

Postgraduate Certificate

Data Management on Android Devices



Postgraduate Certificate Data Management on Android Devices

- » Modality: online
- » Duration: 6 weeks
- » Certificate: TECH Technological University
- » Schedule: at your own pace
- » Exams: online

Website: www.techtitute.com/pk/information-technology/postgraduate-certificate/data-management-android-devices

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01

Introduction

An application on a mobile device exists as long as it is running. However, when it is closed, the variables cease to exist if they are not automatically backed up. In this sense, data management in Android requires a specific methodology for applications to exchange information while the devices are locked or turned off. This program provides a solution to this problem. The different formats, techniques and tools for data management will be explained in detail, as well as their advantages and related problems. With the intention of achieving the best possible user experience.



“

Learn the most appropriate and up-to-date methodology for managing the exchange of information between applications”

Our faculty will introduce you to JSON and XML, the simplest, lightest and fastest information exchange formats. As well as SQLite and Room, efficient and powerful data storage tools, adapted to devices with low hardware capacity such as cell phones.

The syllabus also contemplates the different ways of using databases or network services. Developing these techniques and investigating their functionalities and advantages over others. A combination that will allow the student to gain advanced knowledge in Android data management.

In addition, with the popularization of inter-application services, specialized knowledge in the technique incorporated in Android is being required. For sharing information between applications, whether they are social networks or collaborative applications. For this reason, a topic has been dedicated to the Content Provider, which addresses the security issues to be taken into account when using this resource.

In order to address these contents, a 100% online study modality will be used, without timetables. This gives the student the possibility to study this Postgraduate Certificate comfortably, wherever and whenever they want. All that is needed is a device with internet access.

This **Postgraduate Certificate in Data Management on Android Devices** contains the most complete and up-to-date educational program on the market. Its most notable features are:

- ♦ Practical cases presented by experts in Data Management on Android Devices
- ♦ The graphic, schematic, and practical contents with which they are created, provide scientific and 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 to the expert, debate forums on controversial topics, and individual reflection assignments
- ♦ Content that is accessible from any fixed or portable device with an Internet connection



Get to know the formats and tools used by the most prominent professionals in the sector"

“

JSON or XML? What is the most effective information exchange format? Find out with this Postgraduate Certificate"

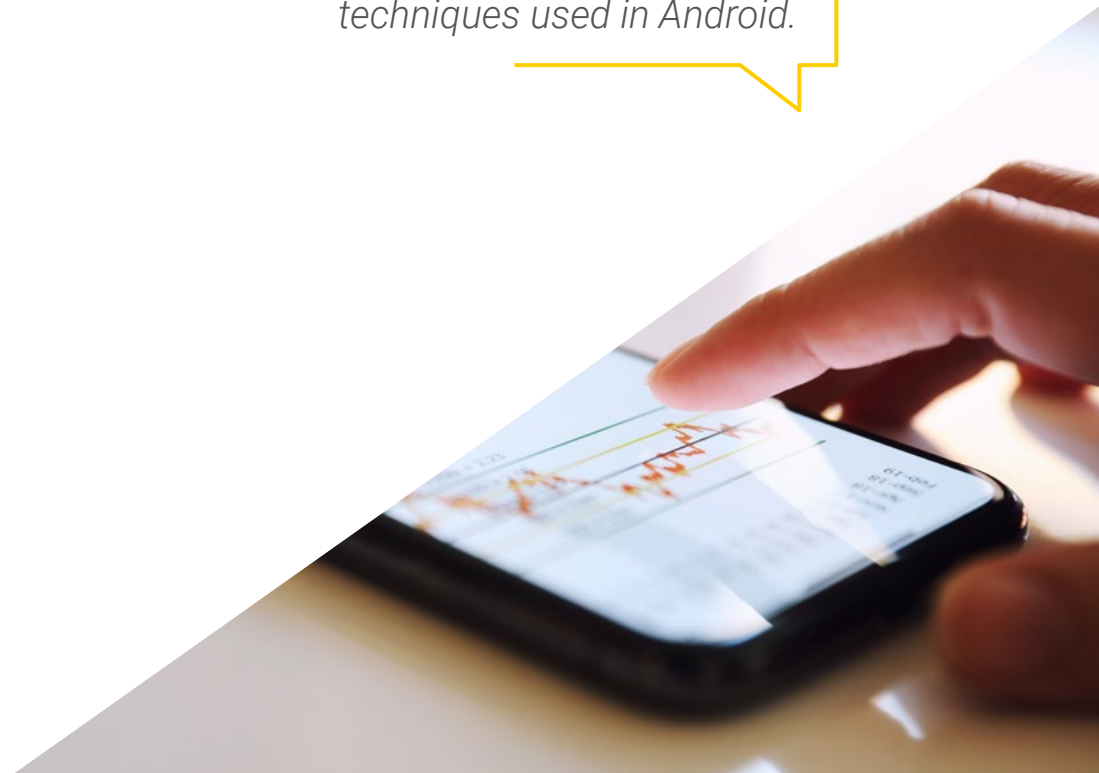
The program's teaching staff includes professionals from the sector who contribute their work experience to this program, as well as renowned specialists from leading societies and prestigious universities.

