



ORACLE BICC: THE NO-CODE TREASURE

Abstract

As time-to-market becomes a differentiating driver of enterprise success, it is important to accelerate the release of new features. This calls for business teams to loosen their reliance on IT teams and start enacting changes, quickly and efficiently. Low-code/no-code platforms are a vital tool that make this possible, enabling IT teams to focus on core activities and freeing business users from their heavy IT dependencies.

This paper examines how Oracle BICC can be used as a low-code/no-code platform for data extraction and integration. It provides several user-friendly steps that can help business teams understand the capabilities and benefits of Oracle BICC.

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Introduction

Traditionally, IT operations have always been complex, and perhaps even inscrutable, to business users. This often leads to delayed delivery of business requirements and potentially ineffective outcomes. While some self-service offerings and low-code/no-code (LCNC) platforms aim to equip business users with greater control to execute changes, in reality, the scope of these offerings remains rather limited. Business teams still rely heavily on IT teams, even for changing basic functionalities.

For IT to become a true business enabler, there needs to be a seamless synergy between both business and IT operations. One such tool that truly empowers business users to effect software changes is the Oracle Business Intelligence Cloud Connector (BICC).

Overview of Oracle BICC

Oracle BICC is a data extraction tool that offers one of the best integration options when exporting bulk data from Oracle Fusion Cloud applications. It enables downstream integration with data warehouses and other third-party applications. Typically, IT teams handle such integrations; but with Oracle BICC, business users can perform batch exports with minimal technical expertise.

What sets Oracle BICC apart is its business user-friendly user interface (UI) that enables easy configuration of data extraction jobs (called 'data extracts' or 'offerings'). It also supports both automated and manual data export processes, giving business users greater flexibility to manage their specific requirements based on the organization's IT infrastructure.

Some of the key data extraction features of Oracle BICC that make it practical and convenient for business users are:



Figure 1 illustrates a high-level view of using Oracle BICC to integrate Oracle Cloud applications with external storage. Oracle BICC eliminates the need for middleware when integrating with external data storage. However, it can work with all middleware tools to support specific use cases such as enabling near real-time processing, transforming or enriching data before loading into target systems, and orchestrating complex workflows (like integrating multiple source systems or triggering actions based on data updates).

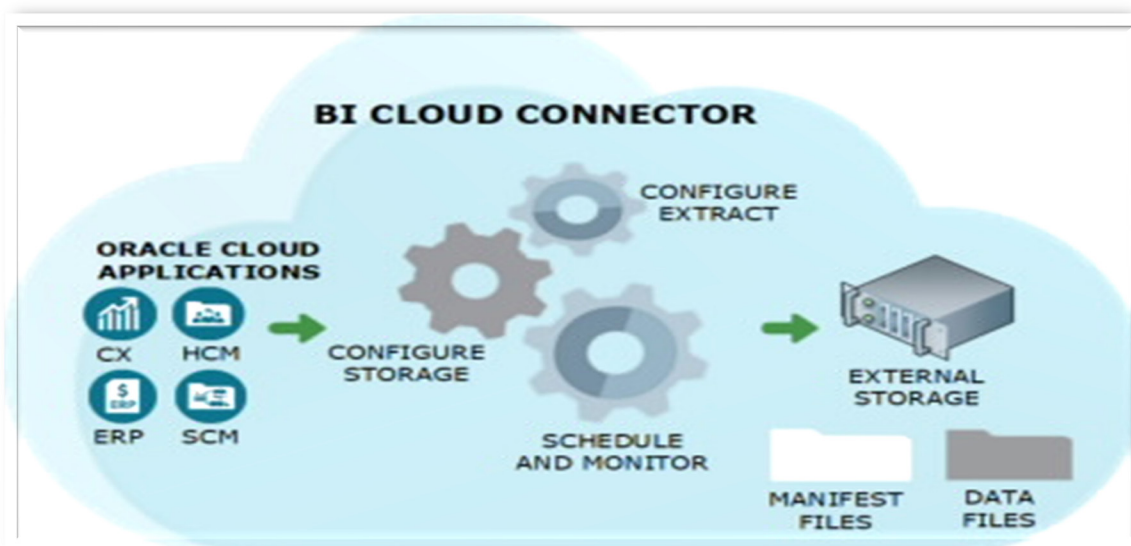


Fig. 1 – How Oracle BICC works

For Business Users: How to Use Oracle BICC for Batch Integrations

With Oracle BICC, business users can perform several actions, without needing expertise or support from IT teams. Some of these key actions are outlined below:

Access BICC – Users with appropriate roles (such as BICC admin or data extractor) can log into Oracle BICC through the Fusion Applications interface. No coding or IT intervention is needed to initiate this process.

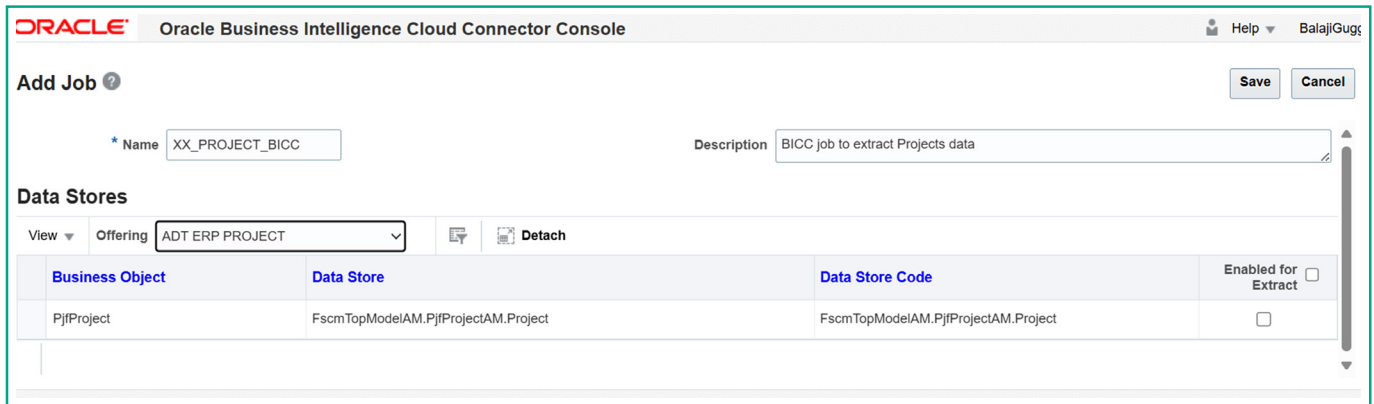
Select data objects for extraction – BICC provides a pre-configured option to ‘view objects’ (VOs) that align with Oracle Cloud tables. Users can choose either standard or custom objects (if configured) to extract only the relevant data. They can also

[find the VO](#) needed for data extracts through guided steps.

