

ANALYTICS AND DATA

TechCasts

Harnessing Oracle GoldenGate 23ai with AI Automation: A New Era of Intelligent Monitoring, Building, and Diagnostics

Bobby Curtis – President, RheoData

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Presented by Peter Koutroubis & Jai Gangwani



Oct 3rd

Harnessing Oracle GoldenGate 23ai with AI Automation: A New Era of Intelligent Monitoring, Building, and Diagnostics

Presented by Bobby Curtis



Oct 17th

Our Favorite New Features in OAC

Presented by Dan Vlamis & Philippe Lyons

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Bobby Curtis, MBA



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@dbasolved



<http://linkedin.com/in/bobbycurtis>

Atlanta, GA (West of the city)

- Author (x4)
- International Speaker

- 25+ years in IT
- RheoData (2020-Present)
- Product Manager for Oracle GoldenGate (2017-2020)
 - Helped release OGG 12.3.0.x-19c (Microservices)
- Oracle ACE Director (2014-2017, 2024-Present)



RheoData Offerings:



Cloud Managed Services Provider
(CMSP)



Data and Cloud Migrations
Near-Zero Downtime



Data Engineering

Analytics, Machine Learning, Artificial Intelligence
(Oracle Digital Assistants)



Data Modernization

Data Visualization, Cyber Security, Data Warehouse, etc.



License Management

On-Premises & Cloud Cost Management



Oracle GoldenGate 23ai

Why Oracle GoldenGate

Enterprise data is typically distributed across the enterprise in heterogeneous databases. Oracle GoldenGate can be used to load, distribute, and filter transactions within the enterprise in real-time and enable near-zero downtime migrations.

Oracle GoldenGate performs the following functions:

- Real-Time Data Movement, minimal latency
- Changed Data Capture (only committed transactions move)
- REST-based microservices for different replication environments
- High Performance, Minimal overhead
- Integration with minimal overhead on data sources/targets
- Role-based security framework

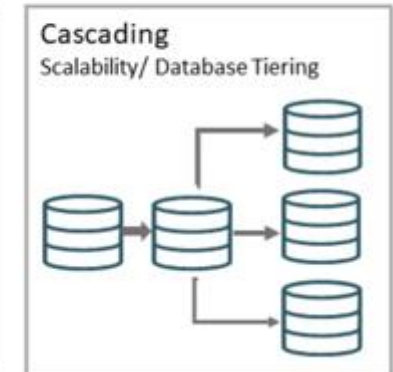
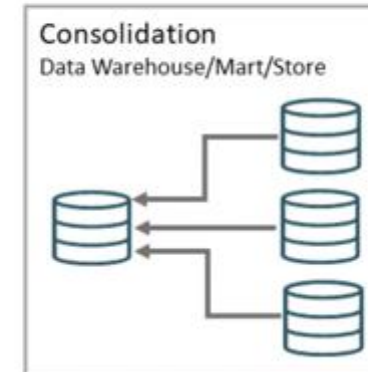
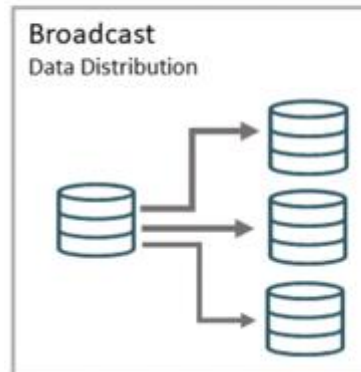
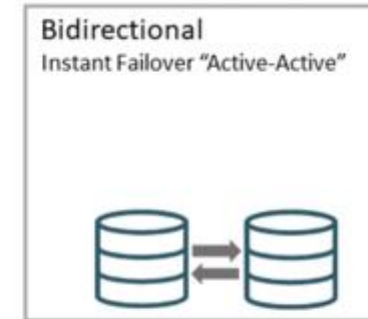
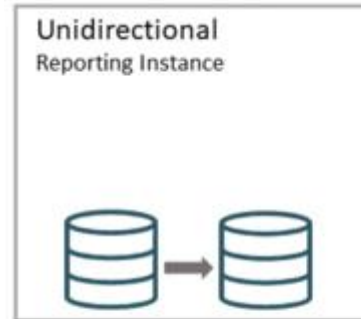


Oracle GoldenGate 23ai

Use Cases

Use Cases/Topologies

- Unidirectional (Reporting Instance)
- Bidirectional (Active-Active)
- Peer-to-Peer (Load Balancing/High-Availability)
- Broadcast (Data Distribution)
- Consolidation (Data Warehouse/Mart/Store)
- Cascading (Scalability/Database Tiering)





