

Does Cloud Mean the End of the DBA?

DBA 18.0 - Life after 18c

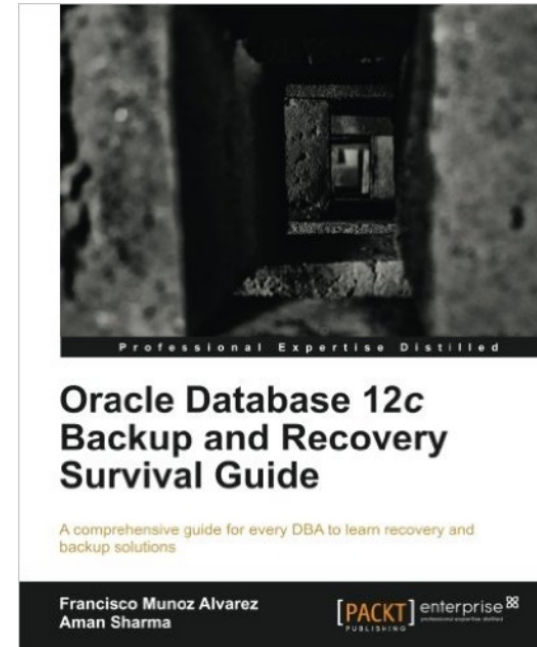
Francisco Munoz Alvarez
Director of Innovation – Data Intensity

Francisco Munoz Alvarez

- Oracle ACE Director
- 8/9/10g/11g/12c OCP, RAC OCE, AS OCA, E-Business OCP,
- SQL/PLSQL OCA, Oracle 7 OCM
- Oracle 7, 11GR2, 12cR1, 12cR2, ADWCS and OVM 3.1 and 3.2 and 3.3 Beta Tester/Early Adopter
- IOUC LA and APAC Spokesperson, President of APACOUUC,IAOUG, CLOUG and NZOUG
- ITIL Certified
- 2008 Top OTN Forum Contributor (All year #1)
- 2008 Oracle ACE Award Winner
- 2010 Oracle Excellence Award Winner
- 2010 Oracle Magazine Editors Choice Award Winner
- 2012 LAOUC Architect of the year Winner
- 2017 APAC Webinar Tour Best Session Winner
- Presented over 400 sessions at 47 Countries around the world

Blog: oraclenz.com - Email: fmunozalvarez@dataintensity.com

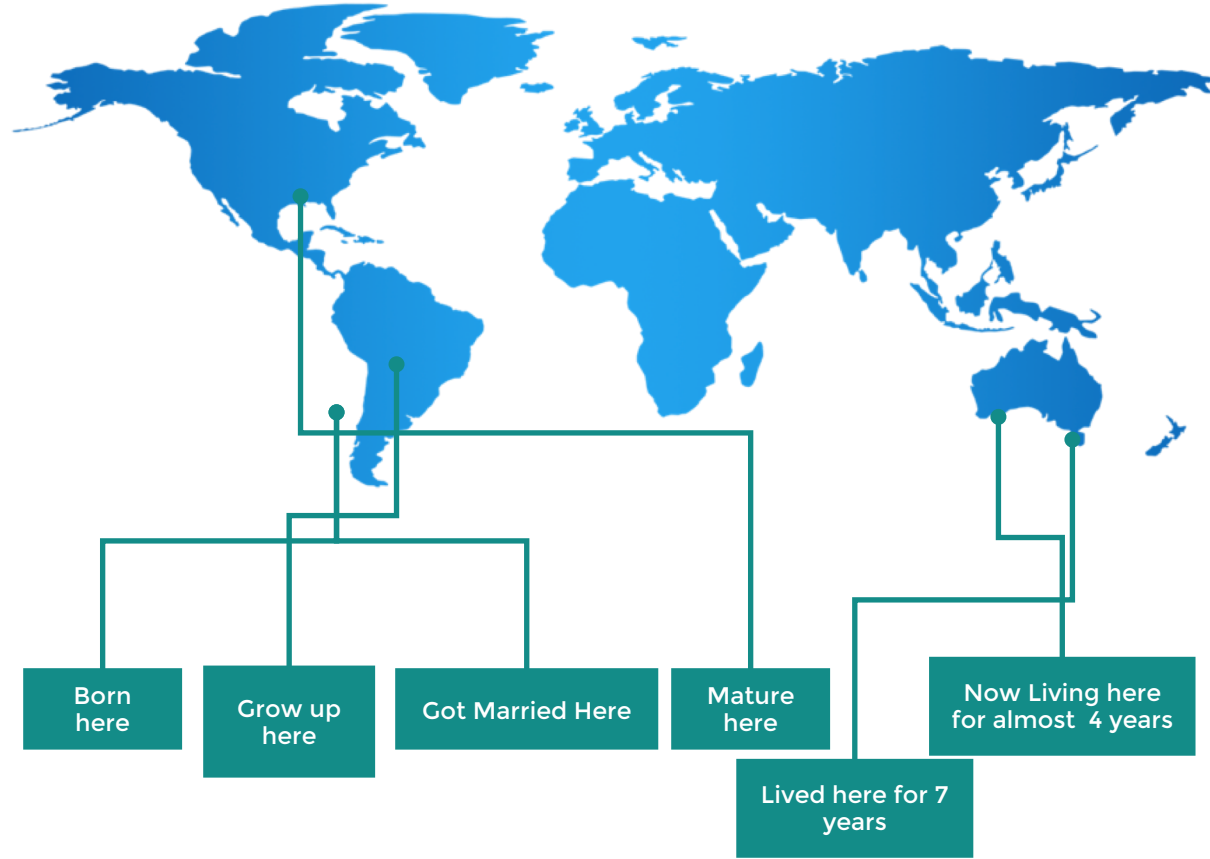
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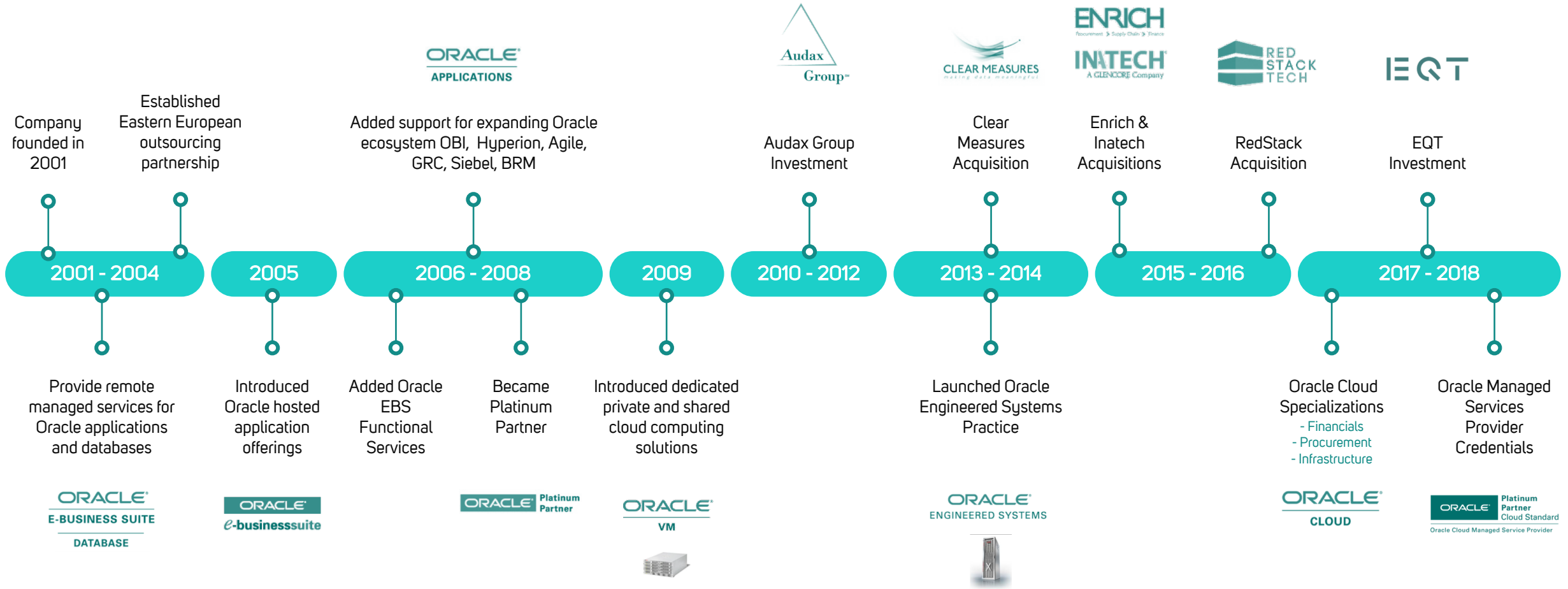
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Identity Management 12c
SOA Suite 12c
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Oracle Cloud Infrastructure

