

Building Low-Code SaaS Extensions with Oracle APEX

Integration, the Fusion Apps REST Catalog & Enterprise Best Practices

Safe harbor statement

The following is intended to outline our general product direction. It is intended for information purposes only, and may not be incorporated into any contract. It is not a commitment to deliver any material, code, or functionality, and should not be relied upon in making purchasing decisions. The development, release, timing, and pricing of any features or functionality described for Oracle's products may change and remains at the sole discretion of Oracle Corporation.

Agenda

01 Why extend Fusion with APEX

02 Architecture & what's new

03 Connect APEX & Fusion

04 FA REST Catalog

05 Enterprise best practices

06 Use cases & takeaways

Why Do We Need FA / SaaS Extensions?



Industry-specific needs



Custom workflows



UI enhancements & dashboards



Regulatory changes



Reporting & analytics



ML & custom LLMs

What Are APEX Fusion Extension Applications?



Seamless Fusion integration



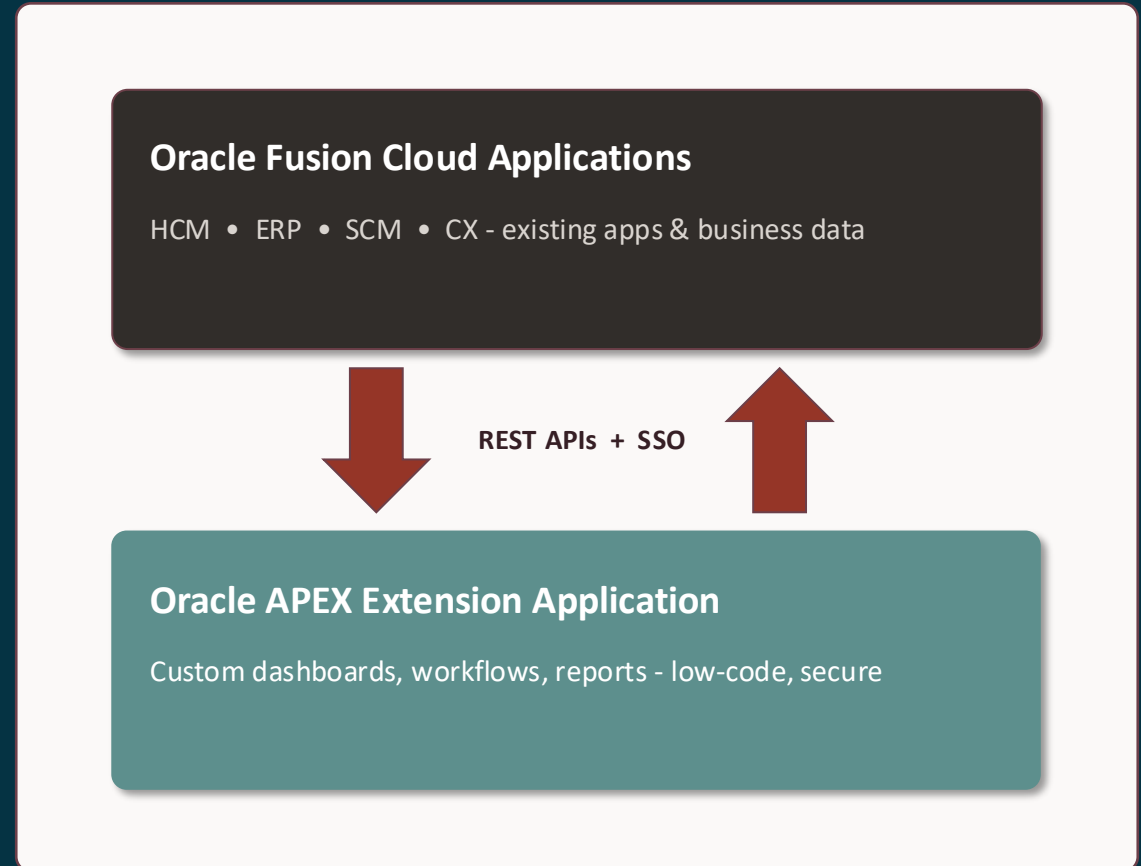
Single Sign-On (SSO)



