DEBRE BREHAN UNVERSITY

College of computing

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Selected topics

individual assignment

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1) Explain MVC of Laravel?

- ➢ Laravel is a free and open-source web PHP framework, which is based on MVC (Model-View-Controller) architecture.
- ➢ A Framework provides structure and starting point for creating your application. It helps to provide an amazing developer experience while providing powerful features through dependency.
- ➢ Laravel Framework is used to develop complex Web Applications. Laravel can help a developer to develop a secure web application. It is a Scalable framework and it also has a wide Community across the world.
- ➢ Laravel is a Full Stack Framework, Which helps adeveloper create Full Stack Applications with the help of Laravel.
- ➢ Features of Laravel:

  1. Authentication: It is a very important part of any web application, to authenticate the user in their system, we need to write so much of the code which consumes a lot of time. But here, Laravel makes it much easier for a developer. The authentication feature was introduced after Laravel 5, where we only need to configure the Model, View, and Controller to use Authentication in our Web Application.

  2. Dynamic Template: Laravel provides an innovative template engine called "Blade template", which allows developers to create a dynamic web page. The blade is a powerful tinplating engine in a Laravel framework that helps to make Dynamic Template in web Applications.

  3. Database Migrations: It is a very useful feature provided by Laravel Framework, Where we can easily share database schema without any extra effort. Migrations are files that contain code to create a database table or make changes in any tables, this files can be used by other team members to make changes in the database by just executing that migration file. It doesn't have SQL code it just contains PHP code which makes it much easier for any PHP developer to make changes in the Database.

\4. MVC Architecture: It divides any application code into 3 parts, which makes code more maintainable and makes modification easier which makes the development process much faster.

➢ 5. Unit Testing: Testing is the main part of any application development cycle to check all cases. Laravel provides the feature of Unit Testing, it checks and makes sure that new updates in the code won't affect another part of the code. It runs several test cases to check that the changes in the code won't affect another part of the code. A Laravel developer can also write their own test cases.

➢ 6. Security: Web Application Security is also considered to be important while the development cycle. But Laravel provides some feature that makes the application more secure. Laravel provides the feature of the "Crypts Hashing Algorithm" which generated hashed passwords and stores them in a Database which makes it almost impossible to resolve passwords.

7. Artisan: It is a built-in feature for command-line Artisan. This command-line feature can be very useful to developers. Artisan tool can be used to create skeleton code, database schema, and migration files, and also used to execute those migration files, so it makes it easy to manage a database schema of the system.

➢ To understand Laravel more, we need to learn about MVC (Model-View-Controller) structure.

2) Explain Routing?

- Routing is **the process of path selection in any network**. A computer network is made of many machines, called nodes, and paths or links that connect those nodes. Communication between two nodes in an interconnected network can take place through many different paths.
- Network routing is the process of selecting a path across one or more networks. The principles of routing can apply to any type of network, from telephone networks to public transportation. In packet-switching networks, such as the Internet, routing selects the paths for Internet Protocol (IP) packets to travel from their origin to their destination.

These Internet routing decisions are made by specialized pieces of network hardware called routers.

3) Explain Migration and Relationships?

Data migration is the process of transferring data between [data storage](#) systems, data formats or computer systems. An organization can undertake a data migration project for numerous reasons, including when they're doing the following:

- replacing or upgrading servers or storage equipment;

- moving data between [third-party](#) [cloud providers](#);

- moving on-premises infrastructure to cloud-based services;

- consolidating websites;

- performing infrastructure maintenance;

- migrating applications or [databases](#);

- installing software upgrades; and

- moving data during a company merger or data center relocation.

The data migration process requires organizations to prepare, extract and transform data and to follow a specified set plan -- which differs by organization and migration.

4) Explain Blade Template Engine?

- Blade is the simple, yet powerful templating engine that is included with Laravel. Unlike some PHP templating engines, Blade does not restrict you from using plain PHP code in your templates. In fact, all Blade templates are compiled into plain PHP code and cached until they are modified, meaning Blade adds essentially zero overhead to your application. Blade template files use the .blade.php file extension and are typically stored in the resources/views directory

5) Directives?

- Directives:- something that serves to direct, guide, and usually impel toward an action or goal. Especially, government: an authoritative order or instrument issued by a high-level body or official.
- Are shortcut codes for the implementation of basic PHP structure control, such as loop and conditional statements. It makes your code snippets clean and easy to understand.
  The if blade directive
- @if()
- @elseif()
- @else
- @endif
  The Auth blade directive
- @auth
- @endauth
  This blade directive is used to check if a particular user has beenauthenticated.
- The foreach blade directive
- @foreach()
- @endforech
  These are loop directives and they work like the normal foreach (){},
  except this directive is cleaner.