

# Postgraduate Certificate Data Persistence Design and Implementation for Web Applications





## Postgraduate Certificate Data Persistence Design and Implementation for Web Applications

- » Modality: online
- » Duration: 6 weeks
- » Certificate: TECH Technological University
- » Dedication: 16h/week
- » Schedule: at your own pace
- » Exams: online

Website: [www.techtitute.com/us/information-technology/postgraduate-certificate/data-persistence-design-implementation-web-applications](http://www.techtitute.com/us/information-technology/postgraduate-certificate/data-persistence-design-implementation-web-applications)

# Index

01

Introduction

---

*p. 4*

02

Objectives

---

*p. 8*

03

Course Management

---

*p. 12*

04

Structure and Content

---

*p. 16*

05

Methodology

---

*p. 20*

06

Certificate

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*p. 28*

# 01

# Introduction

Undoubtedly, one of the most valuable elements of a Web Application is its data. An element that allows its correct operation and performance. Likewise, the current trend in its development is the contribution of solutions that allow greater scalability, performance and security. For this reason, the IT professional who wants to prosper in this area of the technology sector must master the techniques, tools and strategies to deal with any problem that may arise. Thus, this 100% online degree is born, which leads the graduate to obtain an intensive learning of 6 weeks duration and with a wide variety of didactic resources, available from any electronic device with internet connection. All this, in addition, through the largest digital university in the world.







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*Get world-class learning on Designing and Implementing Data Persistence for Web Applications with TECH"*

The expansion and constant evolution of the digital ecosystem leads IT professionals to constantly update their skills. In this sense, the boost of e-commerce and communication between users has increased the number of web applications and the volume of data circulating on the network.

In this context, it is essential for the IT specialist to master all the tools, techniques and actions aimed at improving the performance and security. For this reason, TECH has developed this Postgraduate Certificate in Data Persistence Design and Implementation for Web Applications of 150 teaching hours and developed by an excellent teaching team specialized in this area.

In this way, the students will delve into the persistence of application data, reviewing a wide range of storage solutions. They will also delve into the types of databases and their use cases, as well as alternatives based on file systems and cache-based optimization mechanisms. For this purpose, didactic materials such as video summaries, detailed videos, specialized readings and case study simulations are available.

A set of pedagogical tools that will provide greater dynamism and attractiveness to this academic itinerary. In addition, thanks to the Relearning method, based on the reiteration of content, the graduate will be able to reduce the long hours of study and memorization.

Students thus have a unique opportunity to achieve an education that will allow them to progress in their careers within the industry with a degree that is distinguished by its 100% online methodology. The student only needs a digital device with internet connection to visualize, at any time of the day, the content hosted on the virtual platform.

This **Postgraduate Certificate in Data Persistence Design and Implementation for Web Applications** contains the most complete and up-to-date program on the market. The most important features include:

- ◆ The development of case studies presented by software experts and web developers
- ◆ The graphic, schematic and practical contents of the book provide theoretical and practical information on those disciplines that are essential for professional practice
- ◆ Practical exercises where the self-assessment process can be carried out to improve learning
- ◆ Its special emphasis on innovative methodologies
- ◆ Theoretical lessons, questions for experts, discussion forums on controversial issues and individual reflection work
- ◆ Content that is accessible from any fixed or portable device with an Internet connection



*Enroll now and take a degree  
from the best digital university in  
the world according to Forbes"*

“

*You will delve into the criteria to be considered to choose among all the persistence systems analyzed based on the requirements of the application”*

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

Its 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 an immersive education programmed to learn in real situations.

The design of this program focuses on Problem-Based Learning, by means of which the professional must try to solve the different professional practice situations that are presented throughout the academic course. For this purpose, the student will be assisted by an innovative interactive video system created by renowned experts.

*Take a step forward in your career in the technology sector thanks to this 100% online and advanced Postgraduate Certificate.*

*Delve into search engines and data mining architectures when and where you want. and data mining architectures.*



# 02 Objectives

The purpose of this Postgraduate Certificate is to provide students with advanced learning on the mechanisms and techniques to effectively design and implement the data persistence of an application, reviewing in depth a wide range of storage solutions. For this purpose, TECH provides numerous pedagogical tools, including case study simulations, which can be accessed 24 hours a day, from any electronic device with an internet connection.





