

Journey to the future - Discovering Git, Oracle Developer Cloud Services and more

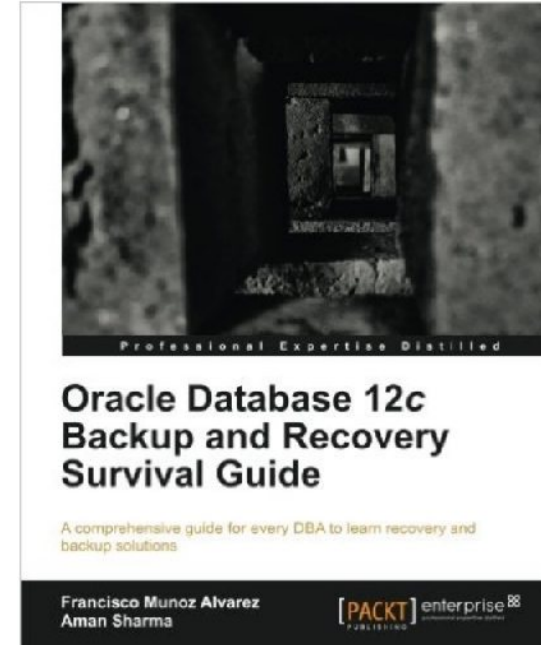


Francisco Munoz Alvarez

- **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 APACOUC,AUSOUG NSW and QLD,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 and 2018 APAC Webinar Tour Best Session Winner
- Presented over 462 sessions at 48 Countries around the world

Blog: oraclenz.com - Email: alvarez@clouddb.solutions

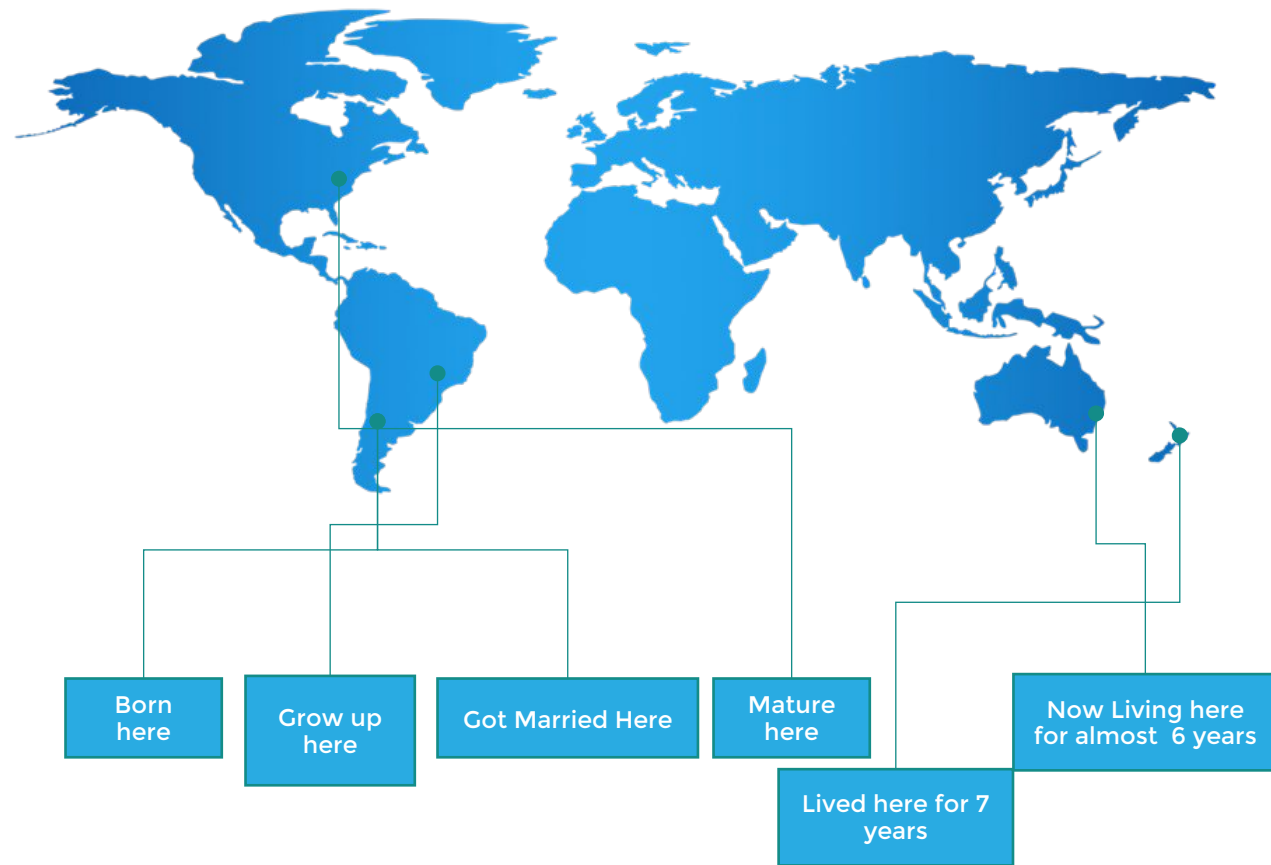
Twitter : [fcomunoz](https://twitter.com/fcomunoz)



CloudDB

CEO

www.clouddb.solutions



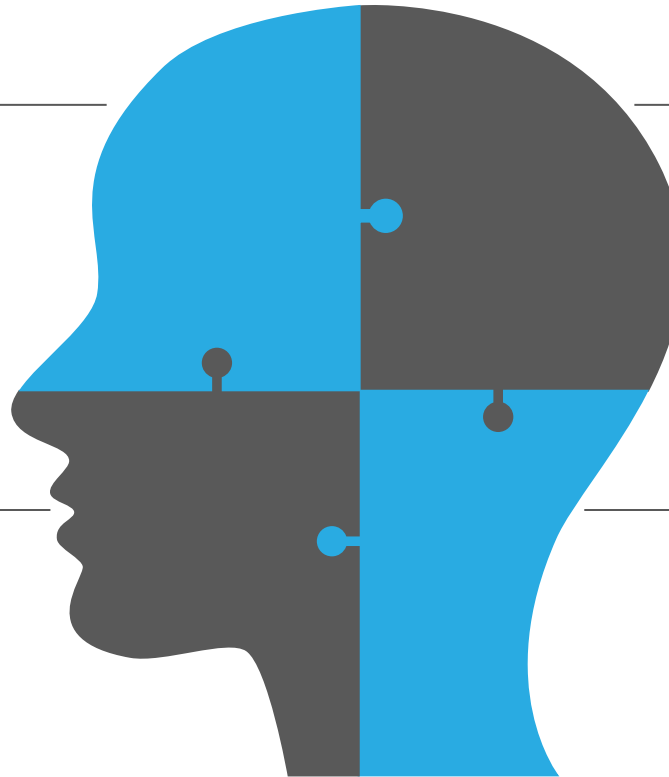
Experts enabled by technology

A millennia of documented work available and searchable

Collaboration knowledge systems to speed problem resolution

Client portal for work tracking and outcome dashboards

Secured and controlled access



Experts enabled by technology

Fast Facts

Remote data management services

Five main offerings

- ✓ Monitoring and Alerting
- ✓ Managed Services
- ✓ Consulting
- ✓ Project Consulting
- ✓ As a Service

Engaged by IT and Operations executives looking to address skills or resourcing gaps

CloudDB is an official partner of Amazon, Microsoft, Google and Oracle

Community Leaders

Top expertise

- 2 Oracle ACEs
- 3 Oracle ACE Directors
- 2 Oracle Certified Master
- 1 Microsoft MVPs
- 2 Microsoft MCMs
- 3 AWS Certified SysOps Administrator - Associate
- 3 AWS Certified Solutions Architect - Associate
- 3 AWS Certified Developer - Associate
- 2 Microsoft Certified Solutions Expert : Data Platform
- 2 Microsoft Certified Solutions Associate
- 2 Microsoft Certified IT Professional
- 3 ITIL V3 Foundation Certified