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 knowledge programmed to learn 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 throughout the program. For this purpose, the student will be assisted by an innovative interactive video system created by renowned and experienced experts.

Keep up to date on Content Providers and their security issues.

Learn how to set security permissions based on any of the techniques used in Android.



02 Objectives

The design of this program focuses on learning how to manage data in Android in a very concrete way: evaluating the different techniques, identifying their advantages and disadvantages and developing an optimal work methodology. The objective is to learn about the most effective tools and apply them correctly in processes such as data collection in the cloud, information providers or distributed systems.



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You will learn the different data management techniques, identify their advantages and disadvantages, and finally develop an appropriate work methodology”



General Objectives

- ♦ Generate advanced knowledge in Android data management
- ♦ Evaluate the different techniques available in Android to manage data
- ♦ Identify the advantages and disadvantages of each one in order to know when to use them
- ♦ Develop a methodology for optimal data management on the device



*Learn more about SQLite
and Room, the most efficient
information storage tools"*





Specific Objectives

- ♦ Analyze the different techniques for data management on Android
- ♦ Propose methods for optimal use of data on the device
- ♦ Identify the tools required for data optimization
- ♦ Examine the features of JSON and XML for Android data management
- ♦ Evaluate general distributed systems issues applicable to the world of mobile device applications
- ♦ Determine the use of the room library as an abstraction for the use of SQLite on Android and its advantages and disadvantages
- ♦ Establish the necessary security permissions in data management in any of the techniques used in Android

03

Course Management

The faculty selected for the delivery of this program has extensive professional and academic experience. Experts highly committed to the program, and above all, to transmitting its content in a clear and useful way. The student will get answers to the most specific doubts, as they will be dealing with professionals who are up to date in the sector. Therefore, they will receive all the necessary resources to manage the exchange of information between applications in the Android environment.



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*The commitment of our professionals:
that the information you receive is clear,
concise and applicable"*

International Guest Director

Colin Lee is a **successful mobile application developer**, specializing in **native Android code**, whose influence extends internationally. The Postgraduate Diploma is an **authority in the Twin Cities area and in the handling of Kotlin**. One of his most recent contributions was to demonstrate, in live code, how to **quickly build a browser** using the aforementioned programming language and Mozilla's open source browser components for Android.

In addition, his applications have been linked to globally significant companies. For example, he was in charge of **creating digital solutions for Pearson**, one of the largest international publishers. He also developed a low-level Android video recorder for the startup Flipgrid, later acquired by Microsoft.

He also built a successful Android VPN for a large client in the **consulting world**. In turn, he is the creator of a freight management tool implemented by the transnational **Amazon** to facilitate the work of its contracted truckers. On the other hand, he has helped build the **mobile versions of the Firefox browser** for Mozilla.

Today, he performs work as a contractor, including **code reviews and security checks**. His impact on mobile application development and his experience over the years make him a leading figure in the global technology arena.



