# *Extend Oracle Applications Using Mobile Cloud Service (MCS)*


**Presented by: John Jay King**

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# Session Objectives

- Know Oracle's many options for mobilizing SaaS and on-premise applications.
- Understand how Oracle Mobile Cloud Service supports development of mobile back-ends.
- Learn the features of Oracle JET, MAF, and MAX and how they may be best used.

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# Who Am I?

- John King – Partner, King Training Resources
- Oracle Ace Director
- Member Oak Table Network
- I help customers use technology through training and consulting in Oracle and other topics (http://www.kingtraining.com)
- "Techie" who knows Oracle, ADF, SQL, Java, and PL/SQL pretty well (along with many other topics)
- Member of AZORA, ODTUG, IOUG, and RMOUG
- One of those "dog-spoiling" people

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# Where We Are Going

I. Reviewing MCS and its Features
II. Creating Mobile Cloud Service
III. MCS Works With Everything
IV. MCS and SaaS or On-Premise
V. Extending Oracle Cloud SaaS

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# Reviewing MCS

- Oracle Mobile Cloud Service is a cloud-based service to manage mobile apps and resources

# MCS Roles

- MCS used differently depending upon role


  - Developers connect resources to APIs
  - Service Developers create code to support custom APIs and connectors
  - Architects identify data needs, required functionality, and security requirements
  - MCS team managers use Analytics to track usage/issues

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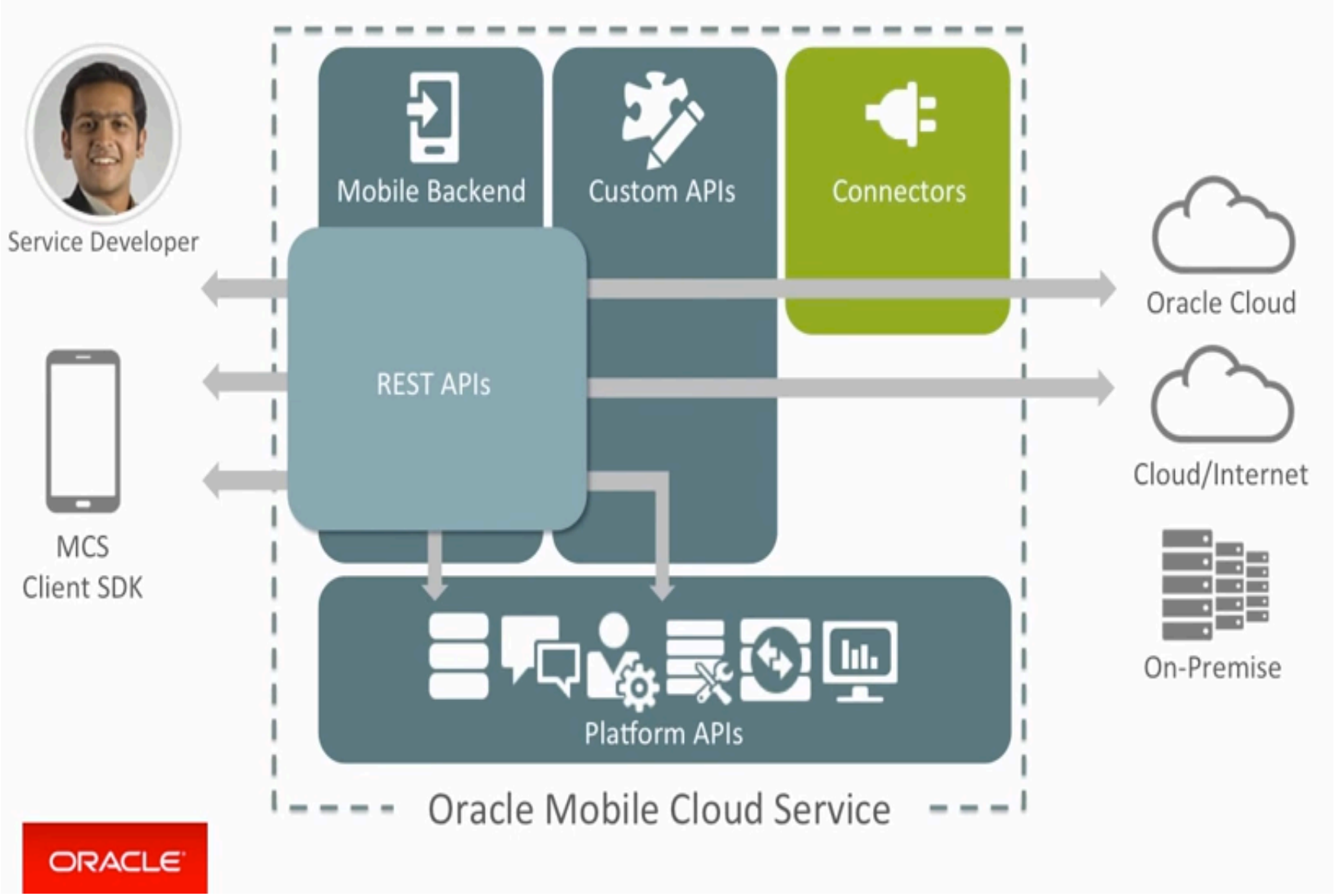
# MCS Role In Action

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# Mobile Cloud Service

- Mobile Cloud Service (MCS) / Mobile Cloud Enterprise eases interface to mobile apps
  - MCS Mobile BackEnd (MBE)
  - MCS Security: Realms, Users, and Roles
  - MCS APIs: Platform & Custom


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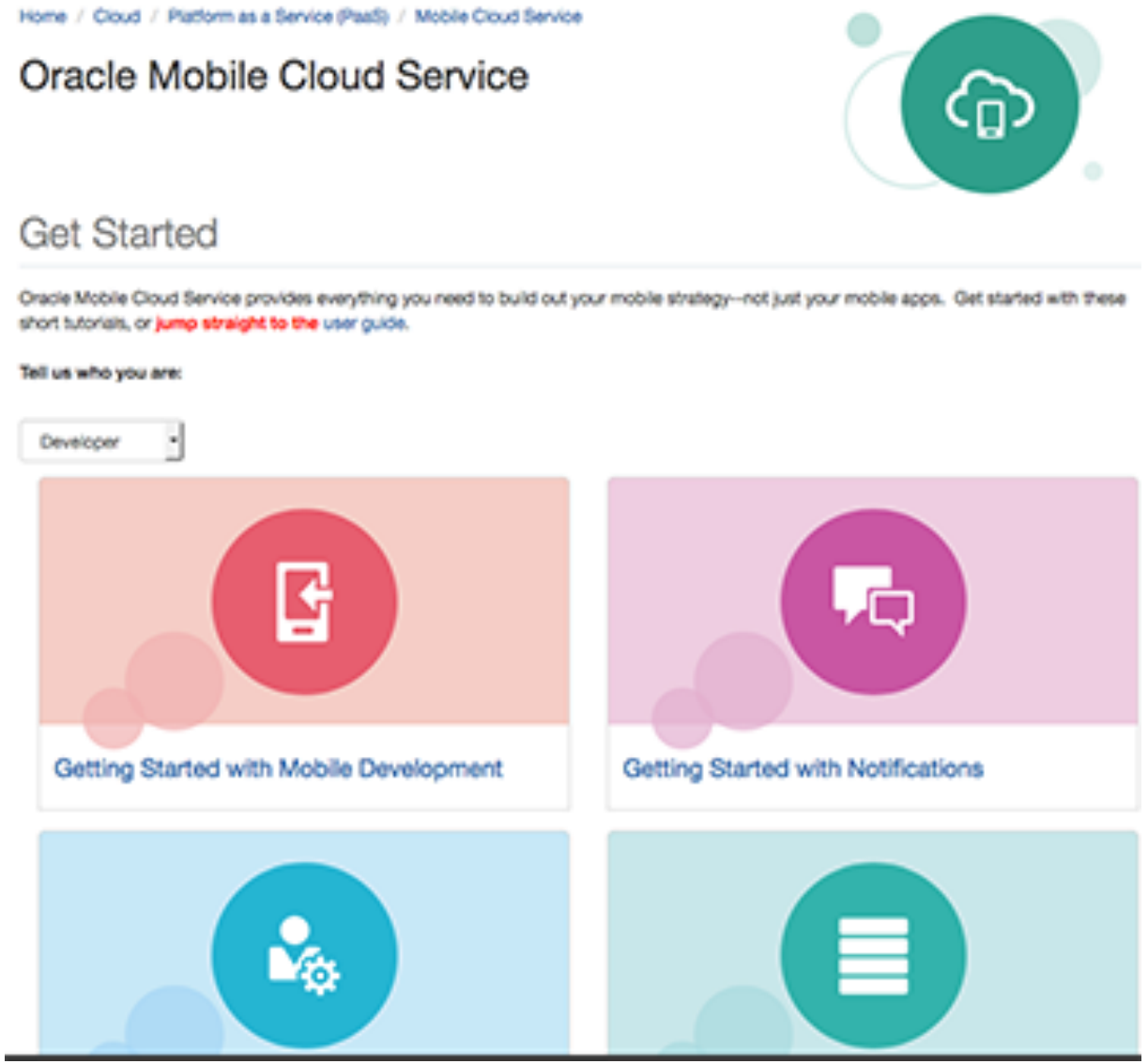
# MCS Options