Offices

Australia

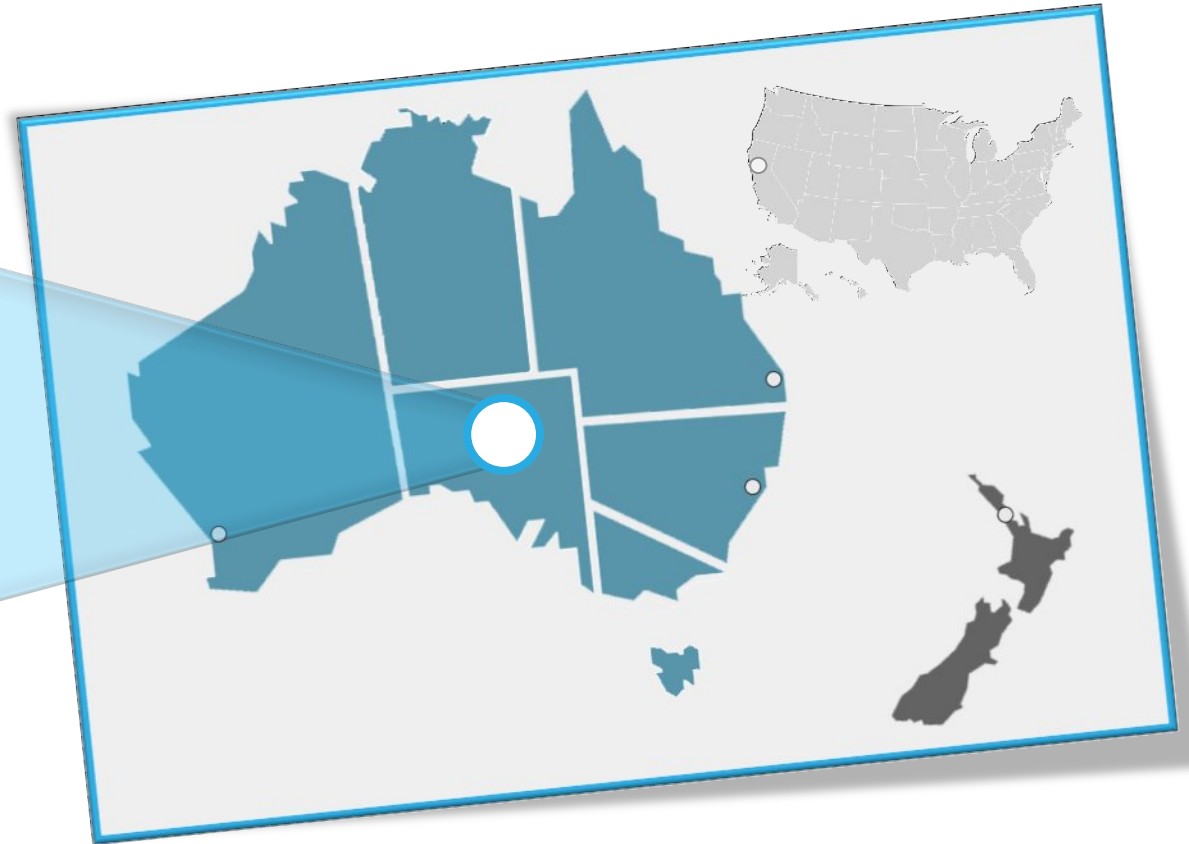
Brisbane
Sydney
Perth

New Zealand

Auckland

United States

San Francisco



Not Your ordinary Partner

01

Unparalleled Expertise

02

Flexible, Open Scope and no lock in Contracts

03

Small, Highly Skilled Global Teams

04

Free Onboarding Process

05

Billed per the minute, pay only for real work done

06

The Best Talent and Technology Leaders

07

Advanced Security

08

Free Internal Communications and Customer Success

Our Services

Managed Services

Databases (*)
Infrastructure
Applications

Professional Services

Big data
Data science
Data Intelligence
Cloud
Business resilience
Performance optimization
Data integration
Systems architecture
Configuration management

DevOps

Continuous
Transformation

As a Service

AWS
Azure
GCP
Oracle Cloud

Monitoring and Alerting

Databases (*)
Infrastructure
Applications



Objectives

Discover Oracle Developer Cloud Services - DevCS

01

What is Git and why use it

02

Discovering DevCS

03

Managing SQL Code with
DevCS



**Git, and
more**

Concepts

What is “version control”, and why should you care? Version control is a system that records changes to a file or set of files over time so that you can recall specific versions later.

If you are a graphic or web designer and want to keep every version of an image or layout (which you would most certainly want to), a Version Control System (VCS) is a very wise thing to use. It allows you to revert selected files back to a previous state, revert the entire project back to a previous state, compare changes over time, see who last modified something that might be causing a problem, who introduced an issue and when, and more. Using a VCS also generally means that if you screw things up or lose files, you can easily recover. In addition, you get all this for very little overhead.