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*Among the numerous didactic resources of this degree program, you have at your disposal simulations of case studies that will show you the techniques to improve the performance of an app”*



## General Objectives

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- ◆ Implementation of security measures, such as strong authentication and authorization, and the use of firewalls and intrusion detection systems (IDS) to protect the application
- ◆ Thorough analysis of security issues, including identification of threats and vulnerabilities and vulnerabilities
- ◆ Review key features and vendors, planning migration scenarios and incorporating new roles and processes into project management
- ◆ Establish cloud computing as a growing alternative for the development and deployment of web applications





## Specific Objectives

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- ◆ Examine the various options for persisting web application data
- ◆ Analyze the use of relational and non-relational databases
- ◆ Develop other types of databases
- ◆ Generate specialized knowledge of file storage use cases and tools
- ◆ Establish the motivations and solutions for search engines
- ◆ Develop advanced architectures for processing large amounts of data

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*TECH provides you with the Relearning system so that you can obtain advanced learning in a simple way and without investing long hours of study”*



# 03

# Course Management

TECH has brought together in this university degree an excellent teaching team made up of professionals with extensive professional experience in the field of technology, especially in Software, Computing and Systems. Therefore, the graduate has the guarantee of access to the most current information and according to the real needs of the industry. In addition, thanks to its proximity, the graduate will be able to solve any doubt they may have about the content of this Postgraduate Certificate.



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*Solve any doubts you may have thanks to the excellent team of IT professionals that make up this Postgraduate Certificate”*



## Management



### Dr. Pantaleón García del Valle, Eduardo

- ◆ Solutions Architect at Amazon Web Services (AWS)
- ◆ Solutions Architect at Liferay, Inc
- ◆ Technical Manager at Jungheinrich AG
- ◆ Senior Software Engineer and Team Manager at Liferay
- ◆ Project Manager at Protecmedia
- ◆ Organization and delivery of online technical webinars within the AWS Customer Proficiency Plan program
- ◆ Member of the Alumni Mentoring program at Carlos III University of Madrid, for career advice to students and recent graduates
- ◆ Graduated in Telecommunication Engineering from Carlos III University of Madrid
- ◆ PhD in Software, Systems and Computing from the Polytechnic University of Madrid
- ◆ Master's Degree in Computer Languages and Systems from the National University of Distance Education (UNED)
- ◆ Executive Data Science Specialization from Johns Hopkins University

## Professors

### Ms. Becerra Varela, Montserrat

- ◆ IT Engineer
- ◆ Supervisor of installations and configuration of servers and LAN and/or WIFI networks
- ◆ Online teacher in different Postgraduate Certificate in Professional Training programs
- ◆ Degree in Computer Engineering from the University of Deusto
- ◆ Technical Engineer in Computer Management from the University of Deusto
- ◆ Master's Degree in Occupational Risk Prevention (three specialties: Occupational Safety, Industrial Hygiene and Ergonomics and Applied Psychosociology)
- ◆ Postgraduate Certificate in Design, Creation and Tutoring of E-Learning Courses by Anova (CIDET Foundation)



# 04

## Structure and Content

This syllabus has been designed to offer students an education that provides a real response to their learning needs. For this purpose, the faculty versed in Web Application design has developed a program that will allow the graduate to successfully implement data persistence. All this, thanks to the multiple pedagogical resources housed in a virtual library, accessible 24 hours a day, 7 days a week, from any digital device with an internet connection.



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*Boost your career with the Data Persistence Design and Implementation for Web Applications Postgraduate Certificate"*



## Module 1. Data Persistence Design and Implementation for Web Applications

- 1.1. Data storage solutions
  - 1.1.1. CRUD, ACID, OLTP, OLAP
  - 1.1.2. Data Modeling
  - 1.1.3. Data storage system classifications
- 1.2. Relational Databases
  - 1.2.1. Case Uses
  - 1.2.2. Operations with Relational Databases
  - 1.2.3. Available solutions
- 1.3. Non-- Relational Databases
  - 1.3.1. Key-Value Databases
  - 1.3.2. Objects-Oriented Databases
  - 1.3.3. Graph-Oriented Databases
- 1.4. other System of databases
  - 1.4.1. Memory Database
  - 1.4.2. Time series databases
  - 1.4.3. Distributed Databases
- 1.5. File system storage
  - 1.5.1. Case Uses
  - 1.5.2. File system operations
  - 1.5.3. Available solutions
- 1.6. Data Cache Mechanisms
  - 1.6.1. Client-side Cache
  - 1.6.2. Network Caching (CDN)
  - 1.6.3. Server-side Cache
- 1.7. Search Engines
  - 1.7.1. Case Uses
  - 1.7.2. Indexing and searching
  - 1.7.3. Available solutions





