



E & ICT Academy
IIT Guwahati



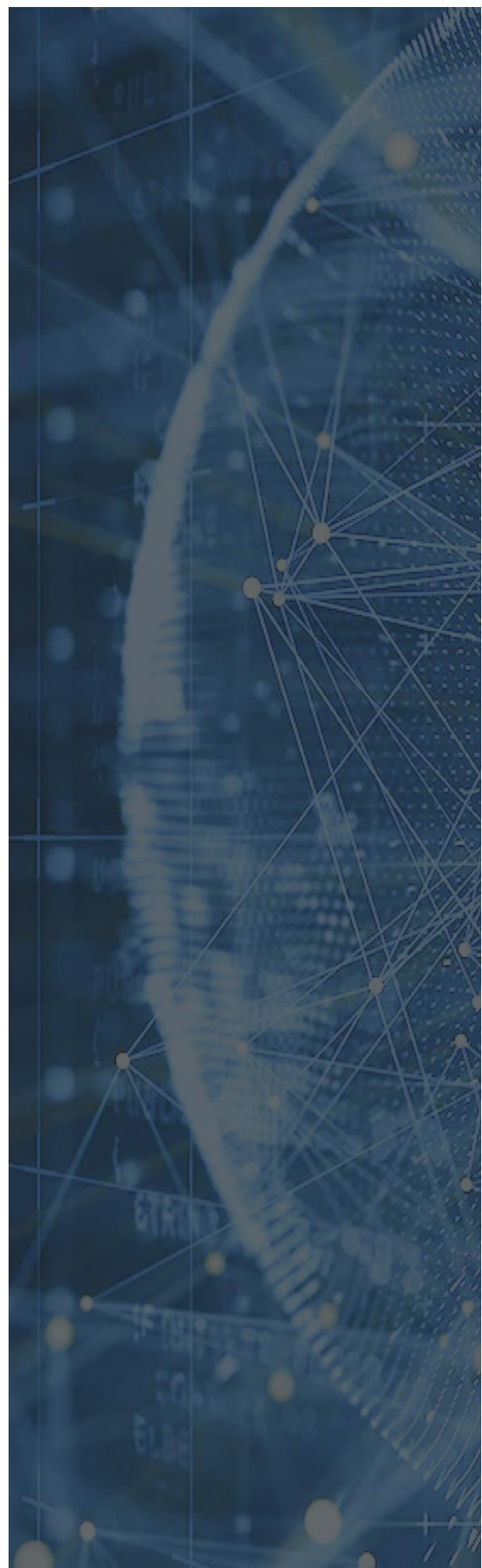
Certification Program in **Full Stack Web Development**

In collaboration with **Microsoft**



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A Full Stack Developer in the US can get
an average salary of \$120,000 per year
– Indeed

About the Program

Full Stack Web Development is the most in-demand job profile and highly paid in the market. In this course, you will master skills such as Python, MERN stack, NodeJS, MongoDB (NoSQL), Python Django, ReactJS, Quality and Performance, DevOps, etc. This certification program in Full Stack Web Development by E&ICT, IIT Guwahati, and Intellipaath is created with an objective to provide high-end skills to working professionals and young engineers and to help them grow in their career

This course will provide academic rigor and research elements, along with real-time industry exposure through case studies and project work. In this program, you will be mentored by top industry experts, and the sessions will be delivered by top university professors and the experts from the industry.

This certification program is a blend of self-paced online videos, live virtual classes, hands-on projects, and labs. In this program, you will learn and undergo several courses, namely, HTML & CSS, JavaScript & Bootstrap 4, MySQL & MongoDB, Python Django, PHP with Laravel, NodeJS, ReactJS, Quality and Performance, and Deployment with DevOps.



Our vision is to be recognized globally for excellence in education, research, and innovation and to nurture future leaders and serve the society at large

Partnering with E&ICT, IIT Guwahati

This certification program in Full Stack Web Development is in partnership with E&ICT Academy IIT Guwahati. E&ICT IIT Guwahati is an initiative of MeitY (Ministry of Electronics and Information Technology, Govt. of India) and formed with the team of IIT Guwahati professors to provide high-quality education programs to working professionals.