2017 Oracle Cloud Infrastructure

Partner of the Year – UK

2015 Engineered Systems

Partner of the Year - Global

BETA Program Participant

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DBA 18.0 - Life after 18c

What you need to know about developing your career

- 🌐 The Evolution of IT
- 🌐 The Past
- 🌐 The Present
- 🌐 The Future
- 🌐 So What is Next?
- 🌐 Conclusion

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The Evolution of IT

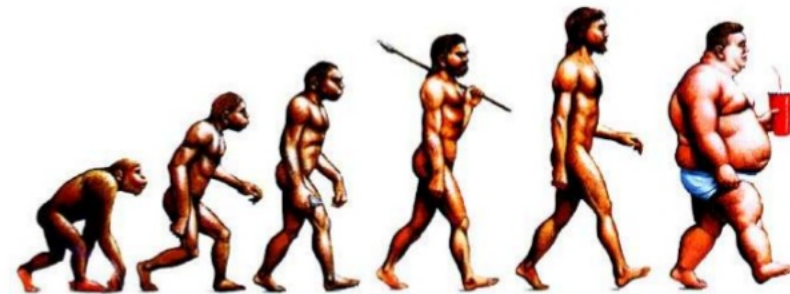
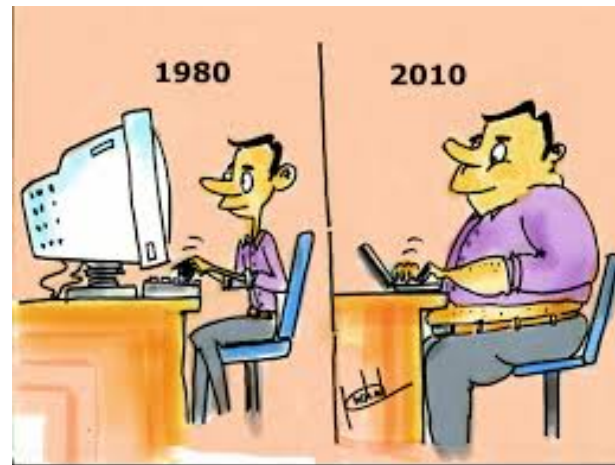
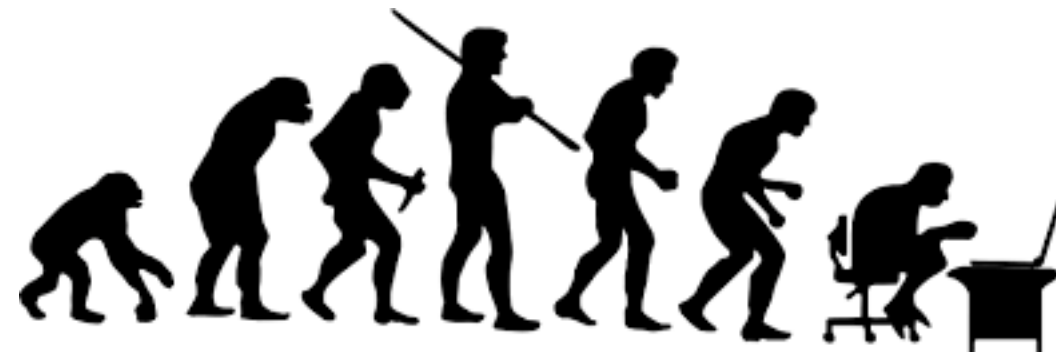
 The Past