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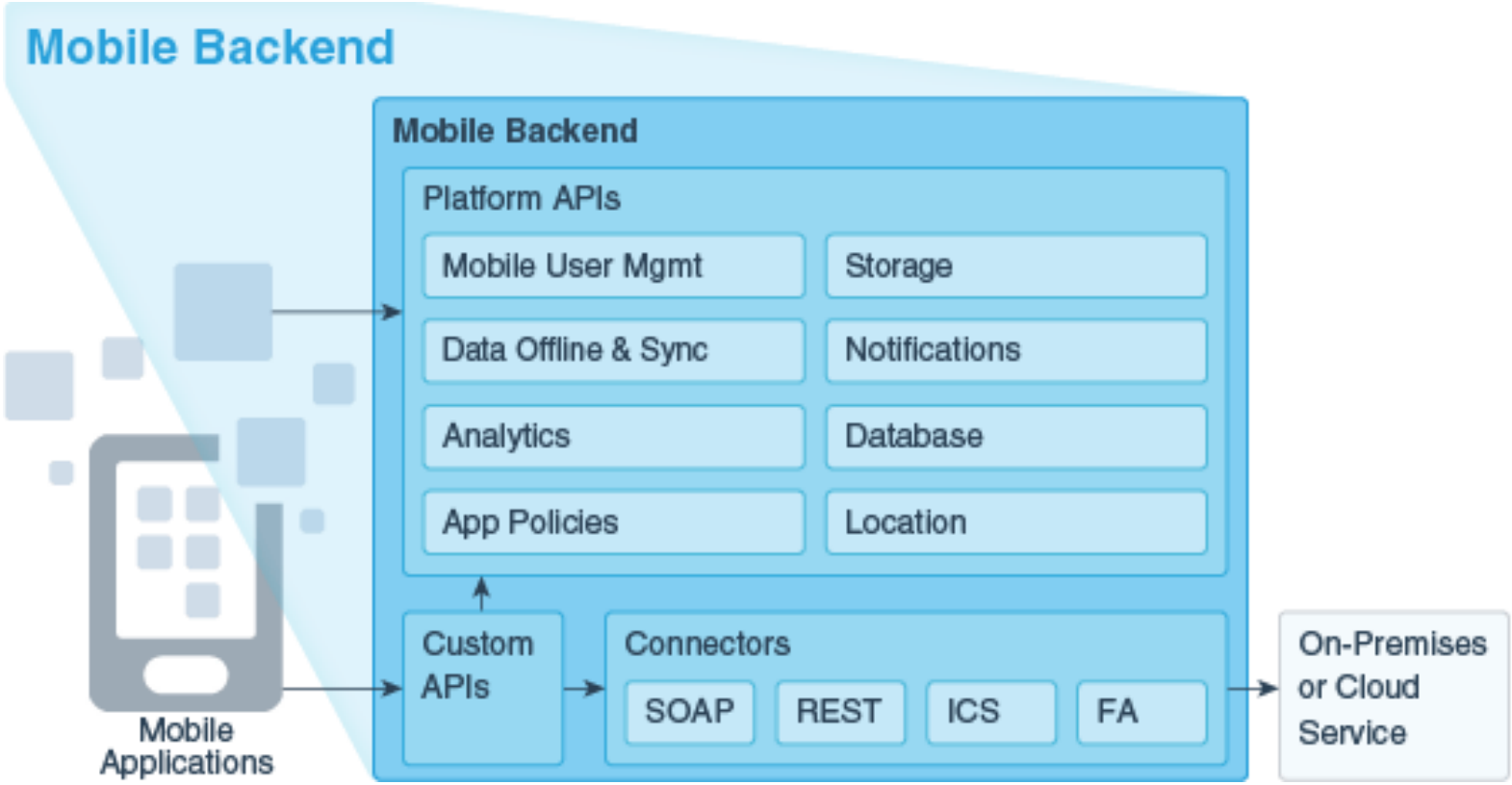
# MCS Mobile BackEnd (MBE)

- The Mobile BackEnd is the key to accessing applications through MCS

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# MCS Connector APIs

- Connector APIs connect MCS to external REST services
- Connectors may be configured so that when a MBE references them the data is sent and/or received as desired
- Connectors allow the MCS MBE to “hide” the complexity of multiple API calls whether they be REST, SOAP, or something else
- Connectors also “hide” the security work behind the connector configuration

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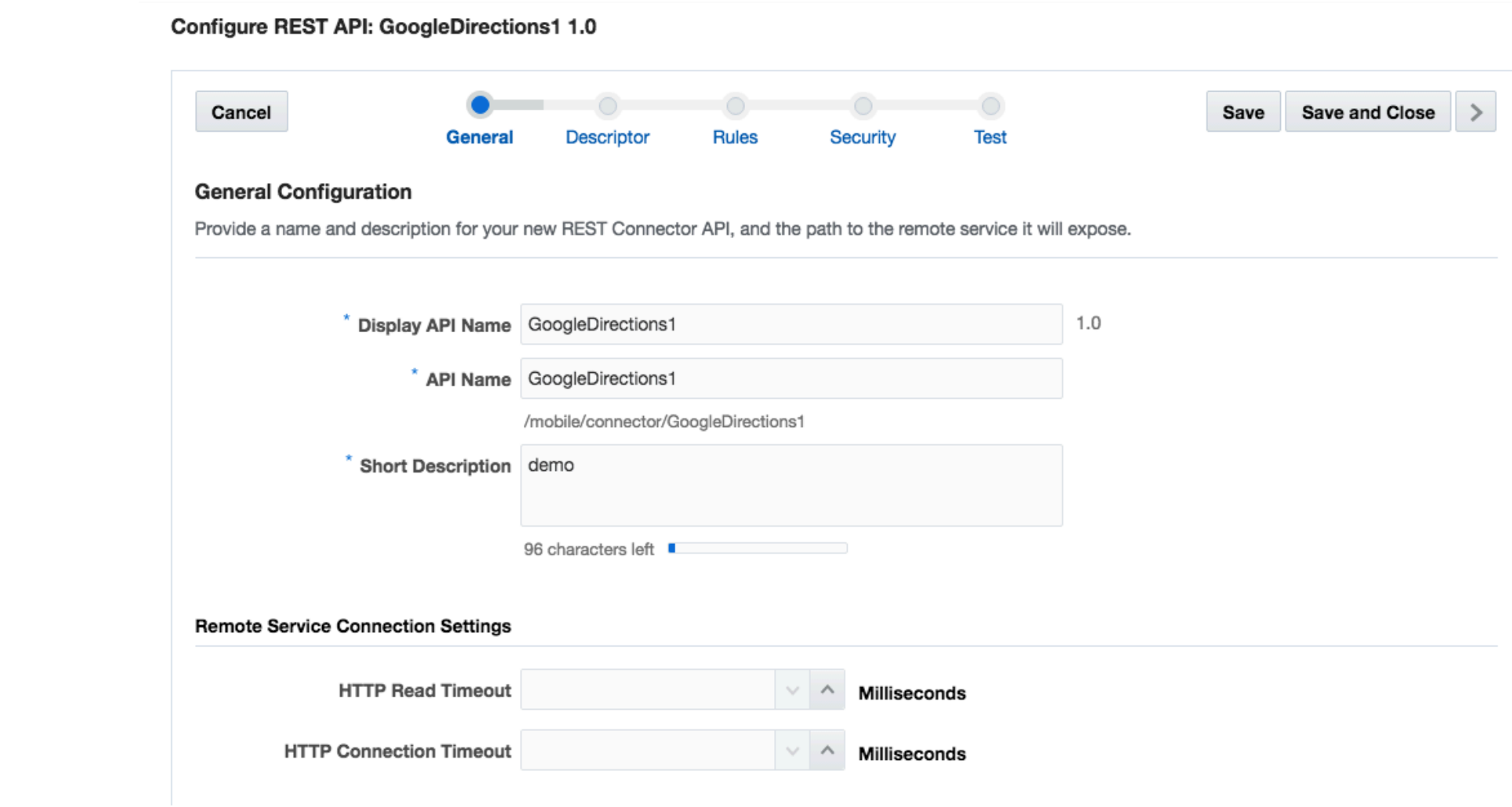
# MCS Connector - General

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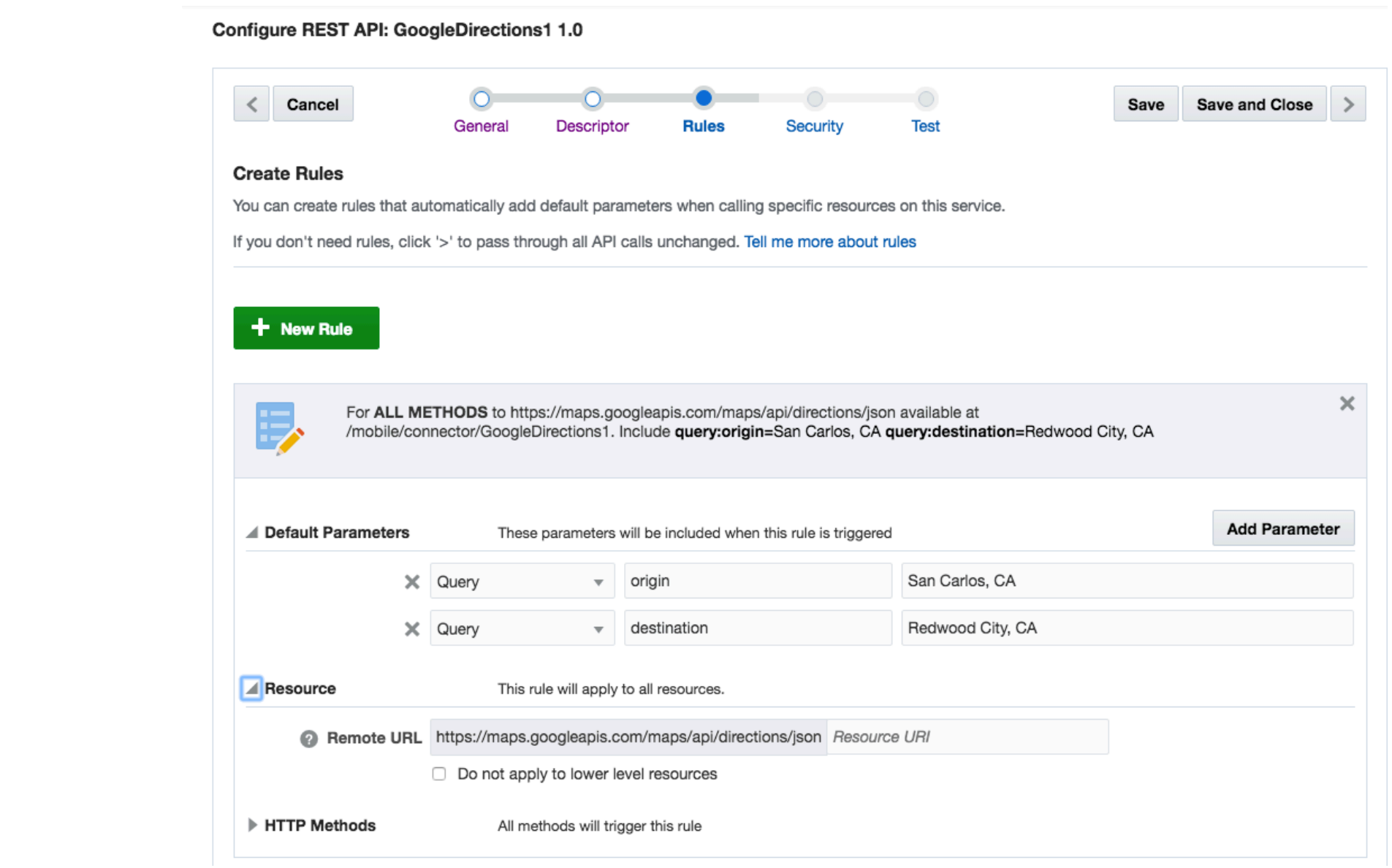
# MCS Connector - Rules

