Under the aegis of Vijayam Educational Trust
CATALYST COLLEGE
(A Unit of CIMAGE Group of Institutions)
Institution approved by Education Department, Government of Bihar, Affiliated to Patliputra University, Patna

Ref: CC/WRSP-Not/20/20/25

Date: 05-Feb-2020

NOTICE

This is to inform all the Students that a workshop on PHP for Visionaries: How Change Agents Can Build the Web of Tomorrow will be organized on 22.2.2020 from 9:30 AM to 5:30 PM in the auditorium of Catalyst College.

The workshop is completely free, and no money will be charged for the Training or Certification.

Interested students are instructed to meet the Activity In-Charge / Class Coordinator for more details and their registration.

By the order of

Principal

Principal
CATALYST COLLEGE
Plot No.: C 16(P) Patliputra Industrial Area
Patliputra, Patna-13

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Patliputra, Patna- 800013
(+91) 7250767676
megha@cimage.in

Date:22-02-2020

Workshop Title:

PHP for Visionaries: How Change Agents Can Build the Web of Tomorrow

Number of Students Participated: 55

Objective:

This workshop is aimed at visionary entrepreneurs, developers, and tech enthusiasts who want to understand how PHP (Hypertext Preprocessor) can be leveraged to build dynamic, scalable, and innovative web applications that drive the future of the digital world. It will cover advanced PHP concepts, frameworks, and best practices to empower participants to build cutting-edge solutions, whether they are developing web apps, SaaS platforms, or pushing the boundaries of what's possible on the web.

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Model 1. Introduction to PHP: A Foundation for the Future of the Web

- Why PHP Still Powers the Web: Understanding PHP's enduring popularity despite the rise of newer languages. ○ Overview of PHP's role in web development and its widespread use across dynamic websites (WordPress, Facebook, Wikipedia). ○ PHP's integration with databases, content management systems (CMS), and cloud infrastructure.
- PHP in the Digital Transformation Era: How PHP continues to evolve with the changing web and modern development practices.
    - PHP 8.x features and performance improvements.
    - PHP in the context of microservices, APIs, and serverless architectures.

Model 2. PHP for the Modern Web: Tools, Frameworks, and Best Practices

- PHP Frameworks for Visionary Development: Exploring modern PHP frameworks that empower developers to build next-gen applications.

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- Laravel: The most popular PHP framework for rapid web development. Features like Eloquent ORM, Blade templating, and built-in authentication.
- Symfony: A powerful framework for large-scale, enterprise-level applications with reusable components.
- CodeIgniter & Yii: Other lightweight frameworks for fast, scalable web apps.

- Best Practices for PHP Development: Writing clean, maintainable, and secure PHP code. ○ Adhering to PSR standards and modern PHP design patterns (MVC, Dependency Injection).
    - Code optimization: Profiling and debugging PHP applications for performance. ○ Security best practices: Preventing SQL injection, XSS, CSRF, and data leaks.
- PHP for RESTful APIs: How PHP can power modern web apps through APIs.
    - Building and consuming REST APIs with PHP. ○ Using Laravel's Lumen or Slim Framework for fast API development.

Model 3. The Future of PHP: Innovation, Performance, and Scalability

- PHP and the Serverless Revolution: How PHP can be used in serverless architectures and cloud-native environments.
    - Understanding serverless functions with PHP (e.g., AWS Lambda with PHP).
    - Benefits of serverless PHP: scaling, cost-efficiency, and simplified maintenance.
- Performance Optimization: Techniques for making PHP applications faster and more efficient.
    - Caching strategies with Redis and Memcached.
    - Asynchronous processing with Swoole or ReactPHP for high-performance apps.
- PHP and the Cloud: How PHP applications can be integrated with cloud services like AWS, Google Cloud, or Azure for scalable deployments.

- Continuous integration and delivery (CI/CD) pipelines with PHP. ○ Using Docker and Kubernetes to containerize PHP applications and deploy them on the cloud.

Model 4. Building the Web of Tomorrow: PHP and Emerging Technologies

- PHP and Artificial Intelligence (AI): How to incorporate AI into your PHP applications. ○ Using PHP with AI frameworks (TensorFlow, PyTorch, OpenAI APIs) to integrate machine learning models into your web apps. ○ Example use cases: Recommendation engines, chatbots, and personalized content.
- PHP in Blockchain Development: Exploring how PHP can interact with blockchain technologies.
  - Building decentralized applications (dApps) with PHP. ○ Integrating PHP with blockchain APIs to track transactions, manage wallets, and smart contract execution.
- Web 3.0: PHP in the Decentralized Internet: How PHP can play a role in the next iteration of the web.
  - Building decentralized web apps (dWeb) with PHP.
  - The rise of the semantic web, smart contracts, and blockchain-powered content management.
- PHP and the Internet of Things (IoT): Connecting PHP with IoT devices to build next-gen solutions. ○ How PHP can manage IoT devices and analyze data from sensors, cameras, and wearables.
  - Use cases for IoT in industries like healthcare, smart cities, and agriculture.