 The Present

 The Future

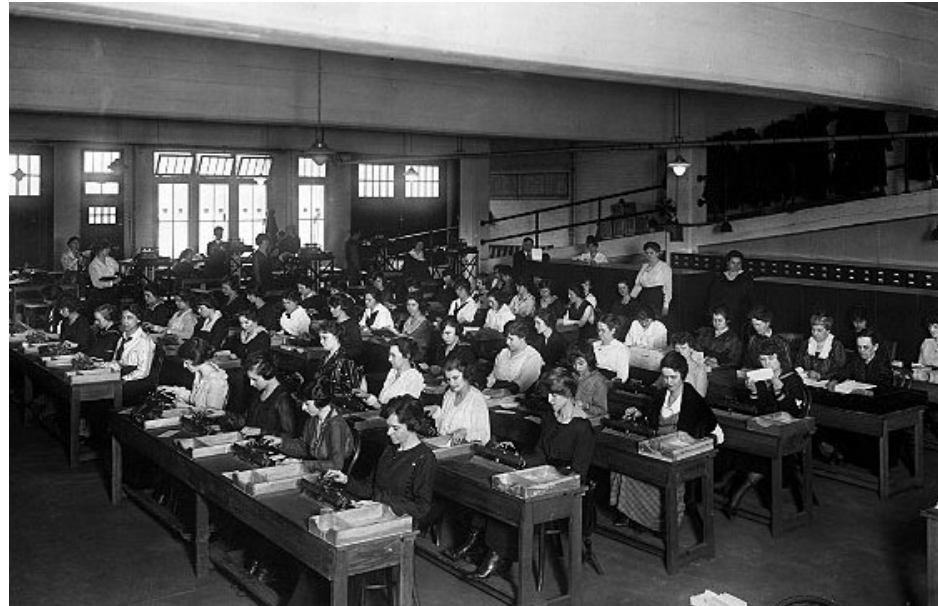
 So What is Next?

 Conclusion



When Computers were a
skirt
From computers to leaders

Human
Computers
40s to 70s



Main Frames
60s to 80s

The big Iron
Changed the industry with
never before seen capabilities



Main Frames
60s to 80s

The big Iron

Changed the industry with
never before seen capabilities



Distributed Technology

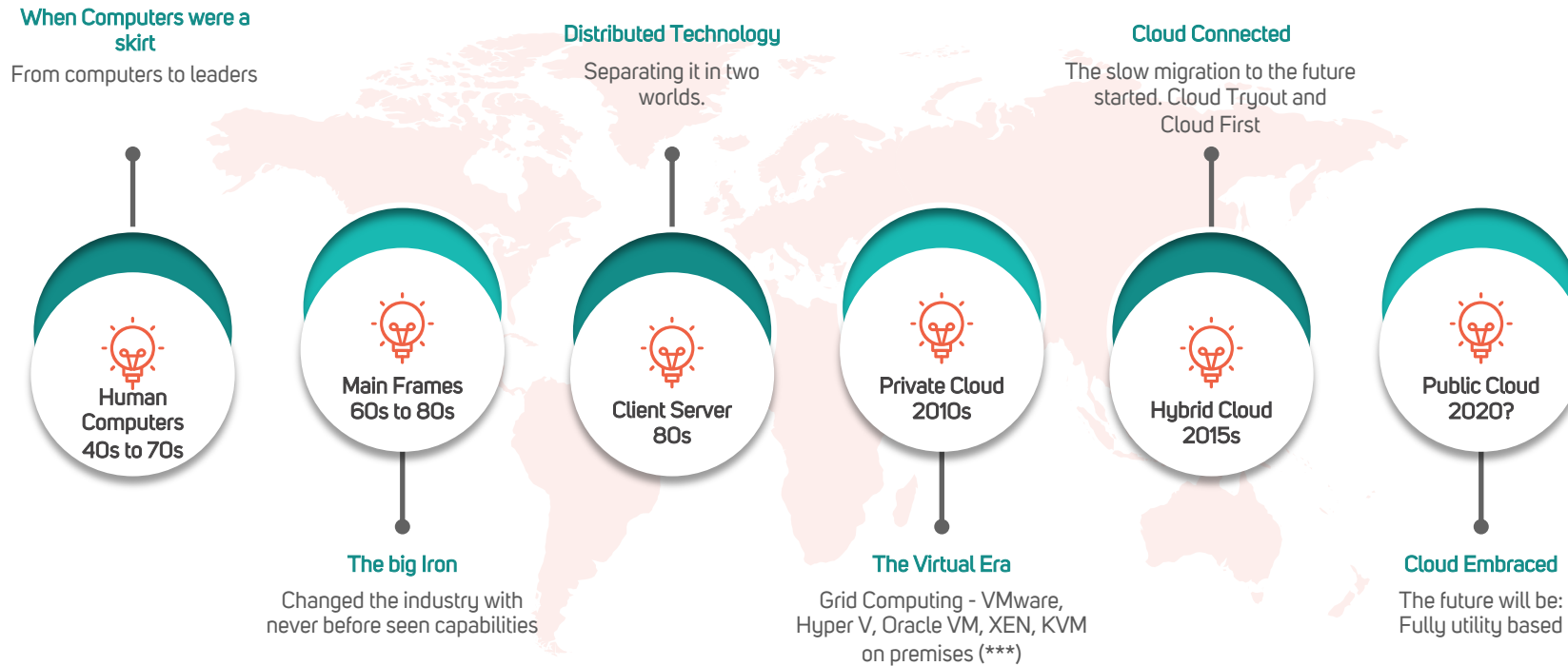
Separating it in
two worlds.

Client Server
80s

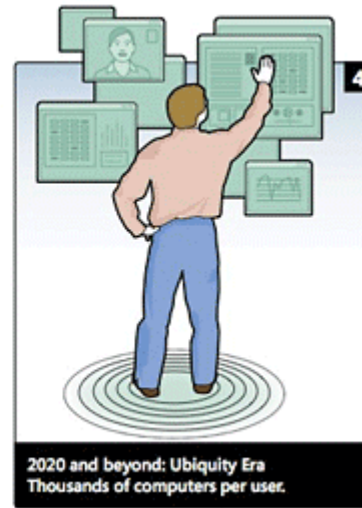
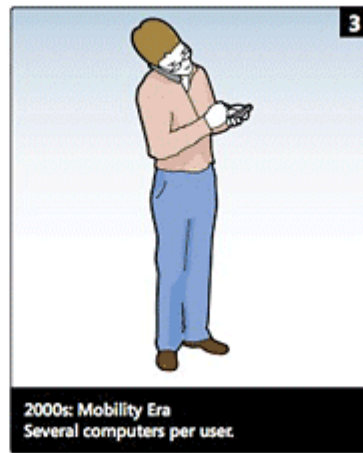
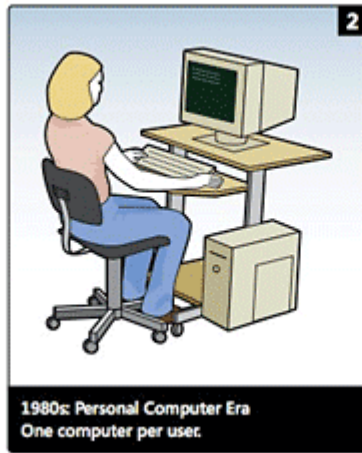
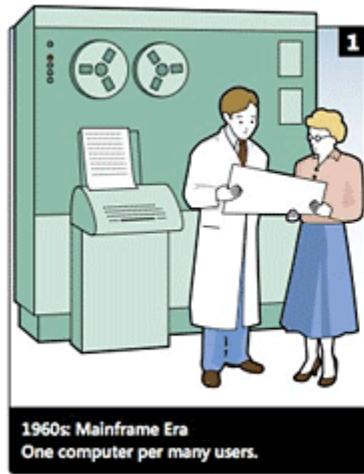