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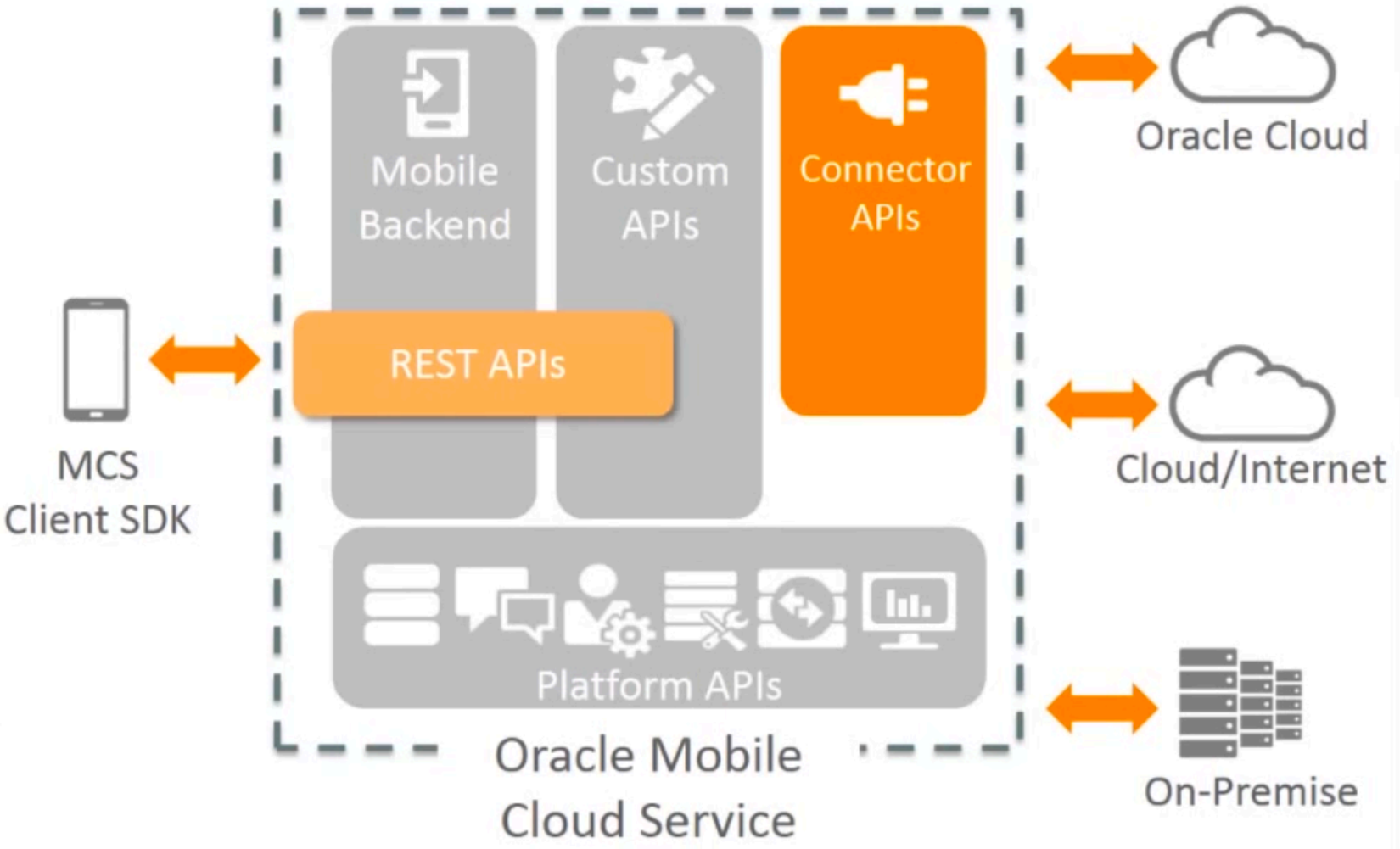
# MBE and Connectors

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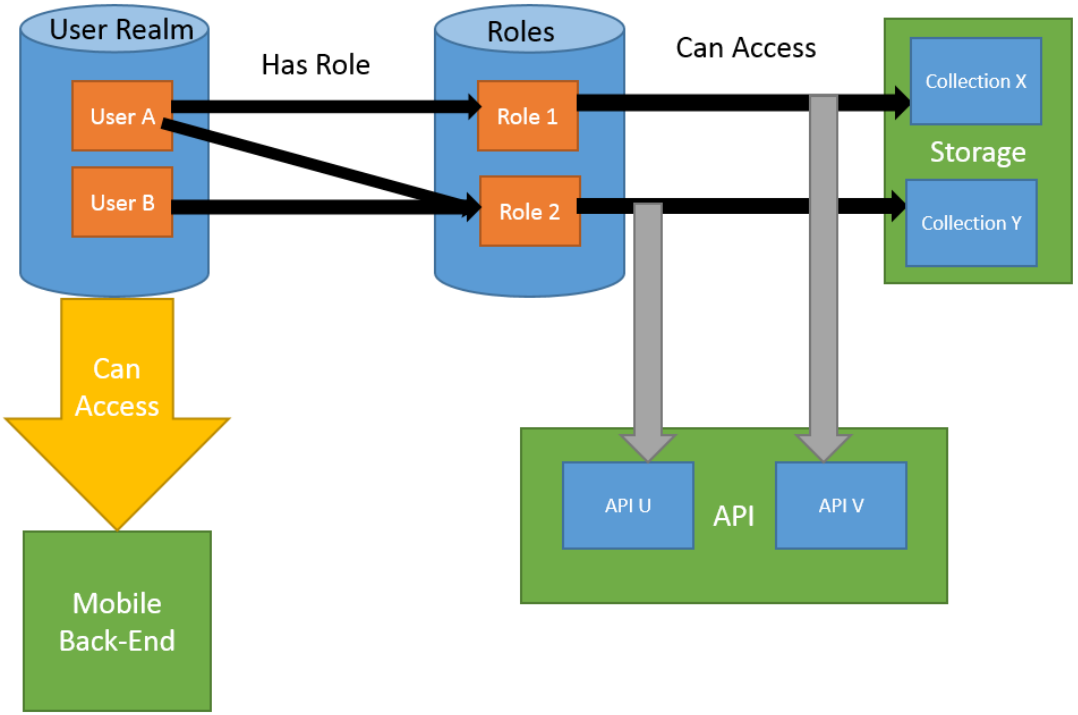
# MCS Security

- MCS Security uses Realms, Users, and Roles to interact with security providers

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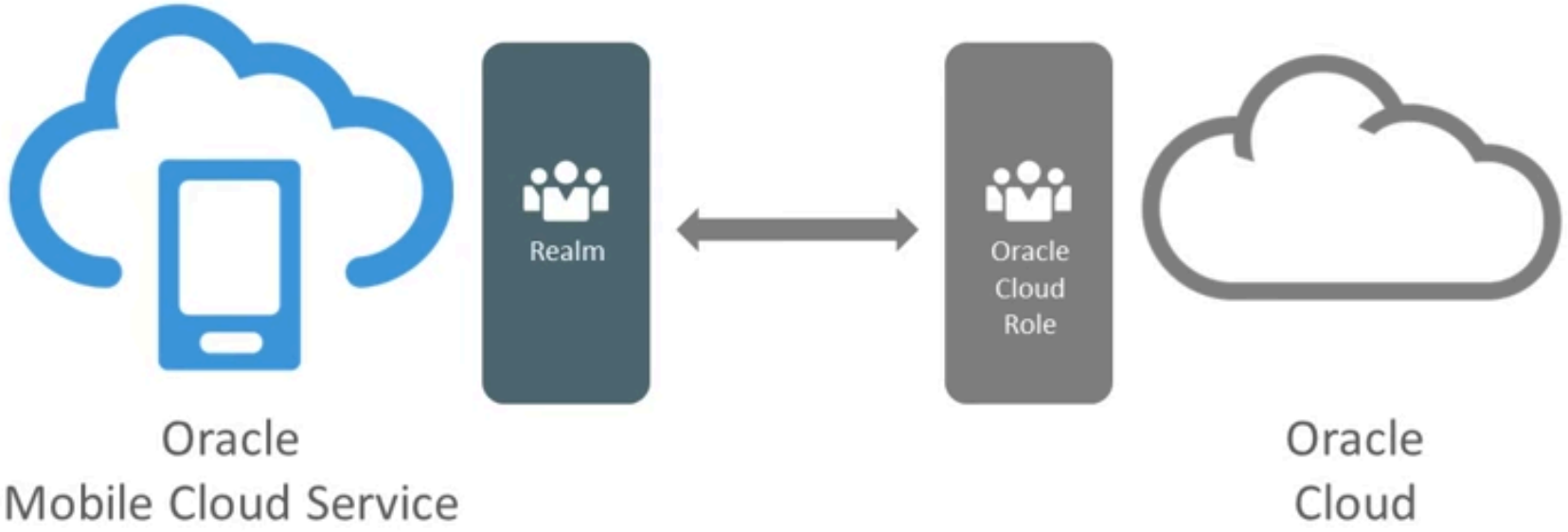
# MCS Realms & Oracle Identity

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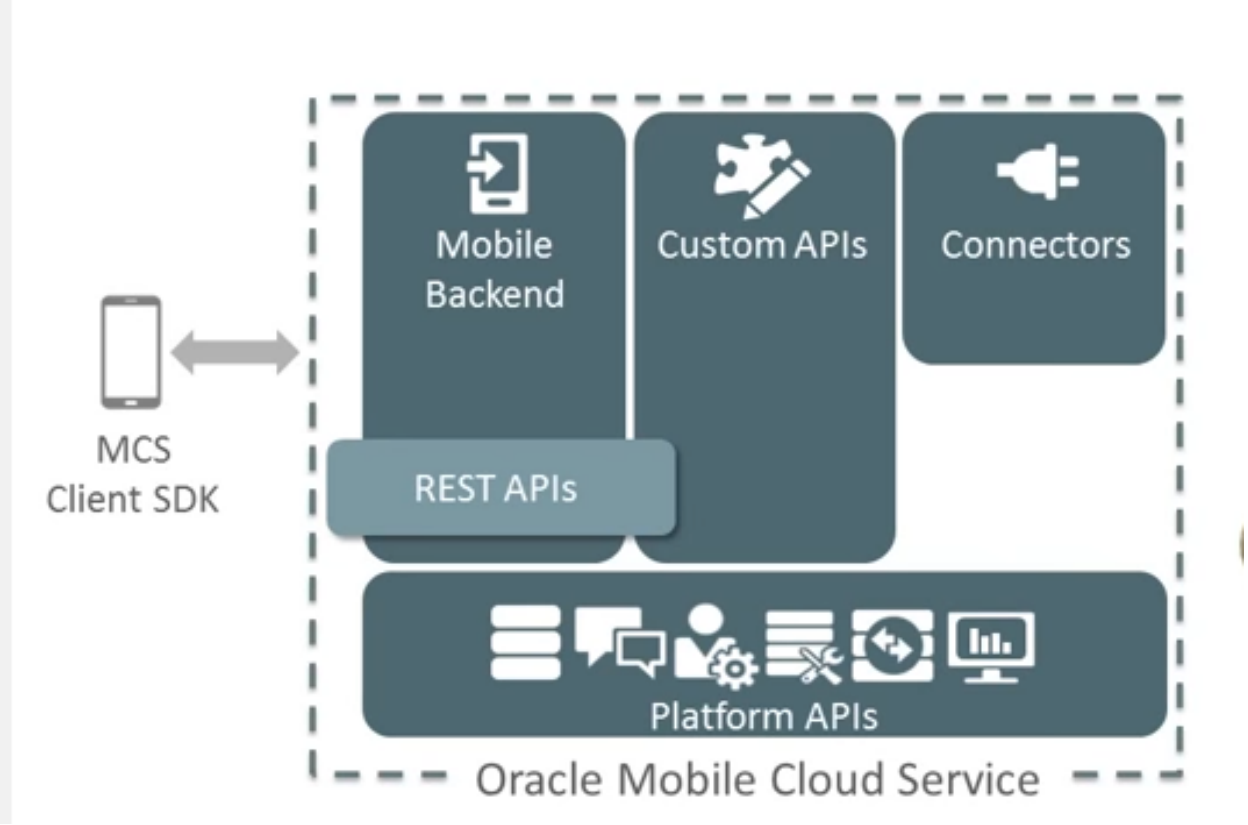
# MCS APIs

- MCS simplifies mobile access using APIs
  - Platform APIs  Provided with MCS
  - Custom APIs  Created by application team

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# MCS Platform APIs

- Analytics Collector — Process analytic events
- Analytics Export — Get Event and API data
- App Policies — Get App policies
- Database Access — Add, read, delete rows
  Database Mgmt. — Create/Drop tables
- Devices — Register/deregister client
- Location — Device, place, asset locations
- Location Mgmt. — Manipulate Asset, Device, Place
- Mobile Users — Get/Update user information
- Mobile Users Ext Ops — Get extended user info
- Notifications — Manipulate notifications
- Storage — Return/Store objects
- Tools — Upload custom API

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# MCS Interactions

- MCS and Chatbots
- MCS and MAF
- MCS and JET
- MCS and MAX
- MCS and non-Oracle software (node.js, React, angular 2, etc.)