Upon completion of this program, you will:

- Receive a joint certificate from E&ICT, IIT Guwahati, and Intellipaat
- Gain an alumni status of E&ICT, IIT Guwahati
- Work on 30+ case studies
- Complete the certification program from a top university
- Do this program in collaboration with Microsoft
- Receive industry-recognized certification from Microsoft
- Have sessions from top professors and industry experts



Collaboration with Microsoft

Microsoft is one of the leading innovators and the biggest player in creating solutions. Top subject matter experts from Microsoft will share knowledge in the domain of development through this training program that will help you gain the breadth of knowledge and industry experience.

- Benefits for students from Microsoft
- Industry recognized IBM certificates
- Industry in-line case studies and project work



About Intellipaate

Intellipaate is one of the leading online education training provider with more than 6, 00,000 learners across 53+ countries. We are on a mission to democratise the education as we believe that everyone has right for quality education.

Our courses are delivered by subject matter experts from top MNC's and our world class pedagogy enables to quickly learn the difficult topics in no time. Our 24/7 support technical, support and career services will help learners to jump-start their career in their dream companies.

Key Features



**300+ HRS INSTRUCTOR
LED TRAINING**



24/7 SUPPORT



**50+ REAL TIME
CASE STUDIES & PROJECTS**



**CERTIFICATION PROGRAM
FROM A TOP UNIVERSITY**



CERTIFICATION FROM MICROSOFT



**SESSIONS FROM TOP
PROFESSORS AND INDUSTRY
EXPERTS**



CAREER SERVICES



EXECUTIVE ALUMNI STATUS

Career Support



DEDICATED LEARNING MANAGER

Get mentored by expert and receive personalised feedback on your performance and clarify your doubts in no time



PERSONALISED INDUSTRY MENTOR

We match your profile with right industry mentor based on your past skills. Your mentor's guidance will help you get prepared yourself for your dream job



MOCK INTERVIEWS

Mock interviews to make you prepare for cracking interviews by top employers



GUARANTEED INTERVIEWS & JOB SUPPORT

Get interviewed by our + 400 hiring partners.



RESUME PREPARATION

Get assistance in creating world class resume from our career services team.

Eligibility Criteria and Application Process

Those wishing to enroll in the certification program in Full Stack Web Development will be required to follow the admission process mentioned below.

