



Postgraduate Certificate
DevOps and Continuous Integration.
Advanced Practical Solutions
in Software Development

» Modality: online

» Duration: 6 weeks

» Certificate: TECH Technological University

» Dedication: 16h/week

» Schedule: at your own pace

» Exams: online

Website: www.techtitute.com/pk/information-technology/postgraduate-certificate/devops-continuous-integration-advanced-practical-solutions-software-development

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Certificate

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## tech 06 | Introduction

Coordinating and integrating the work of the entire software development team on a main line on a very frequent basis, and delivering the product with these new changes as soon as possible, is one of the objectives of continuous integration within the framework of the use of the DevOps methodology.

The commitment involved in each project makes us work efficiently, quickly and adaptable to the requirements that may arise. For this, it is essential to establish the minimum stages and requirements in any software development process. In this program, a global and complete vision of the entire ecosystem is offered, from human policies, product or management requirements, to the theoretical and practical implementation of the processes themselves.

Therefore, students will be able to create and adapt the complete software delivery cycle, according to specific needs, taking into account economic and security considerations with the presentation of real cases based on problems. With content selected by the expert teachers who direct this program and who, in addition, will accompany students throughout the learning process through the various multimedia resources available on the TECH Technological University platform.

A modern study system implemented by TECH, which allows students to balance their daily responsibilities with the program, and graduate in a maximum of 6 weeks, without investing a great deal of time and effort. It is a 100% online methodology based on Relearning, which facilitates the learning process for the professional.

This Postgraduate Certificate in DevOps and Continuous Integration. Advanced Practical Solutions in Software Development contains the most complete and up-to-date program on the market. Its most notable features are:

- Case studies presented by experts in software development
- The graphic, schematic, and practical contents with which they are created, provide practical information on the disciplines that are essential for professional practice
- Practical exercises where self-assessment can be used to improve learning
- Its special emphasis on innovative methodologies
- Theoretical lessons, questions for experts and individual reflection work
- Content that is accessible from any fixed or portable device with an Internet connection



With this program, you will learn to generate advanced practical solutions in software development through DevOps and continuous integration. Enroll now and qualify in 6 weeks"



Companies are looking for efficient professionals in the development of IT solutions tailored to their needs. Become an expert with this Postgraduate Certificate"

The program's teaching staff includes professionals from the sector who contribute their work experience to this training program, as well as renowned specialists from leading societies and prestigious universities.

The multimedia content, developed with the latest educational technology, will provide the professional with situated and contextual learning, i.e., a simulated environment that will provide immersive training programmed to train in real situations.

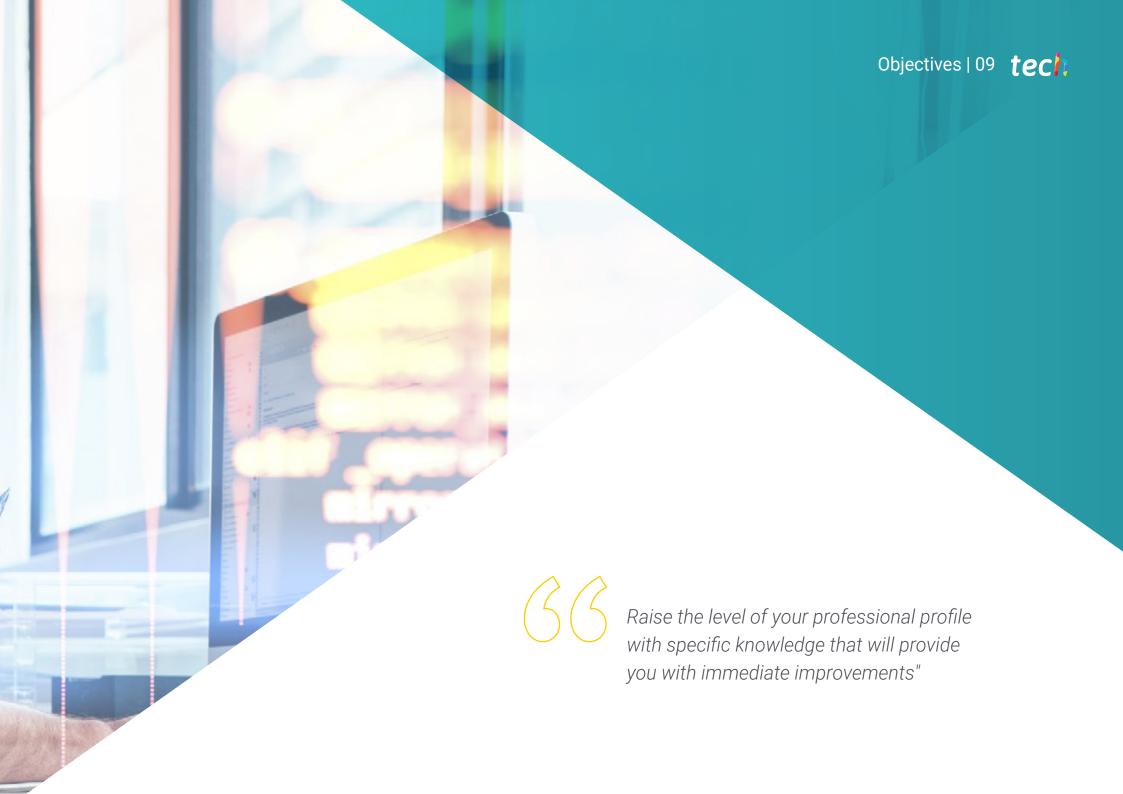
This program is designed around Problem-Based Learning, whereby the professional must try to solve the different professional practice situations that arise during the academic year. For this purpose, the student will be assisted by an innovative interactive video system created by renowned and experienced experts.