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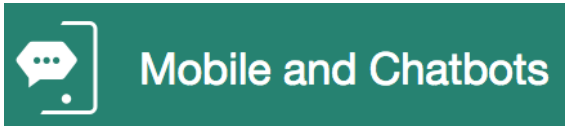
# MCS and Chatbots

- Today's user expects to interact instantly from anywhere using whatever device is handy; phone, tablet, computer, Amazon Echo, Google Home, who knows what???
- MCS makes it easy to connect Intelligent Bots (chatbots) to back-end data
- Recently announced Intelligent Bot interfaces in Oracle Mobile Cloud that make this even easier 

- Use a simple RESTful API to build your bot

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# MCS and MAF

- MAF (Mobile Application Framework) is the tool used to create most of Oracle's existing SaaS mobile apps
- MAF is a hybrid mobile app creation tool using a single code base but generating native apps for both Android and Apple
- MCS connectors work directly with MAF and promote the creation of mobile apps simply and easily

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# MCS and JET


- JET (Java Enterprise Toolkit) is Oracle's industry-standard HTML, CSS, and JavaScript tool kit
- JET applications will work on any industry-standard browser (device operating system does not matter)
- Use the simplified RESTful API provided by MCS to work with complex security and data stores via MCS's RESTful services

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# MCS and MAX

- Oracle MAX (Mobile Application Accelerator) provide a low-code tool for generation of Mobile applications

- The MCS RESTful API simplifies use of Oracle resources minimizing the amount of coded required

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# MCS and VBCS

- Oracle Virtual Builder Cloud Service (formerly ABCS) provides a low-code application development tool
- The MCS RESTful API simplifies use of Oracle resources minimizing the amount of coded required

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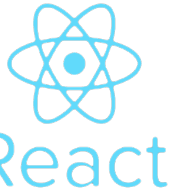
# Non-Oracle Software

- MCS works with any non-Oracle software that can call RESTful APIs such as:
  - node.js 
  - React 
  - Angular 2 
  - more… (pretty much anything that can consume RESTful APIs)

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# SaaS or On-Prem Applications

- Using MCS may connect to anything with APIs that MCS can reach including:
  - MCS and SaaS or On-Premise Applications
  - Oracle Cloud Applications
  - Oracle E-Business Suite & JD Edwards
  - Other Oracle ERPs
  - Non-Oracle software

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# Oracle Fusion HCM APIs

- Oracle Human Resources Cloud R12
  - Employee Resources: emps, grades, jobs, jobFamilies, locations, organizations, positions, scheduleRequests, timeEventRequests, wellnessActivities
  - Schedule Requests: scheduleRequests, scheduleEvents, scheduleShiftAttributes
  - Time Event Resource: timeEvents, timeEventRequests, timeEventAttributes
  - Wellness Activities Resource: wellnessActivities

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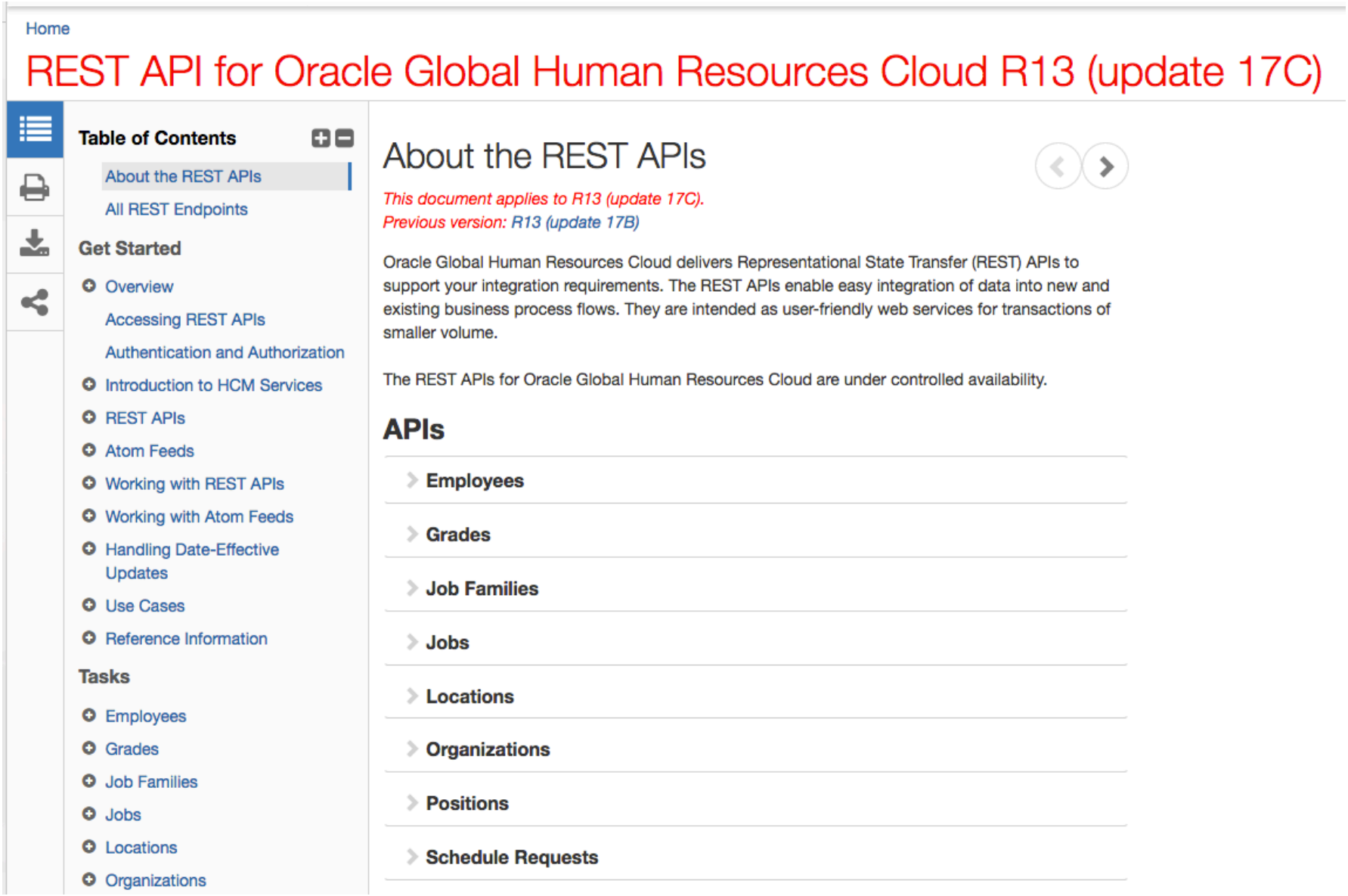
# Oracle Cloud Apps HCM R13

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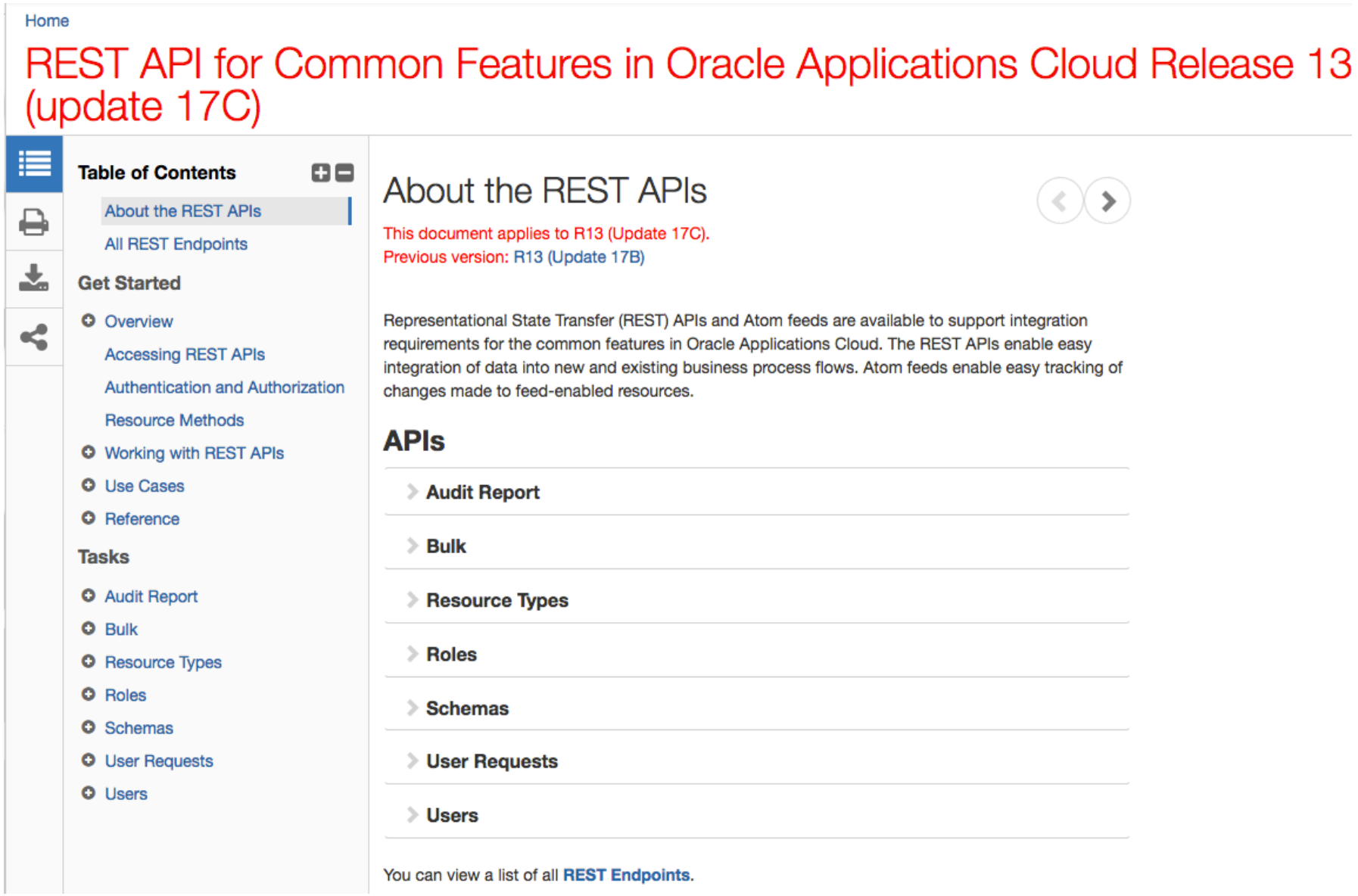
# Cloud Apps R13 SCIM APIs