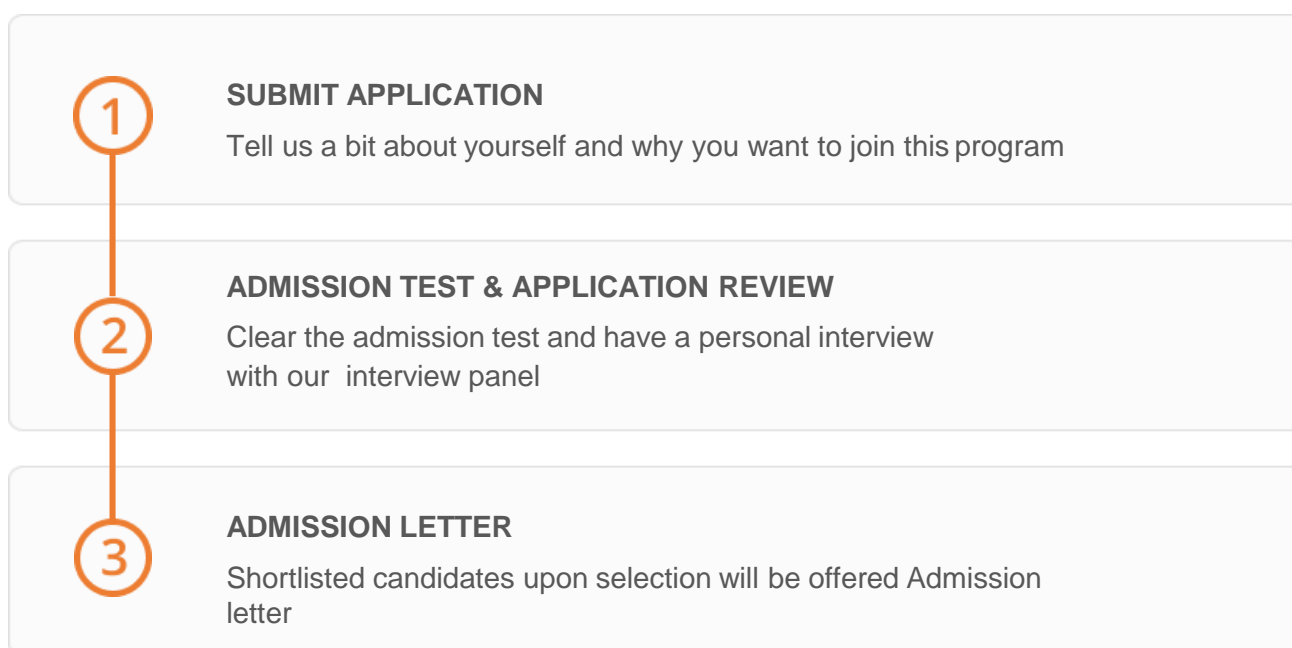
Eligibility Criteria

For the admission to the certification program in Full Stack Web Development, candidates should:

- Have a bachelor's degree with an average of 50% or higher marks and a basic understanding of programming concepts
- Be working professionals with zeal to build a career in Full Stack Web Development

Application Process

The application process consists of three simple steps. An offer of admission will be made to the selected candidates and accepted by the candidates upon payment of the admission fee.



Courses offered

INSTRUCTOR LED TRAINING COURSES

1. Linux Administration Course
2. MongoDB NoSQL and MS SQL Database
3. DevOps
4. User Experience Design Thinking & React JS
5. Locally Popular MVC Framework
6. Server-Side Development
7. Web Framework
8. Quality and Performance

SELF PACED LEARNING

1. PHP with Laravel

Course Advisor



Diwakar Chittora

Co-founder & CEO, Intellipaath

He has more than 11 years of experience in developing large-scale BI products for Fortune 500 companies. He also has great experience in doing Data Analytics on large-scale data. In the past, he has worked in companies such as Amex, Mercedes Benz Research, Pentaho, and Wipro.



Niraj Kumar

Co-founder & CTO, Datamatrixs

He has over 12 years of experience in the field of IT. He deals with everything from designing various architectures, developing methodologies in Machine Learning, AI, and Full Stack Development to handling Big Data and many more for top Fortune 500 companies.



Muthusamy Manigandan

Head Engineering, Amazon India

Mani comes with great experience in Algorithms, Data Science, Big Data, and AI. He has worked on multiple research projects in the past on Data Science, AI & ML for Display Advertising, and Recommendation and Classification systems. He comes with more than 16 years of experience in building large-scale AI products with top MNCs..

Program Curriculum

1. LINUX ADMINISTRATION

Introduction to Linux

Introduction to Linux, Basics of Shell, Basics of Kernel, CentOS 8 installation and VBox additions, Basic Linux Commands, ECHO and EXPR command, Set and unset a variable, Header of a shell script (#!)

File Management

Text editors and file creation; Users, Groups and Processes; Root and Linux file hierarchy, Understanding file hierarchy, Understanding file permissions, chmod and chown commands, the LS command, Metacharacters, Editing a file using VIM, Displaying contents of a file, Copy, Move and Remove files

Files and Processes

Everything is a file in UNIX/Linux (files, directories, executables, processes), Process control commands (ps and kill), other process control tools (top, nice, renice)

Introduction to Shell Scripting

What is shell scripting, Types of shell, Creating and writing a shell script, Changing the permission of the shell script, Executing the script, Environment variables, Defining a local and a global variable, User input in a shell script

Conditional, Looping statements and Functions

What are Conditional statements, Using IF, IF-ELSE, Nested IF statements, What are Looping statements, Using WHILE, UNTIL and FOR statements, Using the case...esac statement, What is a Function, Creating a function in Linux, Calling functions

