

ORACLE

Developing and Deploying Applications with Oracle Database 21c on Oracle Database Cloud Service

Oracle Database 21c adds powerful new features to the industry's leading converged database. Developers need quick, easy, and affordable access to Oracle Database 21c to evaluate how to create competitive advantages by deploying the newest Oracle Database capabilities in Oracle Database.

Oracle Database Cloud Service is an easy-to-use, cost-effective way to develop and deploy Oracle Database 21c applications in the cloud. DBAs quickly provision databases and manage their lifecycles with the Oracle Cloud Infrastructure (OCI) console. Developers access new database features using their choice of tools or the Oracle Application Express (APEX) low-code development environment, while the resulting applications can be deployed in any Oracle Database 21c environment.

INNOVATING WITH ORACLE DATABASE CLOUD SERVICE

Oracle Database Cloud Service accelerates application performance, maximizes developer productivity, and reduces total cost of operations with flexible deployment, scaling, and licensing options. Developers gain instant access to cloud environments

21^c ORACLE
Database

Oracle helps organizations meet the most demanding IT and innovation challenges with Oracle Database 21c on Oracle Database Cloud Service

“The 200 new built-in innovations, including immutable blockchain tables and AutoML for in-database machine learning, elevate Oracle Database 21c to a new level of functionality, eliminating the need for specialized, isolated cloud services and tools to do those jobs.”

Carl Olofson, Research Vice President, Data Management Software, IDC

to create and deploy new or enhanced applications, while maintaining compatibility with Oracle Database 21c deployments in the cloud or their data centers.

Running Oracle Database 21c on Oracle Database Cloud Service allows developers to quickly start creating new applications that take advantage of 5X to 30X faster JSON updates with native JSON formats. Easy-to-use Oracle Graph Server and Client Kit with optimized graph analytics enable applications like fraud or social media analysis to analyze relationships between many different types of data.

Oracle Database Cloud Service delivers industry-leading converged database with a choice of two-node Real Application Clusters on virtual machines (VMs) or single instances on VMs. Developers have the choice of subscription-based or bring-your-own-license (BYOL) models with Oracle Database Standard Edition 2 or Enterprise Edition environments. The Oracle Cloud Infrastructure (OCI) control plane makes it easy for developers to start up, tune, and shut down Database Cloud Service instances, allowing developers to utilize new Oracle Database 21c capabilities and develop new applications while minimizing costs.

Use cases for running Oracle Database 21c with Oracle Database Cloud Service include:

Use Case	Oracle Database 21c with Database Cloud Service Benefits
Implement an Oracle Database 21c sandbox	<ul style="list-style-type: none"> • Quickly set up, provision, and dismantle cloud testing • Evaluate new management, security, and automation capabilities • Minimize evaluation complexity and cost
Develop and deploy applications using blockchain tables	<ul style="list-style-type: none"> • Create centralized blockchain ledgers • Reduce complexity and latency of distributed designs • Use the same database tools and best practices
Take advantage of the performance benefits of native JSON formats	<ul style="list-style-type: none"> • Create more faster and more scalable JSON apps • Optimized SQL query and DML processing of JSON data
Utilize automatic identification of sharding key	<ul style="list-style-type: none"> • Evaluate shard key identification using multiple VMs • Create sharded databases across multiple OCI instances, Availability Zones, and Regions
Use in-database AI/ML with new algorithms and AutoML	<ul style="list-style-type: none"> • Leverage faster performance for key built-in algorithms • Run user-defined Python functions in Oracle Database • Simplify the development of ML models with automated algorithm selection and model tuning • Eliminate data export to stand-alone ML environments
Run JavaScript inside Oracle Database	<ul style="list-style-type: none"> • Run user-written data processing logic to inside the database, accelerating performance and eliminating the need to transfer data to external services

Oracle Database Cloud Service

- Enterprise Edition or Standard Edition 2 deployments
- Run Oracle Database 11.2, 12c, 19c, and 21c
- Continuous availability and online scaling without interruptions with 2-node RAC clusters on virtual machine infrastructure
- Easy instance creation, provisioning, and deletion with the OCI control plane
- Integrated backup scheduling and reduced RPOs via hourly archive log backups
- Low-cost disaster recovery with cross-shape Data Guard provisioning across OCI Availability Zones or Regions

