn about the submission and review process.**

During the Training :

What I did ?
I began my training by getting to know the staff members that work in SharedTech. They were wonderful and supportive, offering guidance and assistance. They also understood that I was new to the labor market.

I started my first day in work by meeting with my team leader and he explain to me what is work nature and how they doing in SharedTech, He also gave me a quick overview of SharedTech history, when did they start, and what obstacles and problems they faced, I then talked with them about what I can do to help my team. We began by learning about the cutting-edge products and solutions owned by the SharedTech and how its doing, such as the Drupal web content management system, and they shows the web sited build and provided by SharedTech

I therefore began my training program with Sharedtech on September 23, 2023. After giving me a quick overview of their business, the management of the company installed several IDEs and applications that I will use in my job, including MAMP, Drupal, Composer, Drush, and many others that were already installed, such Visual Studio Code and GitHub.

Drupal:

To work with Drupal this is brief descriptions of all concepts related to Drupal:

MAMP:

The "M" in MAMP represents macOS, as this software is specifically designed for Mac users. The "A" stands for Apache, which is a popular web server software that allows your computer to serve web pages. The "M" in MAMP also represents MySQL, which is a widely used relational database management system. MySQL allows you to store and manage data for your web applications. Finally, the "P" represents PHP, which is a programming language commonly used for web development. It is used to create dynamic and interactive web pages.

CMS (Content Management System):

A CMS provides a user-friendly interface that enables individuals or teams to add, edit, and publish content such as text, images, videos, and other media files. It simplifies the process of managing website content by separating the design and layout from the actual content. This

means that users can focus on creating and organizing content without having to worry about the underlying technical aspects of the website.

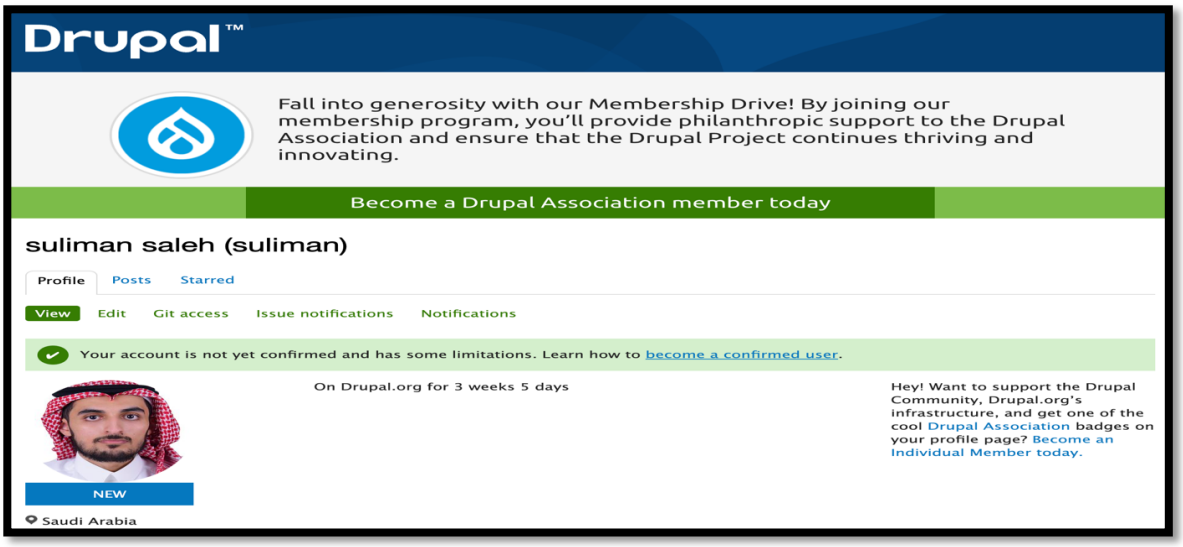
Drush:

Drush, short for "Drupal Shell," is a command-line tool specifically designed for managing Drupal websites. It provides a powerful set of commands that streamline common administrative tasks and development workflows, making it a valuable tool for Drupal developers and site administrators.

