

Experience Cuba with PostgreSQL: PostgreSQL Diploma

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Abstract— Cuba is betting on business efficiency as a vital weapon to tackle the current worldwide economic crisis. Today the work on enterprises or entities is not conceived without the informatics applications that help in processes, resources, products management and decisions-making, increasing performance and efficiency; applications that are supported, generally, by a database. Currently the brakes on growth in the use of open source databases management for handling them, is the lack of knowledge by Cuban specialists in handling these types of technologies. **The Cuban university, as being essential to the development of society, should develop strategies to support the migration to open source software and with it, the gradual use of technologies that generate no charges for the use of proprietary technologies and to achieve the country technological sovereignty. This article presents, in line with this necessity, the results of the first edition of the diploma in PostgreSQL databases technologies, tool for the training of specialists in the correct use of databases technologies and solutions related to this manager, and the immediate projections to it perfect accord to the country needed.**

Keywords— *diploma, four editions, PostgreSQL, open source databases technologies*

INTRODUCTION

This conference will address the key issues and events that contributed to the emergence of the Diploma in Technology PostgreSQL Data Bases, as a post-graduate, specialized training in this particular area of performance and a defense against court order. Also address the results obtained to date and its acceptance by computer specialists.

ANTECEDENT

In year 2001 government regulation appears first in Cuba, where he raises: "Companies and institutions of the country should organize and implement actions to ensure reliability, stability, security, invulnerability and sovereignty of its computer systems. "Kicking off to a gradual process migration of platforms, applications and developments to software free.

Universities are essential to the development of strategies to support the migration to free software, creating a progressive space on the use of cost-free technologies for use and to support technological sovereignty of their countries. By those years is appointing at the country level to the University of Informatics Sciences (UCI) as rector of migration processes facing Cuba.

The Telecommunications Company of Cuba SA (ETECSA), create in 2006 a research group to study a proposal to comply with such regulation organized manner across the enterprise. It open several research fronts, related to development languages, web servers, database managers and others. We will focus in this paper only in the database managers.

After months of analysis of several databases managers the branch free software, we decided to propose to PostgreSQL as the manager to use to replace proprietary the databases that existed in the company and as a basis of new development of management applications.

Taking as base a collaborative project between the UCI and ETECSA, the research groups about Free Data Bases of the two institutions, which had been working with PostgreSQL, realized the need of to count for an organization that work in leadership towards adopting PostgreSQL as their own, for covering the needs in Cuba. Besides the impact it would have on other companies the adopt PostgreSQL by the consortium of telecommunications in Cuba.

In the year 2009 the UCI and ETECSA agree to perform the first national meeting of the groups of users and developers of PostgreSQL, which was attended by 329 software engineers from all provinces of country, besides the presence of Mr. Ernesto Lozano with several members of PostgreSQL-Venezuela. In the meeting named "First PGDAY Cubano", is created the Cuban Technical Community PostgreSQL (PostgreSQL-Cuba) is created with the mission:

- Contribute to the formation of high-level specialists, potentiating the use of technologies free databases.
- Provide comprehensive solutions and consulting related to migration and exploitation of PostgreSQL.
- Contribute to the strengthening of the Cuban technological sovereignty, through the development of technologies potentiating the database PostgreSQL.

As results of the first PGDAY is identified as priority tasks:

- Undertake actions of formation a Cubans computer specialists in handling this type of technology in PostgreSQL.
- Migrating Data Bases SQLSERVER, ACCESS, FOXPRO and ORACLE to PostgreSQL.
- Other.

In Cuba the use of PostgreSQL is relatively young in the country is used other owners managers, making rejection of change by ignorance among other causes.

In PostgreSQL-Cuba we draw literacy strategy in PostgreSQL with lectures, courses, workouts, annual events with their own resources. Everything for PostgreSQL is used in Cuba.

The first activities around PostgreSQL, after the first PGDAY began with a tour across Cuba, visiting the major companies and government agencies in each province, identifying the databases used, their main needs and priorities in the process of migrating to software free.

