

Teacher :

Exam Title/Code : Laravel

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SECTION A

1. Laravel migration file structure typically includes functions such as 'up()' and 'down()'. The up function is used to define the changes you want to make on the database, like creating tables or adding columns. on the other hand, the down function is used to undo any of those changes if needed, like dropping tables or columns. This structure helps in managing and versioning the database schema changes effectively.

Some commonly used methods within the migration files to sefine a database schema are: - create()

- table()
- increaments()
- string()
- integer()
- timestamp()
- foreign()
- index()
- unique()
- dropColumn()

2.

- php artisan migrate: used to run all outstanding migrations.
- php artisan make:model ModelName: This creates a new elequent model.
- php artisan make:controller ControllerName: This generates a newm controller class.
- php artisan make:migration create_table_name: This creates a new migration file for creating new table.
- php artisan serve: This starts a local development server.
- php artisan route:list : This displays a list of all registered routes.
- php artisan make:middleware MiddlewareName: Thia is used to generate a new middleware.
- php artisan make:seeder SeederName: This creates a new database seeder.
- php artisan cache:clear: Clears application cache.
- php artisan config:cache : Consolidates all configuration files into a single file for faster loading.

3.

a. Composer is a dependancy management tool for php that helps manage libraries and packages your project relies on.

- b. Composer uses composer.json file to define project dependencies and their variations.
- c. Composer allows you to easily install, update, and autoload PHP libraries in your project.
- d. Composer utilizes the packagist repository to download packages and their dependencies.
- e. Composer plays a crucial role in modern php development by simplifying the process of managing project dependencies.

4.

1. Preventing CSRF attacks: it helps prevent unauthorized actions by ensuring that the request originates from your own application and not from a malicious external source.
2. Enhancing security: By generating and verifying unique tokens for each user session. This adds an extra layer of security to your web application, protecting it against vulnerabilities.
3. Protecting Sensitive Actions: It secures sensitive actions like form submissions, ensuring that only authenticated users can perform critical operations within the application.
4. Maintaining data integrity: It helps maintain the integrity of data by preventing unauthorized changes that could compromise the application's functionality and user data.
5. Compliance with best practices: It ensures that your application follows recommended security measures to protect against common threats.
6. In laravel, MVC(Model View Controller) is a way to organise code in web applications. The Model handles the data and database, the View deals with what the user can see, and the Controller manages user requests and connects the Model with the View. By using MVC, you keep things organized, making codes easier to manage, and improve scalability.

SECTION B

NB: sorry sir my equal to key is faulty, so i will just write 'equals' instead.

1.a \$result equals BD::table('table1')

```
->join('table2', 'table1.id', 'equals', 'table2.table1_id')
```

```
->join('table3', 'table2.id', 'equals', 'table2.table2_id')
```

```
->select('table1.*', 'table2.*', table3.*)
```

```
->get();
```

b. \$usersWithPosts equals User::leftJoin('posts', 'users.id', 'equals', 'posts.user_id')

```
->select
```


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Section A

1. Migration files reside in the database/migrations directory and they follow a filenames of timestamp convention.

- up(): To define database schema changes
 - down(): Those the opposite of up() that is reverses changes, allowing rollbacks.
- 2.** - php artisan serve: Starts a laravel development server
- php artisan migrate: Runs all pending database migration
 - php artisan migrate:rollback: Reverse the letest migration
 - php artisan make:migration ExamTable: Creates a new migration file named "ExamTable"
 - php artisan make:controller ExamController: Generates a controller class
 - php artisan make:view ExamView: Generates a view class
 - php artisan make:middleware ExamMiddleware: Generates a middleware class for validating user registration data
 - php artisan config:cache: Caches configuration files for perfomance
 - php artisan cache:clear: Clears application cache
 - php artisan route:list: Lists all defined application routes
- 3.** - Dependency manager for PHP projects
- Installs and updates packages using command
 - Manages package versions and dependencies
 - Provides a central repository of reusable PHP libraries and frameworks

- Declares project dependencies in "composer.json" file

6. The MVC Model-View-Controller architectural pattern is

- Model representing data and business logic

- View as presentation layer

- Controller handles user requests, interacts with models and views promoting separation of concerns and maintainability

Section B

2. a Route::get('/users', function () {

// Code for Get request for users

});

b public function up() {

Schema::table('/users', function (\$table) {

\$table->string('email')->unique();

});

}

c \$users = User::all();

d return redirect()->route('/users')->with('success', 'Operation successful');

// In view file

@if (session()->has('success'))

<div>

{{ session()->get('success')}}

</div>

@endif

3. a class User {

public function posts() {

return \$this->

}

}

class Post {

}

b @if (\$isLoggedIn)

<p>Welcome back, You're are logged in</p>

@else

<p>Please register to contiue</p>

@endif

c \$userId = auth()->id();

d \$request->validate([

'name' => 'required|string|max:255',

'email' => 'required|email|unique:users',

]);