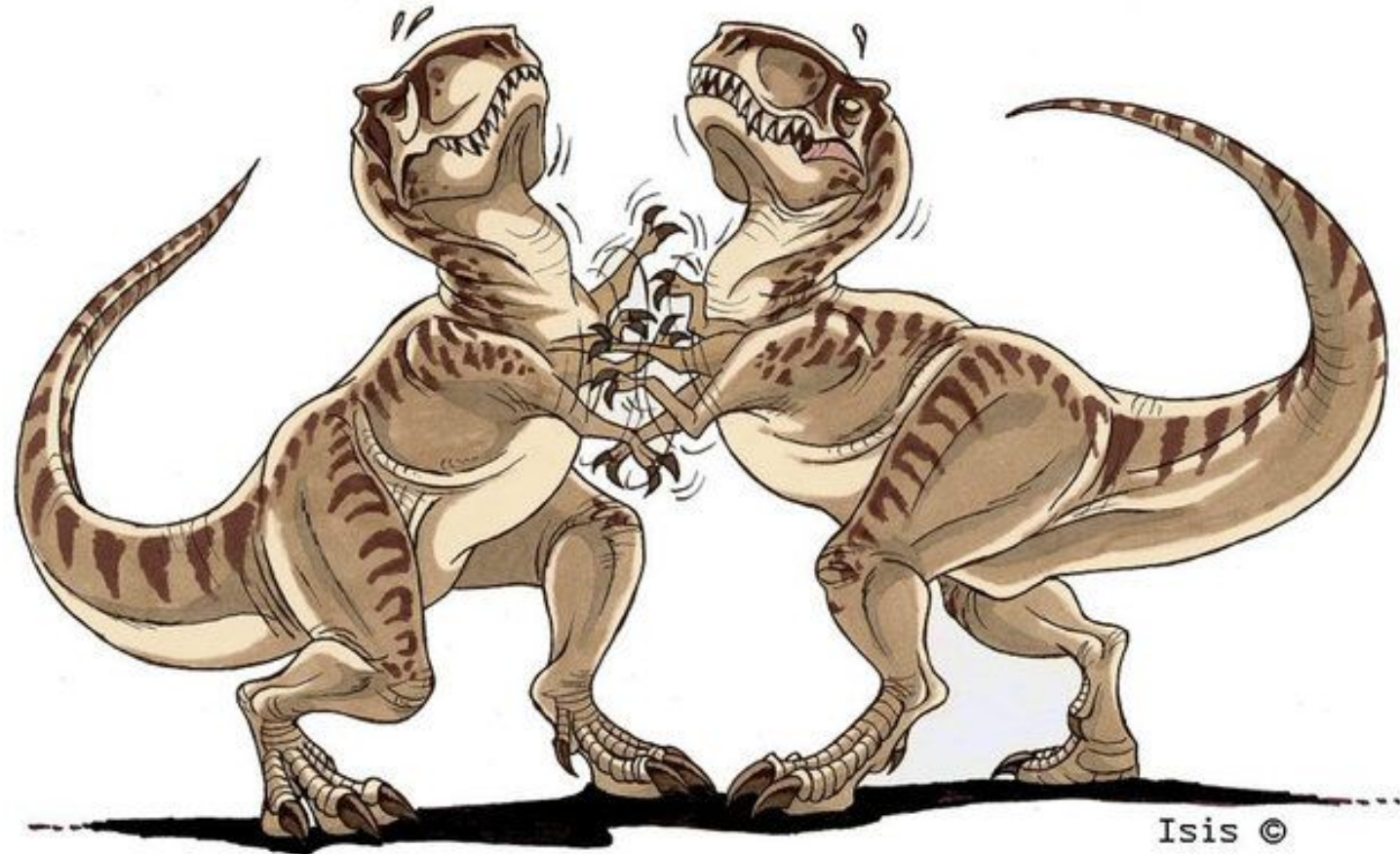
(*) From Git Pro Book

Concepts

Old Times - Dinosaurs - Local Version Control System

Many people's version-control method of choice is to copy files into another directory (perhaps a time-stamped directory, if they're clever). This approach is very common because it is so simple, but it is also incredibly error prone. It is easy to forget which directory you're in and accidentally write to the wrong file or copy over files you don't mean to.

(*) From Git Pro Book

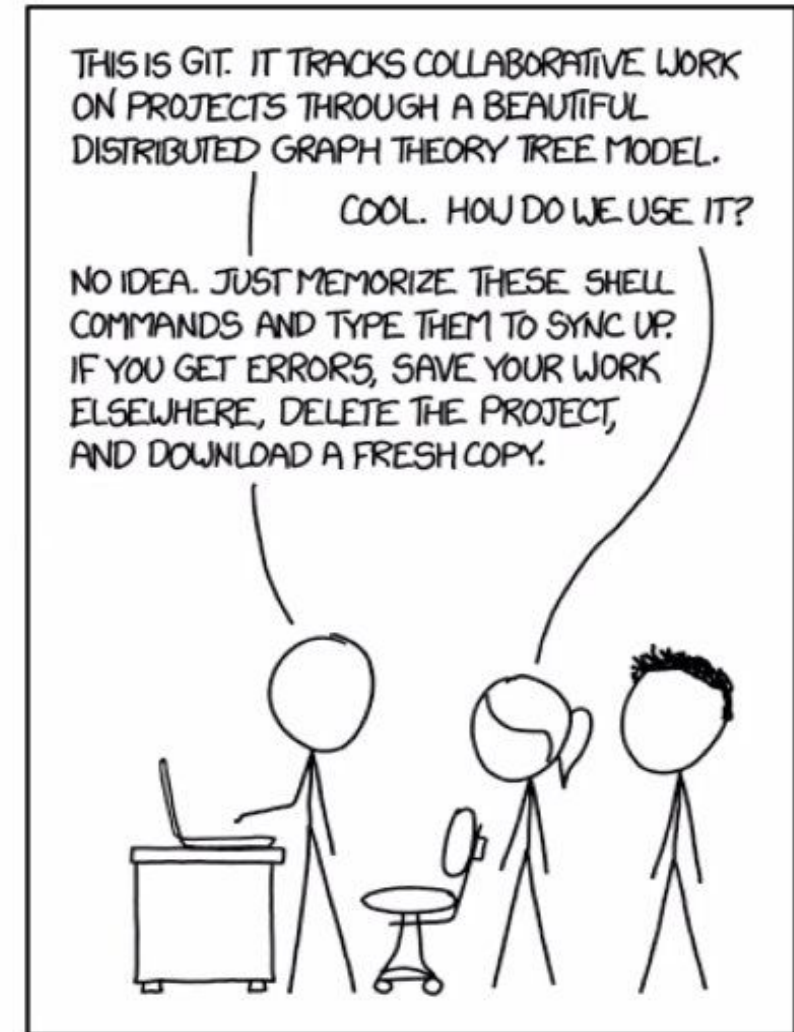


FUNNY CARTOONS ON KULFOTO.COM

Concepts GIT Collaborative History Tracking - What Content, Who, Why and When

- The Linux kernel is an open source software project of fairly large scope. For most of the lifetime of the Linux kernel maintenance (1991-2002), changes to the software were passed around as patches and archived files.
- In 2002, the Linux kernel project began using a proprietary DVCS called BitKeeper.
- In 2005, the relationship between the community that developed the Linux kernel and the commercial company that developed BitKeeper broke down, and the tool's free-of-charge status was revoked. This prompted the Linux development community (and in particular Linus Torvalds, the creator of Linux) to develop their own tool based on some of the lessons they learned while using BitKeeper. Some of the goals for the new system were as follows:
 - Speed
 - Simple design
 - Strong support for non-linear development (thousands of parallel branches)
 - Fully distributed
 - Able to handle large projects like the Linux kernel efficiently (speed and data size)
- Git is born at 2005

(*) From Git Pro Book




ABOUT

- Documentation**
 - Reference
 - Book
 - Videos
 - External Links
- Downloads
- Community


Documentation

Reference





 **Reference Manual**
The official and comprehensive **man pages** that are included in the Git package itself.

Quick reference guides: [GitHub Cheat Sheet](#) (PDF) | [Visual Git Cheat Sheet](#) (SVG | PNG)

Book

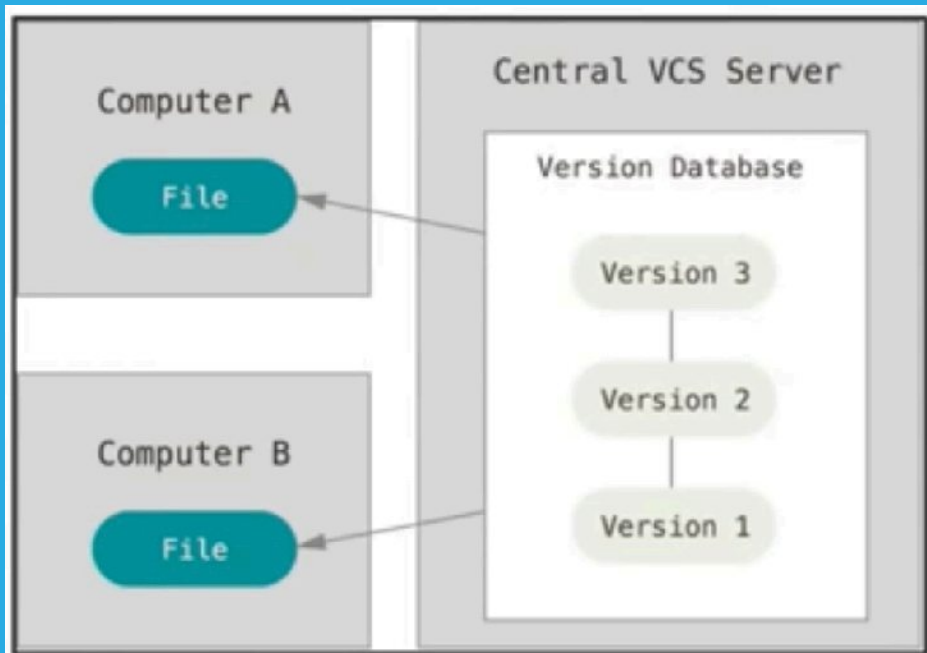
 **Pro Git**
The entire **Pro Git book** written by Scott Chacon and Ben Straub is available to [read online for free](#). Dead tree versions are available on [Amazon.com](#).