You no longer have to worry about endless hours of studying in a classroom. Get trained 100% online and from any device with TECH Technological University.

After this program, you will be able to design a software delivery process using continuous integration in an efficient way.







## tech 10 | Objectives



## **General Objectives**

- Develop the criteria, tasks and advanced methodologies to understand the relevance of quality-oriented work
- Analyze the key factors in the quality of a software project
- Develop the relevant regulatory aspects
- Implement DevOps and systems processes for Quality Assurance
- Reduce the technical debt of projects with a quality approach rather than an approach based on economics and short deadlines
- Provide the student with specialized knowledge to be able to measure and quantify the quality of a software project
- Defend the economic proposals of projects on the basis of the quality approach









## **Specific Objectives**

- Identify the stages of the software development and delivery cycle adapted to particular cases
- Design a software delivery process using continuous integration
- Build and implement continuous integration and deployment based on your previous design
- Establish automatic quality checkpoints on each Software delivery
- Maintain an automatic and robust software delivery process
- Adapt future needs to the continuous integration and deployment process
- Analyze and anticipate security vulnerabilities during and after the software delivery process



Understand all about improving Pipeline runtime: Static Analysis, Git Hooks and Unit Tests"



#selection at the e
mirror\_ob.select= 1
modifier\_ob.select
bpy.context.sc
print("Select")



Having the experience of renowned professors in the area of computer engineering will allow you to acquire the value you need for your professional development"

## tech 14 | Course Management

#### Management



#### Mr. Molina Molina, Jerónimo

- Al Engineer & Software Architect. NASSAT Internet Satellite in Motion
- Sr. Consultant at Hexa Ingenieros. Introducer of Artificial Intelligence (ML and CV) in the company
- Expert in artificial intelligence based solutions in the fields of Computer Vision, ML/DL and NLP. Currently investigating application possibilities of Transformers and Reinforcement Learning in a personal research project
- University Expert in Business Creation and Development. Bancaixa FUNDEUN Alicante
- Computer Engineer. University of Alicante
- · Master in Artificial Intelligence. Catholic University of Avila
- Executive MBA. European Business Campus Forum

#### **Professors**

#### Mr. Tenrero Morán, Marcos

- DevOps Engineer Allot Communications
- Application Lifecycle Management & DevOps- Meta4 Spain. Cegid
- QA Automation Engineer Meta4 Spain. Cegid
- Graduated in Computer Engineering from Rey Juan Carlos University
- Development of professional applications for Android Galileo University (Guatemala)
- Cloud Services Development (nodeJs, JavaScript, HTML5) UPM
- Continuous Integration with Jenkins Meta4. Cegid
- Web Development with Angular-CLI (4), Ionic and nodeJS. Meta4 Rey Juan Carlos University