EVOLUTION TO CLOUD

TIMELINE



*** Boosted by the boom of Internet in the 2000s



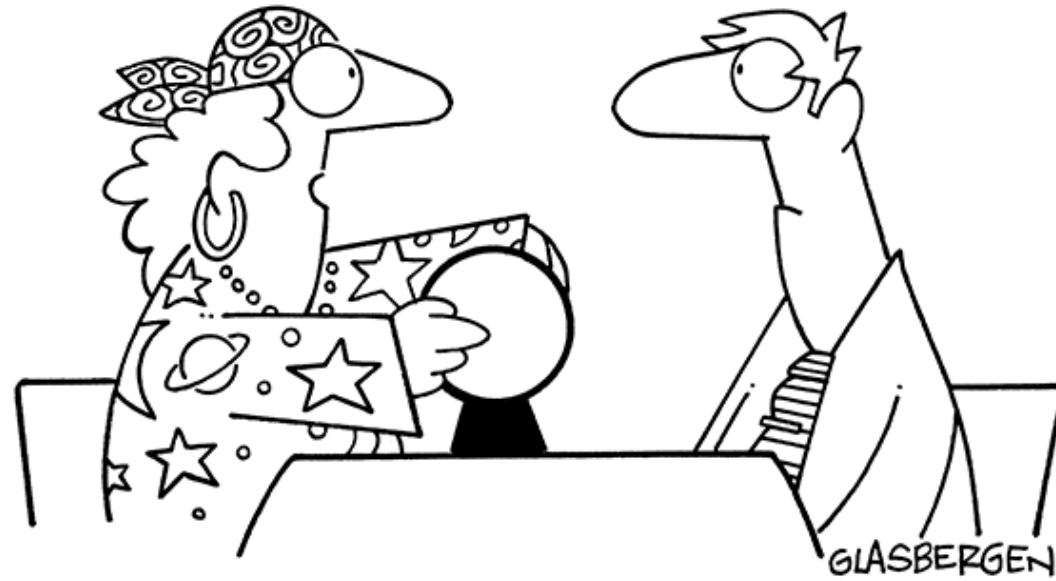
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**“In a past life, you were a gingerbread man. That’s
why your boss is always biting your head off.”**

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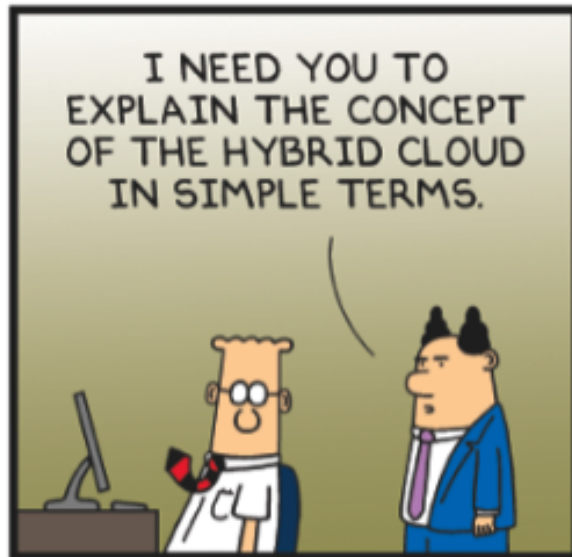
What you need to know about developing your career

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I WAS HOPING FOR
A SLIGHTLY MORE DETAILED
EXPLANATION OF HOW
CLOUD COMPUTING WORKS
THAN - "IT'S MAGIC"!



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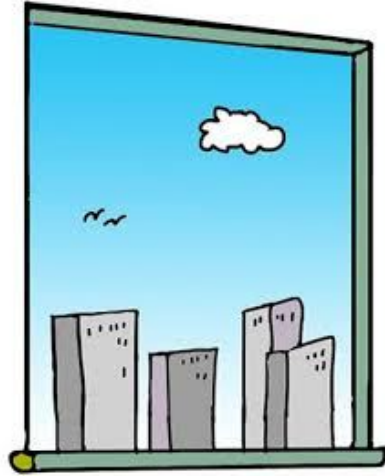


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ALL I KNOW IS
THE BOSS SAID WE
HAD TO MONITOR
THE CLOUD.



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IT'S NOT BORING
UP HERE - YOU GET TO
LOOK THROUGH EVERYONE'S
DATA!



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OCCUPATIONAL OUTLOOK HANDBOOK

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






Occupational Outlook Handbook > Computer and Information Technology >

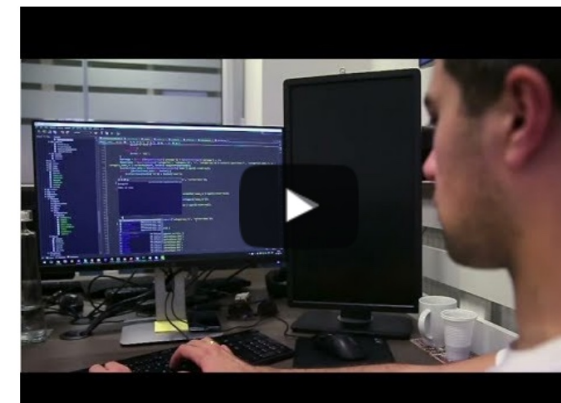
Database Administrators

[EN ESPAÑOL](#) [PRINTER-FRIENDLY](#) 

[Summary](#) | [What They Do](#) | [Work Environment](#) | [How to Become One](#) | [Pay](#) | [Job Outlook](#) | [State & Area Data](#) | [Similar Occupations](#) | [More Info](#)

Summary

Quick Facts: Database Administrators	
2017 Median Pay 	\$87,020 per year \$41.84 per hour
Typical Entry-Level Education 	Bachelor's degree
Work Experience in a Related Occupation 	None
On-the-job Training 	None
Number of Jobs, 2016 	119,500
Job Outlook, 2016-26 	11% (Faster than average)
Employment Change, 2016-26 	13,700



What Database Administrators Do

Database administrators (DBAs) use specialized software to store and organize data, such as financial information and customer shipping records. They make sure that data are available to users and secure from unauthorized access.