- 1.8. Data access mechanisms
  - 1.8.1. Data Access Object (DAO) and Data Transfer Object (DTO)
  - 1.8.2. Access Control
  - 1.8.3. Drivers
- 1.9. Big Data Architecture
  - 1.9.1. Extraction, Loading and Transformation (ETL)
  - 1.9.2. Data warehouses, data warehouses, datalakes and data lakehouses
  - 1.9.3. Available solutions
- 1.10. Criteria for storage selection
  - 1.10.1 Functional Requirements
  - 1.10.2 Non-Functional Requirements
  - 1.10.3 Other key aspects

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*An extensive library of high quality multimedia resources is available. Access it easily from your computer with Internet connection”*

# 05 Methodology

This academic program offers students a different way of learning. Our methodology uses a cyclical learning approach: **Relearning**.

This teaching system is used, for example, in the most prestigious medical schools in the world, and major publications such as the **New England Journal of Medicine** have considered it to be one of the most effective.





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*Discover Relearning, a system that abandons conventional linear learning, to take you through cyclical teaching systems: a way of learning that has proven to be extremely effective, especially in subjects that require memorization"*

## 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.

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*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.



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.



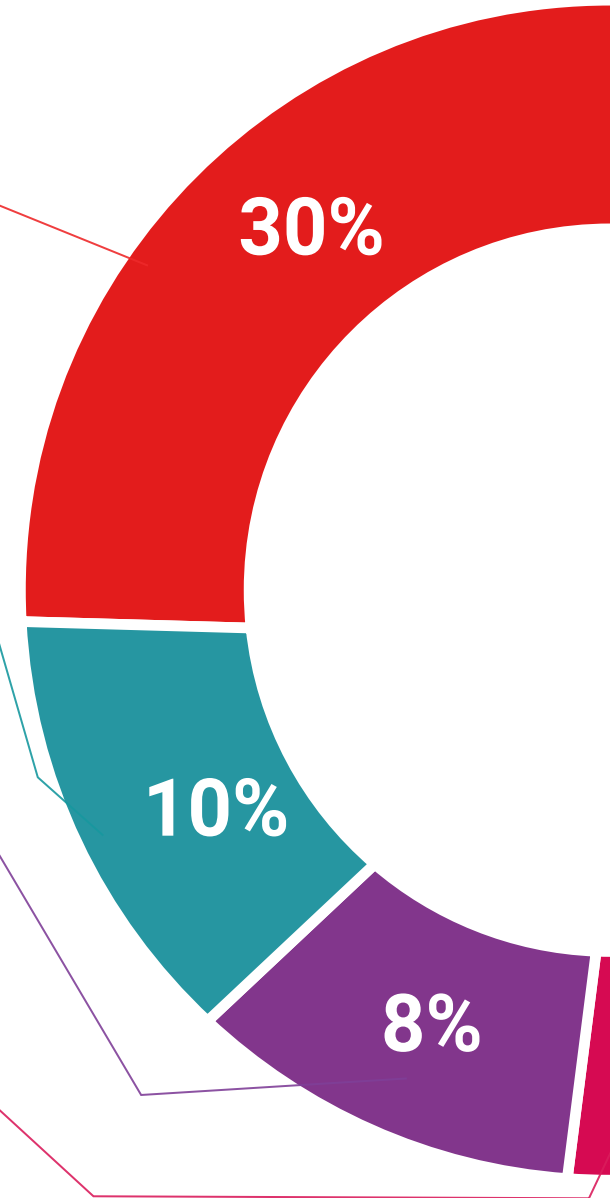
### Practising Skills and Abilities

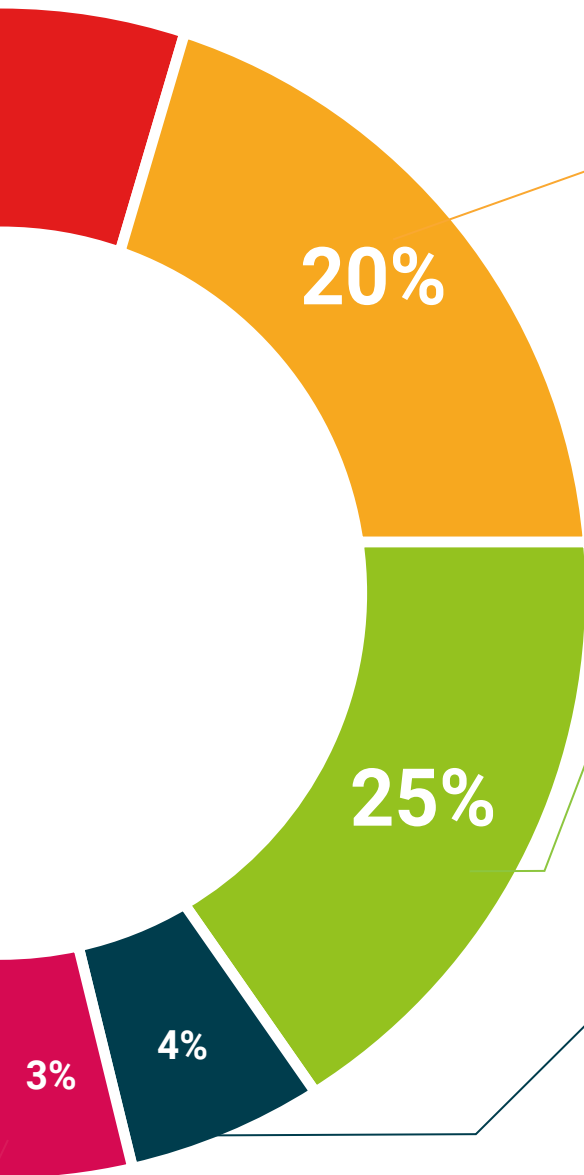