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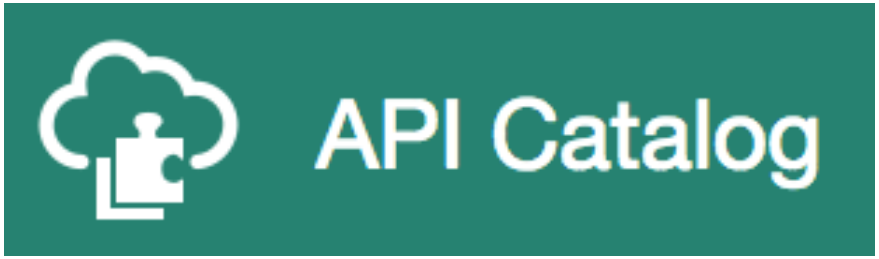
# Oracle Cloud Applications

- Oracle Cloud Applications are now on generation 13; they provide a variety of APIs easily accessed using the Oracle API Catalog




(Experienced users report some some REST APIs not available publically at this point despite the documentation (SOAP ok) – they might be referring to version 12)

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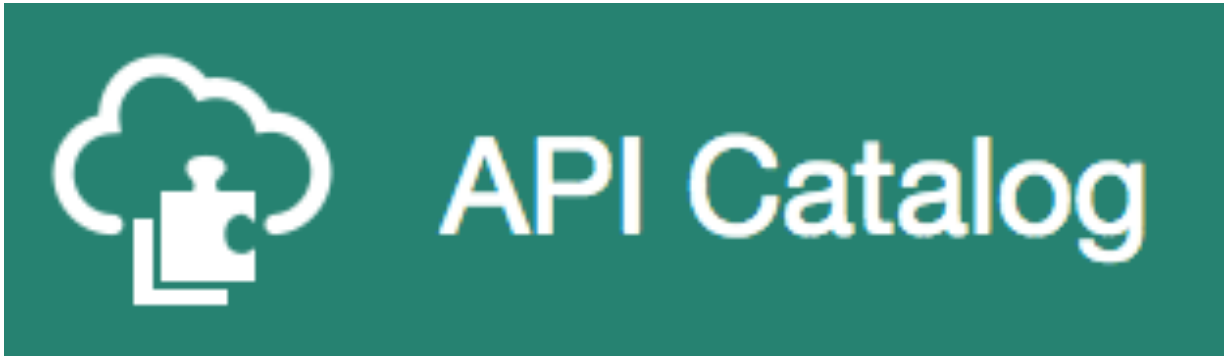
# API Catalog Cloud Serice

- API Catalog Cloud Service
  - CX
  - ERP
  - HCM
  - IoT
  - SCM
  - IaaS
  - PaaS
  - more

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# API Catalog - Infrastructure

Infrastructure Platform Applications Industry Solutions

**Infrastructure**

- Archive Storage in Oracle Storage
- Compute Cloud Service (IaaS)
- Container
- Identity in Oracle Storage
- Monitoring
- Standard Storage in Oracle Storage

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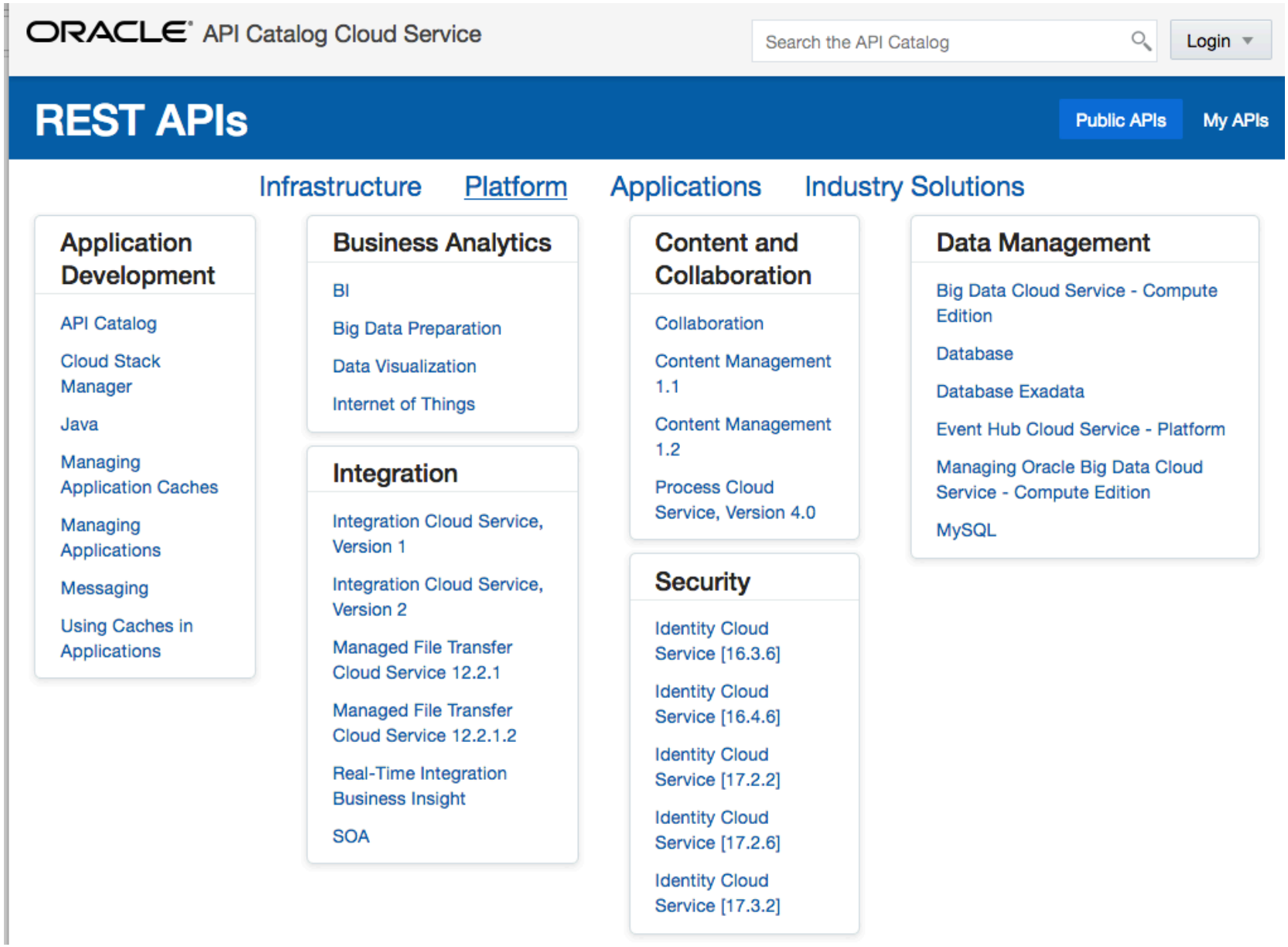
# API Catalog: Platform

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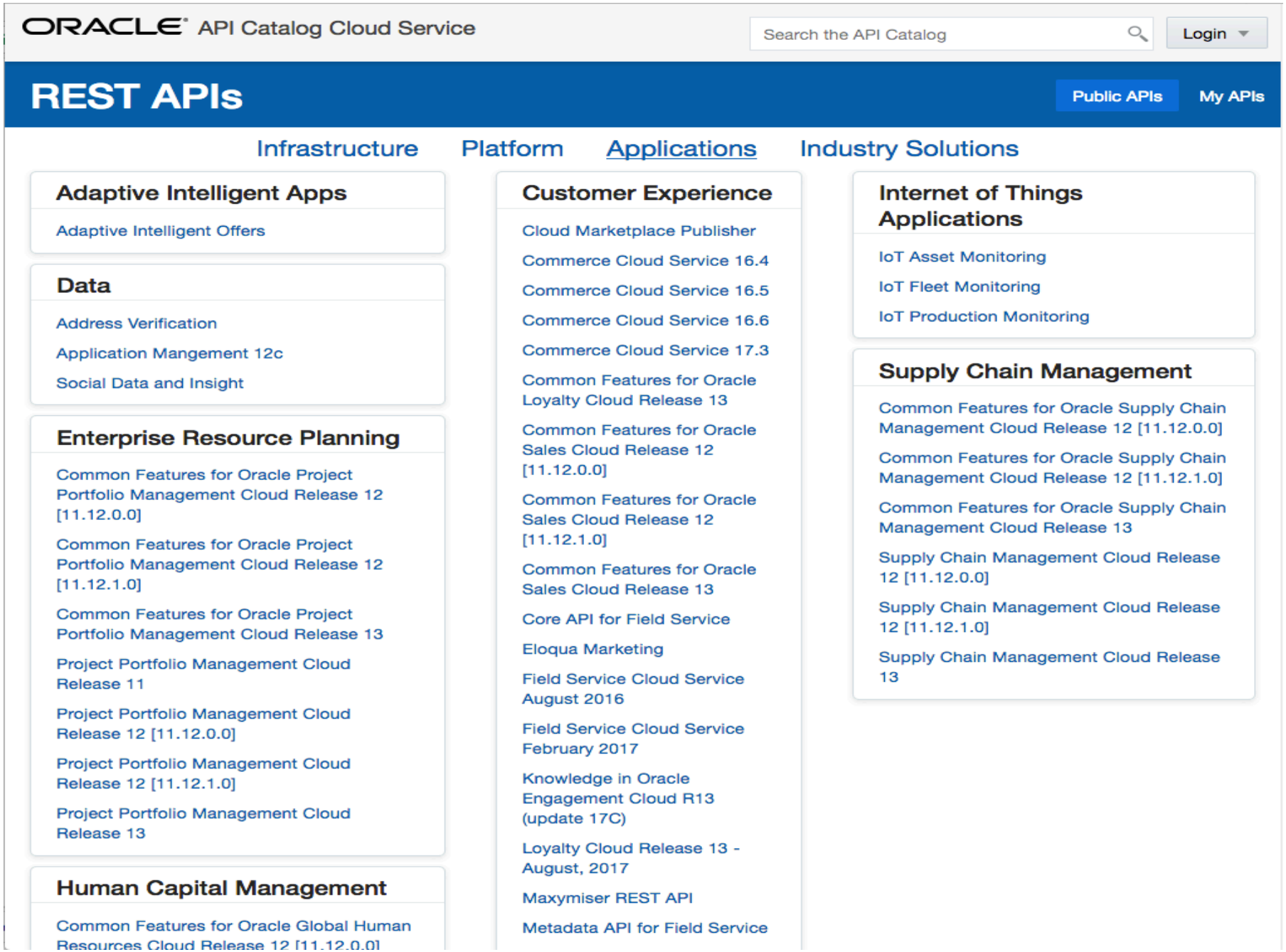
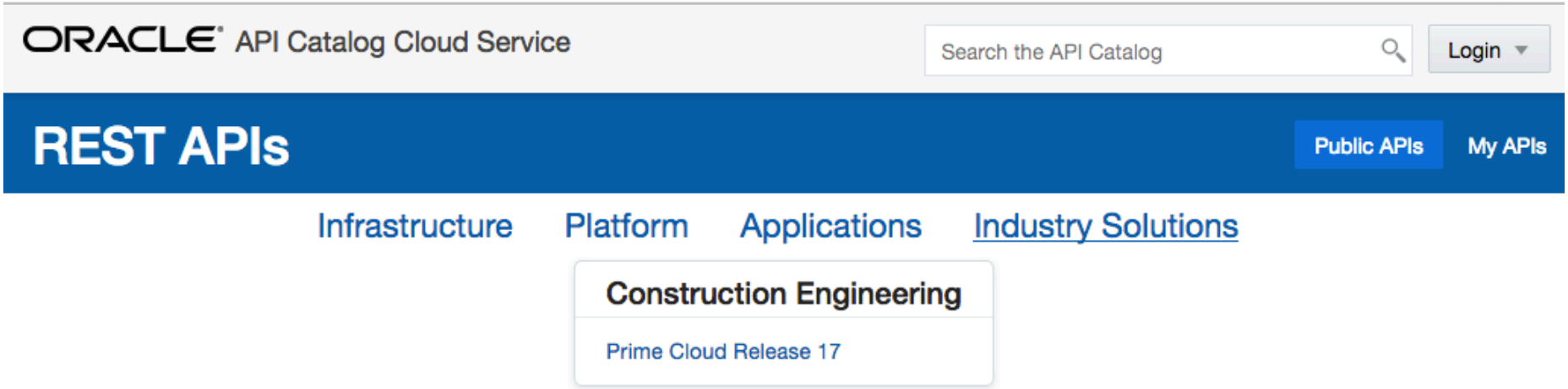
# API Catalog: Applications



