

# New Series

## Code You Should Never See in PL/SQL



- **From Meeting Maniac to Office Godmother:**  
Types of People You Meet in (Nearly) Every Office

- **CBO Artificial Intelligence:**  
Part 2

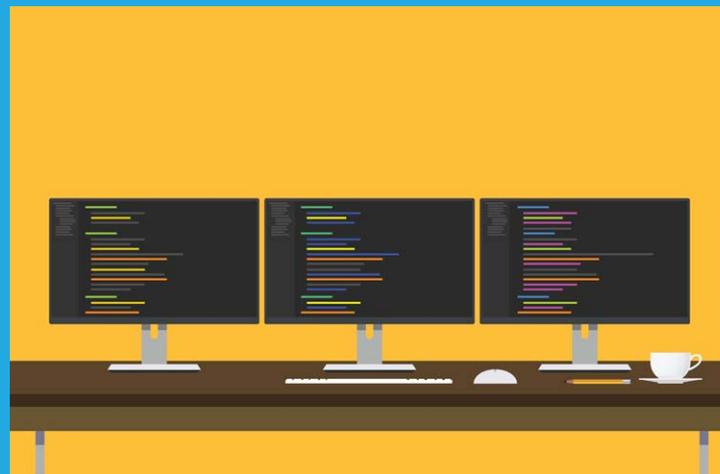
- **Interview:**  
What's the Deal With Innovation - and How Can It Succeed?





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# Editorial

Dear Oracle User Group Members,

Writing the editorial for a #13 could be seen as a challenge and a risk, given all that is attached to this number in certain cultures. And for such a task you have to be innovative.

Innovation is one of the subjects of this edition. As you will read, innovation is not only about techniques or established processes, but first and foremost a mindset, critical nowadays to survive and grow. Of course it starts from and ends with users and business processes, and that's why you will need to meet persons (oops another article of this issue), tools, techs, AI, ... (even more articles!).

More than pure tech & tools, the driving sources for us to be able to evolve in this exciting world of permanent business evolutions and new requirements (like for example last year's GDPR), are certainly exchanges about the How, the Why, the What for, either for tech tools, ERPs and other business apps.

And exchanges are the core reason, apart from the pleasure to meet people from different horizons, background and views, for the user groups to exist.

So let us wish for an enriching and fruitful year, full of sharing for all UG members and beyond.



**Jean-Jacques Camps**  
**President, AUFO (France)**

And don't forget that as Montaigne wrote "La parole est à moitié à celui qui écoute, à moitié à celui qui parle" (The word is half to the one who listens, half to the one who speaks).

Yours,  
JJ.CAMPS

# Submit Your Article!

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# Trolling the AI

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Sanela Lukavica

# Innovation - How Can It Succeed?



*Innovation policy of companies is the hobbyhorse of Jean-Philippe Hagmann, expert in the field of radical innovation. We invited the keynote speaker of the DOAG 2018 Conference + Exhibition to an interview and asked him in preparation of his speech how much creativity actually is in innovation and what must be done to make it a success.*



**Mr. Hagmann, how do you notice that your company only plays the innovation theater?**

That is not that simple. Frequently, you only realize it when you expect a result and nothing happens. Figuring it out in the process is difficult when you are not trained for it.

**In your book, you differentiate between incremental and radical innovation. What are the most important characteristics of both concepts and what are the major differences?**

First of all, they are two completely different types of innovation. Incremental innovation is the stepwise improvement of an existing solution. How does our product look like today and how can we improve it? Radical innovation, on the other hand, comes from “radix”, the root, and goes back to the root of the problem and poses the question: what problem do our customers have and how can we solve the problem in a different manner than before? Thus, you do not improve, you question the current solution.

**A radical innovation course can therefore significantly change the structure of a company. Do you think that there is a perfect time to go for the radical innovation course?**

Actually, for most companies, it would be wise to go for radical innovation immediately. However, the question is at what point would this course most likely work. Most companies are only ready for radical innovation when they are already in a crisis or when a crisis is in sight. Resources are usually already short then or the company is not willing to experiment and try new things. But exactly this is one of the requirements for radical innovation. The best time to take this course is when the company is doing well and resources can be used for experiments. However, most companies do not see the urgency at this time to become radically innovative. I like to compare it to a vaccination: You should have a vaccination, too, even if you have not been infected.

**You regard five groups of persons as decisive to lead a project to success in three stages. Can you elaborate on that concept?**

An innovation project usually passes three different stages, with the two initial stages being handled too short in almost all companies. The first stage is the discovery stage used to make sure that you are on the correct concept. Is there a market and a need for it? This stage is primarily meant to experiment a lot. It is not so much about having many ideas but to have the right idea at the end – thus, killing as many ideas as possible. Subsequently, there is a bridge stage used to transfer the insights from the first stage into a requirement specification or user stories. The third stage, the implementation stage, answers the questions of the “how?” and puts the innovative concept into practice.

The discovery stage requires the innovation team – I call them avant-gardists. They are unconventional thinkers who question everything and are very trained to open a possibility room. Ideally, these are people who are not rooted that firmly in the sector and can therefore question things easier. The second role is the lead avant-gardist. That is the person who understands the requirements needed by the avant-gardists to be creative. At the same time, he must speak the language of the management so that the innovation department is not cut that early. The bridge stage requires a bridge builder. They are people who are rooted very firmly in the company and know what interest groups exist internally. They can take on the role of a messenger to make concepts known at an early stage. Otherwise, the problem may be that the new solution is not accepted and the company ditches the solution. The experts are needed then. They know the sector and the technologies. The last role – in my book it is the first role because it is tremendously important – is the role of the sponsor. If possible, this should be a person from the company’s management. Ideally, this person does not only decide on the path of radical innovation but is also behind the idea, despite every objection.



***That sounds like a lot of hard work. Would you say that, in the end, hard work and forcing through ideas is more important than the ideas themselves?***

Absolutely. Each innovation can obviously be traced back to some idea but this idea will usually change continuously and will not be the same as in the beginning. The idea is not that important. Not only hard work and enforcement are important but the knowledge how to handle creative processes and setbacks. Every innovation project usually reaches the vale of tears once. At this point, you get the impression that you have reached a dead end with no way out. That is something important to be aware of so you can handle it and find new drive. Most innovations do not fail due to the lack of a good idea but after the idea is there. Usually, three, five or even more years are necessary until an innovation comes on the market. That is a lot of sweat and tears.