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section A

6.MVC stands for Model view controller and its a design pattern used in laravel to sepperate the application logic into 3 main components

model-it represent the data and the business logic of the application

view-its responsible for displaying the data to the user

controller-it act as an intermediary between the model and the view

2.php artisan serve **uses**:artisan server

B.php artisan make:model **uses** php artisan make:model ModelName

C.PHP artisan Make:controller usesPHP artisan make:controller

D.PHP artisan Make:migration Uses PHP artisan make :migration

E.PHP artisan Migrate USES PHP artisan migrate

F.PHP artisan db:seed USEs artisan db:seed

G.php artisan make:seeder USEs: artisan make:seeder SeederName

H.PHP artisan route:list:UsesPHP artisan route:list

I.PHP artisan tinker: USES PHpartisan tinker

J.PHp artisan configuration uses PHP artisan config:cache

3.dependent managment,AutoLoading,package Repository,Version Control,Project initialization and managment

4.preventing unauthorized actions-CSRF attack trick users into performing actions they didnt intend to

B.Ensuring User Authentication intergrity-CSRF tokens help maintain the integrity of user Authentication

C.Enhancing form securityit include CSRF token in every form generated bt the csrf_field()

D.securitng AJAX Request-CSRF protection extends to AJAX request by including the CSRF token in the reaquest header

E.mitigating Risk of cross-Site Script inclution(Xssi)-laravel CSRF protection helps mitigate the risk of Xssi

section b

3b. @if(\$login)

<p>you are logged in </p>

@else

<p>please login to view this content</p>

@endif

c.\$examld auth()->ld();

d.\$request->validate([

'name'=> 'required|string|maz255,]);

1.\$users = User::join

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2.
 - i. php artisan make:model
 - ii. php artisan make:controller
 - iii. php artisan make:migration
 - iv. php artisan migrate
 - v. php artisan ui
 - vi. php artisan route:list
 - vii. php artisan linker
 - viii. php artisan serve
 - ix. php artisan down
 - x. php artisan up
3.
 - i. autoloading and PSR standards
 - ii. dependency management
 - iii. project configuration
 - iv. script execution

5. mass assignment is a very power feature in laravel that accelerates development by simplifying attribute assignment. we can protect against mass assignment vulnerabilities by using the fillable and guarded properties in our models, to control which attributes can be mass assigned.

6. MVC is a concept that separates the domain/application/business logic from the rest of the user interface by seperating the application into three parts, the model, the view and the controller.

SECTION B

- 2 a.

```
php use Illuminate\Support\Route;
Route::get('getRequestRoute', function(){
    return response to Get request!
});
```
- b.

```
php artisan make:migration add_email_to_users_table-table=users
```

in the Up command

```
php
public function up ()
{
    Schema::table('users', function(Blueprint $table)
```

```
{  
$table->string('email')->nullable();  
});  
}
```

```
c. php use App\Models\User;  
$users=User::all();
```

```
php foreach($users as $user){  
echo $user->email;  
}
```

4.

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SECTION A

QUESTION 2

Mention 10 artisan and their uses

Answer

1. php artisan serve- Starts a development server at <https://localhost:8000>
2. php artisan make:model ModelName- Generates a new Eloquent model class in the app/Models directory.
3. php artisan migrate:rollback - Rolls back the last database migration.
4. php artisan db:seed - Runs all database seeders to populate the database with sample or initial data.
5. php artisan make:controller ControllerName- Generates a new controller class in the app/Http/Controllers directory.
6. php artisan migrate- Runs all pending migrations, updating the database shema.
7. php artisan route:list - Lists all registered routes in the application.
8. php artisan cache:clear - Clears the application cache.
9. php artisan config:cache- Creates a cache file for faster configuration loading.
10. php artisan tinker - Opens an interactive REPL(Read-Eval-Print Loop) for interacting with the application.
- 11.

QUESTION 3

PINPOINT FIVE KEY POINTS ABOUT COMPOSER

ANSWER

1. Dependency Management: Allows you to manage the dependencies your PHP projects needs.
2. Autoloading: Composers provides an autoloading mechanism for PHP classes.
3. Packagist Integration: Composer works closely with Packagist, the default package repository for PHP.
4. Versioning and Constraints: Composer uses sematic versioning to manage versions of packages.
5. Project initialization and Management: Composer can initialize a new project with the composer init command, creating a composer.json file.

QUESTION 6

EXPLAIN THE CONCEPT OF MVC IN LARAVEL

ANSWER

MVC(Model View Controller) is an architectural pattern that separates an application into three main logical components: the model, the view, and the controller. Each of these components handles a specific aspect of the application, making the development process more modular and easier to manage.

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1In laravel, migration files are used to define and manage database schema changes in a structured and organized manner.