# API Catalog: Industry Solutions

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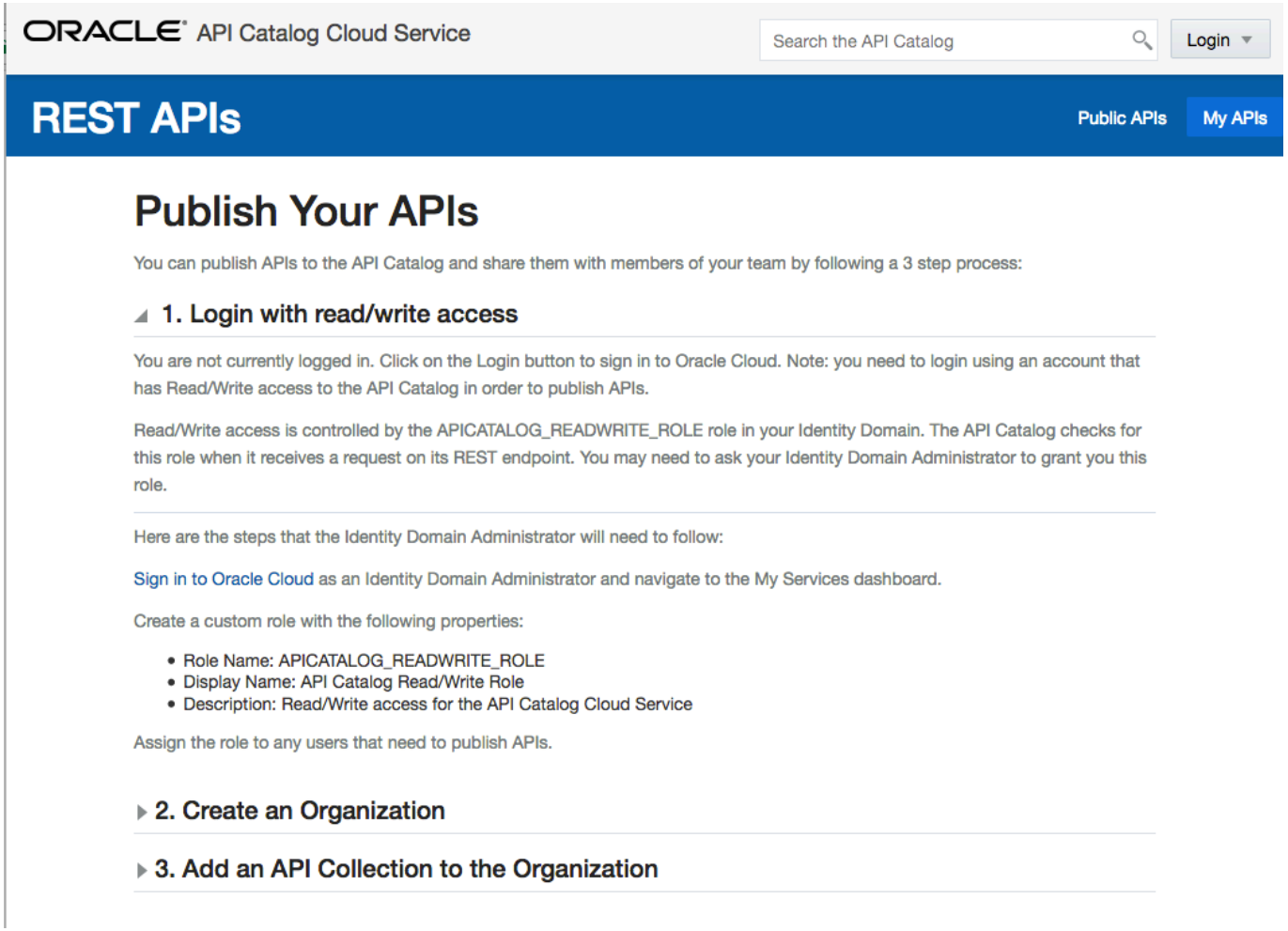
# API Catalog: “Roll Your Own”

- The API catalog also allows creation of custom APIs

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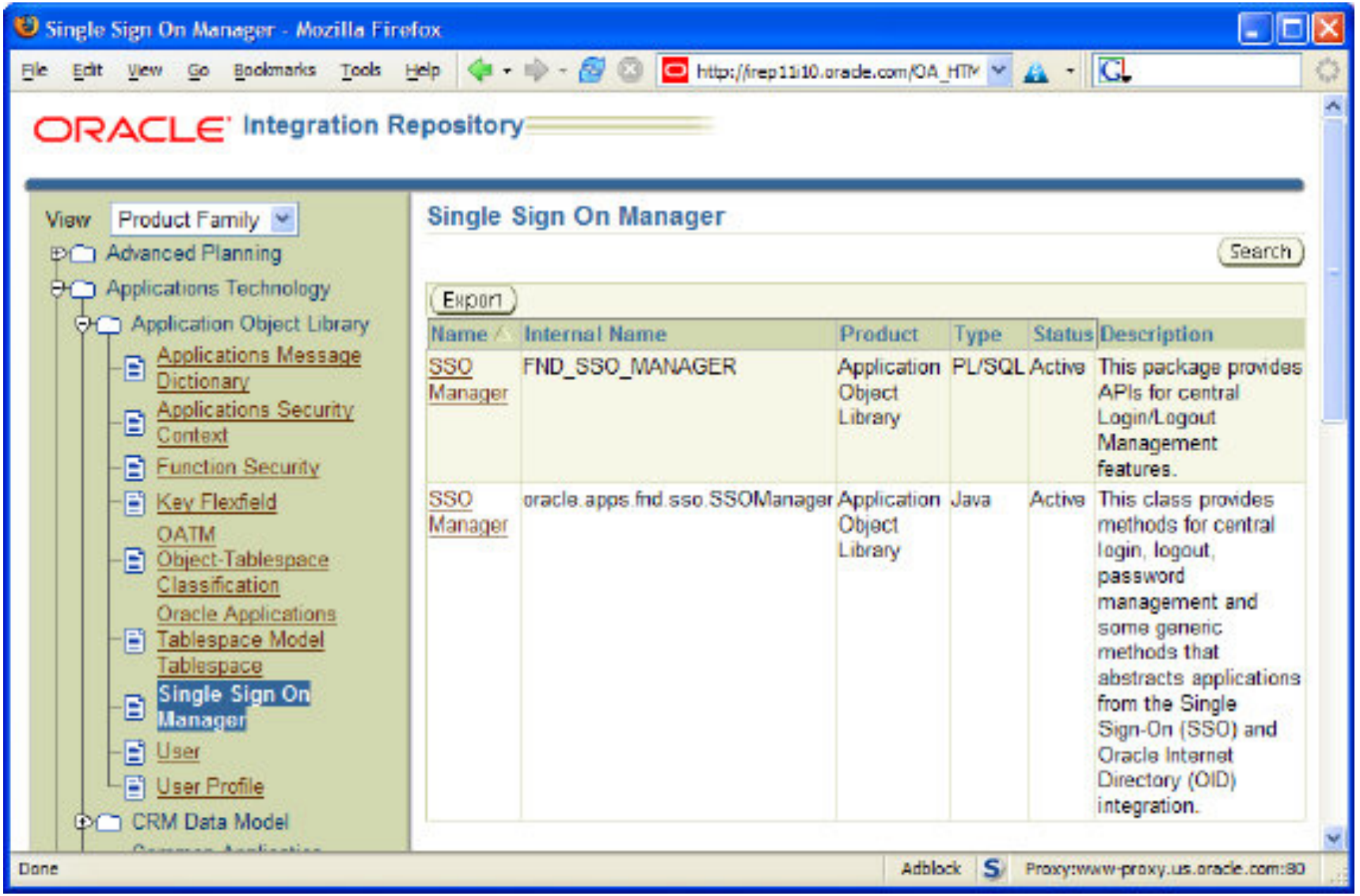
# Oracle E-Business Suite