Oracle GoldenGate 23ai

APIs

Supported Methods:

- GET – Retrieve Information about the object
- HEAD – Retrieve header information about the object
- POST – Update the object
- PUT – Update the object
- PATCH – Patch the object (update)
- OPTIONS – Retrieve information about the options and requirements of the object
- DELETE – Delete the object

Media Types:

- application/json
- application/schema+json
- text/plain
- text/html
- application/xml

Supported Headers:

- accept-encoding – List of acceptable encodings to support compression
- Content-encoding – List of acceptable encodings to support compression
- Content-type – Media type of the body of the request. Required for POST and PUT requests
- X-ID-TENANT-NAME – Identity domain name of Oracle GoldenGate, used for authentication



Oracle GoldenGate 23ai

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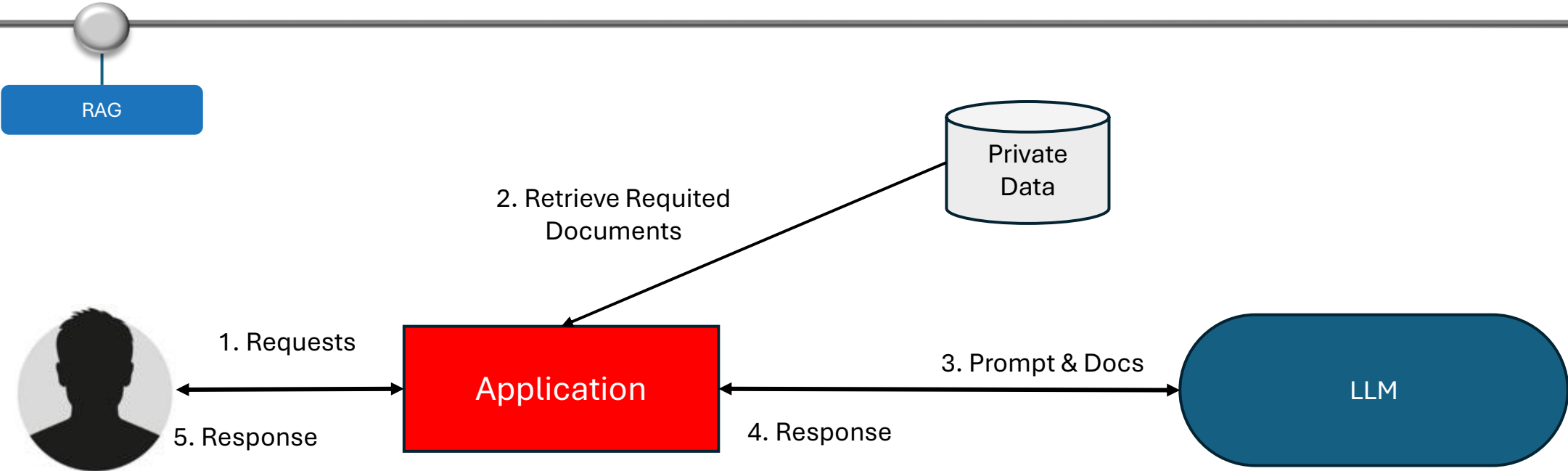
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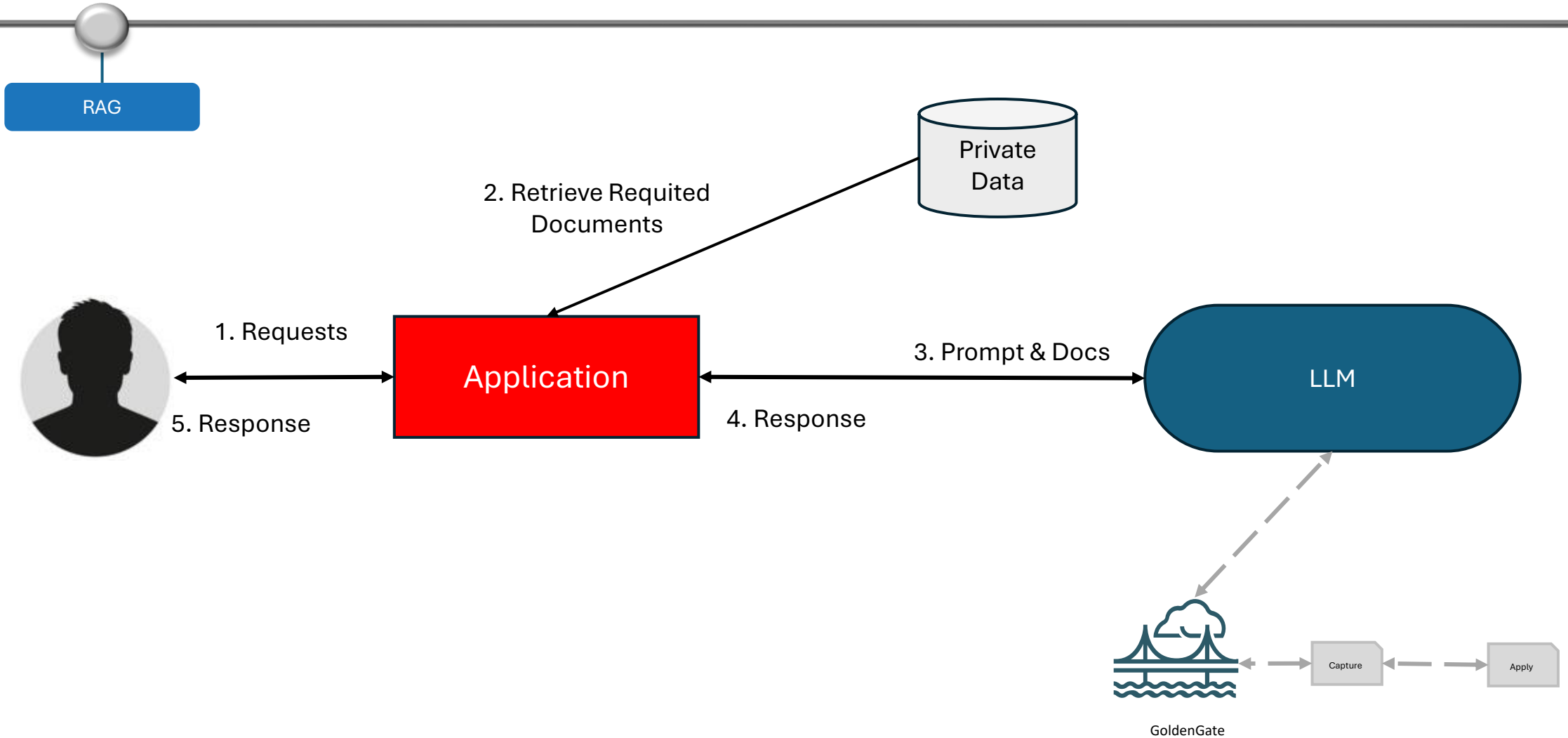
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AI Automation