Videos

 Git Basics: What is Version Control? <small>Episode #1</small>	 Git Basics: What is Git? <small>Episode #2</small>
What is Version Control? Length: 05:59	What is Git? Length: 08:15
 Git Basics: Get Going with Git	 Git Basics: Quick wins with Git

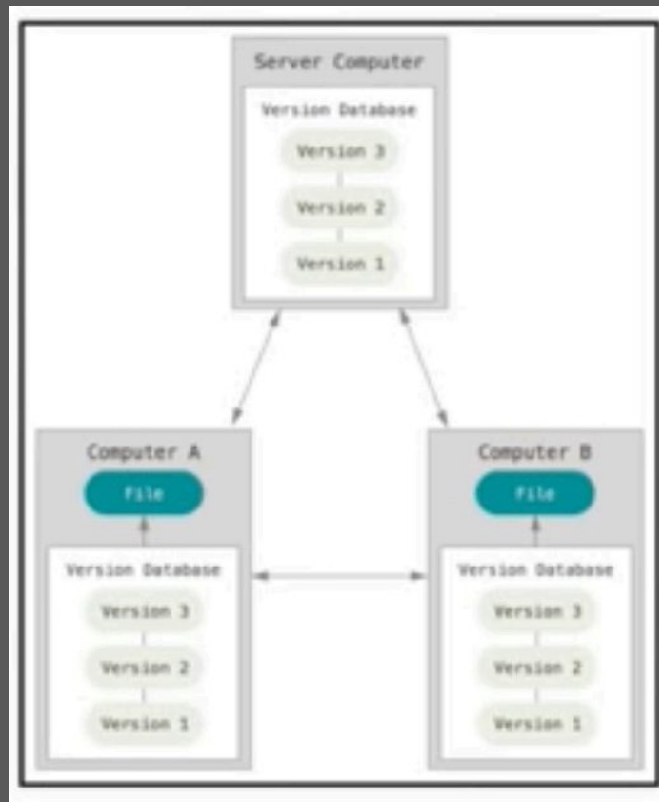
Central VCS

SVN



Distributed VCS

GIT





git --local-branching-on-the-cheap

Git is a **free and open source** distributed version control system designed to handle everything from small to very large projects with speed and efficiency.

Git is **easy to learn** and has a **tiny footprint with lightning fast performance**. It outclasses SCM tools like Subversion, CVS, Perforce, and ClearCase with features like **cheap local branching**, convenient **staging areas**, and **multiple workflows**.

About
The advantages of Git compared to other source control systems.

Documentation
Command reference pages, Pro Git book content, videos and other material.

Downloads
GUI clients and binary releases for all major platforms.

Community
Get involved! Bug reporting, mailing list, chat, development and more.

Latest source Release
2.23.0
Release Notes (2019-08-16)
Download 2.23.0 for Mac

Mac GUIs **Tarballs**
Windows Build **Source Code**

Pro Git by Scott Chacon and Ben Straub is available to [read online for free](#). Dead tree versions are available on [Amazon.com](#).

Companies & Projects Using Git

Google facebook Microsoft twitter LinkedIn NETFLIX PostgreSQL



git --local-branching-on-the-cheap

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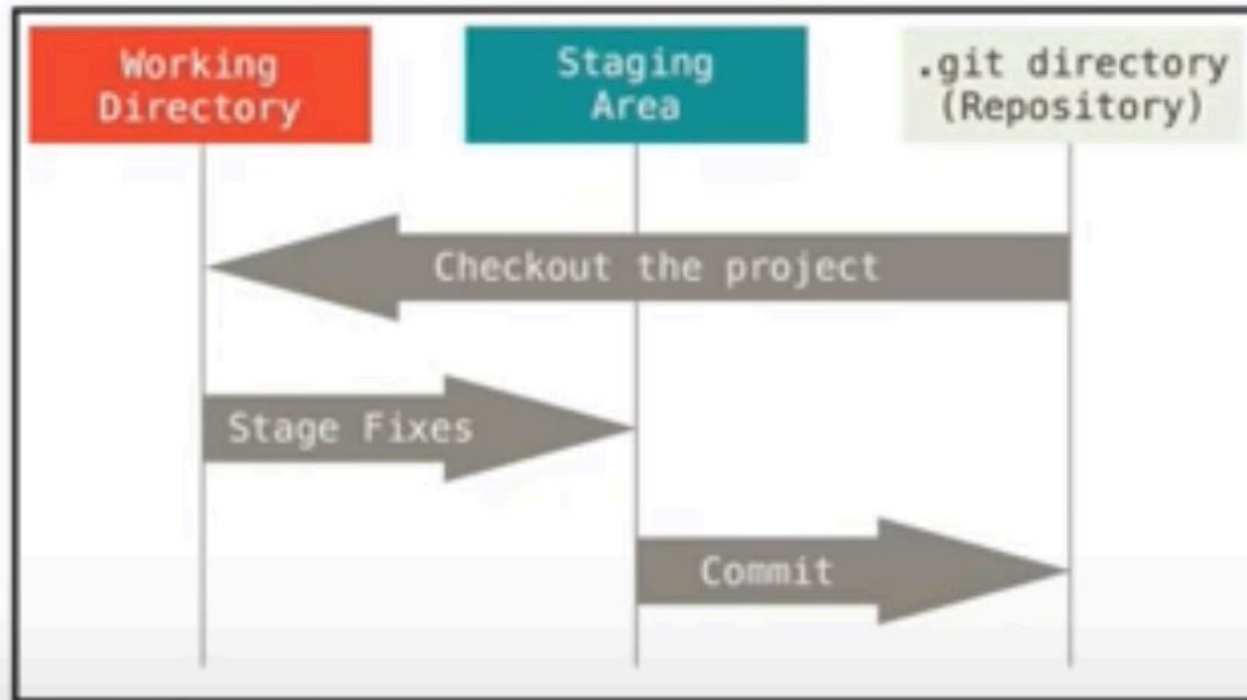
Latest source Release
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Mac GUIs **Tarballs**
Windows Build **Source Code**

Companies & Projects Using Git
Google facebook Microsoft twitter LinkedIn NETFLIX PostgreSQL

WHERE ARE WE NOW?



Installation/Configuration

```
$ git --version
$ git config --global user.name "Francisco Munoz Alvarez"
$ git config --global user.email alvarez@clouddb.com.au
$ git config --list
$ git init
$ rm -rf .git
$ git clone <url> <where to clone>
$ git clone ../remote_repo.git .
$ git remote -v
$ git branch -a
```

Basic Commands

```
$ git help config
$ git config --help
$ git status
$ touch .gitignore
$ git diff
$ git add <file>
$ git reset <file>
$ git add -A
$ git reset
$ git commit -m "message"
$ git log
$ git pull origin master
$ git push origin master
```

Git

Git is a revision control system, a tool to manage your source code history. Git is the tool.

Github

GitHub is a hosting service for Git repositories. GitHub is the service for projects that use Git.