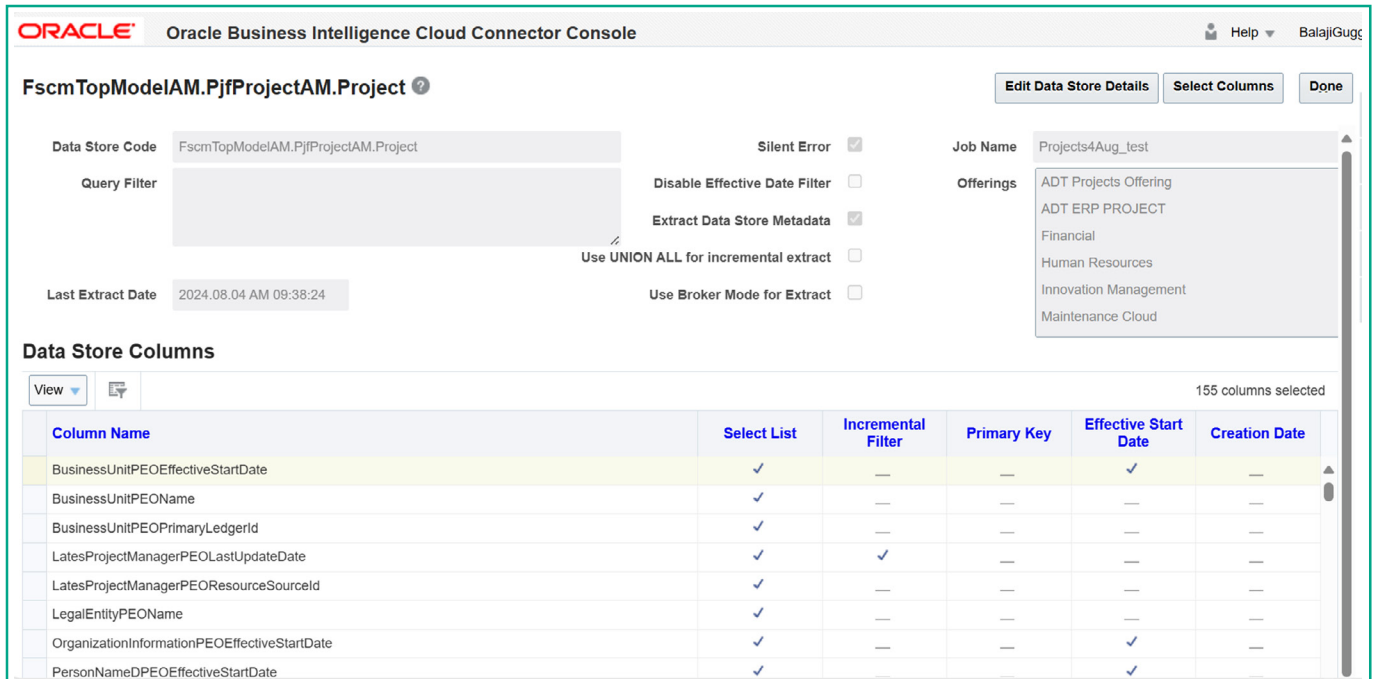
Configuring Extract Jobs

Configure extract jobs – Users can define the extraction frequency (such as ‘one-time’ or ‘scheduled’) to automate data retrieval. The filter criteria can be set up to refine extracted records, thereby avoiding unnecessary data loads. The steps for configuring the extract job are given below:

- Search for the required VOs from the catalogue file
- Click on ‘Enable for extract’
- Click ‘Save’



- Once the job is created, enable the required columns from View Objects by selecting the job again. Then, select the view object and click on ‘Select columns’



- Enable the required columns and enable ‘incremental key’ and ‘primary key’ for the VOs listed in the catalogue files for the ‘Y’ attributes of the column of interest.
- Click on ‘Save’ to save the job configuration

Export data to external storage – BICC supports native integration with Oracle Object Storage, Autonomous Data Warehouse, and third-party cloud storage providers such as Amazon Simple Storage Service (S3), Google data lake, and Azure Blob Storage. Users can configure storage targets directly within BICC without any IT intervention.

Automate and monitor extracts – BICC allows users to schedule data exports at predefined intervals, without scripts and automation tools. The key steps are given below:

- Navigate to 'Manage job schedules'
- Click on the '+' symbol to create the job schedule
- Enter the following details and click 'Save':

- o Select the job from the dropdown menu
- o Job type: 'Application Data and Active Primary Key Extract'
- o External storage: 'UCM'
- o Name: Enter the job name
- o Description: Enter the job description
- o Recurrence: 'Immediate'
- o Notification: 'Define notification on "Failure"'
- o Mail to address: Enter the email ID

The user-friendly dashboard provides logs and real-time monitoring to track the extract job status. Once the data is extracted into target systems, business users can access the data through dashboards, reports, and self-service analytics tools.

To enable smooth data transfer from Oracle Fusion to data lakes, organizations can use other tools in addition to Oracle BICC. These include a data ingestion tool such as Azure Data Factory, a data transformation table, and load-to-staging tables (like those provided by Azure) as well as job schedules and scripts to load the data into the final layer.

Figure 2 offers a detailed overview of how these tools work together to ensure seamless data integration.