***Sounds very disillusioning. Generally speaking: What are the risks of radical innovation and what are the options to counter them?***

The biggest risk is that you invest time, money, and human resources into something without success. That is why it is always said that innovating is risky. I say that leading a company is risky per se. The difference is that you know many figures of the daily business and get the impression: "I know how it was a year ago, how it is today – so I am in control." It is not as simple as that with innovation. You do not have as many options to measure the innovation process. But there are ways of keeping these risks small. First of all, the best way is early testing of the ideas. If possible, the market should decide and not top managers. When you do these things quite early, you can minimize these big risks at an early stage. You will still not automatically be successful, but the risk is minimized.

***What role does trust play in this process?***

Most innovating companies use the so-called stage-gate process. There is a "gatekeeper" after each stage who evaluates if the project continues or not. Behind that, there is always the assumption that these gatekeepers know better if it is worthwhile to continue. I am not against internal decision makers because there are decisions that must be made internally when it comes to certain resources. But the decision should not be about what is good or bad. You have to trust that the right people are on it. That is why I do not like the term "innovation management". That may be correct on macro level, innovation must be managed there, but on micro level, innovation cannot exactly be managed. However, this is commonly tried in the companies. They set milestones so that they can check and manage everything. But this rather kills innovation than supports it.

***You have set the focus on technologies of the future in one of your presentation subjects. What was the impact of digitalization on radical innovation?***

To me, not only technologies are part of digitalization but also changes in society. We are much more interconnected, communication is different. Radical innovation has been essential before this age of digitalization but it was not essential for survival. A company could also survive when it was good at innovating incrementally, that is to say, always improving its own solutions. Today we live in a time where everything is global. I do not only have to be the best regionally, I must be world-class globally in order to survive. Furthermore, customers today are used to getting better solutions more and more quickly. It is therefore a must that these companies establish competences to innovate radically. Simultaneously, it has also become easier: We have completely different technologies today, tools to improve solutions. It is therefore a double-edged sword. On the one hand, digitalization forces us to be radically innovative. On the other hand, there are completely new chances.

***Who is the biggest innovator in the history of mankind and what can we learn from him or her?***

I am very enthusiastic about Leonardo da Vinci. Because he was a multi-talent and not only a great painter, illustrator, and even biologist but also anticipated many inventions. However, I would not say he was an innovator because innovation is always something that creates added value. Even if he drew a submarine, this did not create any added value, thus it was not an innovation. One of the biggest innovation of mankind to me is writing. That we started to write down our stories at a campfire – that was a step that changed humankind.



**Jean-Philippe Hagmann**

***So that means innovation equals implementability? Otherwise, mental effort would only be intelligence, or, speaking in literary genres, fantasy, but no innovation?***

...or creativity. If Leonardo was living today, he might be a science fiction author. Such an author can think very well in the future and imagine things that may become reality one day but do not exist today and thus are no innovations. We can assume that things such as a submarine or a helicopter were built because of da Vinci's work since he anticipated them. But he was not an innovator.





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Lisa Damerow

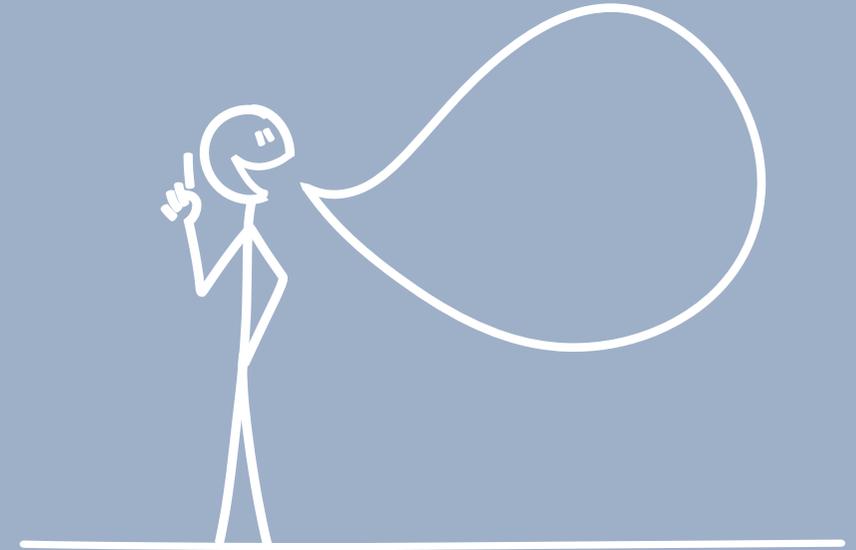
# Types of People You Meet in (Nearly) Every Office

*At an office, multiple different personalities collide every single day. Whether you like them or not, you have to get along. We have summarized the most notorious characters that almost every office has. Maybe you will even find yourself in one of these!*



## 1. The Smartass

The smartass always knows everything better. Everything. No, seriously, even when they are wrong. They always listen in and interrupt improve your conversation with their radiant knowledge and fancy vocabulary. Smartasses always step on everyone's toes by correcting their grammar. ATTENTION: Never argue or even discuss with a smartass. Never.



## 2. The Jokester

Jokesters that are genuinely funny will improve their colleague's work life a lot. They lighten up even stressful and grim days with their sense of humor and witty jokes. Always an unexpected and hilarious thing on their lips, the Jokester makes for great company. However, they do find it hard sometimes to discern between serious situations and those in which a joke is acceptable.

## 3. The Grinch

Always in a bad mood, the Grinch gives you one-word answers and despises small talk. You just know they hate their job and look just about ready to go bananas. They do not see the appeal in social interaction or being friendly at work. Their least favorite person at the office is the Jokester.



#### 4. Gossip Girl/Boy

Every office has a gossip girl/boy. Their favorite task is to pick up whatever information they can get their hands on – whether it is true or not – and carry it on to their favorite circle of colleagues, but pretty much anyone who listens will do. Of course, this information is actually none of their business, but they will share and judge anyway. Needless to say, do not tell them anything personal about yourself that you would not want the entire office to know.



#### 5. The Office Godmother/Godfather

They are the good soul at the office keeping everything together. The godmother/father has adopted every single employee and helps wherever they can, making sure everyone is happy and content. Usually, they are also the person who has been working at the company the longest and know everything. They always make sure everything is clean and presentable, even if it means tidying up someone else's mess. They also bring the best office birthday cake to the table.

#### 6. The Friend

Your work-soulmate, your favorite person at the office that makes (work) life that much more livable by just being there. Without them, you are not sure you would be working at your current job anymore. You consider them a friend and enjoy spending time whenever you can at work or during breaks. Most of the time, this office friendship carries over to free time as well.