DATA-DRIVEN APP DEVELOPMENT WITH A CONVERGED DATABASE

Leveraging Oracle Database 21c's converged database capabilities with Oracle Database Cloud Service and APEX allows development teams and power users to quickly create, modify, and deploy robust, scalable business applications in a low-code environment. Built-in security capabilities allow enterprises to instantly deploy applications for secure access from any device without sacrificing long-term data productivity.

Unlike single-purpose databases, Oracle's converged database supports JSON, XML, relational, spatial, graph, IoT, text and blockchain data with full joins, transactions, and other critical SQL features customers rely on. In addition, Oracle's converged database also supports model-specific access methods for graph and spatial queries, as well as hundreds of common machine-learning algorithms. These abilities are accessible through RESTful APIs as well as stateful connections, leaving the choice in developers' hands.



"Oracle's latest converged database—Database 21c—focuses on making life dramatically easier for both users and developers. This is a refreshing contrast for organizations that leverage the likes of AWS, which has more than a dozen different databases, each requiring customers to deal with different APIs, ETL approaches and data integration processes."

Mark Peters, Principal Analyst and Practice Director, ESG

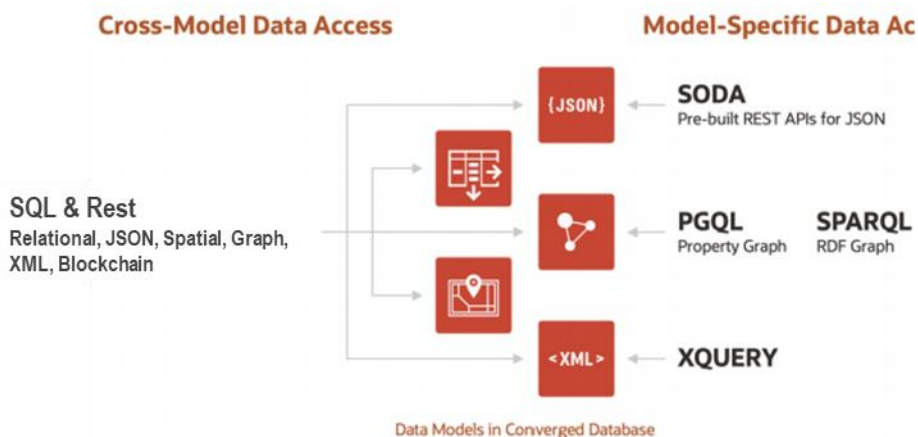


Figure 1. Oracle's converged database supports multiple data models and access methods

Running Oracle Database 21c on Oracle Database Cloud Service infrastructure makes it easy for developers to create and deploy innovative, data-driven applications without having to use multiple single-purpose databases with inconsistent access, management, and security protocols. New AI and machine-learning algorithms along with new processing paradigms allow developers to combine rich data types with powerful analytical methods.

Businesses no longer must choose between optimizing for faster cloud application development or exponential business value creation from data. With Oracle Database 21c on Oracle Database Cloud Service, developer productivity, development costs, and long-term data productivity are all optimized at the same time.

CONCLUSION

Companies of all sizes and in all industries depend on continuous innovation and data-driven applications to sustain competitive advantages. Oracle Database 21c's

converged multi-model, multi-datatype, and multi-access capabilities allow enterprises to reduce database complexity while increasing innovation and maximizing developer productivity. Deploying Oracle Database 21c on Oracle Database Cloud Service allows enterprises to quickly understand new database and database management capabilities, develop new applications, and deploy innovative solutions in the cloud or customer data centers.

GETTING STARTED

Discover the many advantages of moving your data management activities to Oracle Database Cloud Service and learn what sets Oracle apart from other database service providers.

Learn more about [Oracle Database Cloud Service](#) or check out our blog to see what your peers have to say.

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