Work Environment

Many database administrators work in firms that provide computer design services or in industries that have large databases, such educational institutions and insurance companies. Almost all database administrators work full time.

How to Become a Database Administrator

Database administrators usually have a bachelor's degree in an information- or computer- related subject, such as computer science.

Pay

The median annual wage for database administrators was \$87,020 in May 2017.

U.S. Stats from 2016

U.S. Stats from 2017

Occupational Employment Statistics

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Occupational Employment and Wages, May 2017

15-1141 Database Administrators

Administer, test, and implement computer databases, applying knowledge of database management systems. Coordinate changes to computer databases. May plan, coordinate, and implement security measures to safeguard computer databases. Excludes "Information Security Analysts" (15-1122).

- [National estimates for this occupation](#)
- [Industry profile for this occupation](#)
- [Geographic profile for this occupation](#)

National estimates for this occupation: [Top](#)

Employment estimate and mean wage estimates for this occupation:

Employment (1)	Employment RSE (3)	Mean hourly wage	Mean annual wage (2)	Wage RSE (3)
113,690	1.1 %	\$42.81	\$89,050	0.3 %

Percentile wage estimates for this occupation:

Percentile	10%	25%	50% (Median)	75%	90%
Hourly Wage	\$23.31	\$30.70	\$41.84	\$54.18	\$63.66
Annual Wage (2)	\$48,480	\$63,850	\$87,020	\$112,700	\$132,420

Industry profile for this occupation: [Top](#)

Industries with the highest published employment and wages for this occupation are provided. For a list of all industries with employment in this occupation, see the [Create Customized Tables](#) function.

Industries with the highest levels of employment in this occupation:

Industry	Employment (1)	Percent of industry employment	Hourly mean wage	Annual mean wage (2)
Computer Systems Design and Related Services	18,310	0.91	\$46.12	\$95,920
Management of Companies and Enterprises	9,340	0.40	\$44.87	\$93,320
Telecommunications	6,100	0.78	\$44.75	\$93,080
Colleges, Universities, and Professional Schools	5,600	0.19	\$36.44	\$75,800
Insurance Carriers	4,690	0.40	\$44.80	\$93,190

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What is the Employment Outlook for Database Administrators?

A database administrator is a trained professional who is in charge of the data, such as customer records, employee records and financial information in a business. DBAs enter, store, retrieve and organize data and ensure it's secure at all times. They create, administer and maintain databases and also back up and restore data to make sure it's not lost. If the database needs any modifications, they are the ones who take care of this. They also may do some computer programming as part of their job. The database administrator also makes sure the other users have access to certain data and makes sure there is no unauthorized use. DBAs may specialize in being system DBAs or application DBAs.

Ranking: [Top 5 Cheapest Online Database Management Degrees](#)

How to Become a Database Administrator

To become a database administrator, an individual should have at least a bachelor's degree in information, computer science or a related field. DBAs working for large corporations may be required to have master's degrees in information systems, computer science or information technology with a concentration in data or database management. A database administrator must have a strong knowledge of database languages, such as Structured Query Language or SQL. [U.S. News & World Report](#) ranks database administrators as No. 7 among best technology jobs, No. 14 among best STEM jobs, and No. 96 among the best jobs.

Employment Outlook for DBAs

The [U.S. Bureau of Labor Statistics](#) (BLS) predicts that DBAs should see some positive job growth, although job growth varies depending on the kind of DBA and the job sector and industry. The BLS predicts that DBAs overall should see an employment growth of 11 percent during the decade of 2016-2026. DBAs working with cloud computing is predicted to see a job growth of 17 percent, while those working in the computer systems design industry should see a growth of 20 percent.

Salary Potential for a Database Administrator


DBAs earned average annual wages of \$89,050, according to a May 2017 wage report by the BLS. Those in the lowest 10 percent earned about \$48,480, and those in the top 90 percent earned \$132,420. Wages can vary by different factors, such as degree level, years of experience, industry worked and geographic location. Here are the states where the highest wages are earned by DBAs as well as the wages as of 2017:

- New Jersey – \$106,390
- Washington – \$98,120
- Connecticut – \$97,670
- Virginia – \$97,050
- District of Columbia – \$97,030

Below are the states with the lowest wages for DBAs.

- Montana – \$60,600
- Idaho – \$61,430
- Wyoming – \$61,850
- West Virginia – \$66,230
- Mississippi – \$71,280

Is there enough jobs?

 **what:** **where:**

Database Administrator jobs in Australia

Sort by: **relevance** | [date](#)

Listed Date

Last 24 hours	279
Last 7 days	1,529
Last 14 days	2,946
Last 30 days	5,285

Job Type

Full Time	2,849
Casual/Temporary	1,111
Contract	1,076
Permanent	668
Part Time	224

Jobs 1 - 10 of 5,800

Microsoft PowerBI Expert

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Great opportunity for Microsoft SQL DBA/ BI Developer to be involved in a new and exciting Data Analytics Project.

Seek

Database Administrator

Aurec - Gold Coast QLD

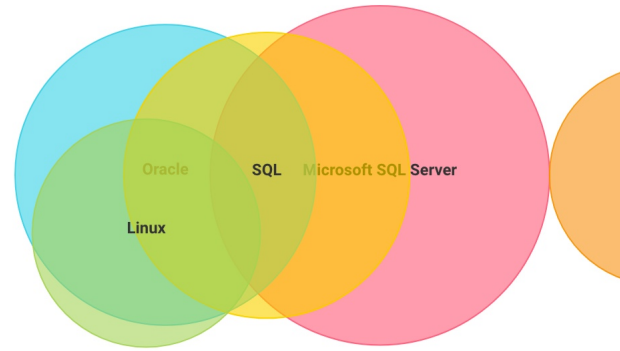
We have an opportunity for an experienced Database Administrator to join our management information systems team in Queensland. As the Database administrator, you...