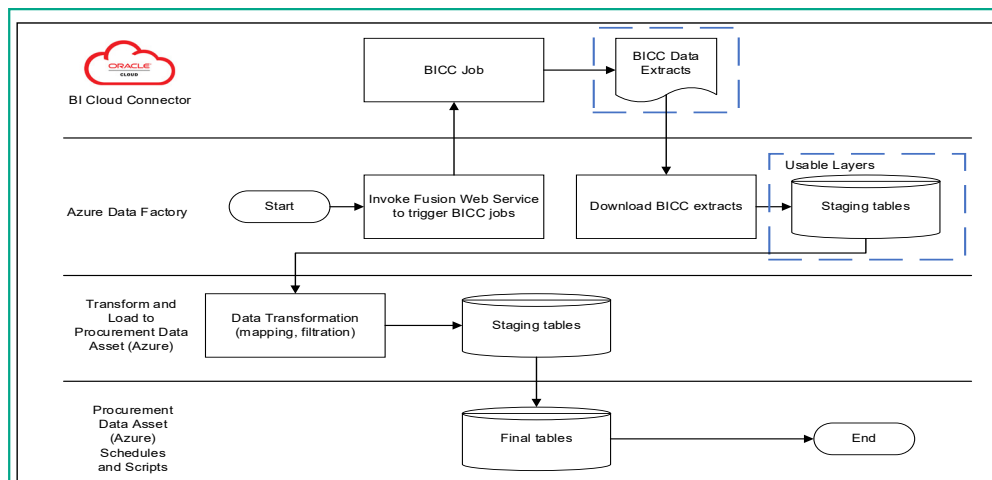


Fig. 2 – How data flows from Oracle Fusion to the data lake

Infosys Recommendations for Superior Outcomes when Architecting Solutions

Having successfully completed numerous Oracle BICC implementations, Infosys has put together a list of best-practices that can enhance the success of transformation programs. Organizations can use the following practices to improve their compliance, integration, and governance strategies when using Oracle BICC:

Data extraction

Identify the required data



Use the entity-specific ExtractPVOs (public view objects) for extracting data using BICC, as these are designed for maximum extraction efficiency. While other PVOs, including Oracle Transactional Business Intelligence (OTBI) reporting PVOs, are available in BICC, they could cause performance problems when used for integration purposes.

Use incremental extracts



Reduce the data transfer load by extracting only changed records instead of full dataset loads.

Optimize extracts



Schedule data extraction during off-peak hours to minimize any negative impact to the performance of Oracle Fusion applications.

Performance optimization

Filter data efficiently



Use selective filtering (such as data or status-based) to reduce the dataset size and improve performance.

Use batches for large extracts



Break down large extracts into smaller, manageable chunks.

Parallel processing



Leverage parallel execution for extracting data with Oracle BICC.

Security and compliance

Use access controls



Ensure proper role-based access control (RBAC) is enabled before extracting data.

Data encryption



Secure extracted data using encryption mechanisms before transferring it to external systems.

Audit and monitoring



Use logging to track data extraction activities for compliance and troubleshooting. Audit the list of extract attributes for every single VO. Check the bare minimum of the extract columns to address the data integration business requirements. By default, all the columns get extracted; thus, users must be careful to only select the required columns.

Integration with target systems

Use standardized formats



Extract data in CSV, JSON, or XML formats to maintain compatibility with downstream applications.

Automate data transfer



Use Oracle Object Storage, Oracle Data Integrator (ODI) or third-party tools like Informatica to move data to the data lake, data warehouse, or business intelligence (BI) platforms.

Choose between real-time and batch processing



Decide between batch processing (daily or weekly) and near real-time streaming with application programming interface (API) based solutions.

Error handling and logging



Set up notifications

Configure alerts for extract failures, data discrepancies, and API failures.



Create retry mechanisms

Implement automatic retries for failed extracts.



Validate the data

Use data reconciliation to verify the integrity of the extracted data. Apply filters to the extraction queries to ensure that only the relevant data is retrieved. This will accelerate the extraction process, reduce unwanted data, and improve processing and analytics efficiency.

