

upGrad



International
Institute of Information
Technology Bangalore

ADVANCED CERTIFICATE PROGRAMME IN

CLOUD COMPUTING



About upGrad



Ronnie Screwvala

Co-founder & Executive
Chairman

upGrad

upGrad is an online education provider that enables individuals to develop their professional potential in the most engaging learning environment. Online education is a fundamental disruption to the traditional model and will be having a far-reaching impact. At upGrad, we work towards transforming this online education wave into a tsunami! We take a full stack approach, by leveraging content, technology, marketing and services, to offer quality education at scale in partnership with corporates and academia. This translates into rigorous industry relevant programs for individuals looking for a professional upgrade.

In the last 10 years, digital technology has had a profound impact on billions of lives and thousands of businesses in India and abroad. The pace of growth is only expected to increase further, as the \$150 billion Indian IT industry is set to double its revenue in the next 10 years. This growth will be driven by new age digital products and services, which will create millions of new developer jobs.

The program will prepare our learners to excel in this rapidly evolving technology landscape, by strengthening their core concepts.

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Our aim is simple: We strive to create high-impact, on-campus hands-on experiences that prepare students for meaningful and productive careers”.

Advanced Certificate Programme in Cloud Computing with IIITB

As an independent institution and a deemed university, IIITB collaborates with the IT industry, leading academic institutions abroad, eminent scientists and industry leaders to offer students the best possible education. Our outstanding faculty, curriculum and pedagogy ensures that our graduate programs are ranked among the best in the country. Our students have been well received by industry, and have been placed with some of the leading companies in the IT industry.

We have partnered with upGrad to offer a rigorous program with a unique and exciting combination of development principles and industry-led hands-on experience. Learners will get opportunities to work on industry-relevant projects and interact with industry experts through upGrad's strong industry network. The program has been designed keeping in mind that the future belongs to professionals who can think and implement end-to-end.



Prof. Debabrata Das
Director - IIIT Bangalore



upGrad as a thought leader in emerging technologies

We have trained:

10K+

Data Scientists

2K+

Full Stack Developers

5K+

Machine Learning
Engineers

1.5K+

Big Data Analysts

1K+

Blockchain Developers



Program

Highlights



Advanced Certificate Program from IIITB

Differentiate yourself from your peers by earning the industry recognised Advanced Certificate Program from IIIT Bangalore.



For the Industry, by the Industry

Learn and apply concepts on industry projects along with personalised industry mentorship.



360 Degree Career Assistance

Receive 360 degree career support from access to upGrad's job opportunities portal, 1:1 profile reviews, career mentorship from industry experts and much more.



Personalised Mentorship

Get unparalleled personalised mentorship and doubt resolution from IIITB faculty and our panel of industry experts.



Dedicated Student Support Team & upGrad Buddy

To help resolve your non-academic queries and to ensure you are on track with upcoming deadlines.



Unparalleled Learning Experience

Learn the concepts from experienced IIITB faculty & understand the applications from Industry experts to get a blend of theoretical knowledge and practical-hands on experience.



Learn from Academy & Industry Experts



Chandrashekar Ramanathan

Dean - Academics, IIITB



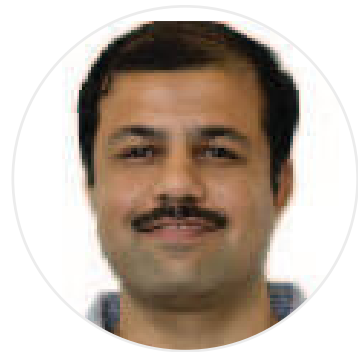
Tricha Anjali

Former Associate Dean, IIITB



TK Srikant

Faculty in charge, Computing, IIITB



Sujit Kumar Chakrabarti

Assistant Professor, IIITB



Prof S. Balasubramaniam

Ex-Dean Academics, BITS Pilani



Prof. V. Sridhar

Faculty In Charge, CPE, IIITB



Cheng-Han Lee

Ex-Program Manager, Microsoft



Ashutosh Shinde

Engineer Manager, Walmart



Vishawanath Pattanshetti

Sr System Analyst, IBM



Varun Sehgal

Director, freecharge



Abhijeet Singh

Sr Software Engineer, Microsoft



Prasanna Lohar

Head-Technology & Innovation, DCB Bank



Nitin Gaur

Director- Blockchain Labs, IBM



Mayukh Chakraborty

Software Engineer - 2, Microsoft



Vishwa Mohan

Senior Software Engineer, LinkedIn

upGrad Learning

Experience



Industry-relevant Curriculum

Designed and taught by best in class industry experts and IIT Bangalore's faculty.