Text Processing

Using GREP command, Using SED command, Using AWK command, Mounting a file to the virtual box, Creating a shared folder (mounting a folder), Using SORT command and Using pipes to combine multiple Commands

Scheduling Tasks

What are Daemons, Introduction to Task scheduling in Linux, Scheduling a job in Linux, What is Cron and Crontab, How to use cron, Using the AT command

2. FRONT END TECHNOLOGIES

HTML & HTML 5

- Writing HTML code using Header Tags, Paragraphs, Ordered and Unordered lists, Forms , Links, Tables, Iframes, Images, Text Formatting, Image Maps. Creating an Amazon Web Services (AWS) account and how to deploy a static website to AWS Simple Storage Service (S3).
- Encoding URL, Introduction to XHTML, Using HTML5 introduced features, Handling of multiple file upload using multiple attribute, HTML5 Local Storage, HTML5 form validate/validate, HTML5 canvas, Embedding audio and video in a webpage, drag and drop, HTML5 web workers and server sent events

CSS

- Styling of HTML elements-text, links, lists and tables. Different ways to write CSS e.g. external, internal, inline. Creating Navigation Bars. Writing Media Rules, hide visibility of an element. CSS Image Sprites and Gradients. CSS Pseudo Classes and Pseudo Elements
- CSS3 Text Effects using different text fonts. Creating 2D and 3D transformations and applying animations, transitions to HTML elements. CSS3 resize UI and multiple columns feature

JavaScript

- JavaScript datatypes, variables, arrays. Creating loops and writing if-else decision making statements. Defining and calling JavaScript functions on events. Manipulating DOM elements

Responsive Design

- Creating responsive design to that will auto adjust on all devices – Desktop, Tablets, Mobile.

Bootstrap 4

- Full understanding of Bootstrap 4 code, Bootstrap manual installation, understanding features, working with text tags, images, containers, media break point, grid, color, navbar, buttons, Cards, Modal, forms.– images, Read documentation on your own.
- Project Work - Creating a responsive webpage to create Modal Login, triggering modal.

Semantic HTML

What is semantic HTML? Auditing site for semantic issues, auditing a hotel management application for semantic issues, sectioning and grouping elements, main flow content, marking up the main flow content, headings and implicit sections, creating outlines using headings, HTML outlines, text-level semantics, and semantic forms

3. DATABASES

My SQL

- Introduction to MySQL, working with MySQL and MySQL IDE: installation and setup; introduction to SQL queries; DDL – create and select; DML queries – alter, insert, etc.; working with joins, groups, filtering data, writing complex SQL queries for data retrieval, and the import and export of data and database tables

MongoDB

- **Introduction to NoSQL and MongoDB:** RDBMS, types of relational databases, challenges of RDBMS, NoSQL database, its significance, how NoSQL suits Big Data needs, introduction to MongoDB and its advantages, MongoDB installation, JSON features, data types, and examples
- **MongoDB Installation:** Installing MongoDB, basic MongoDB commands and operations, MongoChef (MongoGUI) installation, and MongoDB data types
Hands-on Exercise: Installing MongoDB and MongoChef (MongoGUI)

- **Importance of NoSQL:** The need for NoSQL, types of NoSQL databases, OLTP, OLAP, limitations of RDBMS, ACID properties, CAP theorem, base property, learning about JSON/BSON, database collection and documentation, MongoDB uses, MongoDB write concern—acknowledged, replica acknowledged, unacknowledged, and journaled—and Fsync
- **CRUD Operations:** Understanding CRUD and its functionality, CRUD concepts, MongoDB query and syntax, read and write queries, and query optimization
- **Data Modeling and Schema Design:** Concepts of data modeling, difference between MongoDB and RDBMS modeling, model tree structure, operational strategies, monitoring, and backup
- **Data Management and Administration:** MongoDB® administration activities, such as health check, backup, recovery, database sharding and profiling, data import/export, performance tuning, etc
- **Data Indexing and Aggregation:** Concepts of data aggregation and types, data indexing concepts, properties, and variations
- **MongoDB Security:** Understanding database security risks, MongoDB security concept, security approach, and MongoDB integration with Java and Robomongo
- **Working with Unstructured Data:** Implementing techniques to work with variety of unstructured data such as images, videos, log data and others, and understanding GridFS MongoDB file system for storing data