## 7. The Lazy

The Lazy arrives half an hour late and leaves work as early as humanly possible. They shamelessly try to pass as much work as they can onto their colleagues. If they happen to get some work done, you just know it is going to be sloppy. They spend a majority of their day keeping colleagues from getting work done by telling them about their vegetable garden or similarly interesting topics. "My, would you look at the time? I got so much stuff to do!" is a common sentence used by the lazy. Once they go back to their workplace, they do some shopping, plan their vacation or stare holes into the air. (Official) Break time is their least favorite part of the day.

## 8. The Noisy

Whether it is through finger-drumming on the desk, swinging or stomping their feet, clicking their pen or humming to themselves, the noisy can always be heard. Sometimes office-wide. The noisy also talk into their phone like the other person is caved in. During meetings, you can feel the pitiful eyes of colleagues on whoever has to deal with this constant noise eight hours a day every day and you are thankful that it's not you. If it is you, we are very sorry.



## 9. The Over-Achiever

The over-achiever is the complete opposite of the lazy. Over-achievers are married to their job and spend about 10 hours a day at the office. Even if there are no immediate deadlines, they will find an excuse to stay. Sometimes you catch yourself looking for the tent they surely must have set up. They never call in sick, even if they look like a zombie and are a danger to themselves as well as their colleague's health. When you have to work with them, they turn up the pressure, pick every tiny detail apart and make sure everything is 110% perfect. The over-achiever talks about work every chance they get. During lunch, get-togethers and also if you happen to encounter them in their free time.

## 10. The Meeting Maniac

Whenever you want to ask the Meeting Maniac something, they set up a meeting with you (if they can fit you into their tight schedule). Sometimes you wonder if you are calling a colleague or making an appointment with a dermatologist. Should you ever be lucky enough to encounter them in their office, you witness a miracle because they basically live in the meeting room. But joke's on you, they are definitely on the phone.





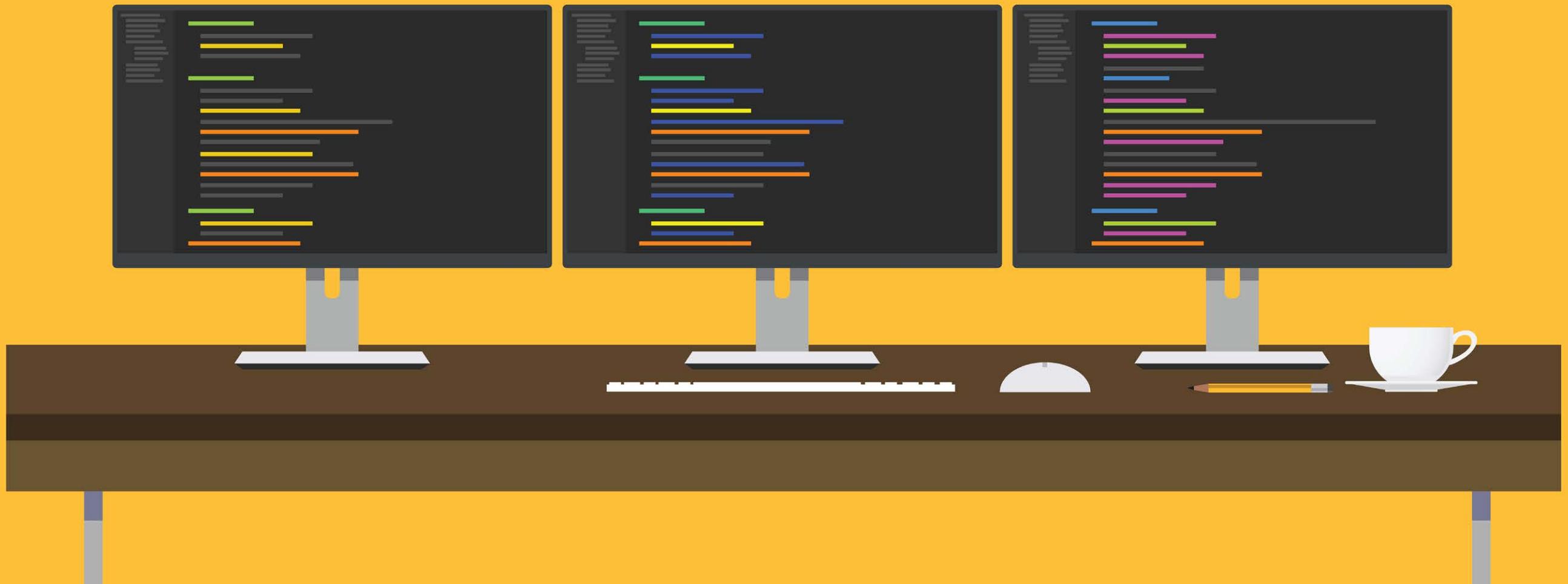
# Jenkins, at Your Service! Lisa Damerow

Jenkins, previously known as Hudson, is an open source automation server written in Java. It was created in 2004 at Sun Microsystems by Kohsuke Kawaguchi, who fondly calls it a “butler which can get your task done according to your order”. So, he named it appropriately; after Hudson, the butler from the 70’s TV show “Upstairs, Downstairs”. The name “Alfred”, after Bruce Wayne’s (Batman) butler was also considered but conflicted with a Mac program of the same name. In 2010, when Oracle bought Sun, they trademarked the name “Hudson” and continued its development. A call for votes was made to change the project name from “Hudson” to “Jenkins” which was overwhelmingly approved by a community vote in early 2011, thus creating the Jenkins project. Fun fact: Jenkins is the name of the butler in the TV series “Scooby-Doo”, so Kawaguchi stuck to the roots. From there on out, Jenkins and Hudson continued as two independent projects, each claiming the other was the fork. In February 2017, the original Hudson project was announced obsolete by Oracle while the Jenkins project is still active.

Due to the origins of the names this project always has had always had, the logo choice is an obvious one: a butler. The famous Jenkins butler with the smug face was created by Charles Lowell and Frontside. Since then, many different versions of Jenkins (like Alien, Cowboy or Cosmonaut Jenkins) have emerged and have been added to the official Jenkins webpage.

# Code You Should Never See in PL/SQL Steven Feuerstein

## Part 1



*There are good ways and bad ways to do most things, and that certainly includes writing software. This article launches a six-part series by Steven Feuerstein, Developer Advocate for Oracle, that points out code patterns you should avoid in Oracle PL/SQL.*



If you ever run across any of the following, apply the suggested cleanup, or contact the owner of the code, or run for the hills.