Drupal:

I have worked with Drupal so many times in my trainee which is a powerful and versatile open-source content management system (CMS) that has gained immense popularity in the web development community. With its robust architecture and extensive range of modules, Drupal empowers individuals and organizations to build highly customizable and feature-rich websites and applications. Its flexibility is a standout feature, allowing developers to create everything from simple blogs to complex e-commerce platforms and enterprise-level websites. Drupal's modular nature enables seamless integration with various tools and technologies, making it a preferred choice for businesses of all sizes.
Starting a training program is the first step on a road toward progress. It is a conscious decision to advance one's capabilities by learning new information and developing existing talents. Through training, people can increase their experience and skill in a particular field or area of interest, opening doors to opportunities.

I started the work in my training at SharedTech by install the programs and add-ons needed in the training to use it in performing my tasks which we will come to later, also I created an account in Drupal to be able to add projects, issues, posts, and other things this picture below shows my account and my dashboard.



I started the work by install the softwares and components needed in the training and create an account in drupal to use it, then my team leader explain to me what is drupal and what is its components like content types, views, toxonomy and modules extended like captca question which I installed it and so many modules using **composer**.

What is composer ?

With Composer, developers can declare the dependencies their projects require in a simple and standardized format using a composer.json file. Composer then resolves and fetches the necessary packages from the Packagist repository or other specified sources, ensuring that the correct versions and their dependencies are installed. Additionally, Composer intelligently handles conflicts between different package versions, allowing for smooth integration of multiple libraries.

composer require 'drupal/captcha:^2.0' –ignore-platform-reqs

this command above which used in the terminal enable you to install CAPTCHA in your Drupal site and use CAPTCHA questions in any forms you want, in this picture below it shows the installation process.

```
suliman@alMacBook-Pro-alkhas-bSuliman drupal91 % composer require 'drupal/captcha:^2.0' --ignore-platform-reqs
./composer.json has been updated
Running composer update drupal/captcha
Loading composer repositories with package information
Updating dependencies
Nothing to modify in lock file
Installing dependencies from lock file (including require-dev)
Nothing to install, update or remove
Package doctrine/reflection is abandoned, you should avoid using it. Use roave/better-reflection instead.
Package symfony/debug is abandoned, you should avoid using it. Use symfony/error-handler instead.
Generating autoload files
41 packages you are using are looking for funding.
Use the `composer fund` command to find out more!
Info from https://repo.packagist.org: #StandWithUkraine
No security vulnerability advisories found.
```

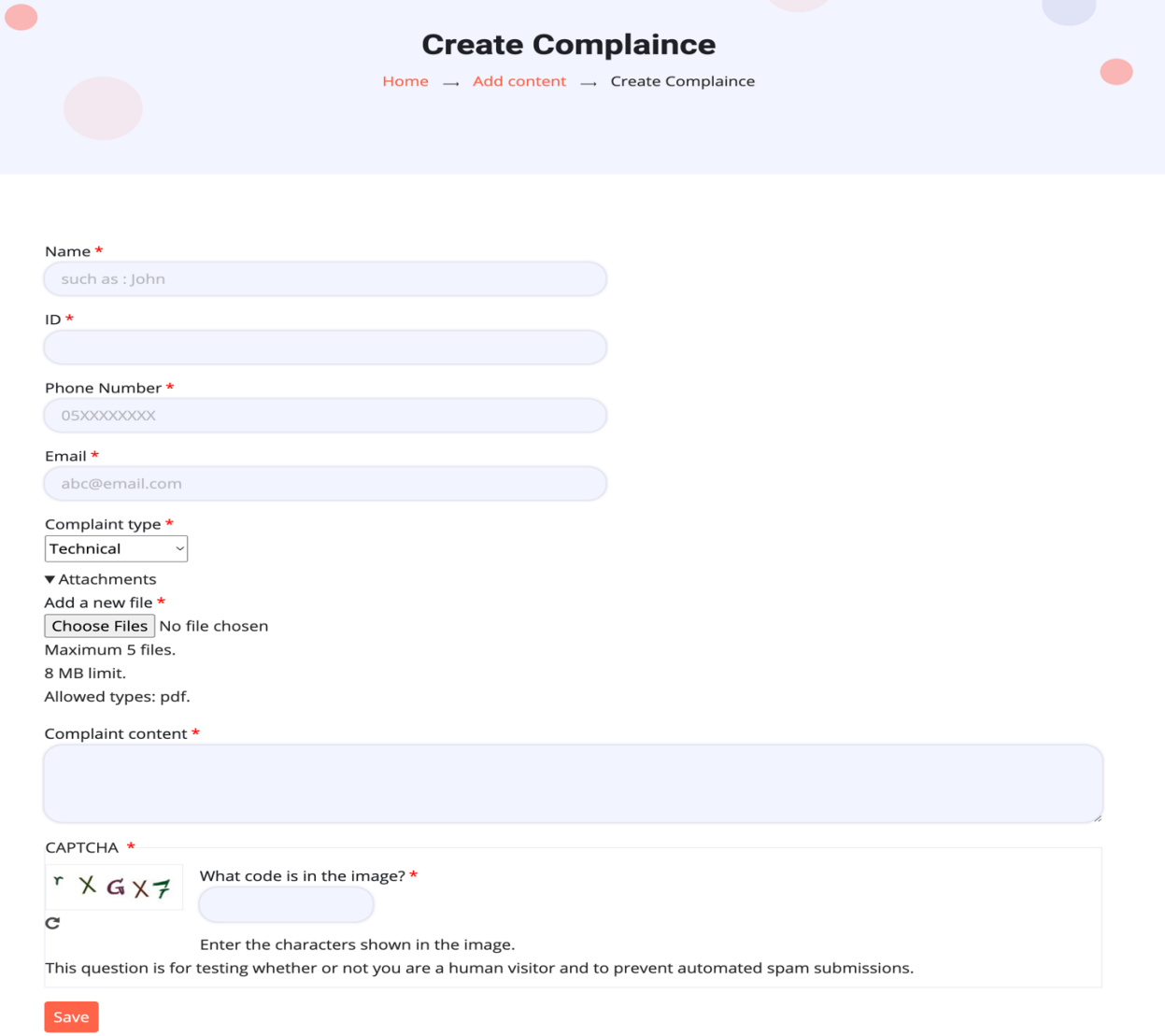
A lot of modules I installed in the same way above with composer, I will mention some of them with explain each one below:

1. Field permission module which makes some field shown to a particular role like the admin
2. Search autocomplete module which complete searches that you start to type.
3. Admin Toolbar module Provides an improved drop-down menu interface to the site Toolbar.
4. SMS Phone Number module An international phone number field type with flexible validation and SMS capabilities.

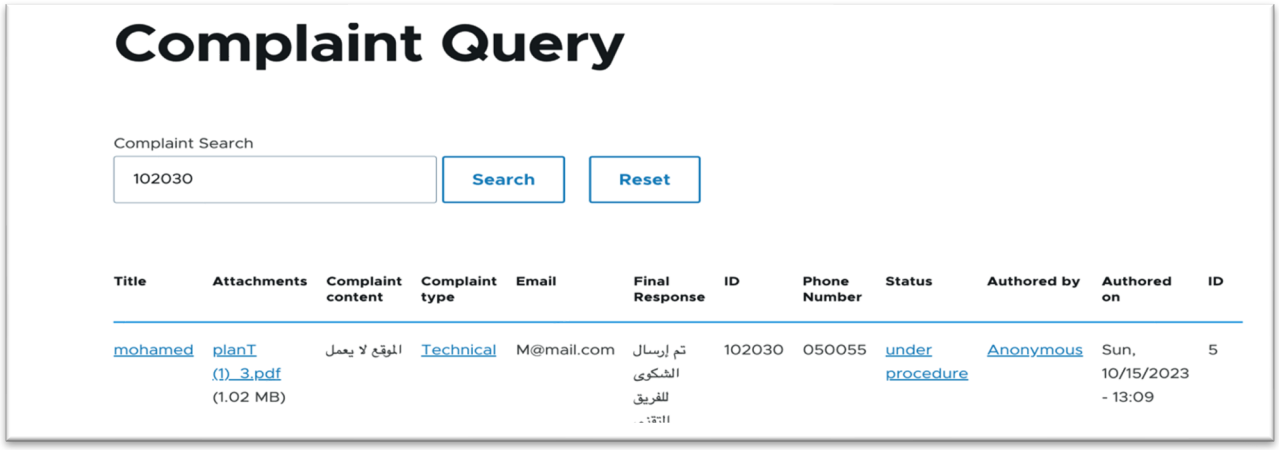
My first task:

I meet with my team leader, who explains to me my responsibilities at SharedTech as a trainee and the nature of my tasks. I was assigned to the web development department, where my duties involved developing websites using the content management system (CMS) Drupal and PHP.