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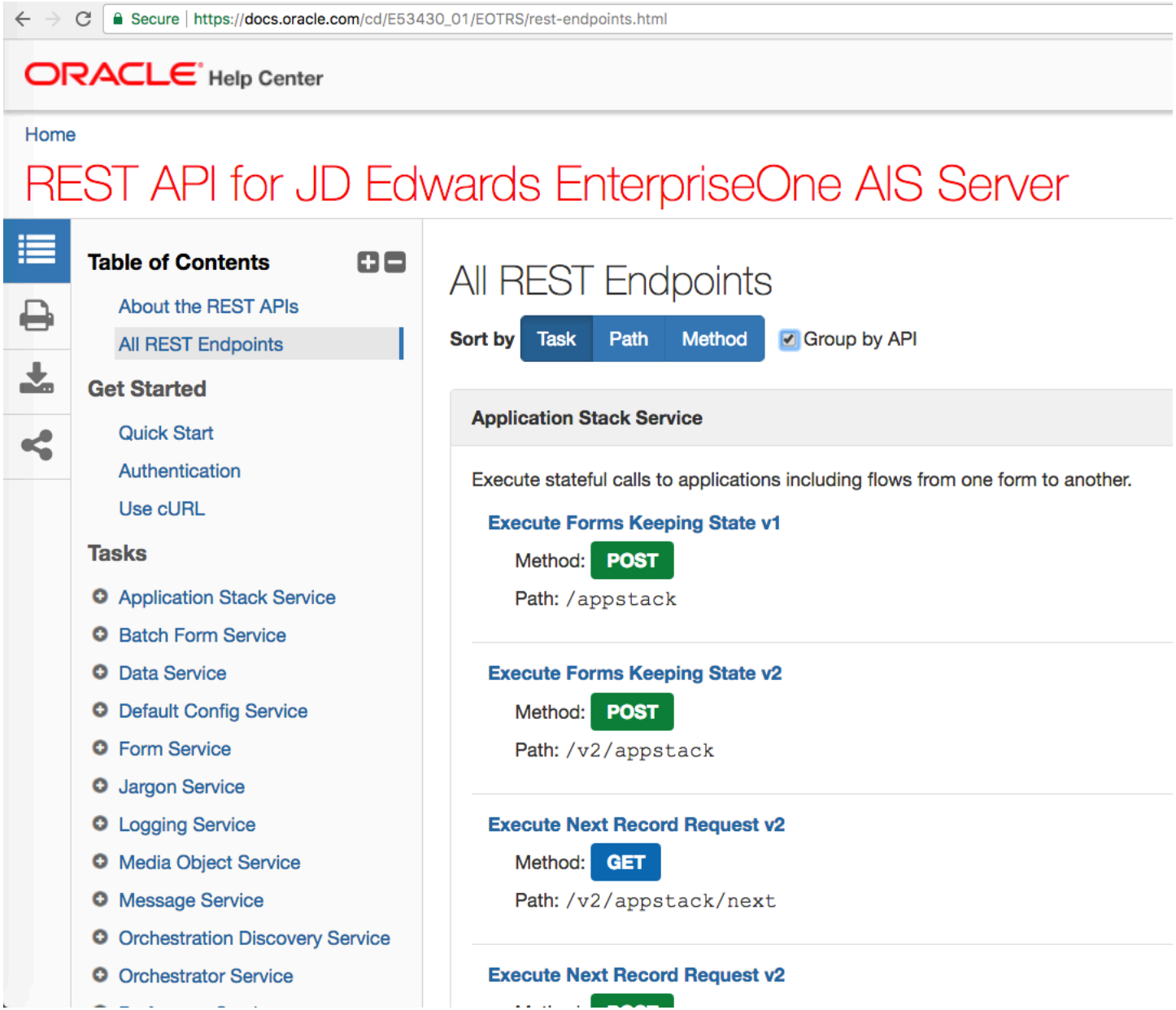
# JD Edwards

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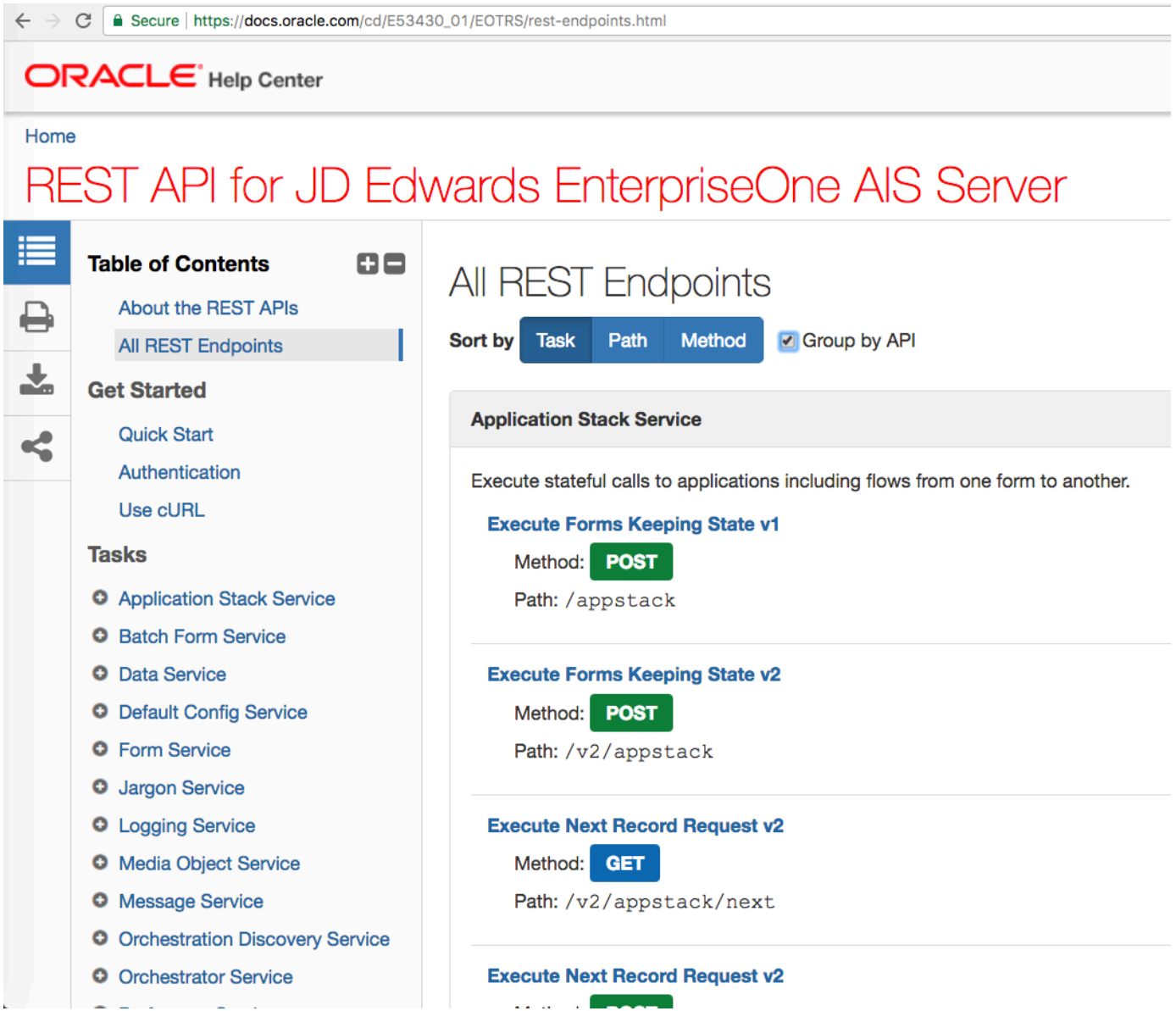
# Oracle Cloud Service APIs

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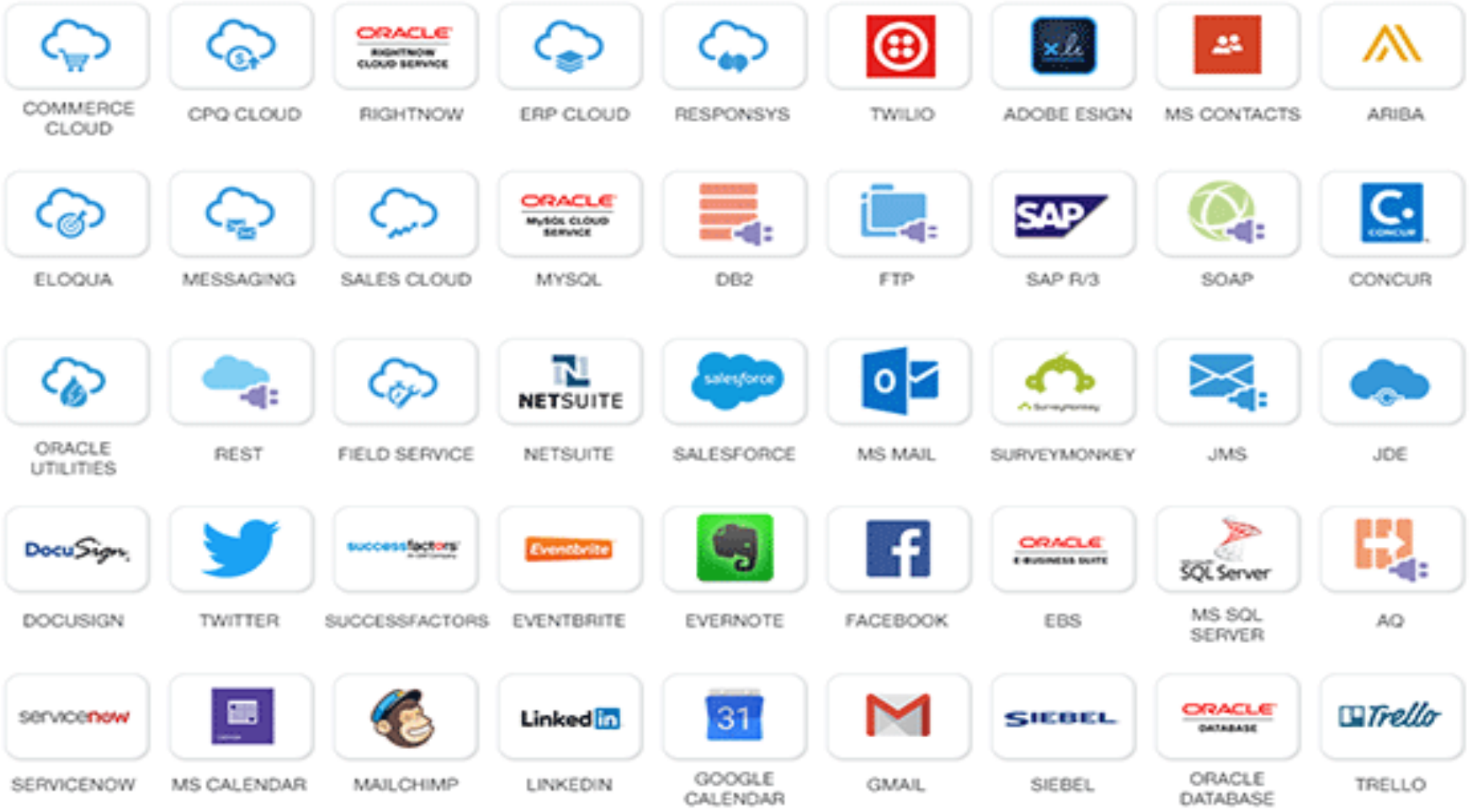
# Integrated Cloud Service