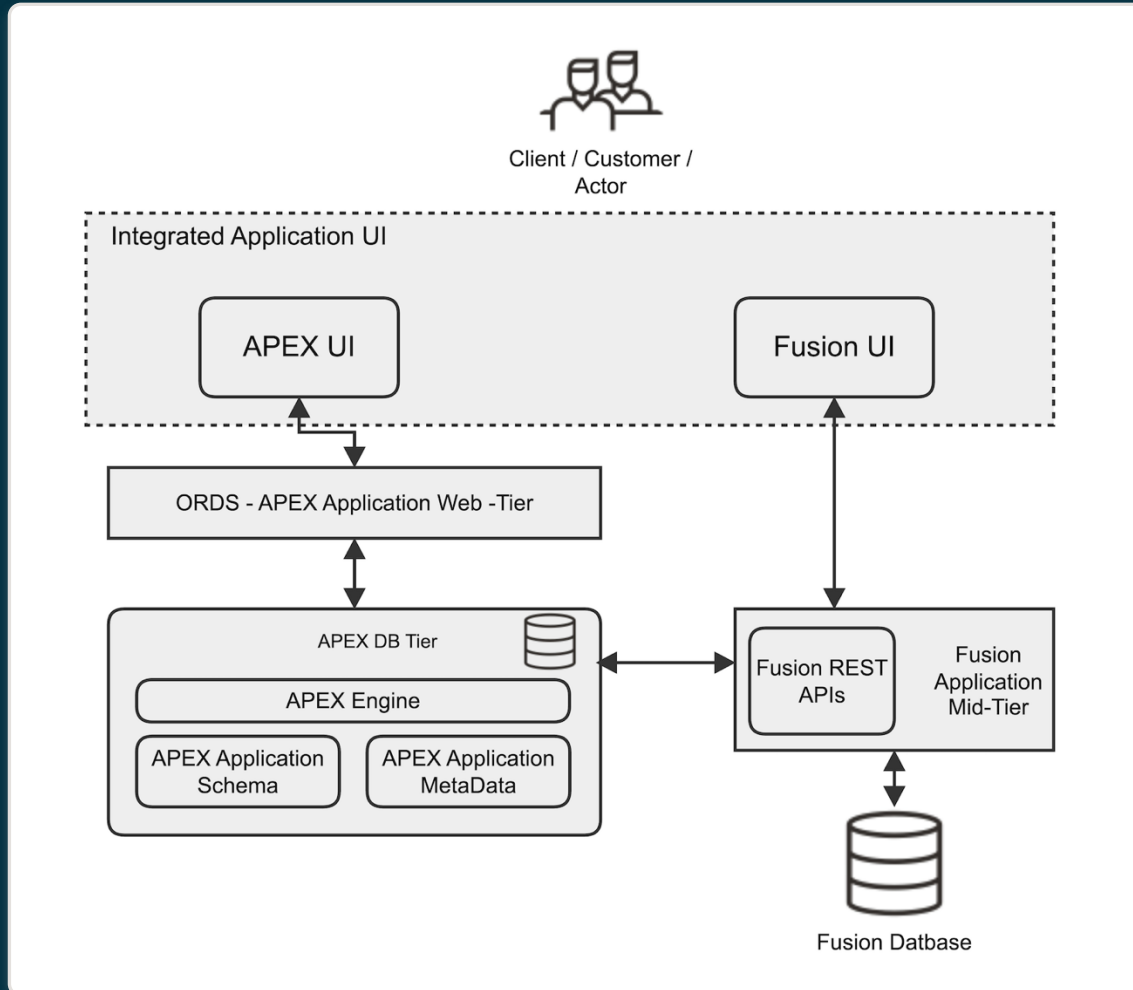
Ready-to-use applications



Fusion security enforced



Fusion Application Extension Architecture



Deployment Topologies

1

Oracle Database and Fusion in the same OCI region in Oracle Cloud

2

Oracle Database and Fusion Applications in different OCI regions

3

Oracle Database on-premises

4

Oracle Database in a third-party cloud

Reference OCI services: OCI IAM • OCI GenAI • Object Storage • Autonomous Database