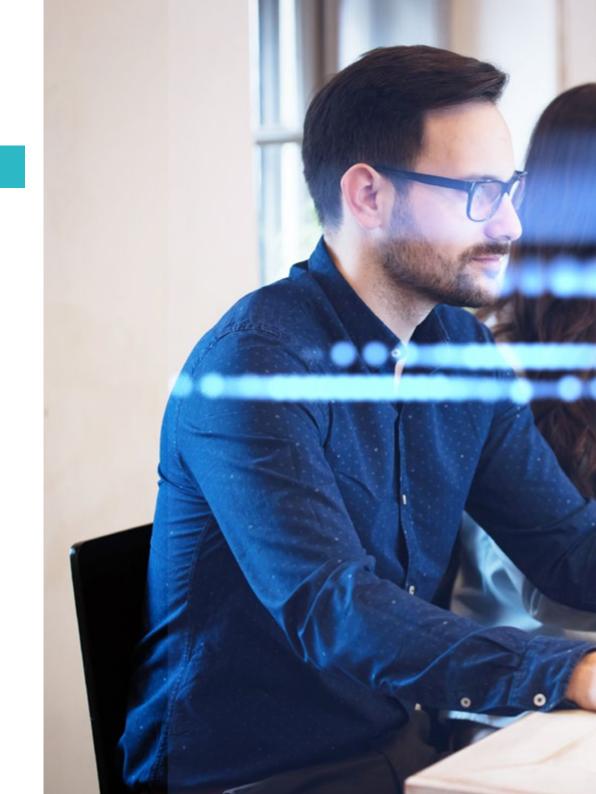


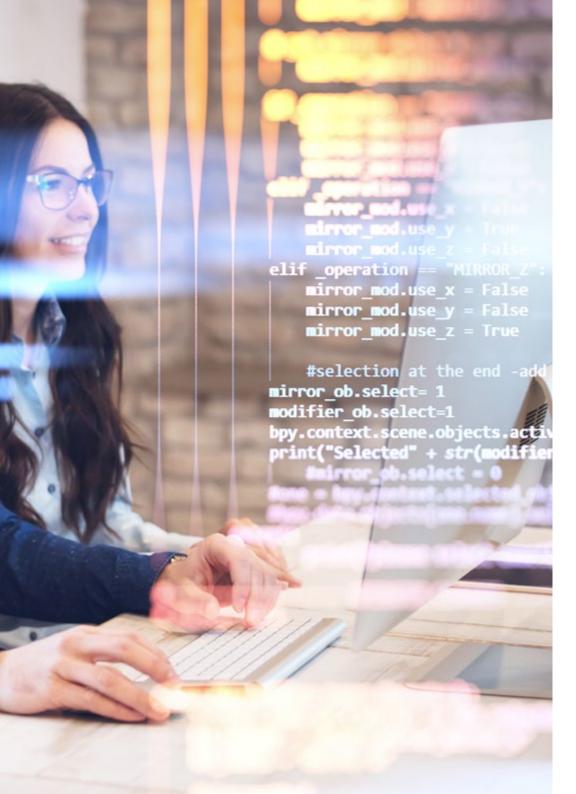


## tech 18 | Structure and Content

## **Module 1.** DevOps and Continuous Integration. Advanced Practical Solutions in Software Development

- 1.1. Software Delivery Flow
  - 1.1.1. Identification of Actors and Artifacts
  - 1.1.2. Software Delivery Flow Design
  - 1.1.3. Software Delivery Flow Inter-Stage Requirements
- 1.2. Process Automation
  - 1.2.1. Continuous Integration
  - 1.2.2. Continuous Deployment
  - 1.2.3. Environment Configuration and Secret Management
- 1.3. Declarative Pipelines
  - 1.3.1. Differences Between Traditional, Code-Like and Declarative Pipelines
  - 1.3.2. Declarative Pipelines
  - 1.3.3. Declarative Pipelines in Jenkins
  - 1.3.4. Comparison of Continuous Integration Providers
- 1.4. Quality Gates and Enriched Feedback
  - 1.4.1. Quality Gates
  - 1.4.2. Quality Standards with Quality Gates. Maintenance
  - 1.4.3. Business Requirements in Integration Requests
- 1.5. Artifact Management
  - 1.5.1. Artifacts and Life Cycle
  - 1.5.2. Artifact Storage and Management Systems
  - 1.5.3. Security in Artifact Management