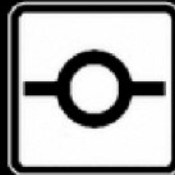
GIT	GITHUB
Installed locally	Hosted in the cloud
First released in 2005	Company launched in 2008
Maintained by The Linux Foundation	Purchased in 2018 by Microsoft
Focused on version control and code sharing	Focused on centralized source code hosting
Primarily a command-line tool	Administered through the web
Provides a desktop interface named Git Gui	Desktop interface named GitHub Desktop
No user management features	Built-in user management
Minimal external tool configuration features	Active marketplace for tool integration
Competes with Mercurial, Subversion, IBM, Rational Team Concert and ClearCase	Competes with Atlassian Bitbucket and GitLab
Open source licensed	Includes a free tier and pay-for-use tiers

DevOps Mindset

- Collaboration (Code Review)
- Commitment on Delivery
- Progress Measurement
- Build In/Deploy It
- Automation
- Flexibility
- Issues Control
- New Features
- Boards
- Documentation/Wiki

Never Forget

IN CASE OF FIRE



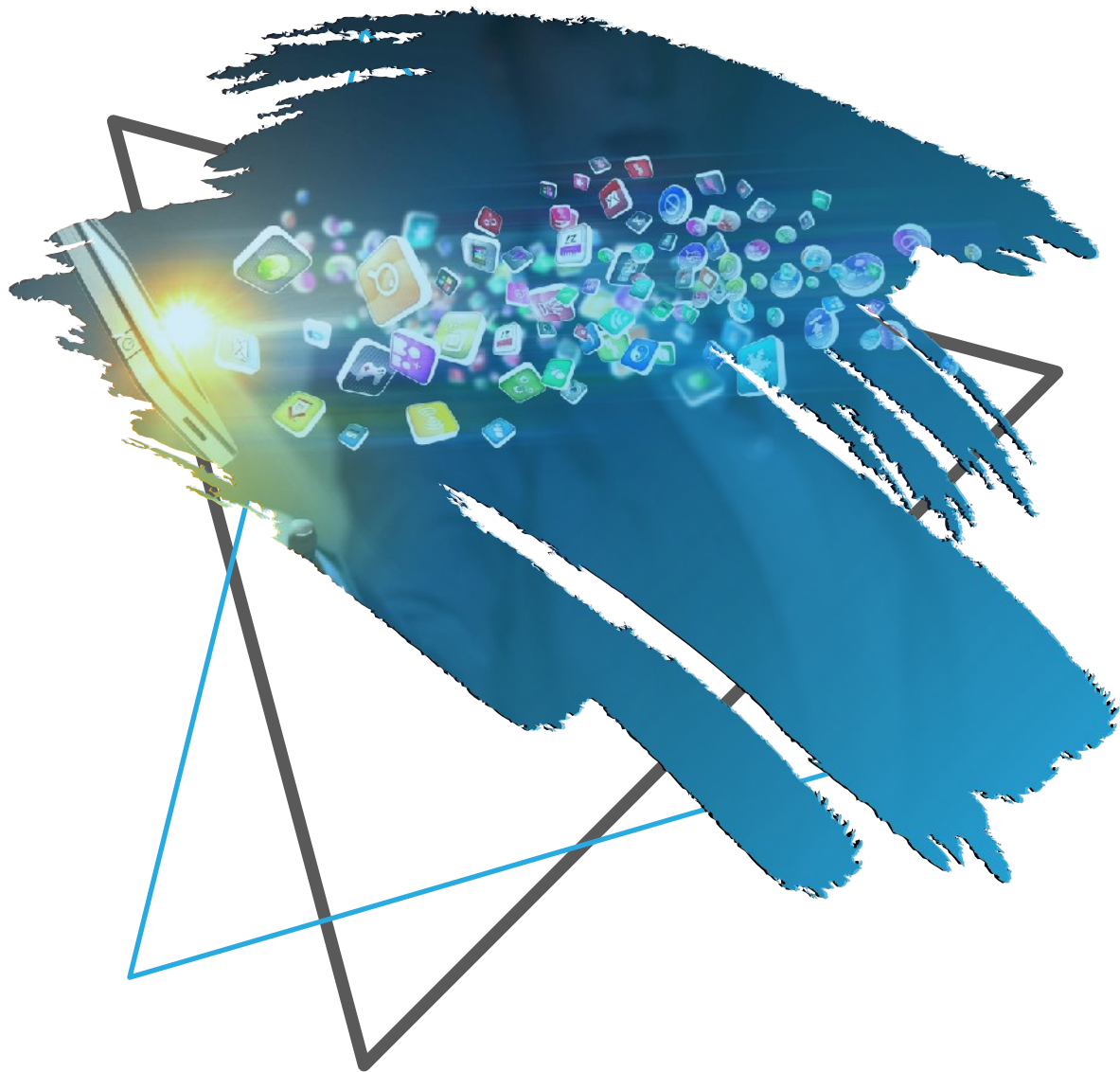
git commit



git push



git out



Discovering DevCS

Discovering DevCS



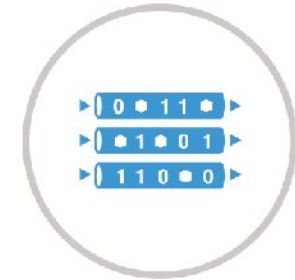
Integrated DevOps Platform

Streamline and automate development to delivery process with a unified integrated solution



Polyglot Support

Manage development and delivery across multiple languages and integrate with your preferred development tool



Fast

Provision environments in seconds with a cloud hosted platform

Discovering DevCS



DevCS

Learn all about Oracle Developer Cloud Services and how to Streamline Team Development and Software Delivery using a SaaS solution.

Benefits



You will be able to plan and manage: Issue tracking, Team management, Agile Dashboard.

Versioning



With regards to code: Version management, code review, and track changes.

Develop



Build and deliver (continuous integration, orchestration, deployment automation) and finally team collaboration (activity stream, wiki, web dashboard).

Flexibility



You can make it work with PL/SQL, SQL, Oracle APEX and more. This session will cover a couple of real live scenarios and user cases, including APEX on Autonomous Database.

Discovering DevCS



DevCS

Learn all about Oracle Developer Cloud Services and how to Streamline Team Development and Software Delivery using a SaaS solution.



Complete Application Lifecycle Support

	Key Benefit
Task tracking system	Track issues, features, and tasks in a central repository. Assign tasks to team member, estimate the effort, and target tasks for specific software releases, then track the progress through the development process.
Agile and sprint planning boards	Create agile boards and track the execution of development sprints, the tasks associated with them, and the load across team members.
Code versioning repository	Git based version management system manages your code revisions in central code repositories accessible to your developers.
Code review process	Give managers and team members the opportunity to review and comment on code changes before they are merges with the rest of the project.
Build servers	Define build scripts that automate such tasks as compiling, packaging and testing of your application source. With support for various popular build frameworks and development languages.
Tests Automation	Integration with popular testing frameworks such as JUnit and Selenium enable you to automate testing of both the logic and UI of your application.
Automation server	Orchestrate, schedule, and automate build execution. Define triggers that will initiate build as well as dependencies between builds.
Deployment automation	Automate deployment of your code to Oracle cloud services with ease.

Enhanced Team Collaboration and Development Process Management

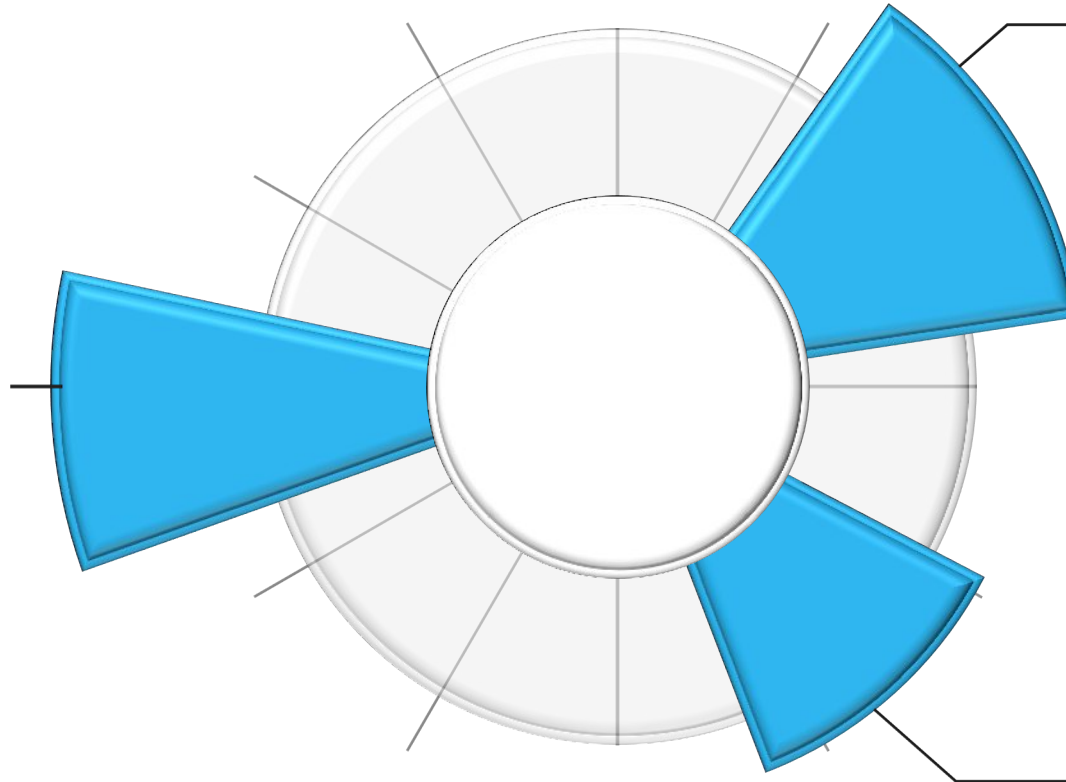
	Key Benefit
Wiki	Create web pages that contains information that needs to be shared among team members. Add attachments to create a repository of team knowledge.
Activity Stream	Live dashboard shows you the latest activity in the project. See exactly who did what and when and have the latest information at your fingertips.
Code Review	Team members can request code review from their peers to help them create better code. The team members can comment on the code to share their advice and practice peer programming approach.
Issue tracking system	Track your to-do items, prioritize, assign to team members, and estimate the required time.
Agile dashboards	Track team's backlog and specific development sprints. Track and update the status of each task in a sprint with a view of ownership and status.
Reports	See the activity of various team members in charts that help you plan the development process for future sprints.