Here's the list of things to avoid:

- DON'T set default values of variables to NULL.
- DON'T select from dual for...just about anything.
- DON'T declare the FOR loop iterator.
- DON'T trap NO\_DATA\_FOUND for inserts, updates, and deletes.
- DON'T execute the same DML statement inside a loop.
- DON'T hide errors.
- DON'T re-raise an error without logging first.

See below for the gory details.

## Set default value to NULL

Whenever you declare a variable it is assigned a default value of NULL. So you should explicitly provide NULL as a default value. It won't do any harm, but it will tell others who read your code that your understanding of SQL is, shall we say, incomplete.



```
DECLARE
  l_number NUMBER := NULL;
  /* Same applies to using alternative syntax */
  l_date DATE DEFAULT NULL;
BEGIN
  ...
END;
```

Bad Code

Just remove the assignment.

```
DECLARE
  l_number NUMBER;
  l_date DATE;
BEGIN
  ...
END;
```

Cleaned Up

Note that this advice does not apply to assigning a default value to a parameter.

```
PROCEDURE do_stuff (start_date_in IN DATE, end_date_in IN DATE DE-
FAULT NULL) ...
```

If you do not provide a default value for a parameter, then you must pass an element (expression, variable, constant) for that parameter. If you provide a default value, then you can “leave it off” the parameter list when the subprogram is invoked, and the default value will be used.

In other words, including or excluding a default value of NULL for a parameter can change the behavior of the subprogram and the way it's used. Including or excluding a default value of NULL for a variable has no effect.

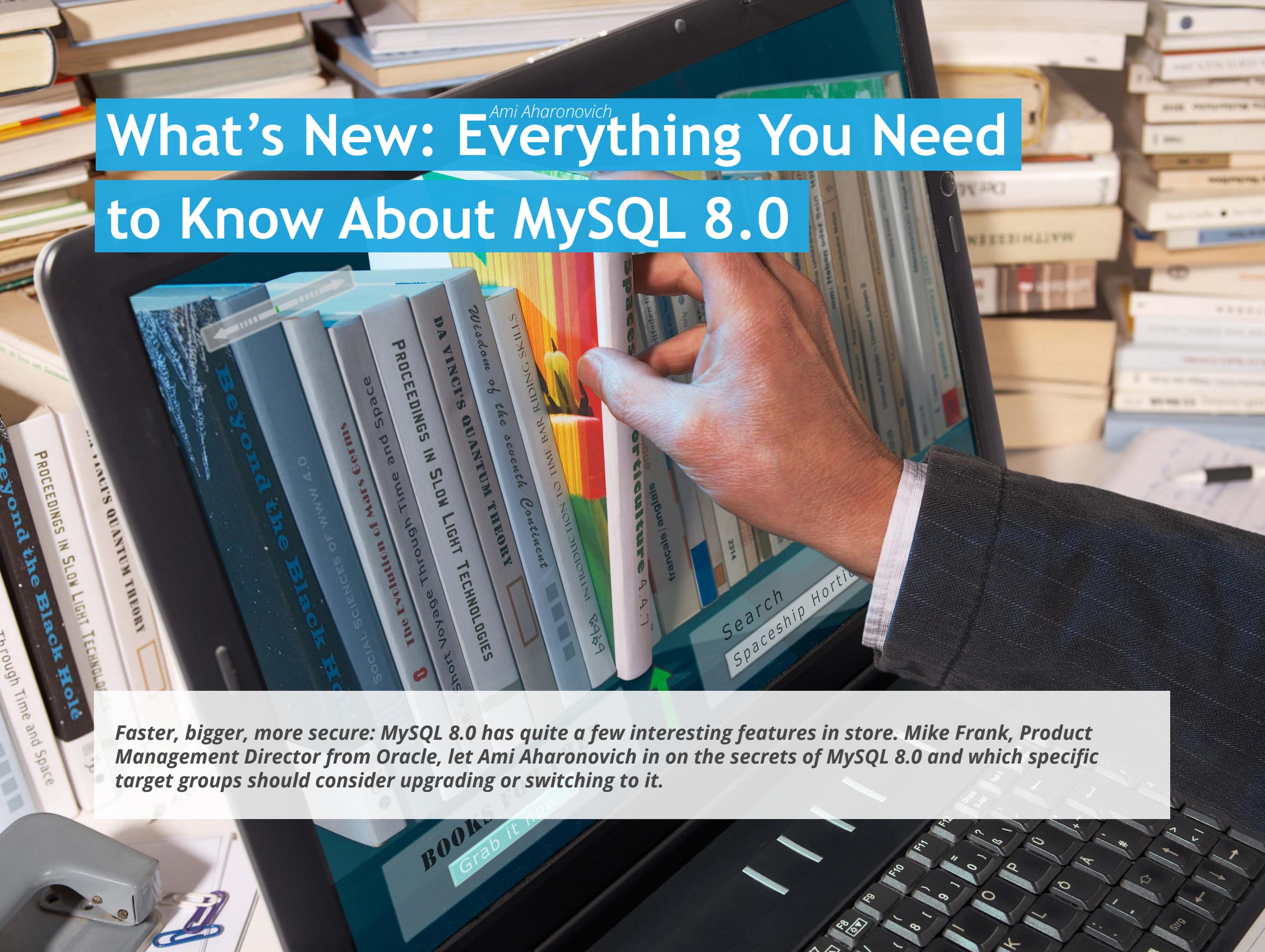
**To be continued ...**

**Steven Feuerstein's Blog**

**The Oracle Developer Advocates**

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A hand in a dark suit jacket reaches for a book on a laptop screen. The screen displays a search interface with a search bar containing the text "Search Spaceship Horti...". The background is a blurred bookshelf filled with books. The title "What's New: Everything You Need to Know About MySQL 8.0" is overlaid in a blue banner at the top. The author's name "Ami Aharonovich" is written in small text above the main title. A white text box at the bottom contains a quote from Mike Frank, Product Management Director from Oracle.

# What's New: Everything You Need to Know About MySQL 8.0

Ami Aharonovich

*Faster, bigger, more secure: MySQL 8.0 has quite a few interesting features in store. Mike Frank, Product Management Director from Oracle, let Ami Aharonovich in on the secrets of MySQL 8.0 and which specific target groups should consider upgrading or switching to it.*

### ***What is new in MySQL 8.0 and why should someone consider using this version over any other version?***

At a high level for MySQL 8 we put special focus on features for developers and DevOps. We tout NoSQL + SQL = MySQL as what we call the MySQL document store, we've defaulted to utf8mb4 (Unicode 9) – so emojis and multi-byte out of the box, enhanced our JSON support, full GIS with addition of geography, new analytics capabilities, security roles, and new high throughput locking features. It's just plain faster.