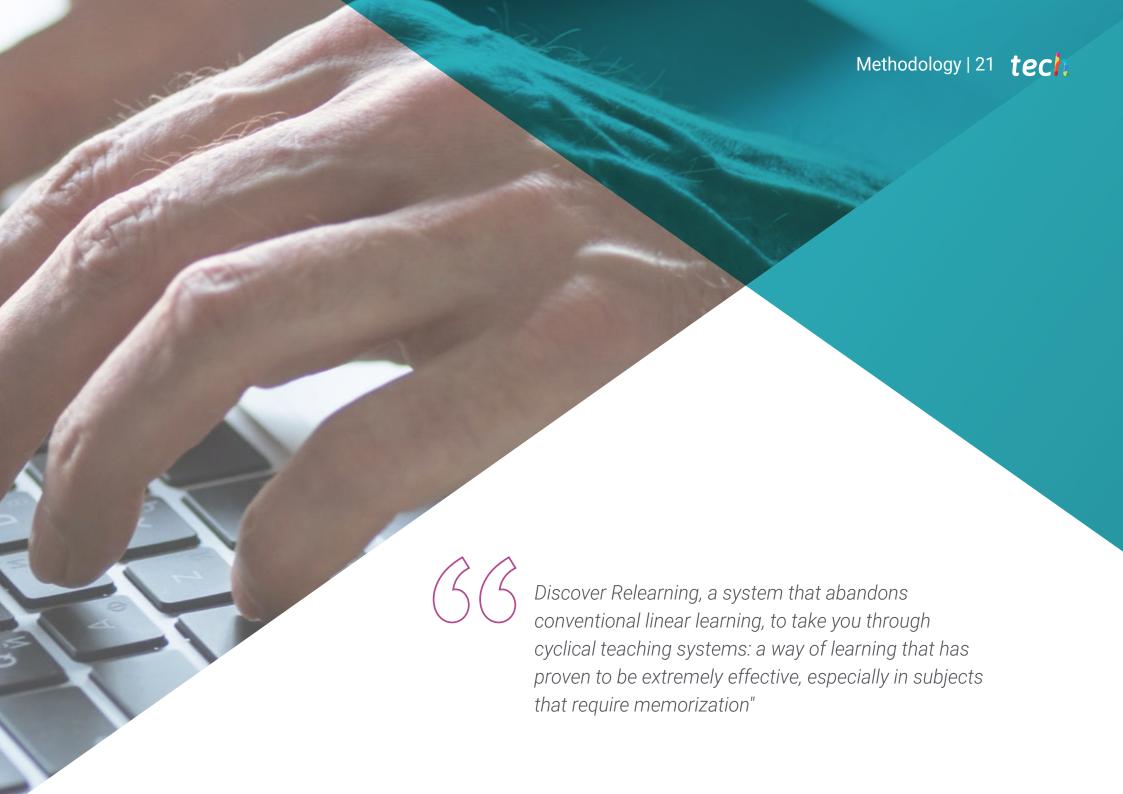
### Structure and Content | 19 tech

- 1.6. Continuous Deployment
  - 1.6.1. Continuous Deployment as Containers
  - 1.6.2. Continuous Deployment with PaaS
  - 1.6.3. Continuous Deployment of Mobile Applications
- 1.7. Improving Pipeline Runtime: Static Analysis and Git Hooks
  - 1.7.1. Static Analysis
  - 1.7.2. Code Style Rules
  - 1.7.3. Git Hooks and Unit Tests
  - 1.7.4. The Impact of Infrastructure
- 1.8. Vulnerabilities in Containers
  - 1.8.1. Vulnerabilities in Containers
  - 1.8.2. Image Scanning
  - 1.8.3. Periodic Reports and Alerts



Relearning is based on reiteration.
Scientific evidence indicates that
repetition is the best way to learn.
A methodology implemented by
TECH Technological University that
revolutionizes today's university world"





## tech 22 | Methodology

#### Case Study to contextualize all content

Our program offers a revolutionary approach to developing skills and knowledge. Our goal is to strengthen skills in a changing, competitive, and highly demanding environment.



At TECH, you will experience a learning methodology that is shaking the foundations of traditional universities around the world"



You will have access to a learning system based on repetition, with natural and progressive teaching throughout the entire syllabus.



The student will learn to solve complex situations in real business environments through collaborative activities and real cases.

#### A learning method that is different and innovative

This TECH program is an intensive educational program, created from scratch, which presents the most demanding challenges and decisions in this field, both nationally and internationally. This methodology promotes personal and professional growth, representing a significant step towards success. The case method, a technique that lays the foundation for this content, ensures that the most current economic, social and professional reality is taken into account.



Our program prepares you to face new challenges in uncertain environments and achieve success in your career"

The case method has been the most widely used learning system among the world's leading Information Technology schools for as long as they have existed. The case method was developed in 1912 so that law students would not only learn the law based on theoretical content. It consisted of presenting students with real-life, complex situations for them to make informed decisions and value judgments on how to resolve them. In 1924, Harvard adopted it as a standard teaching method.