- Oracle Integrated Cloud Service (ICS) provides another source of APIs

# Other Oracle ERPs

- Peoplesoft currently has many SOAP based web services and custom REST services may be created
- Siebel has both SOAP and REST APIs

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# Non-Oracle Cloud

- Believe it or not, Oracle is not the only cloud provider!
- APIs are available for most of the more-popular non-Oracle clouds too:
  - SAP
  - Salesforce
  - AWS
  - Microsoft 365
  - Microsoft Azure
  - Many, many, more…

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# Fusion Apps Connectors

- MCS allows the use of various APIs (SaaS, HCM, SCM, CRM, custom, and more) by means of Connectors
- Connector developers can incorporate various API calls to REST, SOAP, and other services

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# Connection Creation Steps

1. Create connector API
2. Authenticate with Cloud Applications instance (design time)
3. Connect to Cloud Applications instance
4. Discover and enable resources
5. Set resource attributes
6. Set security policies
7. Test connector APIs

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# Connector Run-Time

1. Application needs connector resources
2. Cloud apps connector API
3. Cloud resources accessed
4. Runtime security checks credentials
5. Cloud application provides resources

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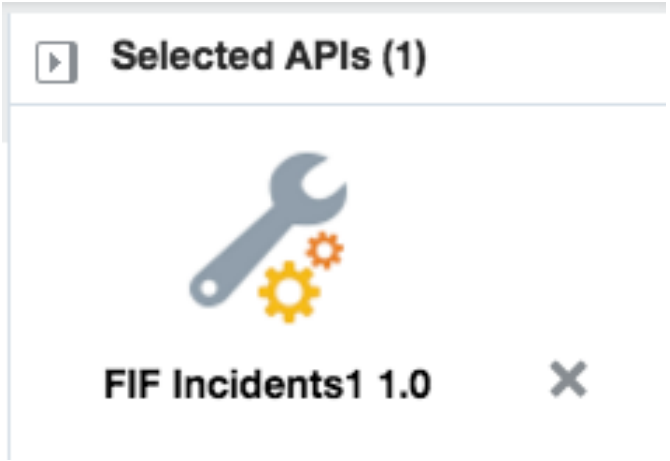
# Add Connector(s) to MBE

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# Oracle Supplied Apps

- Oracle's SaaS provides several mobile apps out of the box (but maybe not the one you want)


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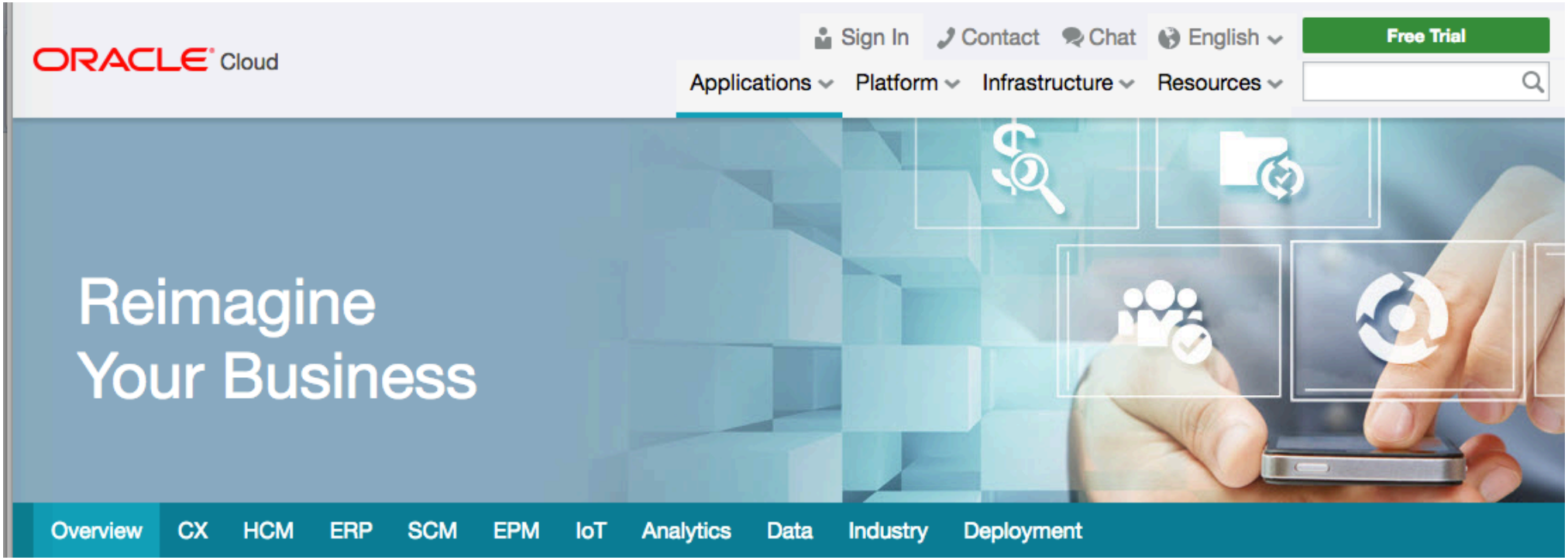
# Extending Oracle Cloud SaaS

- Extending Oracle Cloud SaaS
  - Oracle supplied Applications
  - Oracle supplied APIs
  - API Catalog Cloud Service
  - Many other options



# MCS Enables Mobile Apps

- Enterprise apps rarely use a single activity
  - We must ensure security protocols are honored
  - We need to connect to disparate sources of data; SaaS, on-prem, databases, more…
  - We might need to manage data for off-line access then ”synch-up” when connected
- Developers can manually manage all of this from within the application with lots of calls
- Or, developers can use MCS to encapsulate activities so that the mobile app is as simple and fast as possible

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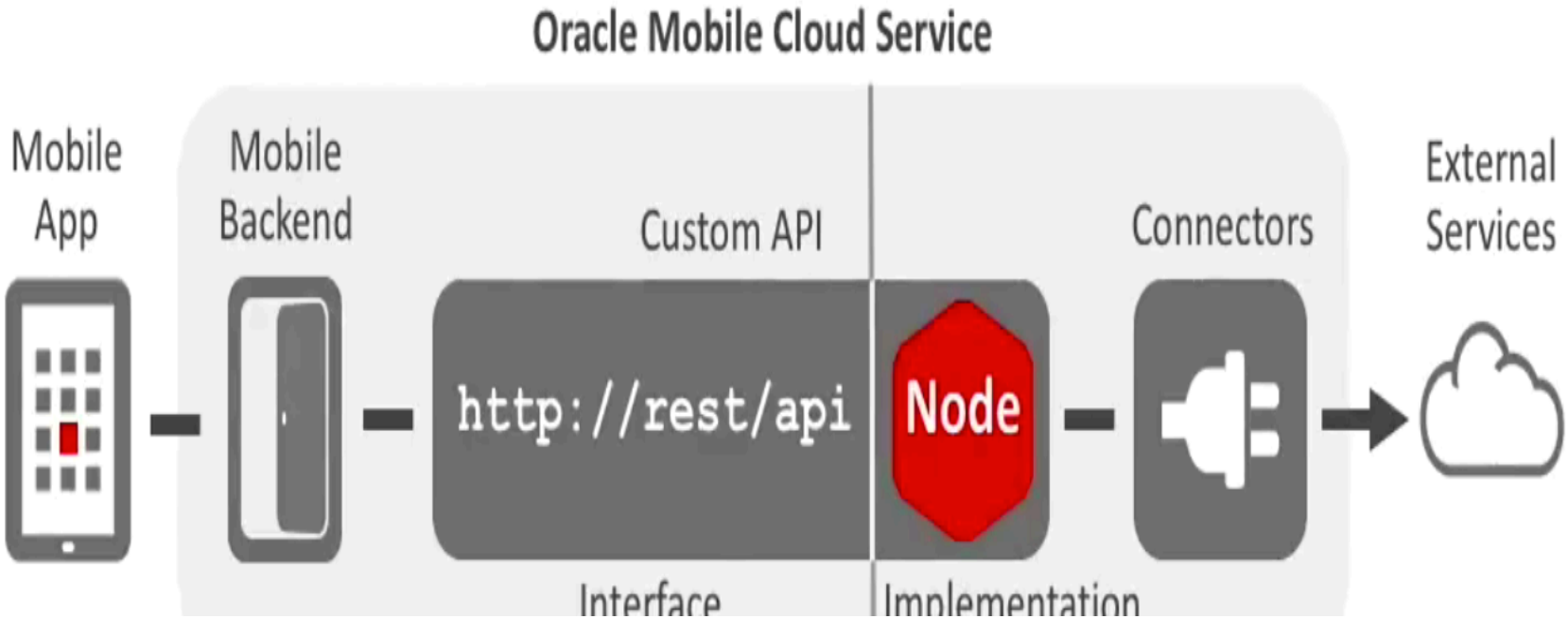
# MCS & Mobile Apps

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# Wrapping it all Up

- Mobile Application development in the Enterprise is complex; often involving SaaS, Security, non-SaaS data, and more
- Mobile Application developers MAY access available services directly providing more-direct access to resources at the cost of duplicating integration effort and security effort over and over again for each app
- Mobile Applications developer MAY ALSO use Oracle Mobile Cloud Services and its Mobile Back Ends and Adapters to greatly simplify creating mobile applications and making mobile back end processing more-reusable

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## *Extend Oracle Applications Using Mobile Cloud Service (MCS)*


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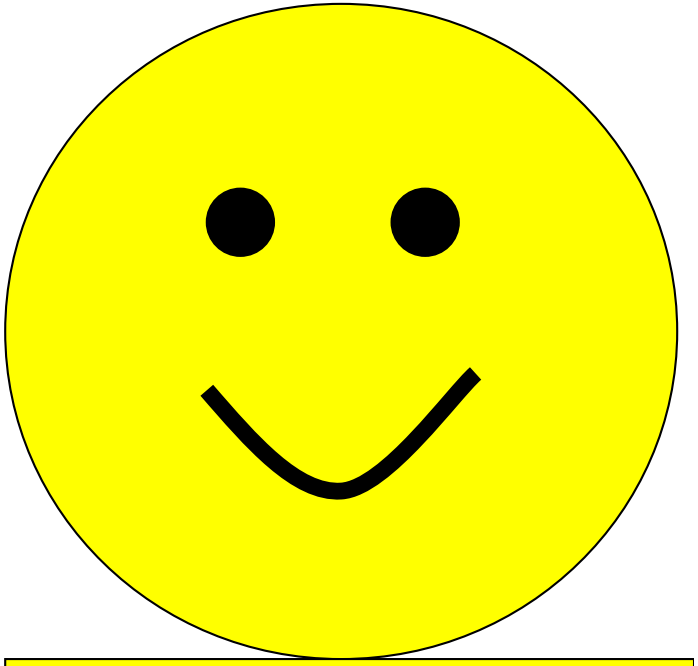

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