Accelerating your time to value

THE BEST OUTCOMES

Communication between team members is an essential component to successful development teams.

Keeping track of the execution of project tasks help deliver applications on time with the right scope defined.



FASTER

With a rich web based dashboard and integration with popular development tools, **Oracle Developer Cloud Service** helps deliver better applications faster. Modern development teams aim to deliver software in shorter cycles with better quality.

FOR THE LONG TERM

With a cloud-based platform that integrates the full application lifecycle management with continuous delivery, Oracle Developer Cloud Service offers an easy way to modernize development process resulting in better applications delivered faster.

We use it internally

The screenshot shows the Oracle Developer Cloud Service interface. At the top, the header reads "ORACLE Developer Cloud Service" with a user profile icon on the right. Below this is a blue navigation bar labeled "Organization". Underneath, there are tabs for "Projects" and "Properties", with "Projects" selected. A search bar is present, followed by filter buttons for "Member", "Favorites", "Owner", and "All". To the right of these filters are two progress bars: "Projects" (0/200) and "Disk Usage" (32.2 MB / 20 GB). A "+ Create" button is in the top right, and an "Update Selected" button is below it. The main content area is a table with the following columns: Name, Favorite, Status, Members, and Disk Usage. Two projects are listed: "Kommu" and "zztat" (marked as CURRENT).

<input type="checkbox"/>	Name	Favorite	Status	Members	Disk Usage ...
<input type="checkbox"/>	Kommu	☆	● Active	AC JC SN CR +1	88.66% 28.54 MB
<input type="checkbox"/>	zztat CURRENT	☆	● Active	FE JN SK	11.34% 3.65 MB

We use it internally

The screenshot displays the Oracle Developer Cloud Service interface for a project named 'zztat'. The top navigation bar includes the Oracle logo, the text 'ORACLE Developer Cloud Service', and a user profile icon. Below this, the project name 'zztat' and 'Project Home' are visible, along with a search bar for activities.

The main content area is divided into two columns. The left column features an 'ENVIRONMENTS' section with three cards for 'Development', 'Production', and 'Test', each showing '0 service instances'. Below this is a 'RECENT ACTIVITIES - TODAY' section with a filter icon. The activities listed include:

- Francisco Munoz Alvarez created release **CloudDB 2.0.1** (DRAFT) with no description, just now.
- Francisco Munoz Alvarez pushed 2 commits to **master** in **zztat.git**. The commit messages are: 'Merge branch 'master' of https://developer.em2.oraclecloud.com/developer48142-developersystem9628956/s...' and 'Johanna first changes on Sep 6'. This activity occurred yesterday at 2:05 PM +1200.
- Johanna Noguera pushed **39418017** to **master** in **zztat.git**. The commit message is 'Update zz_pkg_zui.sql'. This activity occurred on Friday at 4:38 AM +1200.

The right column shows repository management options under the 'Repositories' tab. It includes a '+ Create Repository' button, a search bar for 'Filter Git Repositories', and tabs for 'All' and 'Favorites'. A repository named 'zztat.git' is listed with a 'Clone' button. Below this, there are sections for 'MAVEN' (with a 'Project Repository' button and 'URLs' dropdown) and 'DOCKER'. The Docker section features the Docker logo and a prompt to 'Link a Docker Registry to This Project', stating 'There aren't any external Docker registries linked to this project yet, so let's link to one now.' with a 'Link Registry' button.

We use it internally

ORACLE Developer Cloud Service

zztat | Git

Search Code

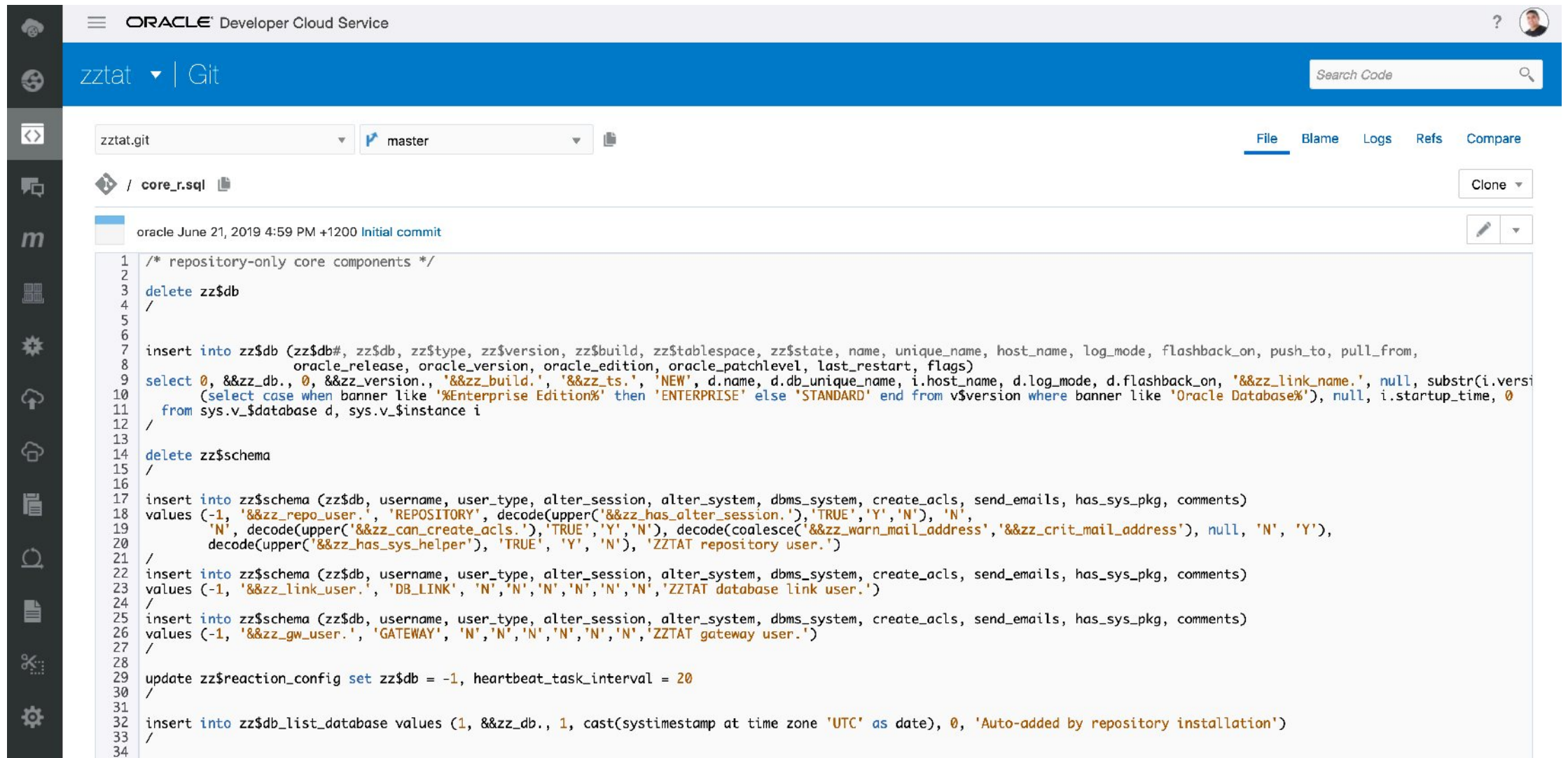
zztat.git | master

Click to add description of this repository.

