

PRACTICAL EXAM

PurpleBug Online Shopping

PurpleBug requires a website that facilitates product orders and enables efficient product management. The client wants the application to be built using Laravel for the backend and Vue.js for the frontend.

Design:

[Software Engineer Exam - Figma](#)

MODULES:

1. Authentication (Log In & Logged Out) / Registration
 2. User Management
 3. Products
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REGISTRATION

Features:

- Guest user can register.

Note: Email must be unique.

Users Information:

- Full Name
 - Email
 - Password
 - Confirm Password
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AUTHENTICATION

Features:

- Must check If the user is guest or admin.

Note:

1. If a user enters incorrect credentials five times, their email must be locked for five minutes.
 2. The user must be automatically logged out after 30 minutes of inactivity.
 3. If the user's role is 'Guest,' they should not be redirected to the CMS (Content Management System). Only users with the 'Admin' role should be directed to the CMS.
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USER MANAGEMENT

ADMIN:

- Must be able to perform CRUD (Create, Read, Update, and Delete) operations on all users. - The admin must also be able to deactivate the Guest account.
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PRODUCTS (CMS)**Features:****ADMIN:**

- Must be able to perform CRUD operations on product listings.
- The admin can also view product orders and update their status (Canceled, Pending, For Delivery, and Delivered).

Product Information:

- Image
 - Product Name
 - Price
 - Number of Stocks
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PRODUCT LISTING (FRONT END)**Features:**

- List of all products

Note:

1. If a product is already in the cart and the user adds the same product again, the quantity must increase accordingly (e.g., 2, 3, and so on).
 2. If a product is out of stock, it cannot be added to the cart.
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PRODUCT (CART)**Features:**

- Can only see his/her Product Orders and status of each Ordered Products.
- Added to Cart Products
- Checkout button and display the total.

Note:

1. Once the products are checked out, they must be removed from the cart.
 2. The Guest User must be logged in before they can add to cart.
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ADDITIONAL REQUIREMENTS:

1. Must create a seeder for the Admin user.
2. Use **APIs** for frontend listings (Product Listing, Cart).
3. Backend routes must have authentication.

4. Utilize Laravel Eloquent and relationships, ensuring proper use of foreign and primary keys.
5. Push the finished project to **GITHUB** with repo name lastname_firstname_exam

ADDITIONAL POINTS:

1. Implement Laravel test cases for each transaction.
2. All forms must have validation.
3. Implement activity logs.
4. Enable email verification for guest users.

MULTIPLE CHOICE

LARAVEL SECTION

B 1. What command is used to create a new Laravel project?

- a) php artisan serve
- b) composer create-project laravel/laravel project-name
- c) npm create laravel project-name
- d) php artisan make:project project-name

b 2. Which file contains the database connection settings in Laravel?

- a) config/app.php
- b) .env
- c) database.php
- d) routes/web.php

c 3. What is the purpose of Laravel Eloquent?

- a) It is a templating engine for frontend development.
- b) It is a CLI tool for database migrations.
- c) It is an ORM (Object-Relational Mapper) for database interactions.
- d) It is a caching mechanism in Laravel.

b 4. Which command is used to create a new model in Laravel?

- a) php artisan make:controller
- b) php artisan make:model
- c) php artisan make:migration
- d) php artisan make:view

B. 5. Which of the following is the correct way to define a route in Laravel?

- a) Route::go('/home', 'HomeController@index');
- b) Route::get('/home', [HomeController::class, 'index']);
- c) Route::set('/home', 'HomeController@index');
- d) Route::route('/home', [HomeController::class, 'index']);

B. 6. What is the default templating engine used in Laravel?

- a) Twig
- b) Blade
- c) Handlebars
- d) Mustache

B. 7. Which command is used to run database migrations?

- a) php artisan db:migrate
- b) php artisan migrate
- c) php artisan run:migrations
- d) php artisan migrate:run

B. 8. What is middleware in Laravel used for?

- a) To define frontend components
- b) To modify HTTP requests before they reach controllers
- c) To manage database relationships
- d) To create Blade templates

B. 9. Which command is used to start a Laravel development server?

- a) php artisan start

- b) php artisan serve
- c) php artisan run
- d) php start server

B. 10. What is the purpose of Laravel Sanctum?

- a) To manage frontend UI components
- b) To provide lightweight API authentication
- c) To handle database migrations
- d) To optimize Laravel performance

****Answer is in bold.****

True or False: Laravel supports API routes using api.php instead of web.php.

True or False: Laravel's hasMany relationship defines a one-to-many relationship.

A. 11. What command is used to generate a Laravel factory?

- a) php artisan make:factory
- b) php artisan create:factory
- c) php artisan factory:generate
- d) php artisan generate:factory

A. 12. Which of the following is used to validate form requests in Laravel?

- a) `$request->validate([...])`
- b) `FormValidator::validate([...])`
- c) `$request->check([...])`
- d) `Validation::rules([...])`

B. 13. Which command creates a controller in Laravel?

- a) php artisan controller:create ControllerName
- b) php artisan make:controller ControllerName
- c) php artisan generate:controller ControllerName
- d) php artisan make:ctrl ControllerName

VUE.JS SECTION

C. 14. What is Vue.js primarily used for?

- a) Backend development
- b) Styling HTML pages
- c) Building user interfaces and single-page applications
- d) Running database queries

B. 15. Which command is used to create a new Vue.js project with Vite?

- a) vue create my-project
- b) npm init vue@latest my-project
- c) vue new my-project
- d) npm install -g vue-cli

C. 16. What directive is used to bind data to an element in Vue.js?

- a) v-for
- b) v-if
- c) v-bind
- d) v-model

A. 17. What is the correct syntax for rendering a variable inside Vue.js templates?

- a) {{ variable }}
- b) <% variable %>
- c) [[variable]]
- d) ((variable))

C 18. Which Vue lifecycle hook is called after the component is mounted?

- a) beforeCreate()
- b) beforeMount()
- c) mounted()
- d) created()

B 19. What Vue directive is used for conditional rendering?

- a) v-for
- b) v-show
- c) v-bind
- d) v-if

C 20. What is the Vue Router used for?

- a) Managing CSS styles in Vue
- b) Handling HTTP requests
- c) Enabling navigation between different components/pages
- d) Fetching data from an API

C 21. Which of the following is used to create two-way data binding in Vue?

- a) v-if
- b) v-model
- c) v-bind
- d) v-show

A 22. How do you listen for an event in Vue.js?

- a) @click="methodName"
- b) \$on:click="methodName"
- c) v-bind:click="methodName"
- d) click="methodName"

A 23. What is Vuex used for in Vue.js applications?

- a) Managing application state
- b) Styling components
- c) Making API calls
- d) Defining routes

A 24. What is the purpose of watch in Vue.js?

- a) To execute code when a variable changes
- b) To create animations
- c) To handle form validation
- d) To optimize page load speed

D 25. Which package is used to integrate Vue.js with Laravel 11?

- a) laravel-vue
- b) vue-router

c) inertia.js

d) axios