Mr. Lee, Colin

- Director at ColinTheShots LLC
- Android Software Engineer for Specto Inc.
- Senior Android Engineer for Mozilla
- Software Development Engineer for Amazon
- Mobile Application Engineer for Flipgrid
- Software Configuration Specialist for Pearson VUE
- Bachelor's Degree from the University of Florida

“

Thanks to TECH you will be able to learn with the best professionals in the world”

Management



Mr. Olalla Bonal, Martín

- ♦ Current Blockchain Technical Specialist at IBM SPGI
- ♦ Digital Electronics Technician
- ♦ Blockchain Architect
- ♦ Infrastructure Architect in Banking
- ♦ Hyperledger Fabric training to companies
- ♦ Business-oriented companies Blockchain training
- ♦ Project management and implementation of solutions
- ♦ More than 25 years of experience in the IT world

Professors

Mr. Arevalillo González, Emilio

- ♦ DBA Oracle BBVA
- ♦ Assistant Project Manager Archibus Solution Center Spain
- ♦ Backend developer at Telefónica I+D
- ♦ Degree in Computer Engineering from the Polytechnic University of Madrid
- ♦ Master's Degree in Software and Systems from Polytechnic University of Madrid

Mr. Gozalo Fernández, Juan Luis

- ♦ Blockchain-based Product Manager for Open Canarias
- ♦ Blockchain DevOps Director at Alastria
- ♦ Director of Service Level Technology at Santander Spain
- ♦ Director of Mobile Application Development Tinkerlink at Cronos Telecom
- ♦ IT Service Management Technology Director at Barclays Bank Spain
- ♦ Degree in Computer Engineering at UNED (Spanish Open University)
- ♦ Specialization in Deep Learning at DeepLearning.ai



04

Structure and Content

For applications to work optimally on their own and among themselves, proper management of the data they generate is essential. For this reason, TECH has developed an agenda that addresses the subject from all possible perspectives. The program starts with an analysis of the different ways of managing data offered by Android. It continues with user preferences and file storage. Then, the two most widely used information exchange formats, JSON and XML, as well as the SQLite and Room storage tools, are explained. Finally, content providers and data collection in the cloud will be discussed.



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You will learn the formats and tools most commonly used in the exchange of information between Android applications"

Module 1. Data Management on Android Devices

- 1.1. Data Management Types
 - 1.1.1 Data Management in Mobile Devices
 - 1.1.2 Alternatives for Data Management in Android devices
 - 1.1.3 Data Generation for Work with Artificial Intelligence and Usage Analytics
 - 1.1.4 Performance Measurement Tools for Optimal Data Management
- 1.2. User Preferences Management
 - 1.2.1 Types of Data Involved in Preference Files
 - 1.2.2 User Preferences Management
 - 1.2.3 Exporting Preferences: Permissions Management
- 1.3. File Storage System
 - 1.3.1 File System Classification on Mobile Devices
 - 1.3.2 Internal File System
 - 1.3.3 External File System
- 1.4. JSON Files as Storage in Android
 - 1.4.1 Unstructured Information in JSON Files
 - 1.4.2 JSON Data Management Libraries
 - 1.4.3 Use of JSON in Android: Recommendations and Optimizations
- 1.5. XML Files as Storage in Android
 - 1.5.1 XML Format in Android
 - 1.5.2 XML through SAX Libraries
 - 1.5.3 XML through DOM Libraries
- 1.6. SQLite Database
 - 1.6.1 Relational Database for Data Management
 - 1.6.2 Database Use
 - 1.6.3 SQLite Methods for Data Management





- 1.7. Advanced Use of SQLite Databases
 - 1.7.1 Failure Recovery Using SQLite Transactions
 - 1.7.2 Use of Caching to Accelerate Data Access
 - 1.7.3 Mobile Databases
- 1.8. Room Library
 - 1.8.1 Architecture of the Room Library
 - 1.8.2 Room Library: Functionality
 - 1.8.3 Room Library: Advantages and Disadvantages
- 1.9. Content Provider to Share Information
 - 1.9.1 Content Provider to Share Information
 - 1.9.2 Content Provider in Android Technician Use
 - 1.9.3 Content Provider Security
- 1.10. Internet Cloud Data Collection
 - 1.10.1 Android and Cloud Storage Systems
 - 1.10.2 SOAP and REST Services for Android
 - 1.10.3 Problems of Distributed Systems
 - 1.10.4 Internet as a Backup of Application Data

“ We approach the subject from all possible perspectives so that you can develop a complete and functional app”

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.



“

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.

“

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 Management on Android Devices 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 Management on Android Devices** 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 Data Management on Android Devices**

Official N° of Hours: **150 h.**



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



Postgraduate Certificate Data Management on Android Devices

- » Modality: online
- » Duration: 6 weeks
- » Certificate: TECH Technological University
- » Schedule: at your own pace
- » Exams: online

Postgraduate Certificate Data Management on Android Devices