What's New in Oracle APEX 24.2 for Fusion Cloud Apps



Integrate APEX with Fusion Applications



Fusion Integrated Starter App

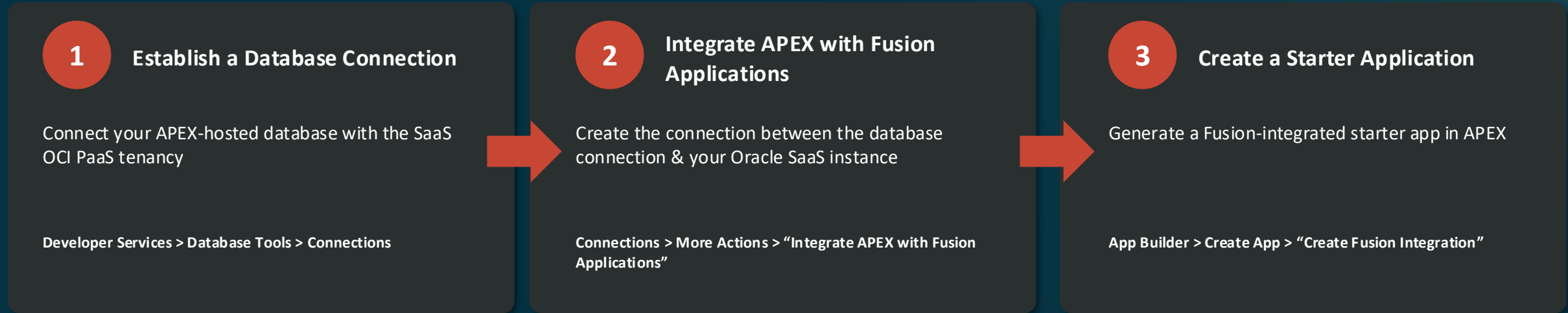


Oracle Cloud Apps (BOSS) REST Service



Sample Utility App

SaaS Extensions Made Easy - 3 Simple Steps



What happens behind "Integrate APEX with Fusion Applications"?

IDCS client application
(with OAuth)