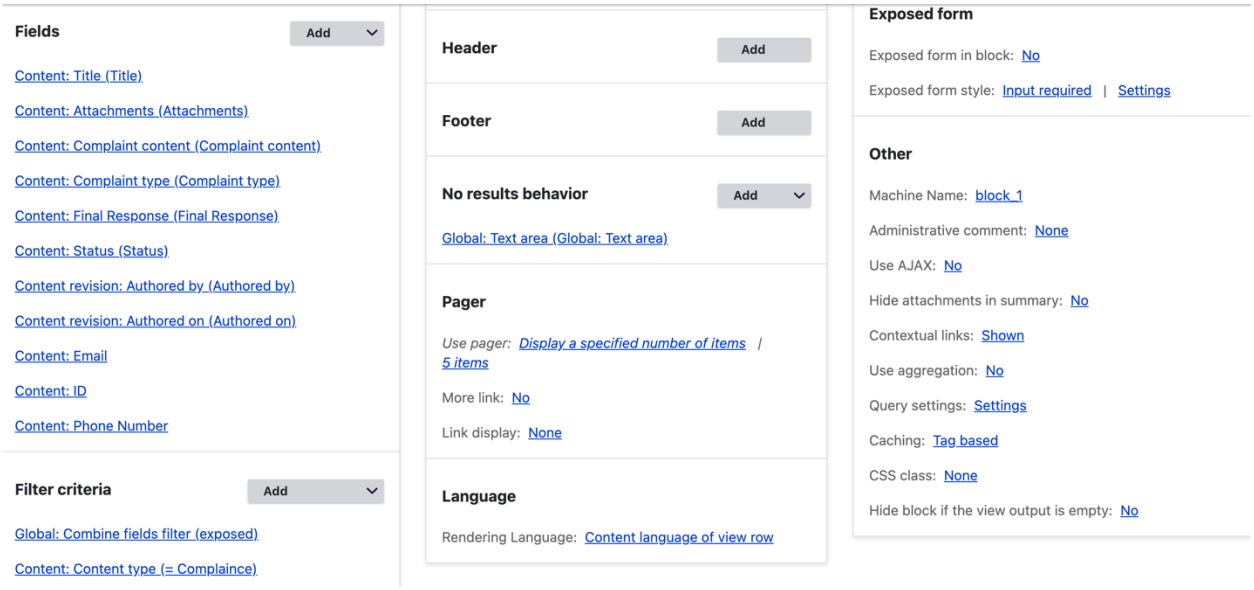
my first task in my trainee at SharedTech was to build a website using Drupal, this website was a content from type Compliance which makes users makes a complaints with many text fields like name, phone number, email, id and other fields then the user submits their complaints which be shown to admin to handle it, in this picture below this is the form of complaint contains it shows all the fields with the CAPTCHA question field which used to check testing whether or not you are a human visitor and to prevent automated spam submissions.



After finishing my first task I started the second task which is create a view used to make a search on a specific complaint by phone number or ID, in the result it appears the complaint information in addition to final response and the status of the complaint, in this view I use combine field filter as a tool for search it enables you to search by many filters, you can search by ID, phone number or any field in the content, which is complaint in my task, then the result will appears based on your input, showing the details of the content that matching your input, this picture below shows the search process.



This picture below shows **Complaint Query** view details, it shows as is clear the fields will show in the result in **Fields** place, also in **Filter criteria** filters are added to control the results and make specific condition such as **combine fields filter** which checks and matches between the input from users and the fields in the database so if it found a matching it will shows the content if not it shows the text shows that there is no complaint as shown in **No result behavior** in second column.



Third Task

البريد الوارد ×

Task #3 : News node

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السلام عليكم ورحمة الله وبركاته ،

مرفق لكم المهمة الثالثة ضمن البرنامج التدريبي:

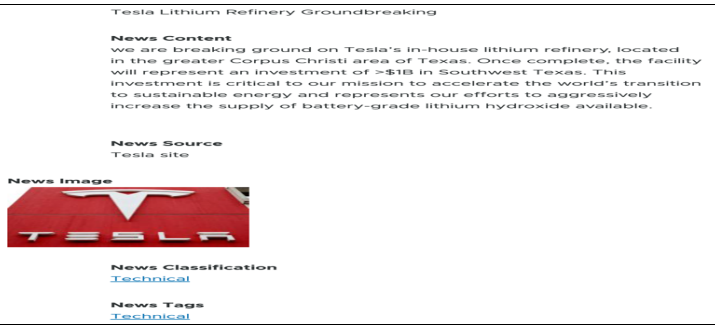
تسليم المهمة بمشيئة الله يوم الاربعاء صباحاً بتاريخ **2023-10-25**