4. SERVER-SIDE DEVELOPMENT

Python/Django

- **Introduction to the Basics of Python:** Explaining Python and highlighting its importance, setting up Python environment and discussing flow control, running Python scripts, and exploring Python Editors and IDEs
- **Sequence and File Operations:** Defining reserve keywords and command line arguments, describing flow control and sequencing, indexing and slicing, learning the xrange() function, working around dictionaries and sets, and working with files
- **Functions, Sorting, Errors and Exception, Regular Expressions, and Packages:** Explaining functions and various forms of function arguments, learning variable scope, function parameters, and lambda functions, sorting using Python, exception handling, package installation, and regular expressions
- **Python:** OOP implementation using class, objects, and attributes, developing applications based on OOP, learning about classes and objects and about how they function together, and explaining OOP concepts, including inheritance, encapsulation, and polymorphism, among others
- **Debugging and Databases:** Debugging Python scripts using PDB and IDE, classifying errors and developing test units, implementing databases using SQLite, and performing CRUD operations
- **Introduction of Django Framework:** Explaining the web framework and the MVC pattern, creating a basic Django app and views, using HTTP request and URLCONF, and creating a simple view using **Django**

- **Templates and Forms:** Explaining the Django template system, loading template files, rendering templates, creating forms and processing form data, and creating forms that can accept personal data from users
- **Models and Dynamic Web Pages:** Defining database models and using model fields, using QuerySets for data retrieval, and using jQuery and AJAX with Django for creating a website
- **Serialization:** Explaining the concepts of data serialization, using the REST framework, serializers, de-serializers, model serializers, and REST APIs
- **Parsing XML and JSON with Python:** Describing JSON and XML file formats, explaining XML-RPC, parsing objects to XML and JSON and back, respectively, and parsing data stored in XML/JSON format to native Python and reversing the same

PHP with Laravel (Self-Paced Learning)

- Architecture Foundation: Service providers, service containers, facades, request life cycle, and application structure
- Setup & Installation: Requirement, installation, web server configuration, and the project structure
- Basic Routing: Basic routing and route parameters
- Responses: Views, redirects, and custom responses
- Middleware: Introduction, defining middleware, and registering the middleware
- Controllers: Introduction, basic controllers, controller middleware, implicit controllers, and RESTful resource controllers
- Blade Templates: Creating templates, PHP Output, control structures, templates, and template inheritance

- Advanced Routing: Named routes, secure routes, parameter constraints, route prefixing, and domain routing
- URL Generation: The current URL, generating framework URLs, asset URLs, and the generation of shortcuts
- Request Data: Retrieval, old input, upload files, and cookies
- Forms: Forms, fields, buttons, and security
- Validation: Validation, controller validation, form request validation, working with error messages, error messages and views, available validation rules, custom error messages, and custom validation rules
- Basic Database Usage: Configuration, read/write connections, running queries, database transaction, and accessing connection
- Query Builder: Introduction, selects, joins, and DML queries
- Schema **Builder**: Creating tables, column types, special column types, column modifiers, updating tables, dropping tables, and schema tricks
- Migrations: The basic concept, creating migration, rolling back, and migration tricks
- **Eloquent ORM**: Creating new models, reading existing models, updating the existing models, and deleting the existing models
- **Eloquent Queries**: Preparation, eloquent to string, query structure, magic queries, and query scopes
- Eloquent Relationship: Relationships, implementing a relationship, and relating and querying
- Authentication
- Authorization

NodeJS

Introduction **to Node.js**: What is Node.js? Why Node.js? Node modules, Node built-in packages, creating your own package, importing your own package, NPM (Node Package Manager), and local and global packages