They will carry out activities to develop specific skills and abilities in each subject area. Exercises and activities to acquire and develop the skills and abilities that a specialist needs to develop in the context of the globalization that we are experiencing.



### 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.





#### 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.





# 06

# Certificate

The Postgraduate Certificate in Data Persistence Design and Implementation for Web Applications guarantees students, in addition to the most rigorous and up-to-date education, access to a Postgraduate Certificate issued by TECH Technological University.





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*Successfully complete this program and receive your university qualification without having to travel or fill out laborious paperwork"*

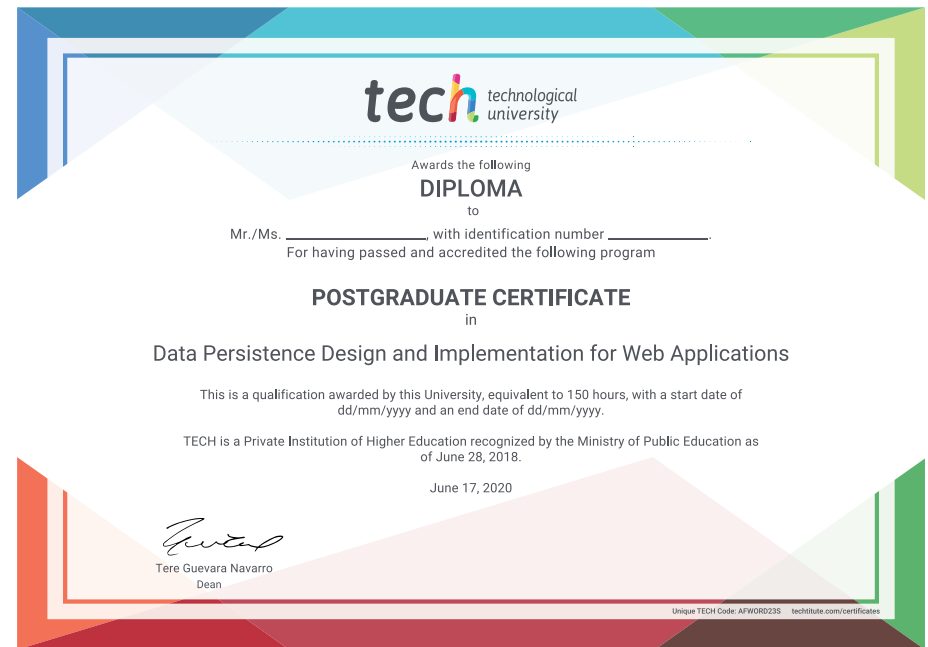
This **Postgraduate Certificate in Data Persistence Design and Implementation for Web Applications** contains the most complete and up-to-date program on the market.

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

The diploma 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.

Program: **Postgraduate Certificate Data Persistence Design and Implementation for Web Applications**

Official No. of Hours: **150 h.**



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

future  
health confidence people  
education information tutors  
guarantee accreditation teaching  
institutions technology learning  
community commitment  
personalized service innovation  
knowledge present  
development language  
virtual classroom



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