Blended Learning

Learn with the ease and flexibility of recorded sessions as well as live sessions, designed to ensure a wholesome learning experience



Discussion Forums

Learn from your peers and teaching assistants, and for timely doubt resolution.



Career Assistance

Access to upGrad's job opportunities portal, career mentorship, profile review and more.



Re-learn the Concepts

Get program access for upto 3 years to refresh your concepts



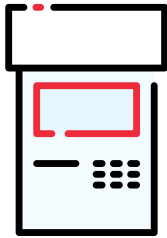
Hands-On Projects

Multiple case studies & assignments & a mini capstone project to choose from and apply learnings to it.



Industry

Projects



Databases

Use the Java API provided by a SQL & a NoSQL database and integrate them in your Java application.



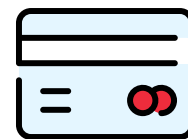
Building Applications Microservices

Take a service based approach and develop an cloud-native application using Microservices.



Application Deployment

Make use of the deployment tools and deploy your application to cloud.



Capstone Project

Take a real world use-case and design, develop & deploy an cloud-native solution.

Program

Curriculum

PREPARATORY COURSE

- **FUNDAMENTALS OF PROGRAMMING LANGUAGE WITH BASIC DATA STRUCTURES (JAVA)** **2 WEEKS**

Learning the fundamentals of Java and its basic building blocks. Start with writing basic Java programs. Also explore arrays & array lists.

C1. DISTRIBUTED SYSTEMS & CLOUD DATABASES

- **INTRODUCTION TO DISTRIBUTED SYSTEMS** **1 WEEK**
Understand the notion of Distributed Systems and learn about the various intricacies of Distributed Systems
- **INTRODUCTION TO CLOUD (USING AWS)** **1 WEEK**
Get introduced to the cloud and learn about various cloud services, and their use cases. Understand the concept of virtualisation. Learn about the various intricacies involved in provisioning compute and storage resource on the cloud
- **SQL AND RELATIONAL DATABASE MANAGEMENT SYSTEMS** **1 WEEK**
Get introduced to the Relational Database Management System and learn about the techniques to manage relational databases. Use SQL to perform various DML and DDL queries on the relational database
- **HANDS-ON WITH NOSQL - MONGODB** **1 WEEK**
Understand the notion of NoSQL Database, take a hands-on approach and learn to model and query using MongoDB
- **COURSE PROJECT** **1 WEEK**
Use the concepts learnt so far and work on an industry-grade project

C2. DESIGN & DEVELOPMENT OF MICROSERVICES

- **INTRODUCTION TO SPRING CORE & SPRING BOOT** **1 WEEK**
Get introduced to the Spring Boot framework and learn to develop a hello world web-application using the Spring-Boot framework
- **DATA ACCESS LAYER & SERVICE LAYER** **1 WEEK**
Take a hands-on approach and learn about how to build data and service layers in your application

- **INTRODUCTION TO BACKEND ARCHITECTURE - MONOLITHIC & SERVICE ORIENTED ARCHITECTURE** **1 WEEK**
Get introduced to web application the various types of software backend architectures and learn about their use-cases and challenges
- **INTRODUCTION TO MICROSERVICES; DESIGNING APPLICATIONS USING MICROSERVICES[HLD]** **1 WEEK**
Learn about Microservices and the use cases and challenges of the Microservices based architecture.
- **INTRODUCTION TO REST & CONTROLLER LAYER** **2 WEEKS**
Get introduced to REST and understand its various intricacies to develop REST APIs
- **AOP - ASPECT ORIENTED PROGRAMMING & APPLICATION SECURITY** **1 WEEK**
Get introduced to Aspect-Oriented Programming. Learn about the various concepts of exception handling and application security
- **DISCOVERY OF MICROSERVICES & COMMUNICATION AMONG MICROSERVICES** **1 WEEK**
Learn and implement various microservices communication techniques
- **NON-BLOCKING APPLICATION(MESSAGING QUEUES) - KAFKA** **1 WEEK**
Understand the need for messaging services and learn to integrate them into your application
- **COURSE PROJECT** **2 WEEKS**
Use the concept learnt so far and work on a industry grade project