In year 2010 we offered training services to 167 specialists (114 of provinces inland of Cuba and Havana 53) of a total of 21 government agencies, and entities throughout Cuba, with a total of 840 hrs/class. They followed this other training demands for 12 computer engineer of DESOFT, UCI, Villa Clara, Formatur and MFP. In the same year with the support of Mr. Alvaro Herrera and Mr. Jaimes Casanova is imparts one PostgreSQL Advanced course is taught to 90 specialists with a total of 144 hrs/classes.

In all courses more the 66.67% had a basic level, at least 25% had never worked with PostgreSQL manager and only 4% had an advanced level.

This training is continued repeating in the courses of "summers and winters" performed in the UCI.

Also apply surveys on our website related to the needs of the business sector.

PostgreSQL-Cuba, with a vision to achieve prestige internationally medium and long term, contributing to the international community PostgreSQL development; as well with centers important investigation and development technology databases worldwide, in the quality of the projects developed and scientific publications of its members.

RISE OF DIPLOMA IN DATABASE TECHNOLOGIES POSTGRESQL

With all the knowledge acquired in training, training courses, specialized training activities and in promoting the use of PostgreSQL in different annual PGDAY and holding annual national workshops on PostgreSQL by the Coordinating Center for Training and Development of Human Capital Ministry of Informatics and Communications (FORDES). Moreover, in the PGDAY III-Latino, where is could count on the recommendations of the participating international experts; is a portfolio of topics to teach, covering all training needs the managers in PostgreSQL in Cuba, facilitating that all training centers specialized in the sector of information technology in Cuba, using in their objectives of training of managers and developers these issues related to PostgreSQL.

Thus was born in year 2011 the proposed of Diploma in Technology PostgreSQL Data Bases presented to management Postgraduate UCI, which endorses and authorizes is imparted.

Today the diploma going by its third (3) edition, plus a variant of the diploma. The first edition with headquarters on the UCI had a graduation of 30 diplomantes and help as a tool for specialist training in the proper use of technologies of databases and solutions related to this type of training, permitting immediate projections in perfection according to the needs in Cuba, to face:

- Little domain of the technologies database of open source
- Little domain at work with PostgreSQL specific topics
- Avoid using of managers owners in development projects

And contribute to:

- Adoption and successful exploitation of PostgreSQL and its technologies.
- Exploiting the potential the PostgreSQL Manager.
- To production processes sustainable of software in Cuba.

The teaching part counted with a satisfaction level of 93.10% of the diplomantes about the 6.90% of nonconformity; which evidenced that the definition of the program of the courses was successful.

Then they happened other editions as: the second edition based in the UCI had a graduation of 28 diplomantes, the third edition based in the University of Santiago de Cuba had a graduation of 24 diplomantes, the first variant of the diploma based in the Center Training of Desoft had a graduation of 27 diplomantes; for a total of 109 graduates in 2 ½ years.

All graduates are professionals with training in PostgreSQL databases capable of:

- Manage PostgreSQL database.
- To use open source tools for working with PostgreSQL.
- Possess knowledge on PostgreSQL that allows inter-disciplinary work and their integration into project teams, research and development.

All submitted dissertations have provided solutions to problems in real conditions and/or the creation of extensions to PostgreSQL in different companies or entities from diplomantes, currently used in both National and International Applications, developed by the National Centers dedicated to this end.

The Diploma in technologies PostgreSQL databases, as training program, aims to promote specialization in the area of database technologies, focused on the exploitation of PostgreSQL as management system. It is composed of 5 courses, for approval must earn at least 16 credits of activities teaching and research.

In parallel and up the today is continued giving specialized courses, in the different training centers throughout Cuba, taking topics the diploma.

Our experience in such training can be the basis for a possible PostgreSQL certification worldwide.

Cuba's doors are open to welcome specialists from other country especially those from Latin countries; where exists a need of realization massive formations in Database Administrators in PostgreSQL, in the public administrations of their countries.

In the document uploaded to site of the event can be found the contents of the imparted topics, hoping for have suggestions from specialists participant and service companies that have specialized in training and training in these areas on PostgreSQL.