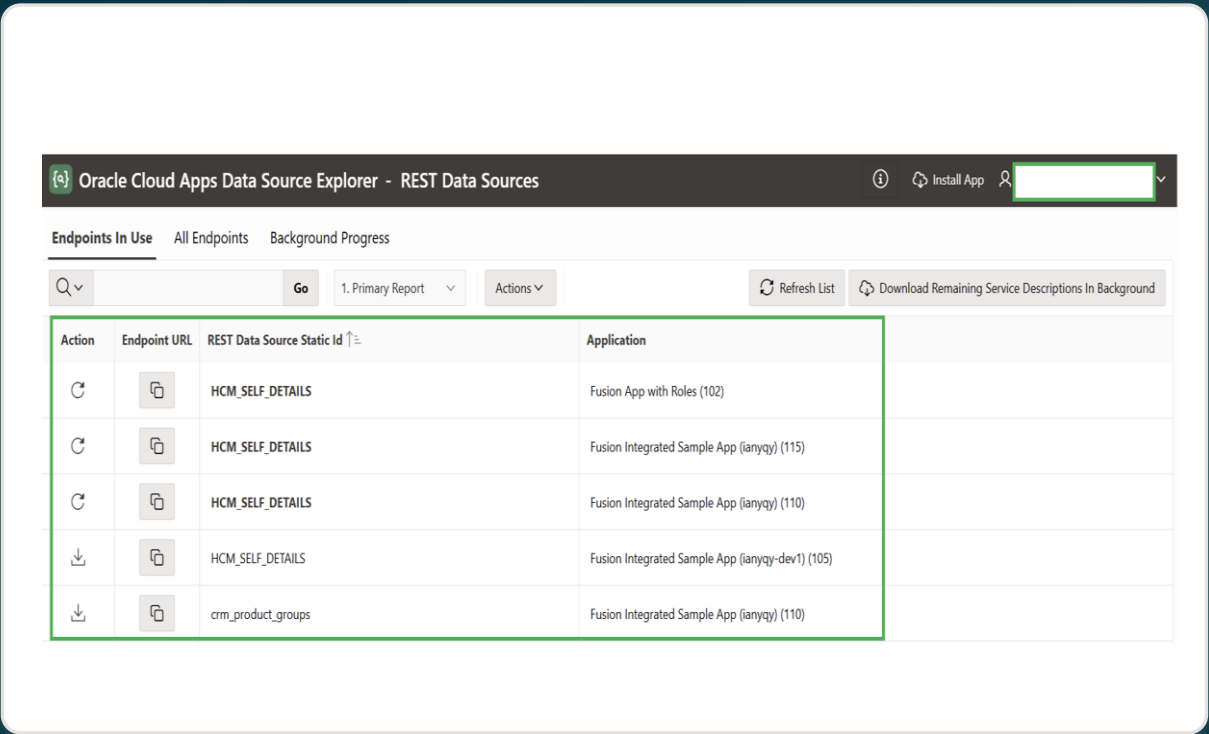
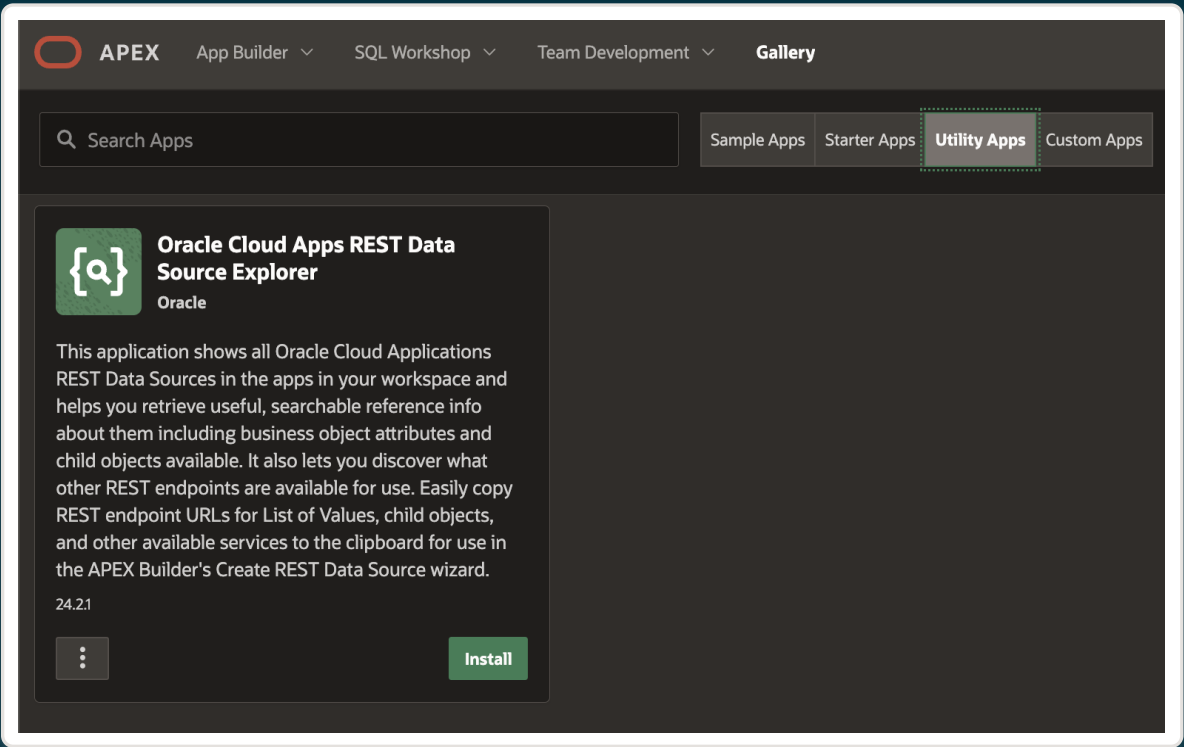
Database
credential