Exam Week: Exam **1 WEEK**

Buffer Week **1 WEEK**

C3. SERVERLESS DEVELOPMENT AND DEPLOYMENT OF CLOUD-NATIVE

- **INTRODUCTION TO LAMBDA/SERVERLESS ARCHITECTURE + SERVERLESS DEVELOPMENT** **1 WEEK**
Get introduced to serverless architecture and understand its pros-cons and industry use-case
Learn to develop services using the serverless approach
- **WEB APPLICATION OPTIMISATION** **1 WEEK**
Understand and implement various application optimisation techniques commonly used in the industry
- **MICROSERVICIES - DEBUGGING AND TROUBLE SHOOTING** **1 WEEK**
Learn and apply various strategies to debug a microservice-based application

- **INTRODUCTION TO SPRING CLOUD AND DEPLOYMENT** **1 WEEK**
Get introduced to Spring Cloud and learn to deploy microservices-based applications using Spring Cloud
- **CONTAINERS VS. VMS. RESOURCE EFFICIENCY. DOCKERS AS CASE STUDY** **1 WEEK**
Understand the notion of containers and their use cases. Learn about Docker and create Docker images of your application
- **CONCEPTS OF CLOUD DEPLOYMENT & DEPLYOMENT USING KUBERNETES & SERVERLESS DEPLOYMENT** **2 WEEKS**
Understanding the various intricacies involved in deploying a application in cloud
Learn to deploy a microservice-based application on Kubernetes.
Learn to deploy a serverless application on the Cloud
- **DEPLOYING WEB APPLICATIONS WITH AWS ELASTIC BEANSTALK (OPTIONAL)** **0 WEEKS**
Learn about AWS BeanStack and deploy a web application using BeanStack
- **COURSE PROJECT** **1 WEEK**
Deploying an application on the Cloud

Exam Week: Exam **1 WEEK**

Buffer Week **1 WEEK**

C4. CAPSTONE

- **CAPSTONE PROJECT (GROUP)** **4 WEEKS**
The capstone project will stitch all the concepts learnt during the program