### ***What do you believe are the best features that are included in this new version?***

I'd rank doc store features way up there. Our Document Store is a single solution to handle both SQL and NoSQL. You can even mix both worlds together. On the same data you can use both CRUD commands or run more complex queries with SQL. All atop our robust InnoDB engine – ACID compliant – guaranteed consistent.

For SQL we added CTEs aka WITH queries, adding power and making SQL simpler. And Window Functions, these are like GROUP BY but perform calculations at the row level. The optimizer cost model has improved and takes into account if data is cached. Added new locks NO WAIT and SKIP LOCKED, which deals with hot row contention, a common problem in online ticketing or commerce.

### ***Security today is very critical to consider when evaluating a database. What are the key features and strengths introduced in MySQL 8.0?***

It is very critical, and required for organizations with regulations like GDPR, HIPAA, UK Data Protection Act, etc. MySQL 8.0 includes much requested ROLES. We've made system/admin type permissions more fine grained – admins can be provisioned with only what they need. In 8 we've gone to using

OpenSSL for both CE and EE. And in MySQL 8 we dynamically link to OpenSSL which has several advantages – hotfix OpenSSL as soon as a patch comes out, run CPU optimized libraries taking advantage of AES-NI or other on chip enhancements, use OpenSSL engine plugins leveraging HSMs, run with the OpenSSL FIPS Object Module. We optimized performance for SHA-256 with new cached\_SHA-256 to support high rates of connects. And along with all of our previous password/login policies, added history to prevent password reuse.

### ***Why do you believe that someone should consider using the MySQL EE version over the CE version?***

Definitely should be considered. With EE not only do you get 24/7 around the clock and the world support, but additional tools – like MySQL Enterprise Monitor and Query Analyzer, Enterprise Backup, and lately a big driver is additional security features – Auditing, Firewall, External Auth (for LDAP, AD, ...), PKI functions, Data Masking and De-identification, TDE with support for key management with KMIP for Key Vaults like Oracle Key Vault, Thales, Gemalto, Fornitex, .... These features improve security, and help meet needs of security regulations.

### ***NoSQL has a big buzz nowadays. Why should someone consider choosing to implement MySQL and not one of the NoSQL solutions?***

NoSQL does have a lot of buzz these days, and we like NoSQL. However, we think our solution has some advantages, and I'll throw out a few in no particular order:

1. Database proliferation – enterprises can only manage so many. MySQL is a given, not so much for many NoSQLs products. Many of them make it easy to start, but become increasingly difficult over time – inconsistencies, performance mysteries, lack of skilled DBAs. For enterprises, fewer database products = reduced operational costs.



2. MySQL provides data consistency. NoSQL's relaxed models can result in inconsistent data. Developers have to code around possible issues, or DBAs are left with gaps in data or clean up tasks. High speed transactional data engines aren't simple to write, NoSQL vendors struggle here.
3. Flexibility – MySQL's CRUD provides simple APIS for Collections and Tables.
4. SQL is powerful – NoSQLs struggle on data analysis, must program everything. Adhoc SQL is powerful. MySQL Document Store is a win for Devs, DBAs, Data Analysts, and LOB owners.



**As NoSQL is becoming more and more popular, how can someone consider to integrate a NoSQL solution while still using a relational solution such as MySQL?**

We think it's best to store all the data within a single database engine – whether to table or JSON. Mixing databases, having silos of information, or moving data from one place to another is costly, complex, inefficient, and insecure.

**With the enormous amounts of data growing very fast, what are the main features introduced in MySQL 8.0 which will allow users to properly manage a large database and also experience good database performance?**

One of the biggest changes we made in MySQL 8.0 is moving our data dictionary from file based system onto InnoDB. This allows us to scale up to managing far more tables at higher scale and performance. It's been tested with millions of tables. This makes retrieving and reporting on DD information much faster. Statements for DDLs, DCLs, Security, that operate on the DD happen faster, are guaranteed consistent and atomically committed. Under the hood MySQL performs better due to new optimizations that reduce locking, take advantage of modern hardware, and improve redo and undo logging. We've made tuning far simpler, if a server is dedicated to MySQL, you can just tell us that with one setting and we'll optimize for great performance from the get go and automatically when say you add more RAM or CPUs. Finally more MySQL DDL calls are instant, the most popular example of this is instant add column.

**Any other areas that we need to know about MySQL 8?**

Yes, it's quite important and extremely popular. MySQL InnoDB Cluster. First a bit more background. MySQL has many products not just the server and connectors (drivers), but also technology for HA called group replication, a router

targeting connections seamlessly to servers, a new shell with administrative APIs and scripting with JavaScript or Python, distributed communication (XCOM) that shares data between MySQL instances. All built into MySQL, and provided so that creating and managing your HA MySQL Topology is simple, and failovers automatic. Feedback on the MySQL Shell that enables all this has been fantastic and 1000s of InnoDB clusters are in production.

***Where do you believe that the MySQL database will be in 2-3 years from today?***

I think you'll see MySQL in use and even more popular than it is today. Customers running hybrid relational and document data, scaling both up and out and remotely more than ever before, performing analytics, AI/ML, and transactions together seamlessly.

And where will it be in 5 years from today? Predicting 5 feels like 100. We will maintain its focus on customers, making things simple but powerful, and we'll see where that leads us, no shortage of great ideas coming both from customers and from our strong engineering org. Keep up with crazy fast and massive storage, the complexity of securing and protecting data, while at the same time keeping things simple to use.



**Mike Frank**  
Product Management Director, Oracle

*Martin Meyer*  
**Number of  
the Month:**



- iOS
- Android



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In the second quarter of 2018, 88 percent of all smartphones sold to end users were phones with the Android operating system. Introduced by Google in 2007, Android is the most popular smartphone operating system in the world as of 2016. Since its release, sales of smartphones running on the Android have grown strongly over the years. Since 2011, Apple's iOS market share has varied between 14 and 21 percent.<sup>1</sup>

Since the vast majority of smartphones and mobile devices such as tablets sold worldwide are equipped with an Android version as the operating system, Android's worldwide market share is significantly higher than for iOS.

iOS only supports Apple's iPhone, iPad and iPod devices and therefore its usage is limited to the more expensive Apple product line.