Synonym created &
execute access granted

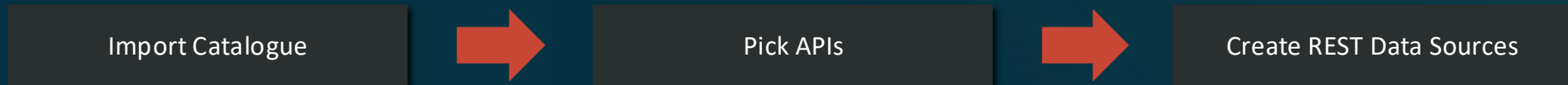
Auth scheme
attributes updated

Sample Utility App - REST Data Source Explorer

Gallery > Utility Apps > Oracle Cloud Apps REST Data Source Explorer



The Fusion Apps REST Catalog



Flexible Remote Server - Point at Your Fusion Host

Catalog-created data sources point to a generic default host (facatalog_restapi_baseurl.example.com). The Flexible Remote Server feature (APEX 24.2) remaps that base URL to your FA domain in one central place - no per-data-source edits.

```
procedure my_server_config(  
  p_info in apex_plugin.t_remote_server_info,  
  p_config out apex_plugin.t_remote_server_config )  
is  
begin  
  p_config.base_url := 'https://{YourFusionHost}';  
end;
```

Verify the REST Data Source afterwards to confirm it operates against your Fusion environment as intended.

1

Edit the Remote Server

2

Add the PL/SQL block

3

Repeat for the authentication server

BUILDING FOR THE ENTERPRISE

Best Practices for Fusion Extensions

Connecting APEX to Fusion is the easy part. Building extensions that stay secure, perform at scale, and survive every Fusion upgrade takes discipline.

*Design principles • Integration & security • Performance & operations • Development standards
• AI patterns • Anti-patterns*

Design Principles & Data Strategy



Extend, don't customize



Fusion is the system of record



Loose coupling



Modular services



Data strategy: cache reference data only. Look-ups, codes, and hierarchies can be cached locally for speed - but avoid copying HR, Payroll, or Finance transactions into the extension. Transactional truth stays in Fusion; where local storage is unavoidable, protect it in the database (e.g. VPD).

Integration & Security



Integration best practices

- REST first
- OAuth 2.0 everywhere
- Retry logic
- Pagination
- Logging



Security checklist

- OCI IAM / IDCS
- OAuth for every call
- Web
- Authorization Schemes
- Audit

Performance, Scalability & Operations



Performance

- Background jobs & batch APIs
- SQL tuning
- Lazy loading
- Caching



Scalability

- Stateless apps
- Connection pooling
- Async jobs
- API throttling



Operations

- Monitoring
- Centralized logging
- APEX Activity Reports
- Alerting

Development Standards & Workflow



Reusable packages

Wrap Fusion REST interactions in PL/SQL packages shared across apps - one place to fix, one place to evolve.



Error handling

Consistent exception handling and user-friendly messages; never surface raw REST errors to end users.



Version control

Export APEX apps and database objects to Git; automate deployments across environments.



REST Data Sources

Prefer declarative REST Data Sources (catalog-created where possible) over hand-coded API calls.



Workflow: use APEX Workflow for approvals that belong to the extension - and reuse Fusion's own approval flows where they already exist. Duplicating a Fusion approval in APEX creates two sources of truth.