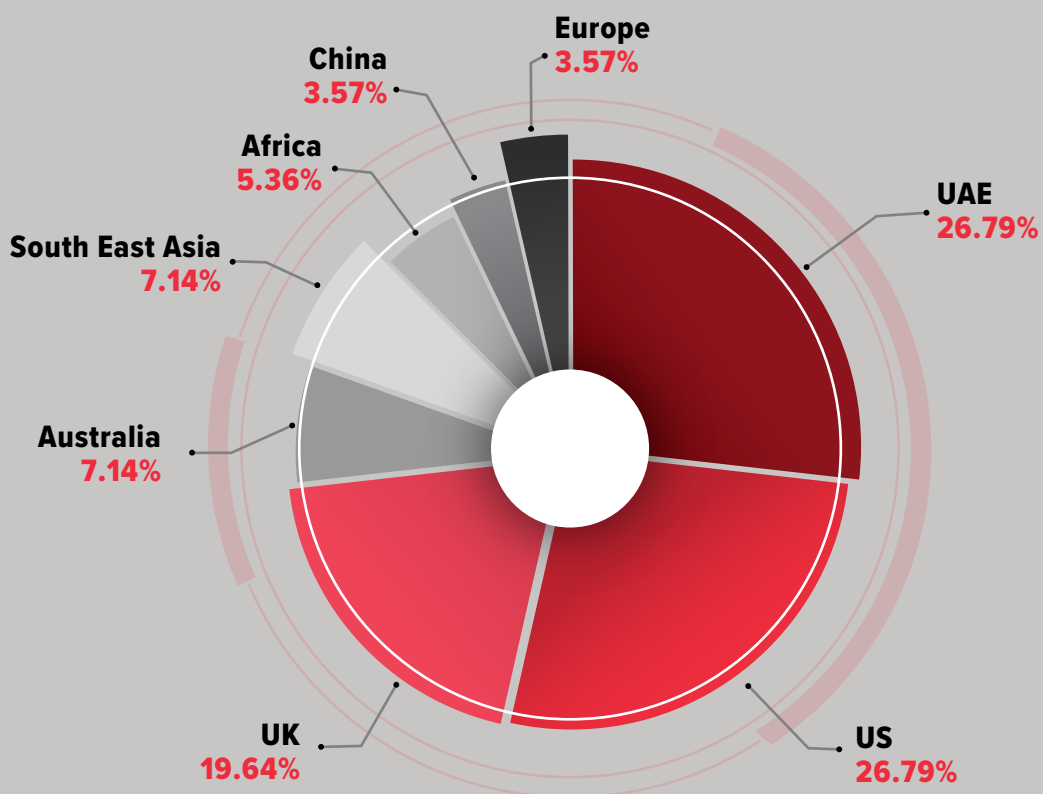
TOOLS AND LIBRARIES

Java11, IntelliJ, Junit, Git and Github, AWS Services-EC2, EBS, AWS RDS, AWS MongoDB Service, IntelliJ, Spring Boot Framework, REST, AWS Kafka, AWS Lambda, AWS Elastic Beanstalk, AWS kubernetes service - AWS EKS, AWS EC2, Docker, AWS Spring Cloud AWS load balancing,

Meet the Class



Opportunity to network with our international learners



Hear from our learners



“ **Joel Varghese**
Software Engineer,
Zoreum Blockchain Labs

The program has been very useful and my experience with upGrad and the student mentors at upGrad has been very good. The content taught is very relatable and the method of delivery is also convenient for working professionals like us ”



“ **Kriti Jain**
Software Engineer,
Ministry of Defence

upGrad teaches complex topics in a very simple manner. The case studies are easily understandable and have added value to my resume and helped me bag a 125% salary hike. The curriculum is very relevant to today's market scenario and the upGrad team has done a good job in bringing education right at our palms ”



“ **Akshay Mathur**
Software Technologist,
Philips

“The program has taught me a lot and the case studies have been very useful. The student mentors are very helpful and have helped me solve any and every problem that I have faced. It has been a great experience for me, I would definitely recommend the program to my friends ”



“ **Kumar Shubham**
SDET - II,
Blackbuck

“With upGrad, my experience has been wonderful. Managing work and studying has been the best decision of my life, thanks to upGrad. While it seemed difficult in the beginning, my student mentor helped me plan my schedule and manage time to maintain a work-life-study balance, which truly saved me! upGrad helped me gain a 60% salary hike ”

Program Details & Admission Process

PROGRAM DURATION AND FORMAT

7.5 months | Online

PROGRAM FEE

INR 99,000 (Incl. of all taxes)

PROGRAM START DATES

Please refer to the website for program start dates.

ELIGIBILITY

Bachelor's Degree with 50% or equivalent passing marks. No coding experience required.

WEEKLY COMMITMENT (12-15 hours/week)



6-7 HOURS

Asynchronous learning time.



6-7 HOURS

Assignments and projects.

SELECTION PROCESS



STEP 1: Selection Test

Fill out an application and take a short 20-minute online test with questions



STEP 2: Review and Shortlisting of Suitable Candidates

Our faculty will review all applications, consider the educational and professional background of an applicant and review the test scores wherever applicable. Following this, offer letters will be rolled out so you are assured a great peer group to learn and network with.



STEP 3: Enrollment for Access to Prep Content

Make a quick block payment & receive immediate access to the prep content and begin your upGrad journey. (Loan assistance available if required)

FOR FURTHER INFORMATION, CONTACT

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