Scalability and future proofing

Use cloud storage for large data volumes

Store the extracted data in Oracle Object Storage or a data lake before further processing. It is important to note that BICC has a default extract timeout of 10 hours per VO extract. Some high-volume VOs may require more than 10 hours to process the initial datasets. Users can override the default value to ensure completion of the initial extraction to Oracle BI Applications Configuration Manager. The default setting can be changed by navigating to: Manage Offerings and Data Stores > Actions > Job Setting > Extract Preference > Timeout in Hours: 10 Hours (default).



Plan for API/schema changes

Keep track of Oracle quarterly updates that may impact data points or API end points.



Use data pipelines

Leverage Oracle data flow, OCI data integration, and other extract, transform, load (ETL) solutions for scalable data processing.



Monitoring and governance

- **Set up dashboards** – Use Oracle Analytics Cloud (OAC) or third-party BI tools to monitor extraction performance and usage.
- **Track data lineage** – Maintain metadata on extracted data sources and transformations.
- **Apply version control** – Keep track of extraction configurations and maintain versioning for reproducibility.
- **Use purging mechanisms** – Implement a regular purging mechanism to delete downloaded files from Oracle UCM. This practice helps manage storage space effectively and prevents the accumulation of obsolete data files. It thereby optimizes storage costs and helps maintain a clean data environment.
- Users can enable 'Delete Expired UCM Files' job in Oracle BICC for this action.

Beyond the best practices, it is also important to be aware of some constraints associated with Oracle BICC. For instance, BICC is unsuitable for real-time data extraction. Frequent and concurrent large data extracts can impact system performance. Moreover, since flexible VOs are usually generated dynamically, explicitly marking the columns for extracts may not be suitable for Oracle Business Intelligence broker mode. These VOs should continue using Oracle Business Intelligence server mode.

Low-code/no-code Capabilities of Oracle BICC

Oracle BICC has several features that mimic a low-code/no-code platform and offer greater flexibility to business users. It is easily configurable, enabling users to set up and schedule data extracts through the user interface, without having to write any code. As a self-service platform, it allows permitted business users to initiate and manage data extractions without needing IT involvement. It also comes with a plethora of pre-built connectors that eliminate the need for middleware when exporting directly to cloud storage and integrating with analytics tools.

However, there are other areas in which Oracle BICC does not behave like a low-code/no-code platform. For instance, it does not provide a drag-and-drop interface for workflow automation, UI development, or business logic implementation. This limits its customization capabilities. Additionally, even though coding is not required, some degree of technical knowledge is needed to understand Oracle Fusion data structures, VOs, and extraction configurations. Further, while typical low-code/no-code platforms offer real-time integrations, automation, and application development, BICC is designed only for batch extractions.

A Success Story

A leading building efficiency solutions company was struggling with slow reporting. They wanted real-time insights when using Oracle Fusion ERP to extract high volume financial and supply chain data for advanced analytics.

Infosys implemented and configured Oracle BICC to extract financial data and store it in a data lake. The extracted data was then visualized using Oracle Analytics Cloud (OAC) for better reporting. This helped the company accelerate data extraction three-fold and reduce report processing time by 70%, leading to a significant improvement in decision-making.



Conclusion

Oracle BICC is a data extraction tool that offers one of the best integration options when exporting bulk data from Oracle Fusion Cloud applications. It has a user-friendly UI through which business users can perform batch exports with minimal technical expertise and coding knowledge. They can select data, configure its extraction, monitor the extracts, and export to external storage. As a low-code/no-code platform, it enables business users to move forward with executing their requirements, efficiently and on time. By following the recommended best practices, enterprises can maximize the potential of Oracle BICC across data extraction, performance optimization, security, compliance, monitoring, and governance, making it a scalable and future-proof solution.

About the Author



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Nidhi Sabharwal is a Senior Technology Architect at Infosys with over 20 years of experience in architecting solutions across the entire Oracle stack. She has built internal platforms like Amplify/IOCS that have enhanced delivery efficiency and quality across several transformation programs in the US, Europe, and Asia-Pacific regions. Nidhi is an AI enthusiast with a keen interest in projects that bridge the gap between IT and business.

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