Anti-Patterns That Break Extensions



Duplicating Fusion



Hardcoded credentials



Database links into Fusion



Tight coupling

AI Patterns on Fusion Data



Chat assistants



Approval summaries



Semantic search



Document Q&A

The stack: OCI Generative AI for models, Autonomous Database for vector storage, APEX AI capabilities for the UI - all calling Fusion through the same secure REST layer.

KEY TAKEAWAYS

The Journey - and the Principles to Carry Through It

1 Connect

2 Create

3 Import

4 Build

5 Operate

Fast, low-code, and secure - extend Fusion without modifying the core system.

Extend - don't customize

API-first

Secure by design

Fusion = source of truth

Oracle APEX 26.1 + FA Extension Use-cases

AI-powered exception
dashboards for
AP/AR invoice

Custom approval
workflow extensions for
HCM/Procurement

AI Agent-driven
self-service portals
(HR/supplier queries)

Business-user report builder
for GL/Project reports

Supplier/vendor onboarding
bulk approve/reject app

Budget vs. actuals variance
analyser with
AI insights

Multi-tenant
partner/franchise portals

Interactive expense
audit console with
bulk actions

AI-assisted data
quality/cleanup
utility for master data

Real-time inventory/order
exception cockpit

Learn More

Primary site

oracle.com/apex

APEX Community

apex.oracle.com/community

Blogs

blogs.oracle.com/apex

APEX in Oracle-Cloud

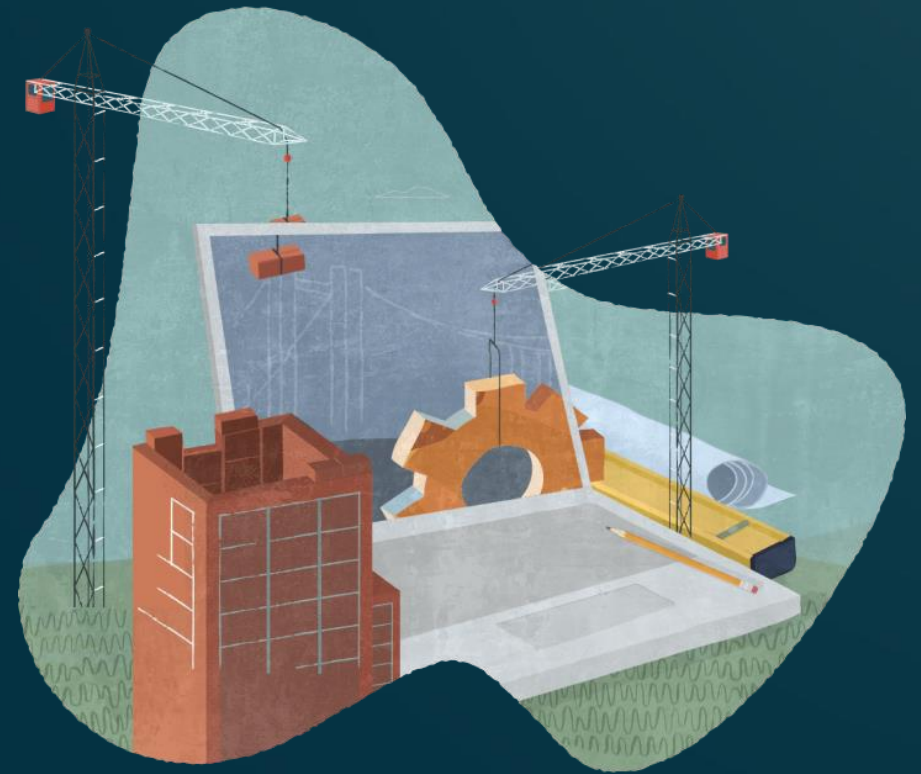
apex.oracle.com/go/apex-on-cloud

Training and Certifications

apex.oracle.com/education

Oracle APEX + AI

apex.oracle.com/go/ai



Thank You

ORACLE