Jora

[Database Administrator](#) new

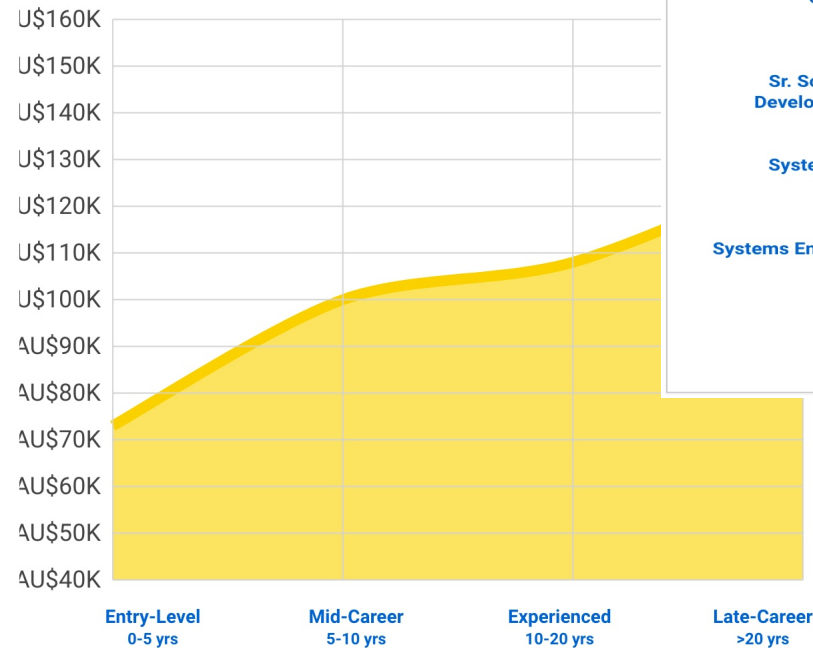
How about Pay?

Popular Skills for Senior Database Administrator (DBA)

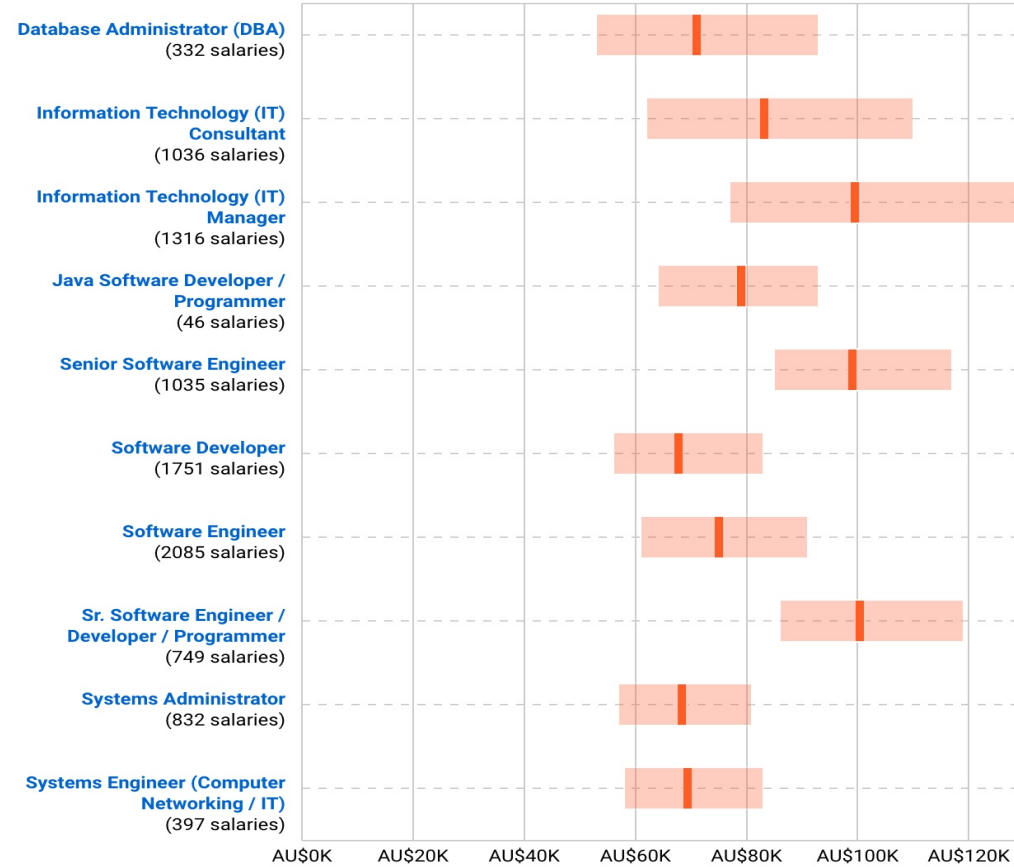


This chart shows the most popular skills for this job and what effect each has on the salary.

Pay by Experience Level for Senior Database Administrator (DBA)



Related Job Salaries



	IaaS	PaaS	SaaS
amazon web services™	<ul style="list-style-type: none"> Amazon EC2 EC2 Container Lightsail Elastic Beanstalk Lambda Batch 	<ul style="list-style-type: none"> MySQL MariaDB PostgreSQL Oracle MSSQL Aurora DynamoDB ElastiCache Redshift 	<ul style="list-style-type: none"> Amazon SaaS Program
Microsoft Azure	<ul style="list-style-type: none"> Virtual Machines VM Scale Sets App Service Functions Batch Service Fabric Cloud Services 	<ul style="list-style-type: none"> MSSQL MySQL PostgreSQL SQL Data Warehouse SQL Stretch Database Cosmos DB Table Storage Redis Cache Data Factory 	<ul style="list-style-type: none"> Azure SaaS Program
Google Cloud Platform	<ul style="list-style-type: none"> Compute Engine App Engine Container Engine Cloud Functions 	<ul style="list-style-type: none"> Cloud Storage Cloud MySQL Cloud PostgreSQL Cloud Bigtable Cloud Spanner Cloud Datastore BigData Services Cloud Machine Learning 	<ul style="list-style-type: none"> G Suite Google Launcher
ORACLE CLOUD	<ul style="list-style-type: none"> Compute Storage Networking Governance Database Load Balancing Ravello 	<ul style="list-style-type: none"> Database Database Backup MySQL Big Data NoSQL Database Big Data – Compute Edition Event Hub Management Business Analytics Integration 	<ul style="list-style-type: none"> Human Capital Management Enterprise Performance Management Data as a Service Enterprise Resource Planning Internet of Things Customer Services Supply Chain Management Industry Solutions