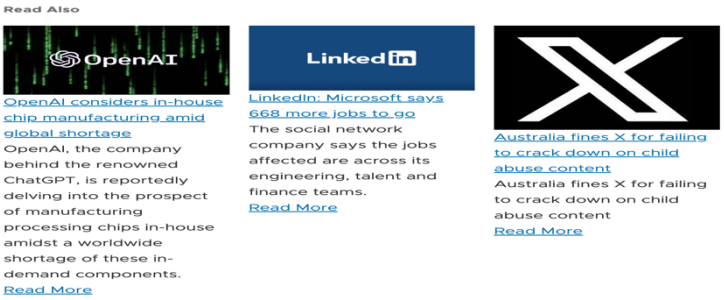
المطلوب في صفحة الخبر نفسه اضافة التالي مع مراعاة الترجمة:

- اضافة التعليقات للخبر
  - للمستخدم المجهول يجب الموافقة على التعليقات من قبل إدارة الموقع مثال (مدير المحتوى)
  - عرض التعليقات في نفس صفحة الخبر
  - عرض كحد أقصى ٤ تعليقات في الخبر الواحد مع استخدام التنقل **pager**
- اضافة الصناديق اسفل الخبر
  - اخبار ذات علاقة يعتمد على حقل تصنيف الخبر (أحدث ٣ اخبار)
  - إقرا ايضا يعتمد على حقل الوسوم (أحدث ٣ اخبار)
  - الاكثر تعليقا يعتمد على عدد التعليقات (٣ اخبار ترتيبها حسب الاكثر تعليقات)

كل التوفيق

This picture shows my third task, I perform it successfully I will show in the next page the results in picture with brief description to each picture:

In this picture shows one of much news was created in my drupal site in news page it shows many details about news such as content, source, image, classification, and tags.	
This picture shows field of comments it is available for admin or anonymous users, but their comments should be approved by admin before it published	

This picture **Most Commented News** it shows more news in the news page based on number of its comments, the more comments there are, the more likely the news is to appear.	
This picture **Read Also** it shows more news in the news page based on tags in the original news, since the original news has the tag 'Technical' it shows similar news has the same tag, tags is a type of taxonomy helps emerge the content to group interested in it.	

Before starting and entering in coding part using PHP programming language, I installed Twig which is important for using PHP with drupal, Twig is both designer and developer friendly by sticking to PHP's principles and adding functionality useful for templating environments.

The key-features are:

1) **Fast: Twig compiles templates down to plain optimized PHP code. The overhead compared to regular PHP code was reduced to the very minimum.**
2) **Secure: Twig has a sandbox mode to evaluate untrusted template code. This allows Twig to be used as a template language for applications where users may modify the template design.**
3) **Flexible: Twig is powered by a flexible laxer and parser. This allows the developer to define their own custom tags and filters, and to create their own DSL.**

Twig:

