

PHP Symfony Framework

Prerequisite: Strong Knowledge of CORE PHP and OOPS Concepts.

Day 1: Introduction to Symfony and Basic Setup

- Overview of Symfony Framework
- Key features and benefits
- Comparison with other PHP frameworks
- Installing PHP and Composer
- Installing Symfony CLI
- Creating a new Symfony project
- Understanding the project directory structure
- Configuring environment variables
- Overview of Symfony Flex
- Introduction to Symfony components
- Using Symfony components in projects

Lab 1: Creating Your First Symfony Project

- Setting up a new Symfony project
- Exploring the directory structure
- Running the Symfony development server

Day 2: Routing, Controllers, and Templates

- Understanding Symfony routing
- Defining routes in YAML, annotations, and PHP files
- Creating controllers
- Understanding controller actions
- Dependency injection in controllers
- Introduction to Twig
- Creating and rendering templates
- Template inheritance and blocks
- Rendering dynamic content
- Using Twig filters and functions

Lab 2: Building a Simple Web Application

- Defining routes and creating controllers
- Passing data to templates and rendering views
- Using Twig to create reusable templates

Day 3: Forms and Validation

- Introduction to Symfony forms
- Creating form types and rendering forms

- Handling form submissions
- Validating form data
- Custom form fields and types
- Dynamic forms and form events
- Implementing file uploads
- Validating and processing uploaded files

Lab 3: Creating and Validating Forms

- Creating a complex form with multiple fields
- Implementing validation rules
- Handling form submissions and displaying validation errors

Day 4: Database Interaction and Doctrine ORM

- Overview of Doctrine ORM
- Setting up Doctrine in Symfony
- Creating entity classes
- Mapping entities to database tables
- Generating and running migrations
- Updating database schema
- Using Doctrine Query Language (DQL)
- Query Builder and Repository pattern

Lab 4: Building a CRUD Application

- Creating entities and database tables
- Implementing CRUD operations (Create, Read, Update, Delete)
- Using forms and templates to manage data

Day 5: Advanced Topics and Project

- Configuring security in Symfony
- Implementing user authentication and authorization
- Creating and using services
- Understanding the service container and dependency injection
- Introduction to Symfony event system
- Creating and registering event listeners and subscribers
- Using Symfony Cache component
- Optimizing application performance

Lab 5: Final Project

- Integrating all learned concepts into a final project
- Implementing user authentication and authorization
- Adding caching and performance optimizations
- Final review and Q&A