The United States, Canada, Australia, Japan, England, Ireland, and Sweden are countries where iOS market share is higher than the Android share, regarding the statistics for the third quarter of 2018. In France the share is almost 50% for iOS and Android.<sup>2</sup>

Android, however, can be deployed and used over a myriad of devices, including cars, smart devices (with Android Things), smartwatches and numerous devices, shipped with Android versions from 4.0 to 9.0.

Especially the potentially huge Chinese market is disappointing for Apple, because iPhones are considered too expensive or non-affordable and no longer really innovative and superior compared to the much cheaper models of the fast-growing domestic competitors.

South America and Russia are also large regions dominated by Android.

It can also be seen as a general trend that in countries with higher disposable incomes and also generally in larger cities, the iOS share is usually higher than in other parts of the respective country.

For example, the further south you move in Europe, the higher the statistically measured Android market share is.

Apple's often criticized high-price strategy, although so far superior to all competitors in terms of profit margin, is a major reason for the worldwide dominance of the more accessible Android system.



<sup>1</sup> <https://www.statista.com/statistics/266136/global-market-share-held-by-smartphone-operating-systems>

<sup>2</sup> <https://deviceatlas.com/blog/android-v-ios-market-share>

# CBO Artificial Intelligence

## Part 2



*In the previous issue, we discussed the first guide for the Oracle Cost-Based Optimizer (CBO): SQL Profiles. Now it's time to take a closer look at SQL Baselines and its functionality. We will also look at the pros and cons, so that you can decide in which case to choose SQL Profiles or SQL Baselines.*



## SQL Baselines

SQL Plan Baseline was introduced in Oracle Database 11g, so it is newer than SQL Profile. Its goal is to maintain SQL statement performance regardless of changes in the database.

SQL Plan Baseline is a set of “ACCEPTED” plans which can be used by the optimizer to execute an SQL statement.

The plan management flow is shown in **Figure-4**.

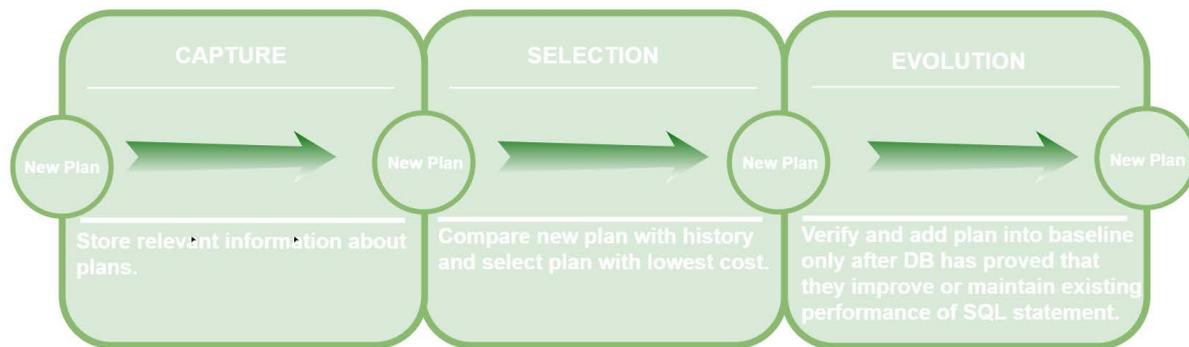


Figure-4.

Another option that can be used is to mark one or more plans as *fixed*. If a *fixed* plan exists in a baseline, the optimizer will give priority to it, even if a better plan is available. This can be useful when a DBA wants to be sure that a very specific plan will be used by the optimizer. In such cases, the DBA must add plans manually from *Cache* or *Tuning Set*.

A database upgrade may include new optimizer features that will cause some SQL statements to change their plans. SQL Plan Baseline will guarantee that only the best plans will be used, which minimizes potential regressions resulting from an upgrade.

## Managing SQL Baselines

- Enabling/Disabling “Automatic Plan Capture” by setting true

or false accordingly for the following database initialization parameter:

```
SQL> ALTER SYSTEM SET OPTIMIZER_CAPTURE_SQL_PLAN_BASELINES=true;
```

Please consider that only repeatable SQL statement baselines are saved. If you run a SQL statement just one time, the baseline will not be created.

- Enabling and disabling “Usage of Plan Baselines” by setting appropriate value for the following parameter:

```
SQL> ALTER SYSTEM SET OPTIMIZER_USE_SQL_PLAN_BASELINES=true;
```

- Configuring automatic “SQL Plan Management (SPM) Evolve Advisor Task”.

The DBMS\_SPM package enables you to configure automatic plan evolution by specifying the task parameters using the SET\_EVOLVE\_TASK\_PARAMETER procedure.

```
BEGIN
  DBMS_SPM.SET_EVOLVE_TASK_PARAMETER(
    task_name => 'SYS_AUTO_SPM_EVOLVE_TASK'
    ,parameter => parameter_name
    ,value     => value
  );
END;
```

Possible parameter values are:

ALTERNATE\_PLAN\_SOURCE – determines which sources to search for alternate plans: CURSOR\_CACHE, SQL\_TUNING\_SETS or AUTOMATIC\_WORKLOAD\_REPOSITORY.

FIND\_NEW\_PLANS – YES or NO. If the parameter value is YES then the task will try to find new plans that are not in the plan history and verify them.

ALTERNATE\_PLAN\_BASELINE –  
EXISTING – alternate plans should be loaded for SQLs with existing baselines.  
NEW – a new baseline for the SQL will be created if the alternate plan is not already in a baseline.  
EXISTING+NEW – will load alternate plans in both cases.

TIME\_LIMIT – total time allowed for the task.

ALTERNATE\_PLAN\_LIMIT – maximum number of alternate plans to load.

➤ Listing the existing baseline information:  
The main dictionary view to check the baseline information is DBA\_SQL\_PLAN\_BASELINES.

```
SELECT SQL_HANDLE, SQL_TEXT, PLAN_NAME, ORIGIN, ENABLED, ACCEPTED
FROM DBA_SQL_PLAN_BASELINES;
```

SQL_HANDLE	SQL_TEXT	ORIGIN	ENABLED	ACCEPTED
SQL_e361bd335efb63d6	select /*+use_nl(t1,t2)	AUTO-CAPTURE	YES	YES

➤ Loading SQL Plan Baselines from either SQL Tuning Set, Shared SQL Area or Staging Table using DBMS\_SPM package.