What should a professional do in a given situation? This is the question that you are presented with in the case method, an action-oriented learning method. Throughout the course, students will be presented with multiple real cases. They will have to combine all their knowledge and research, and argue and defend their ideas and decisions.



### Relearning Methodology

TECH effectively combines the Case Study methodology with a 100% online learning system based on repetition, which combines different teaching elements in each lesson.

We enhance the Case Study with the best 100% online teaching method: Relearning.

In 2019, we obtained the best learning results of all online universities in the world.

At TECH you will learn using a cutting-edge methodology designed to train the executives of the future. This method, at the forefront of international teaching, is called Relearning.

Our university is the only one in the world authorized to employ this successful method. In 2019, we managed to improve our students' overall satisfaction levels (teaching quality, quality of materials, course structure, objectives...) based on the best online university indicators.



## Methodology | 25 tech

In our program, learning is not a linear process, but rather a spiral (learn, unlearn, forget, and re-learn). Therefore, we combine each of these elements concentrically.

This methodology has trained more than 650,000 university graduates with unprecedented success in fields as diverse as biochemistry, genetics, surgery, international law, management skills, sports science, philosophy, law, engineering, journalism, history, and financial markets and instruments. All this in a highly demanding environment, where the students have a strong socio-economic profile and an average age of 43.5 years.

Relearning will allow you to learn with less effort and better performance, involving you more in your training, developing a critical mindset, defending arguments, and contrasting opinions: a direct equation for success.

From the latest scientific evidence in the field of neuroscience, not only do we know how to organize information, ideas, images and memories, but we know that the place and context where we have learned something is fundamental for us to be able to remember it and store it in the hippocampus, to retain it in our long-term memory.

In this way, and in what is called neurocognitive context-dependent e-learning, the different elements in our program are connected to the context where the individual carries out their professional activity.

### This program offers the best educational material, prepared with professionals in mind:



#### **Study Material**

All teaching material is produced by the specialists who teach the course, specifically for the course, so that the teaching content is highly specific and precise.

These contents are then applied to the audiovisual format, to create the TECH online working method. All this, with the latest techniques that offer high quality pieces in each and every one of the materials that are made available to the student.



#### Classes

There is scientific evidence suggesting that observing third-party experts can be useful.

Learning from an Expert strengthens knowledge and memory, and generates confidence in future difficult decisions.



#### **Practising Skills and Abilities**

They will carry out activities to develop specific skills and abilities in each subject area. Exercises and activities to acquire and develop the skills and abilities that a specialist needs to develop in the context of the globalization that we are experiencing.



#### **Additional Reading**

Recent articles, consensus documents and international guidelines, among others. In TECH's virtual library, students will have access to everything they need to complete their course.



## Methodology | 27 tech



4%

3%

#### **Case Studies**

Students will complete a selection of the best case studies chosen specifically for this program. Cases that are presented, analyzed, and supervised by the best specialists in the world.



#### **Interactive Summaries**

The TECH team presents the contents attractively and dynamically in multimedia lessons that include audio, videos, images, diagrams, and concept maps in order to reinforce knowledge.



This exclusive educational system for presenting multimedia content was awarded by Microsoft as a "European Success Story".

#### **Testing & Retesting**



We periodically evaluate and re-evaluate students' knowledge throughout the program, through assessment and self-assessment activities and exercises, so that they can see how they are achieving their goals.





## tech 30 | Certificate

This Postgraduate Certificate in DevOps and Continuous Integration. Advanced Practical Solutions in Software Development contains the most complete and up-to-date program on the market.

After the student has passed the assessments, they will receive their corresponding **Postgraduate Certificate** issued by **TECH Technological University** via tracked delivery\*.

The certificate issued by **TECH Technological University** will reflect the qualification obtained in the Postgraduate Certificate, and meets the requirements commonly demanded by labor exchanges, competitive examinations and professional career evaluation committees.

Title: Postgraduate Certificate in DevOps and Continuous Integration. Advanced Practical Solutions in Software Development

Official No of Hours: 150 h.



<sup>\*</sup>Apostille Convention. In the event that the student wishes to have their paper certificate issued with an apostille, TECH EDUCATION will make the necessary arrangements to obtain it, at an additional cost.

health confidence people
health information tutors
education information teaching
guarantee accreditation teaching
inclination teaching



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