- **Asynchronous Programming**: What is Asynchronous Programming in JavaScript? JavaScript event loop, callbacks, callback hell, promises, promise chaining, and Async Await
- **FileSystem**: Synchronous vs asynchronous IO, file constants (dirname and filename), synchronous file operations, asynchronous file operations, and the FileSystem watcher
- **Streams and Events**: What are Streams in Node.js? Reading and writing streams, understanding and using the EventEmitter class, emitting events, and responding to the events
- **HTTP**: What is HTTP? How does HTTP work? Standard HTTP response codes, Node HTTP module, processing form data, processing query strings from URL, and sending back responses
- **ExpressJS**: What is ExpressJS? Installing ExpressJS, creating a simple HTTP Server using ExpressJS, routing in Express, templating in Express, and templating using JADE and Middleware
- **ExpressJS and MongoDB**: What is MongoDB? MongoDB advantages, documents, and collections, Mongoose ODM, creating schemas and models using Mongoose, and CRUD operations in MongoDB using Mongoose and Express
- **REST API Using Express and Mongoose**: What is a REST API? Why REST API? Data exchange formats, JSON vs XML, the monolith architecture, and the microservice architecture

5. REACTJS AND REACT NATIVE

React

- **Introduction to ES**
Proxies, map + set + weakmap + weakset, modules, generators, iterators, let and const, rest and spread operators, de-structuring, template strings, classes, object literals, arrows, introduction to webpack/babel/npm, introduction to ES5 and ES6, and promises
- **Introduction to ReactJS**
Basic setup, single-page application vs multipage application, introduction to ReactJS, overview of ReactJS, understanding the view technology, and understanding JavaScript
- **React Basics**
Virtual DOM and its working and React elements
- **Components and Forms in React**
Component lifecycle, nested components, component constructor, class-based component, functional vs class component, functional component, and creating forms in React
- **Props and State**
Event handling, data binding, CSS stylesheet, inline styling, props and input handling, class components, internal state, props with function-based components, states, and using props for data passing
- **React Router**
URL parameters, navigation using links, 404 page (Not found Page), configuration of routing using react-router, react-router, routing, and nested routes

- **React Key Features**

Lists and keys, conditional rendering, and lifting state up

- **React Hooks**

What are React hooks? Using `useEffect()`, `useContext()`, and `useState()` hooks

- **Redux**

Flux architecture, React router with Redux, dispatch actions, store, splitting reducers, handling actions, state shape, action creators, action, Redux setup, legacy of Redux, three principles, and other core concepts

- **Deployment**

Deploying an app in the AWS cloud via Nginx and deploying a React application

- **Introduction to React Native**

React Native, React Native installation and setup, and working with styles and layout

- **Working with REST APIs on the Server Side**

6. QUALITY AND PERFORMANCE

Unit Testing

- What is Unit Testing?, Why Unit Testing?, Unit Testing Frameworks, What are Mocks and Stubs?, Writing and Running tests in Express,
- **Google Lighthouse**
Working with google lighthouse to understand the performance metrics and others issues present.
- **Lazy Loading:** Improve the performance of web application with lazy loading features. Lazy load of images, third party resources, etc

7. DEVOPS DEPLOYMENT

Source Code Management Using Git

Introduction to Git, Git lifecycle, common Git commands, working with branches in Git, merging branches, resolving merge conflicts, and Git workflow

- **Container Concepts Using Docker**

Introduction to Docker, understanding Docker lifecycle, components of the Docker ecosystem, common Docker operations, creating a Docker Hub account, committing changes into a container, pushing a container image to Docker Hub, and creating custom Docker images using a Dockerfile

- **Containerization with Docker: Ecosystem and Networking**

What are Docker volumes? Deploying a multi-tier application using the Docker network, using Docker Compose to deploy containers; What is container orchestration? container orchestration tools, introduction to Docker Swarm, and deploying a 2-node cluster using Docker Swarm

- **Container Orchestration Using Kubernetes**

Introduction to Kubernetes, Docker Swarm vs Kubernetes, Kubernetes architecture, deploying Kubernetes using kubeadm, alternate ways of deploying Kubernetes, YAML files, creating a deployment in Kubernetes using YAML, services in Kubernetes, ingress in Kubernetes, and a Case Study on the Kubernetes architecture

- **Continuous Integration and Continuous Deployment (CI/CD Pipeline) Using Jenkins**