Model 5. Scaling PHP for Growth: Building Robust, High-Traffic Applications

- Scaling PHP for High Traffic Websites: Techniques for scaling PHP applications to handle millions of users.
  - Load balancing and clustering with PHP.
  - Horizontal scaling with cloud-based load balancers (AWS ELB, Nginx, HAProxy).

- Database scaling: Sharding, replication, and optimizing queries for performance.

- Microservices Architecture with PHP: Breaking your PHP monolith into microservices for scalability. ○ The benefits of decoupling PHP apps into independent services (with tools like Docker and Kubernetes).
  - Building a PHP-based microservices architecture with Symfony or Laravel.
- Real-Time Web Applications: Building real-time apps with PHP using WebSockets and Pusher.
  - Implementing real-time features such as live chats, notifications, and live updates in web apps.
- PHP and Edge Computing: Using PHP in edge computing environments for ultralow latency and faster response times.
  - Deploying PHP applications to the edge for real-time services in IoT, gaming, and augmented reality (AR).

Model 6. Innovation Workshop: Building a Visionary PHP Project

- Hands-On Project: Guided session where participants will work on building a basic, yet innovative, PHP project.
  - Build a scalable web app or API using Laravel or Symfony.
  - Integrating modern PHP features like queues, event broadcasting, and authentication. ○ Deploying your PHP app to the cloud (AWS, Heroku, DigitalOcean) and testing performance under load.
- Collaborative Innovation: Breakout groups will brainstorm creative ways to integrate emerging technologies (AI, blockchain, IoT) into their PHP projects.
  - Share ideas and approaches for how PHP can be used to create groundbreaking applications.

Model 7. Navigating the PHP Ecosystem: Community, Tools, and Resources

- The PHP Ecosystem: Exploring the tools and libraries available for PHP developers.

- Composer for dependency management and automation. ○ Testing with PHPUnit and code quality with PHPStan.

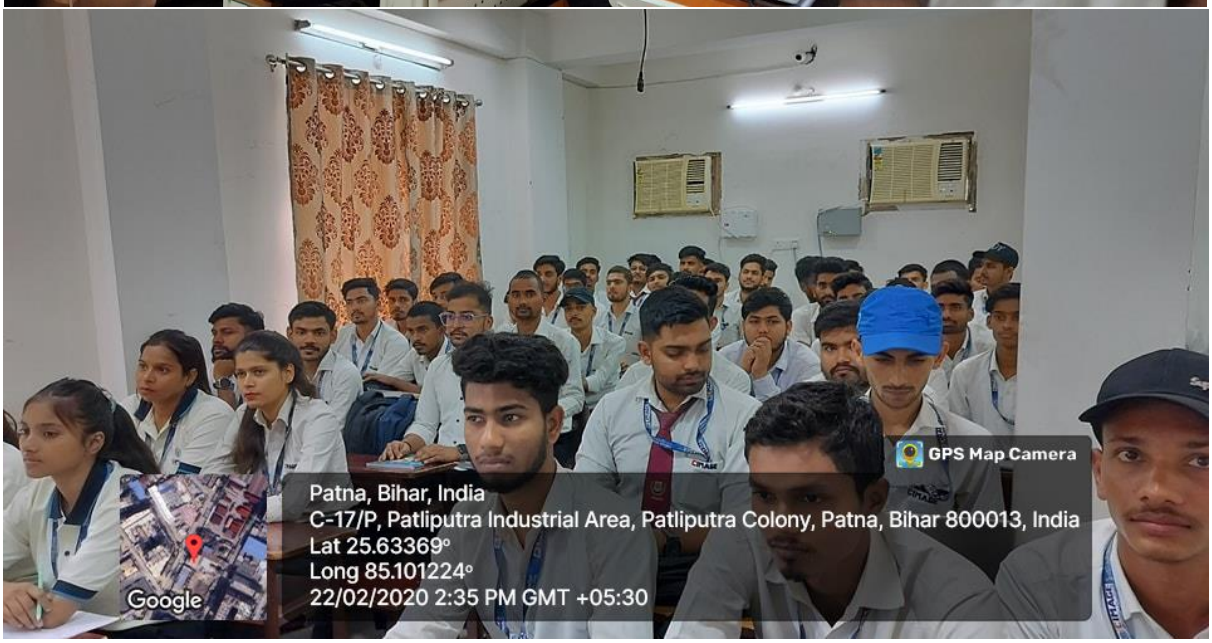
- Building a PHP Developer Community: How to get involved in the vibrant PHP community, attend conferences (like PHP Internals), and contribute to open-source projects. ○ Participating in GitHub repositories, contributing to PHP frameworks, and collaborating with fellow developers.
- Learning Resources: Where to go for continuous learning.
  - Recommended courses, tutorials, and books for mastering PHP development.
  - Staying up-to-date with the latest PHP updates, conferences, and forums (e.g., PHP Roundtable, Laracasts).