+ File Clone

afiedt.buf	Initial commit oracle	June 21, 2019 4:59 PM +1200
c.sql	Initial commit oracle	June 21, 2019 4:59 PM +1200
core_autotask_queue.sql	Initial commit oracle	June 21, 2019 4:59 PM +1200
core_chat.sql	Initial commit oracle	June 21, 2019 4:59 PM +1200
core_context.sql	Initial commit oracle	June 21, 2019 4:59 PM +1200
core_facility.sql	Initial commit oracle	June 21, 2019 4:59 PM +1200
core_functions.sql	Initial commit oracle	June 21, 2019 4:59 PM +1200
core_gateway_r.sql	Initial commit oracle	June 21, 2019 4:59 PM +1200
core_kfunc.sql	Initial commit oracle	June 21, 2019 4:59 PM +1200
core_live.sql	Initial commit oracle	June 21, 2019 4:59 PM +1200
core_lock_stats_r.sql	Initial commit oracle	June 21, 2019 4:59 PM +1200
core_lock_stats_t.sql	Initial commit oracle	June 21, 2019 4:59 PM +1200
core_metrics_r.sql	Initial commit oracle	June 21, 2019 4:59 PM +1200
core_r.sql	Initial commit oracle	June 21, 2019 4:59 PM +1200
core_reaction_queue.sql	Initial commit oracle	June 21, 2019 4:59 PM +1200

We use it internally



The screenshot shows the Oracle Developer Cloud Service interface for a Git repository named 'zztat'. The file 'core_r.sql' is open, showing a SQL script for installing repository components. The script includes commands to delete existing database and schema, insert into the database and schema, and update configuration parameters.

```
1 /* repository-only core components */
2
3 delete zz$db
4 /
5
6
7 insert into zz$db (zz$db#, zz$db, zz$type, zz$version, zz$build, zz$tablespace, zz$state, name, unique_name, host_name, log_mode, flashback_on, push_to, pull_from,
8                 oracle_release, oracle_version, oracle_edition, oracle_patchlevel, last_restart, flags)
9 select 0, &zz$db., 0, &zz$version., '&zz$build.', '&zz$ts.', 'NEW', d.name, d.db_unique_name, i.host_name, d.log_mode, d.flashback_on, '&zz$link_name.', null, substr(i.versi
10        (select case when banner like '%Enterprise Edition%' then 'ENTERPRISE' else 'STANDARD' end from v$version where banner like 'Oracle Database%'), null, i.startup_time, 0
11        from sys.v_$database d, sys.v_$instance i
12 /
13
14 delete zz$schema
15 /
16
17 insert into zz$schema (zz$db, username, user_type, alter_session, alter_system, dbms_system, create_acls, send_emails, has_sys_pkg, comments)
18 values (-1, '&zz_repo_user.', 'REPOSITORY', decode(upper('&zz_has_alter_session.'), 'TRUE', 'Y', 'N'), 'N',
19        'N', decode(upper('&zz_can_create_acls.'), 'TRUE', 'Y', 'N'), decode(coalesce('&zz_warn_mail_address', '&zz_crit_mail_address'), null, 'N', 'Y'),
20        decode(upper('&zz_has_sys_helper.'), 'TRUE', 'Y', 'N'), 'ZZTAT repository user.')
21 /
22 insert into zz$schema (zz$db, username, user_type, alter_session, alter_system, dbms_system, create_acls, send_emails, has_sys_pkg, comments)
23 values (-1, '&zz_link_user.', 'DB_LINK', 'N', 'N', 'N', 'N', 'N', 'N', 'ZZTAT database link user.')
24 /
25 insert into zz$schema (zz$db, username, user_type, alter_session, alter_system, dbms_system, create_acls, send_emails, has_sys_pkg, comments)
26 values (-1, '&zz_gw_user.', 'GATEWAY', 'N', 'N', 'N', 'N', 'N', 'N', 'ZZTAT gateway user.')
27 /
28
29 update zz$reaction_config set zz$db = -1, heartbeat_task_interval = 20
30 /
31
32 insert into zz$db_list_database values (1, &zz$db., 1, cast(sysimestamp at time zone 'UTC' as date), 0, 'Auto-added by repository installation')
33 /
34
```

We use it internally

The screenshot displays the Oracle Developer Cloud Service interface. At the top, the breadcrumb navigation shows 'zztat' and 'Git'. A search bar labeled 'Search Code' is present. Below the navigation, the repository 'zztat.git' is selected. The current branch is 'master', and the commit being viewed is '94e7a4889678c0f9d354d568a8669e0d560b1a74' by Francisco Munoz Alvarez, dated 'Yesterday at 12:42 PM +1200'. A merge request is visible, titled 'Merge branch 'master' of https://developer.em2.oraclecloud.com/developer48142-developersystem...'. The main content area shows a diff for the file 'zz_pkg_zui.sql' with a '+7' change indicator. The diff highlights several lines of SQL code, including function and procedure definitions, and merge markers. The code includes comments like '@@ -153,7 +153,10 @@' and 'HEAD' markers. The diff shows changes to the 'uc_init_cols', 'uc_set_cols', and 'uc_render_query' functions, and the 'gauge_copy' procedure. The 'gauge_copy' procedure signature is updated to include 'to_dbid' and 'name' parameters. The diff also shows changes to the 'query', 'hints', and 'flags' parameters of another procedure.

```
@@ -153,7 +153,10 @@
153 153 function uc_init_cols ( chart# in number ) return zz$ur_column_list_tt pipelined;
154 154 procedure uc_set_cols ( chart# in number, series_col# in number, label_col# in number, value_col# in number, agg# in number );
155 155 function uc_render_query ( chart# in number ) return varchar2;
156 <<<<<<< HEAD
157
158 =====
159 >>>>>> 39418017de8708fa998018a9a4f17e7bf2228073
157 160 procedure gauge_copy (
158 161 to_dbid in zz$db.zz$db%type,
159 162 name in zz$gauge.name%type,
...
178 181 query in zz$metric.query%type default null,
179 182 hints in zz$metric.hints%type default null,
180 183 flags in zz$metric.flags%type default null);
184 <<<<<<< HEAD
185 =====
186 >>>>>> 39418017de8708fa998018a9a4f17e7bf2228073
181 188 end;
182 189 /
183 190
```

We use it internally

The screenshot displays the Oracle Developer Cloud Service interface. At the top, the header reads "ORACLE Developer Cloud Service" with a user profile icon on the right. Below the header, the breadcrumb "zztat | Releases" is visible. A sidebar on the left contains various navigation icons, with a gear icon at the bottom. The main content area features a "Create Release" button and a search filter. A list of releases shows "CloudDB 2.0.1" with a "DRAFT" status. The details for this release are expanded, showing the author "alvarez@clouddb.com.au" and the time "Just now". A list of sub-items is displayed: Binaries, Builds, Maven Artifacts, Repositories, and Notes.