- Transfer a set of SQL Plan Baselines from one database to another:
  - Create staging table by DBMS\_SPM.CREATE\_STGTAB\_BASELINE.
  - Move profile data into staging table using DBMS\_SPM.PACK\_STGTAB\_BASELINE.
  - Move staging table to destination database using Data Pump or Network Link.
  - Unpack imported staging table in the destination database using DBMS\_SPM.UNPACK\_STGTAB\_BASELINE.
- Managing the SQL Management Base by setting space limit and retention using DBMS\_SPM.CONFIGURE method.
- Dropping SQL Plan Baselines using DBMS\_SPM.DROP\_SQL\_PLAN\_BASELINE procedure.

## Disadvantages of SQL Baseline

SQL Plan Baseline is different from SQL Profiles as it is more proactive in its behavior and tries to increase or maintain database performance. You can even manage its space usage in data dictionary. So, if everything is configured correctly, SQL Plan Baseline does not have drawbacks.

## Oracle 18c Autonomous Database Tuning Enhancements

The latest generation of the world's most popular database, Oracle Database 18c, enhanced tuning functionality.

The SQL Tuning Advisor includes additional algorithms to better tune SQL statement execution on Exadata. It determines whether statistics like I/O seek time, multiblock read count, I/O transfer speed are up to date, because it highly affects advisor recommendations.



Oracle 18c introduced a new SQL Tuning Set API – DBMS\_SQLSET. The subprograms in DBMS\_SQLSET are equivalent to the SQL Tuning Set subprograms in DBMS\_SQLTUNE, although in some cases with slightly different names. The reason for this separation is to make SQL Tuning Set manipulation easier. Different from DBMS\_SQLTUNE package it does not require the Oracle Tuning Pack.

The following example shows both ways to create SQL Tuning Set:

```
BEGIN
  DBMS_SQLSET.CREATE_SQLSET(sqlset_name=> 'my_sqlset',description=> '');
END;
/
BEGIN
  DBMS_SQLTUNE.CREATE_SQLSET(sqlset_name=> 'my_sqlset',description=> '');
END;
/
```

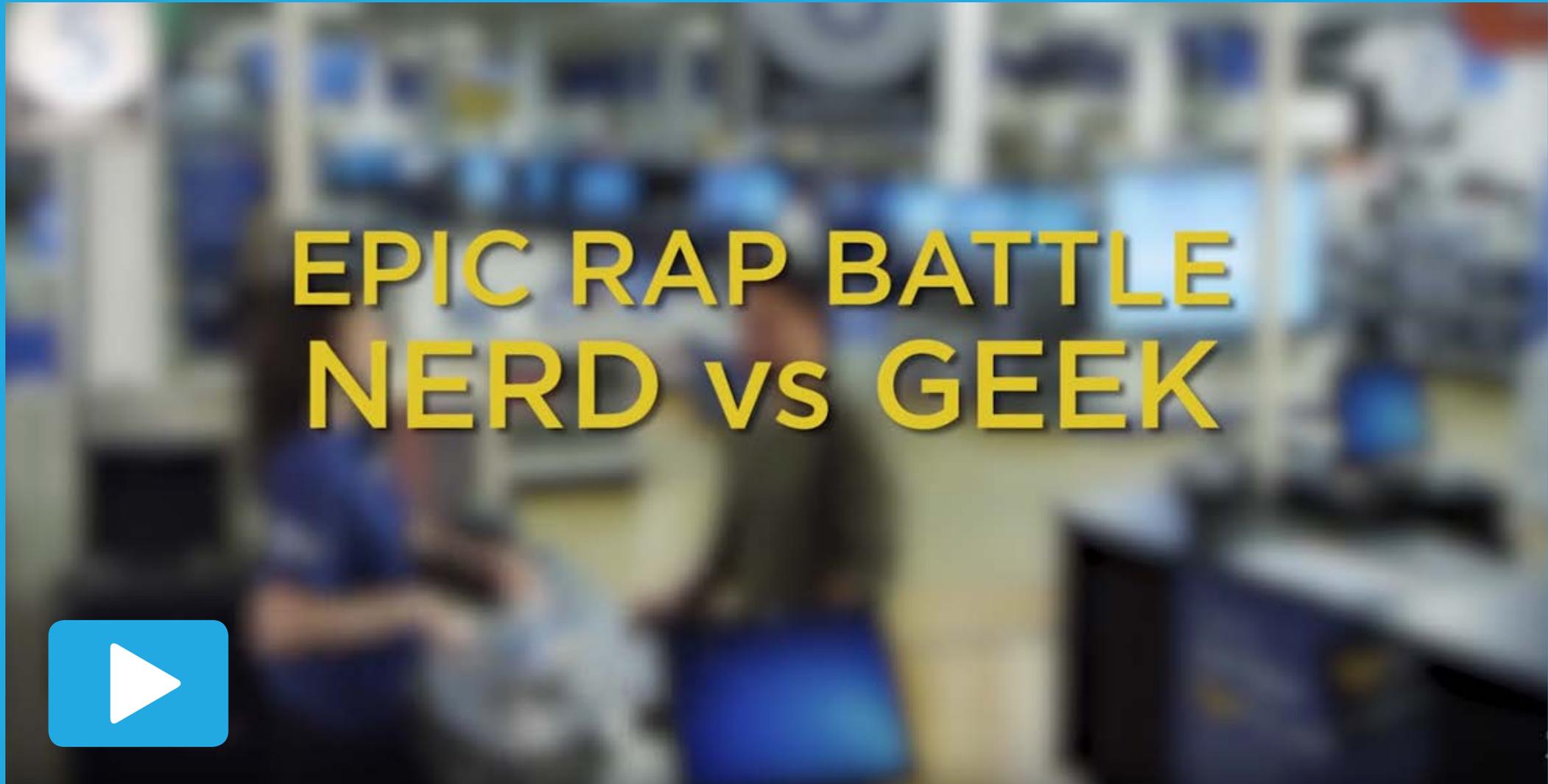
As you can see they are equivalent.



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Oracle Certified Master,  
Senior Solutions Architect at  
FlashGrid Inc.



**Venkata Ravi Kumar Yenugula**  
Oracle ACE Director & Oracle  
Certified Master, DBA-Lead at  
Infoblox Solutions Inc.



# Epic Rap Battle: Nerd vs. Geek Christian Luda

If you're reading this, chances are high you are either a nerd or a geek. But one thing is for sure: you can't be both - a nerd will never geek out on something while a geek will never engage in nerd talk. Watch this by now legendary video of US „internetaining“ duo Rhett & Link having an Epic Rap Battle and decide what side you are on.