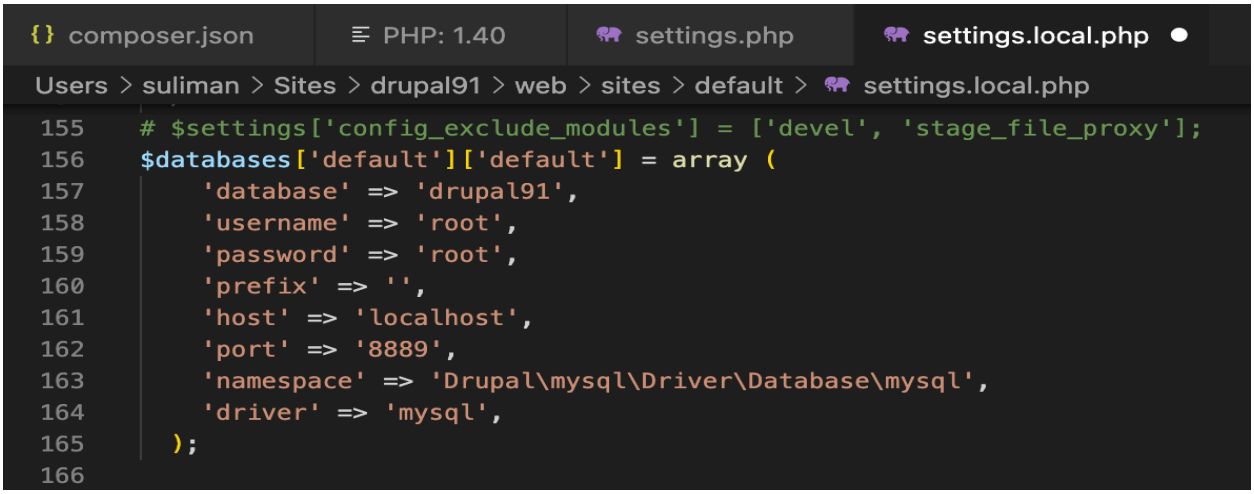
Twig allows developers to create templates with a simplified syntax that is easy to read and write. It promotes code reusability and maintainability by providing features like template inheritance, macros, and filters. With template inheritance, you can define a base template and extend or override specific sections in child templates, making it easier to manage consistent layouts across multiple pages, Twig also supports variables, loops, conditionals, and includes, allowing dynamic content rendering based on data provided by the application. It provides powerful escaping mechanisms to prevent common security vulnerabilities, such as cross-site scripting (XSS) attacks, by automatically escaping any user-generated content.

```
require_once '/path/to/vendor/autoload.php';

$loader = new \Twig\Loader\FilesystemLoader('/path/to/templates');

$twig = new \Twig\Environment($loader, [

    'cache' => '/path/to/compilation_cache', ]);
```

By this command above in my code I became able to create a template environment with a default configuration and a loader that looks up templates in the /path/to/templates/ directory. Different loaders are available, and I can also write mine if I want to load templates from a database or other resources.

My Database

PHP offers various methods and extensions for interacting with databases. The most commonly used extension is PHP Data Objects (PDO), which provides a consistent and flexible interface for accessing different types of databases, such as MySQL, PostgreSQL, SQLite, and more. PDO allows developers to write database-agnostic code, making it easier to switch between different database systems without significant modifications to the codebase.

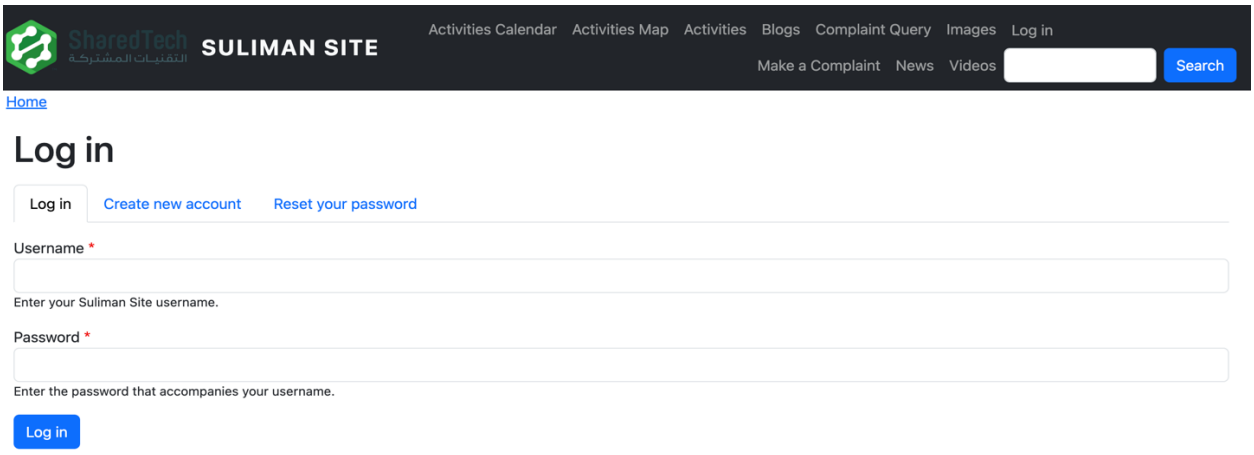


This picture above shows my Database details like name of the database, username and passwords which used to access it, namespace which defines a group of tables, within which all the table names must be uniquely identified and shows more other details