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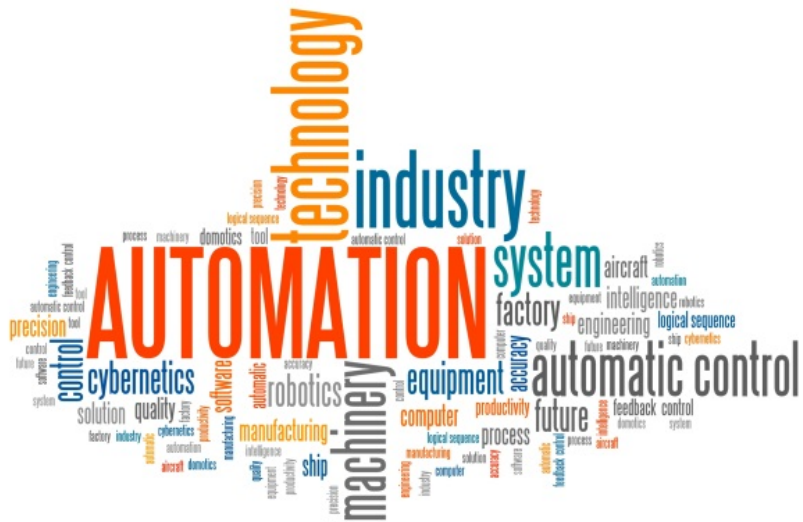
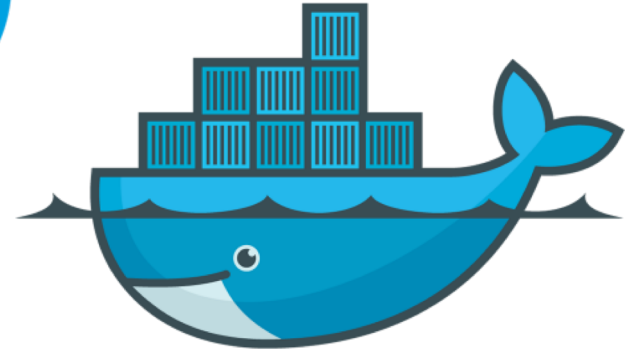


**“Doctor and physician are outdated terms.
I’m your biological tech support specialist.”**



*“Does your car have any idea why
my car pulled it over?”*

DevOps





Future Unknown

Automation vs. Autonomous

For the past 10 years of my career I have been recommending DBA's to automate most (if not all) business as usual (BAU) work and to concentrate at becoming as much proactive as possible (If you cannot automate a BAU process, delegate it) because you have more important things to do! I am recommending this over and over because I am constantly watching DBA's losing too much time with BAU work, consequently making them unable to expend time on career development (training and learning about new technologies), work at important projects such as per example Optimization, Security, Performance Tuning, High Availability, Migrations, Upgrades and also unable to work with new technologies that could seriously benefit the business and obtain the best ROI to company resources.

"Oracle 18c is not Autonomous, and only ADWC is, - but is only available at Oracle Cloud."

Automation vs. Autonomous

I would like to use the automotive industry as example to clarify the differences between Automation and Autonomous. I love to drive my car, I love to be behind the wheel and enjoy the experience. Recently I bought a new car that include many driver assistance technologies (Automation). It has Autonomous cruise control (that automatically adjusts the vehicle speed to maintain a safe distance from vehicles ahead, and even stop the car if necessary), Line Changing Alert, Collision alert (alert us if close to have a collision due to speed or proximity and breaks for you if required), Driving behavior alert (Check for fatigue and dangerous driving behaviors) Automatic Head Light and Windscreen Wiper, Parking assistance and much more.

Many people could think that all these features would affect my driving experience, but remember, as the person at control (the driver) you can choose what options would be used and when, and also can be adjusted as per your driving requirements. So, it did not affect me at all, by the opposite, they made my driving easier and safer, furthermore allowing me to enjoy it even more.

We are also talking about fully autonomous cars (that would fully drive itself, you just need to tell the car where you are going) for long time and many companies are investing resources on this type of technologies (Toyota, Tesla, Google, Uber are only a few) and are constantly making public testing of it. We know this is the future, and we know that is coming, but not anytime too soon (like this year or the next) and when the time comes, the global population would adopt it gradually.

Automation vs. Autonomous

Making it easy....

Automation - "Minimizing human interaction" – Minimizing manual steps – scripting"

Autonomous – "Full automation, no human interaction required"

Cloud, the inevitable next step in the DBA DNA evolution!

The constant evolution of IT has, among other things, affected the role of a DBA. Today the DBA is not merely a Database Administrator anymore but is morphing more into the Database Architect role. If you want to become a successful DBA (Database Architect) and be more competitive in the market, you should have a different skill set than was normally required in the past. Now a day, you need to have a wide range of understanding in architectural design, Cloud, network, storage, licensing, versioning, automation, and much more - the more knowledge you have, the better opportunities you will find.

We know without doubt that our future involves automation and Cloud technologies, so why fight it? Why continue losing our time and energy against it?

Let's take advantage of it now!