Key Takeaways:

- Advanced PHP Skills: A deep understanding of modern PHP frameworks, tools, and best practices.
- Future-Proof Development: Learn how to integrate emerging technologies like AI, blockchain, and IoT with PHP.
- Scalability and Performance: Learn how to scale PHP applications and optimize for high traffic.
- Hands-On Experience: Gain practical experience building and deploying PHP applications in a cloud environment.
- Visionary Mindset: Learn how to think big and build the web of tomorrow with PHP.

PHP for Visionaries: How Change Agents Can Build the Web of Tomorrow

Date:-22/02/2020



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Registration

For Workshops/Seminars/Conferences during Academic Year 2020-2021

PHP for Visionaries: How Change Agents Can Build the Web of Tomorrow

(22 February 2020)

S. No.	ID	Name of the student	Student's Signature
1	429-14582	Aakash Deep	Aakashdeep
2	429-13849	Amresh Kumar	Amresh kr
3	429-15324	Annushree	Annushree
4	429-15400	Anshu Kumar Ray	Anshu
5	429-16930	Avinash Kumar	Avinash.
6	429-17738	Ayush Kumar	Ayush kr
7	429-14254	Beauty Kumari	Beauty.
8	429-14361	Chandan Kumar	Chandan kuma
9	429-20613	Deepak Kumar	D. Kr.
10	429-14840	Gopal Krishna	Gopal krishna
11	429-14616	Abhinay Kumar	A. Kumar.
12	429-14911	Harendra Kumar	Harendra.
13	429-14587	Himanshu Kumar	H. Kumar
14	429-15413	Jaya Gupta	Jaya Gupta.
15	429-15389	Jyoti Kumari	Jyoti kumari
16	429-14330	Kshitij Kumar	Ayub Alam.
17	429-13799	Md Ayub Alam	Md. mahtab.
18	429-17757	Md Mahtab Alam	Md. Mehtab Alam
19	429-14507	Abhinav Kumar	Abhinav
20	429-14716	Md Tausif Ansari	Md. Tausif Ansari
21	429-20814	Nehal Gupta	Nehal Gupta
22	429-14546	Nigam Prakash	Nigam Prakash
23	429-12831	Prashant Kumar	Prashant Kr.
24	429-13766	Prince Kumar	prince kuma
25	429-13464	Rahul Kumar	Rahul Kr
26	429-13759	Rahul Kumar	Rahul kuma
27	429-18919	Rahul Kumar	Rahul Kr.
28	429-13259	Sangeeta Kumari	Sangeeta Kri
29	429-20612	Raunak Kumar	Raunak kr
30	429-18633	Ruchika Roy	Ruchika Roy.
31	429-14821	Aditya Sharma	Aditya Sharma
32	429-14731	Shani Kumar Singh	Shani kumar singh

33	429-15353	Shubham Kumar	Shubham
34	429-14500	Shubham Prasad	Shubham Prasad
35	429-14262	Swapnil	Swapnil
36	429-14919	Vikash Kumar	Vikash kr.
37	429-13920	Vikash Kumar	Vikash kumar
38	429-15881	Ajay Kumar Pandey	Vikash
39	429-20195	Zamil Akhter	Zamil Akhter
40	429-14177	Aman Kumar	Aman kumar
41	429-18053	Aman Kumar	Aman kumar
42	429-20065	Gaurav Kumar	Gaurav kumar
43	429-20428	Aditya Kumar	Aditi kr
44	429-20302	Afreen Perween	Afreen
45	429-15948	Alok Kumar Thakur	Alok kr Thakur
46	429-20194	Amisha Bharti	Amisha Bharti
47	429-15254	Anand Raj	Anand Raj
48	429-14628	Ankit Kumar	Ankit
49	429-18935	Diwakar Kumar	Diwakar kumar
50	429-14121	Hritik Kumar	Hritik kr
51	429-14859	Kundan Kumar	kundan
52	429-21169	Manish Kumar	Manish
53	429-14688	Nikita Kumari	Nikita
54	429-13775	Satyam Sajal	Satyam Sajal
55	429-20815	Shanu Raj	Shanu Raj

(Sign.)

Course Coordinator