Andrejs Vorobjovs

# Worth the Wait: The European

# Oracle User Community Meeting

# in Nuremberg

*In June 2018, the European Oracle User Community (EOUC) was invited to Nuremberg to the DOAG 2018 Conference & Exhibition which took place between November 19 and 23. Representatives from 22 independent Oracle user groups, five DOAG board members, and one Oracle employee met up for discussion about the user groups' future cooperation in EMEA. The EOUC is gathering together usually twice a year: the latest meeting was organized by Oracle in Zagreb, Croatia, which would make the Nuremberg meeting the second one. We are very grateful to the DOAG board for their generosity and hospitality.*

Nuremberg is truly stunning – probably the most beautiful city in Germany to me. Nuremberg welcomed us with the cold weather, yearly Christmas Market, German food, hot drinks, and happy people. Nuremberg is also famous for its beer breweries, famous sausages, and meat products. Its center is small enough to explore by foot. The centre of Nuremberg is not only a wonderful place for the staging of trade fairs and congresses like the DOAG conference, but it also holds great fascination for those coming in search of culture and of new experiences.

Before the EOUC meeting, we visited the exhibition in the Documentation Center Nazi Party Rally Grounds with Oracle user group leader from Tajikistan. This was a very thoughtful and informative visit, provided with audio guide.

The meeting started with an introduction by Ralf, Stefan, Heli, and Ami. The user group ambassadors (Ami and Heli) also shared their impressions from the Oracle OpenWorld 2018 in San Francisco. The main themes of the OOW were the second



generation Cloud, automation, AI, and machine learning. From 2019 on, OOW will take place in other countries and areas as well, for instance in the UK, Singapore, and Saudi Arabia.

The host of this meeting, Ralf, shared his experiences in organizing the DOAG conference. The attendance number has grown to more than 2000 over the years, and has grown again compared to the previous year.

During our meeting we had a heated discussion about Oracle support services and problems that German Oracle users have to deal with. We were also discussing the future of ORAWORLD Magazine, licenses complexity with VMware and other products. During the last year, the ORAWORLD magazine has continuously become more popular, thus an effort to provide an audio version of the best articles might reach an even greater readership. Another idea is a collaboration with UK Oracle user group magazine, Oracle Scene, which is also available as a free printed version. We also found new resources for speakers and conference attendees. clockwise.org is a page dedicated to Oracle related conferences exclusively, so we could have an interview with Alex Nuijten about his webpage.

Whether a user group is small or big, or organizing big or small conferences, we think it is useful to know how others are doing, what struggles they have and how they try to deal with the challenges – an aging community probably being one of the biggest.

Another rather important aspect was the Oracle support survey which had been conducted by DOAG. 277 participants had answered questions about the support Oracle offers – with rather sobering results. Overall, the satisfaction level is very low, for users who employ the Cloud as well as the On-Premises option. 46 percent think that Oracle reacts too slowly. 52



percent are considering leaving for third party support, such as Rimini Street and Spinnaker. Meanwhile, Oracle is trying what it can to eliminate such companies and sell their advanced support. Because of the ongoing legal battle with Rimini Street and its continuing lagging support, Oracle is currently losing its credibility more and more.



Other topics were:

- ORAWORLD – how to get more contributions from user group members
- How to attract non IT sponsors/partners for the user group on conferences
- Oracle support problems
- Membership: how to communicate with members of the user group
- Licencing
- VMware licencing with Oracle
- Middleware
- Cloud
- Matching support Level
- Calculation complexity
- Standard Edition 2 problems
- App Modules too big?
- Licencing Auditing
- Java Subscription/SE

At the end of our meeting we were also discussing the young generation programs in different countries and user groups. Young people have to explore technologies together with teachers who get credits in Cloud platforms.

The next EOUC meetup was proposed on the Riga Dev Days conference on May 29th, 2019, Riga, Latvia. I am looking very much forward to it!

Heli Helskyaho

# Ambassador's Corner

Dear user group leaders,

I hope you and your user groups are doing well!

## EOUC Leaders' meeting in Riga

Our next face-to-face meeting will be in Riga, Latvia May 29th. This is a meeting organized by user groups and we hope many of you user group leaders will be able to join. Any ideas and suggestions about the content can be sent to Heli and/or Ami. I want to take the opportunity to thank LVOUG and the rest of the organizing team of Riga Dev Days for their support on organizing this meeting!

I hope to see many of you in Riga!

Best regards,  
Heli

### Your Ambassadors:

If you have anything we can help with, please do not hesitate to contact us!



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# Call for Papers

## JavaCro'19

Until March 15, 2019  
Umag, Croatia  
<http://2019.javacro.hr>

## AOUG Anwenderkonferenz 2019

Until March 3, 2019  
Vienna  
[call4papers@aoug.at](mailto:call4papers@aoug.at)

## DOAG 2019 Datenbank

Until February 10, 2019  
Düsseldorf  
<https://datenbank.doag.org/de/referenten>



# Events



## Javaland 2019

March 19-21, 2019  
Brühl, Germany  
<https://www.javaland.eu>

## 2019 Spring Conference

March 21-23, 2019  
MS Color Fantasy Oslo-Kiel-Oslo  
<https://www.ougn2019.com>

## APEX World 10th edition

March 25-26, 2019  
Rotterdam  
<https://www.nloug.nl/page.aspx?event=1429>

## OUG Ireland 2019

April 4-5, 2019  
Dublin

## Collaborate 19

April 7-11, 2019  
San Antonio, USA  
<http://collaborate.ioug.org/>  
<http://collaborate.oaug.org/>  
<http://questoraclecommunity.org/>

## APEX Alpe Adria

April 12, 2019  
Zagreb  
<https://www.aaapeks.info/home>

## APEX Connect 2019

May 7-9, 2019  
Bonn, Germany  
<https://apex.doag.org/de/home>

## JavaCro'19

May 15-17, 2019  
Umag, Croatia  
<http://2019.javacro.hr/>

## Full Stack Developer Conference

May 21-22, 2019  
Helsinki, Finland  
[www.fsdci.fi](http://www.fsdci.fi)

## iIOUG Tech Days 2019 – Call for Papers

Until December 10, 2018  
Petah Tikva, Israel  
<https://www.papercall.io/ilougtechdays2019>

## RigaDevDays

May 29-31, 2019  
Riga, Latvia  
<https://rigadevdays.lv/>

## AOUG User Conference 2019

May 15-16, 2019  
Vienna, Austria  
<http://www.aoug.at>

## Kscope19

June 23-27, 2019  
Seattle, Washington, USA  
<https://kscope19.odtug.com>

## DOAG 2019 Datenbank

June 3-4, 2019  
Düsseldorf, Germany  
<https://datenbank.doag.org/de/home>



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