ORACLE Developer Cloud Service

zztat | Releases

+ Create Release

Filter

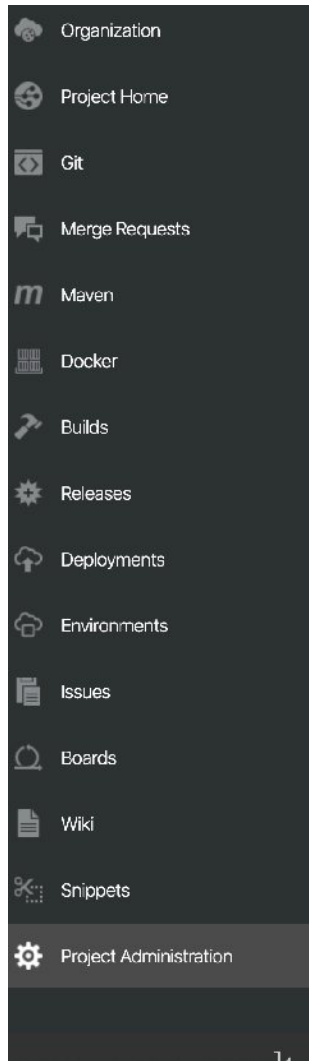
CloudDB 2.0.1 DRAFT













CloudDB 2.0.1 DRAFT

alvarez@clouddb.com.au | Just now

- Binaries
- Builds
- Maven Artifacts
- Repositories
- Notes

Very Powerful



 <p>PROPERTIES</p> <p>Project name and description, markup language, security.</p>	 <p>ANNOUNCEMENTS</p> <p>Project announcements configuration.</p>	 <p>USAGE METRICS</p> <p>View disk space usage for Source, Issues and Builds.</p>	 <p>TAGS</p> <p>Add new tags and manage existing ones.</p>	 <p>ISSUE TRACKING</p> <p>Customize Issue Tracking fields and metadata.</p>
 <p>REPOSITORIES</p> <p>Configure Hosted and External Repositories.</p>	 <p>BRANCHES</p> <p>Manage branch reviewers, administrators and restrictions.</p>	 <p>WEBHOOKS</p> <p>Create connections to external web services.</p>	 <p>RSS/ATOM FEEDS</p> <p>Connect to syndication services.</p>	 <p>LINKS</p> <p>Links shortcut definitions</p>
 <p>BUILDS</p> <p>Build CI administration</p>	 <p>DATA EXPORT/IMPORT</p> <p>Export or Import Project Data</p>			

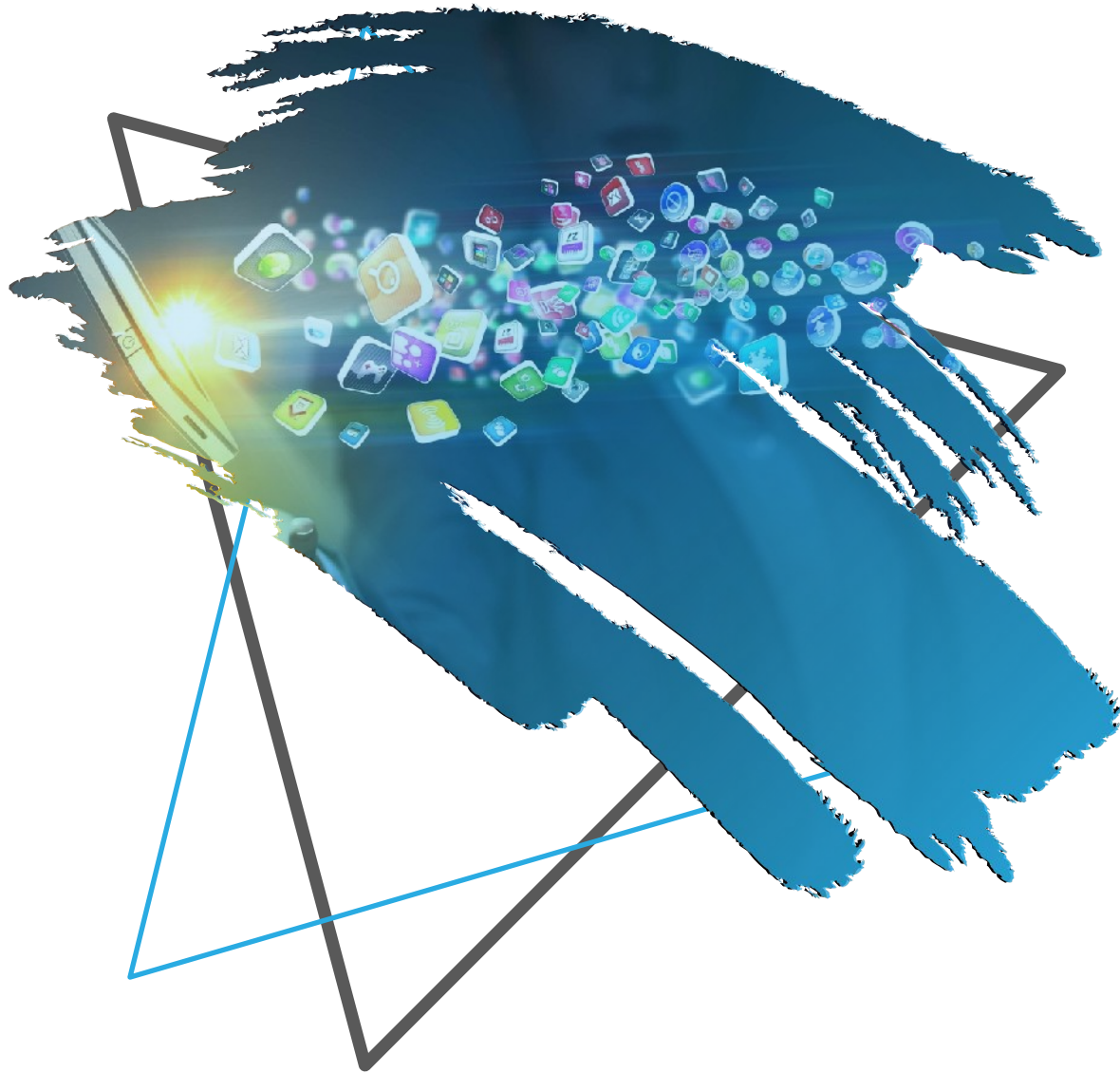
Webhooks



WEBHOOKS

Create connections to external web services.

Documentation and examples:
<https://bit.ly/2V7eiTF>



Managing SQL Code with DevCS



What are Always Free cloud services?

Databases

Your choice of Autonomous Transaction Processing or Autonomous Data Warehouse. 2 databases total, each with 1 OCPU and 20 GB storage.

Compute

2 virtual machines with 1/8 OCPU and 1 GB memory each.

Storage

2 Block Volumes, 100 GB total. 10 GB Object Storage. 10 GB Archive Storage.

Additional Services

Load Balancer: 1 instance, 10 Mbps bandwidth. Monitoring: 500 million ingestion datapoints, 1 billion retrieval datapoints. Notifications: 1 million sent through https per month, 1,000 sent through email per month. Outbound Data Transfer: 10 TB per month.



Resource Pages

<https://blogs.oracle.com/shay/devcs>

<https://docs.oracle.com/en/cloud/paas/developer-cloud/tutorials.html>

<https://docs.oracle.com/en/cloud/paas/developer-cloud/index.html>



<https://www.youtube.com/watch?v=8eKZE6dpzSI>

<https://www.youtube.com/embed/Yv5VJgyXEg8?rel=0&autoplay=1>

<https://www.youtube.com/watch?v=rsiMICsNnUA>



Thank You