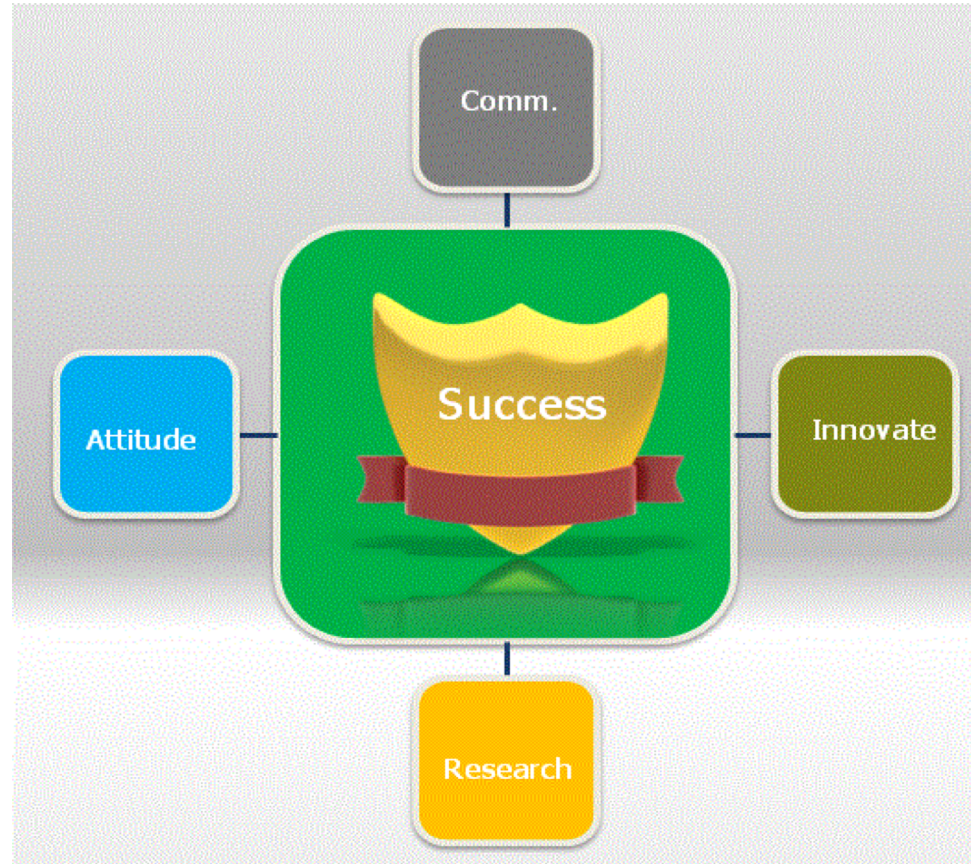
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So, what is next?



Learn to be Proactive

Why check the problems only when they are critical, or when is too late and the database is down, or the users are screaming? Being proactive is the best approach to keep your DB healthy and to show your company, or your clients that you really care about them.

Many DBA's expend most of their time being firefighters only, fixing problems and working on user's requests all the time. They don't do any proactive work; this mentality only will cause an overload of work to them, thousands of dollars of overtime, several hours without access to the data to the users, poor performance to the applications, and what is worse of all, several unhappy users thinking that you don't have the knowledge needed to take care of their data.

Let's mention a small example, you have the archive log area alert set to fire when it is 95% full, and this happens in the middle of the night, some DBA's will take seriously the alert and solve the problem quickly, others will wait until the next day to take care of it because they are tired, or sleeping, or they are in a place without internet access at the moment the alert arrived. Will be a lot easier if they set a proactive alert to be fire when 75% or 85%, or even better, take a look in the general health status of the DB before leave their work shift, to try to detect and solve any possible problem before be a real problem and be awake in the middle of the night or during the weekend (Remember how important is your personal and family time). I'll always recommend to DBA's to run 2 checklists daily, one in the start of their shift and other before they leave their shift.

I know several DBA's that complain all the time that they got so many calls when they are on call, but they don't do anything to solve the root problem, they only expend their time to solve the symptoms.

So, let's change our mentality, let stop being a firefighter and start to be a real hero!

Educate and prepare yourself for the future

- How to manage different RDBMS technologies (as per example: MySQL, SQL Server, DB2, etc).
- How to manage NoSQL technologies (as per example: Cassandra, Druid, HBase, and MongoDB).
- How to resolve unavailability issues.
- Execute recovery test from current and old backups and document the process for your company DRP (Disaster and Recovery Plan) – Use CrashSimulator (oraclenz.org)
- Ensure your company RPO and RTO SLAs are being fulfilled by your high availability plan and backup and recovery strategy.
- Gaining deep knowledge at performance tuning.
- Learn how your applications work and how they interact with the database and middle layers.
- Learn on how to review and implement security efficiently
- Keep up with DB trends & technologies.
- Use new technologies when applicable (as per example Kafka, Microservices, Containers, Virtualization, DevOps)
- Know how to perform storage and physical design.
- Diagnose, troubleshoot and resolve any DB related problems.
- Ensure that Oracle networking software is configured and running properly.
- Mentor and train new DBA's (This allow you to review and learn new things via a different perspective).
- Learn about XML, Java, Python, PHP, HTML, and Linux, Unix, Windows Scripting.
- Automate all BAU work or delegate it.
- Implement Capacity Planning /Hardware Planning
- Architect, Deploy and Maintain Cloud Environments
- Improve your SQL and PL/SQL skills and Review SQL and PL/SQL codes in your environment.
- Control and execute code promotions to production environments
- Master Cloud technologies (IaaS, DBaaS, PaaS and SaaS)



ANSIBLE



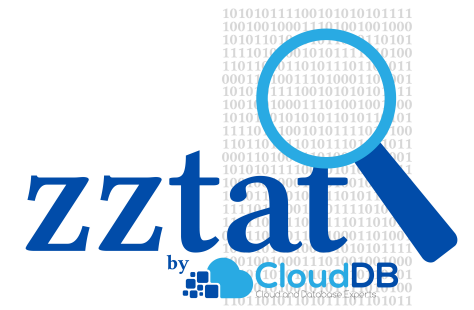
GitLab



VAGRANT



Confluence



<http://clouddb.solutions>

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No Manual Tuning or Administration Needed

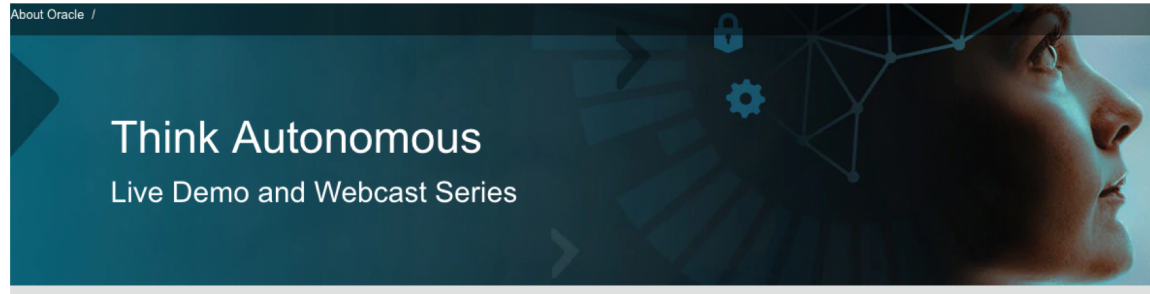
<https://go.oracle.com/Autonomous-DW>

<https://go.oracle.com/Autonomous-TP>

* Trial expires upon usage of 3300 CPU hours or trial has reached 30 days, whichever comes first.

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Any Questions?

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