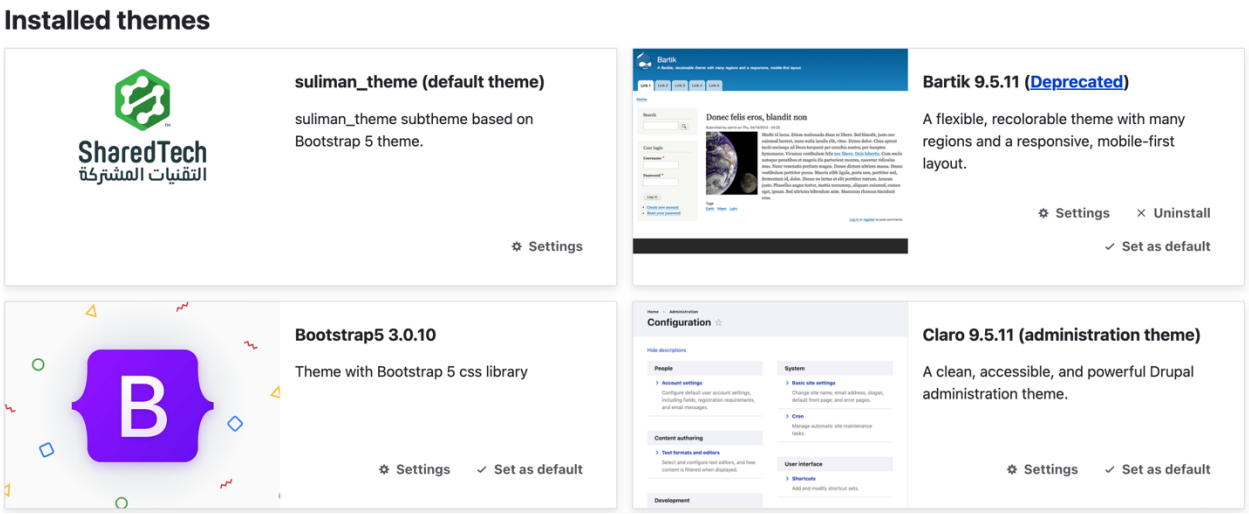
Create custom theme

```
name: suliman_theme
type: theme
description: 'suliman_theme subtheme based on Bootstrap 5 theme.'
core_version_requirement: '^9.4 || ^10'
screenshot: logo.jpeg

'base theme': bootstrap5
libraries:
  - suliman_theme/global-styling
  - suliman_theme/first_L
ckeditor_stylesheets:
  - css/style.css
ckeditor5-stylesheets:
  - css/ck5style.css
regions:
  header:   Header
  nav_branding: 'Navigation branding region'
  nav_main: 'Main navigation region'
  nav_additional: 'Additional navigation region (eg search form, social icons, etc)'
  breadcrumb: Breadcrumbs
  content: 'Main content'
  sidebar_first: 'Sidebar first'
  sidebar_second: 'Sidebar second'
  footer: Footer

libraries-override:
  suliman_theme/global-styling: true
```

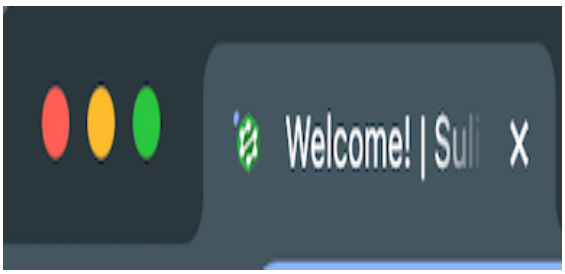
In this picture above shows how to create a custom theme in Drupal with all details about it like name, type, version, libraries, and regions which will be shown in the theme when you make it as a default theme, the base theme to this custom theme is bootstrap5 which is a ready theme you can edit and modify it as you can.



This is the custom theme created in the code picture above it shows the logo of SharedTech also different way to show the menu navigation items and search field, more things also changed not in this picture like favicon it is changed to be the logo of SharedTech and the screen shot of theme which In picture below



As shown in this picture the favicon changes to logo of SharedTech as the screenshot in theme and the logo in home page



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1. Welcome to Shared Tech | Shared Tech
2. Drupal - Open Source CMS | Drupal.org
3. Home - Twig - The flexible, fast, and secure PHP template engine (symfony.com)
4. Introduction · Bootstrap v5.0 (getbootstrap.com)
5. MAMP & MAMP PRO - your local web development solution for PHP and WordPress development