

# Medallion Architecture in Oracle Cloud Infrastructure (OCI)

A Structured Approach to Data Integration, Transformation & Lifecycle Management

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## Data Sources

*Raw Data Input*

- Batch file imports
- Database exports
- External system feeds



## Bronze Layer

*Raw Data Ingestion & Archive*

### Primary Functions:

- Store raw, untransformed data
- Reliable archive for original source data
- Support reprocessing & error recovery
- Enable continuous data appends

**Storage:** OCI Object Storage



## Silver Layer

*Data Cleansing & Enhancement*

### Transformations:

- Data cleaning & duplicate removal

- Handle null/missing values
  - Apply filtering rules
  - Basic enrichments
  - Ensure data governance compliance
- Output:** Clean, conformed dataset



## Gold Layer

*Curated, Business-Ready Data*

### Characteristics:

- Aggregated & summarized formats
- Aligned with business metrics
- Authorized user access controls
- Optimized for fast query performance

**Use Cases:** Reporting, Analytics, Dashboards



## Business Applications

*Decision Making & Analytics*

- Executive dashboards
- Business intelligence reports
- Performance analytics
- Strategic decision support



## Data Masking

**Tools:** Oracle Data Safe, Oracle Data Redaction

### Process:

- Register target database in OCI
- Discover sensitive data automatically
- Define additional sensitive columns
- Create & apply masking policy



## Data Purging

**Purpose:** Storage efficiency & compliance

**Implementation:**

- Define retention policies
- Access Object Storage bucket
- Configure Lifecycle Policy Rules
- Set deletion/archiving actions



## Key Architecture Benefits

**Audit & Compliance:** Complete data lineage and retention of original data

**Scalability:** Leverages OCI's cost-effective, scalable storage solutions

**Data Quality:** Systematic cleansing and validation at each layer

**Performance:** Optimized data structures for fast analytics

**Governance:** Comprehensive security and compliance controls

**Flexibility:** Adaptable transformation rules for evolving business needs