AI Automation



AI Automation

Functions/Tools

Functions = OpenAI
Tools = Cohere

Functions/Tools calling allows you to connect LLMs to external tools and systems. This empowers AI chat/assistants with capabilities or build deep integrations between applications and the LLM.

Use Cases:

- Enabling chat/assistants to fetch refreshed data
- Enabling chat/assistants to take actions in an automated way
- Enabling chat/assistants to perform computations
- Building a enhanced rich workflows
- Modifying your applications User Interface (UI)



AI Automation

Pick a function

Pick a function that is used to build a process or object., ie. Build_Extract

```
...
url = (_url_base + "/services/v2/extracts/" + tool_args['process_name'])
#print(url)
header = _header
#print(header)

payload = { "config": [
    "EXTRACT " + tool_args['process_name'],
    "USERIDALIAS " + tool_args['alias'] + " DOMAIN OracleGoldenGate",
    "EXTTRAIL " + tool_args['trail_file'],
    "TABLE " + tool_args['schema_table'] + ";",
    ],
    "source": {
        "tranlogs": "integrated"
    },
    "credentials": {
        "alias": tool_args['alias']
    },
    ....
    {
        "name": tool_args['trail_file'],
        "sizeMB": tool_args['trail_file_size']
    }
    ],
    "status": "stopped" }

try:
    response = requests.post(url, headers=header, json=payload)
    status_code_201(response)
except Exception as e:
    print(e)
```

AI Automation

Describe the
function

The model needs to know what the function looks like and if any parameters are needed.

```
build_extract = {
  "name": "build_extract",
  "description": "Build Oracle GoldenGate Extract process",
  "parameters": {
    "type": "object",
    "properties": {
      "base_url": {
        "type": "string",
        "default": base_url,
        "description": "Base URL of the Oracle GoldenGate environment "
      },
      "port": {
        "type": "integer",
        "default": url_port,
        "description": "Port of the Oracle GoldenGate processes "
      },
      ...
    },
    "process_name": {
      "type": "string",
      "description": "Extract Group Name",
    },
    ...
  },
  "schema_table": {
    "type": "string",
    "description": "Schema table, format {schema}.{table} or {schema}.*",
  },
  ...
}
"required": ["base_url", "port", "process_name", "trail_file", "trail_file_size", "alias", "admin_user", "admin_passwd"],
```

Questions





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