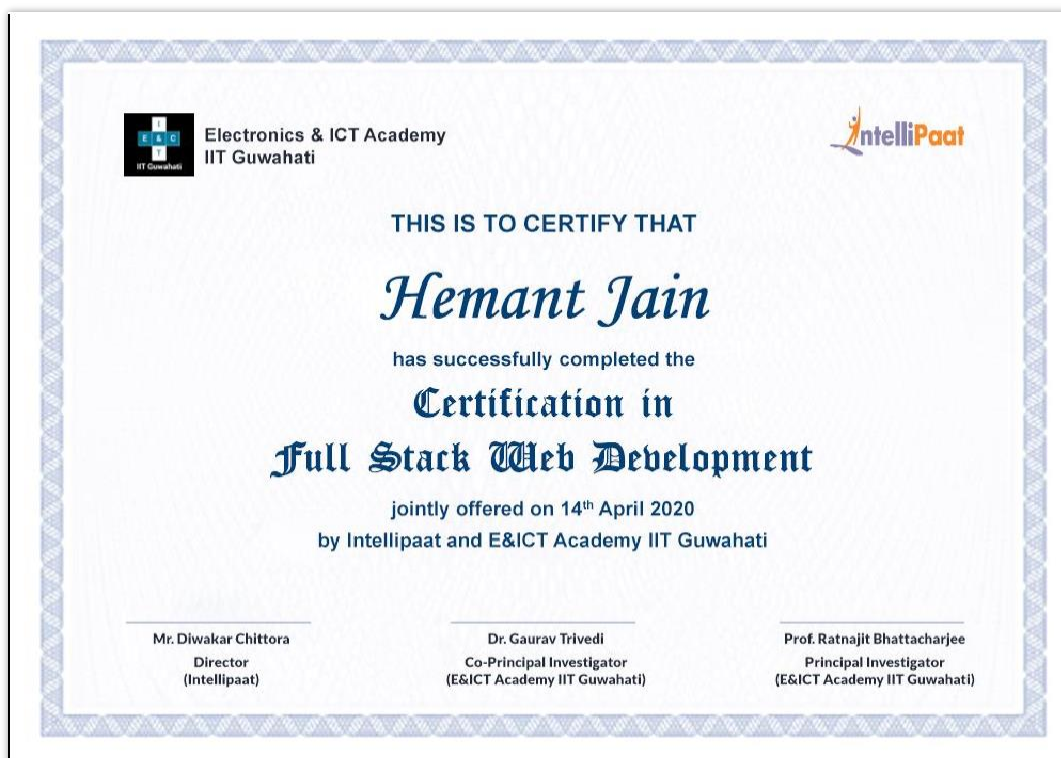
Introduction to continuous integration, Jenkins master–slave architecture, understanding CI/CD pipelines, and creating an end-to-end automated CI/CD pipeline

8. CAPSTONE PROJECT

Students will design, build, and ship a real full-stack application. All pull-requests will pass a rigorous code review, and you will learn to implement international best practices

Certification

After the completion of the course, students will get certificates from E&ICT, IIT Guwahati, and Microsoft.



Intellipaat Success Stories



Vishal Pentakota

Best part of this online course is the series of hands-on demonstrations the trainer performed. Not only did he explain each concept theoretically, but also implemented all those concepts practically. Great job. Must go for beginners.



Shreyashkumar Limbhetwala

I want to talk about the rich LMS that Intellipaat data science training offered. The extensive set of PPTs, PDFs, and other related course material were of the highest quality and due to this my learning with Intellipaat was excellent and I could clear the Cloudera Data Scientist certification in the first attempt.



Giri Karnal

I had taken the Data Science masters' program which is a combo of SAS, R and Apache Mahout. Since there are so many technologies involved in the Data Science course, getting your query resolved at the right time becomes the most important aspect. But with Intellipaat, there was no such problem as all my queries were resolved in less than 24 hours.



Sharath Reddy Yellapati

The course material was very well organized. The trainer explained the basics of each module to me. All my queries were addressed very clearly. The trainer also made me realize how important this course is for beginners in IT stream.

Contact Us

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