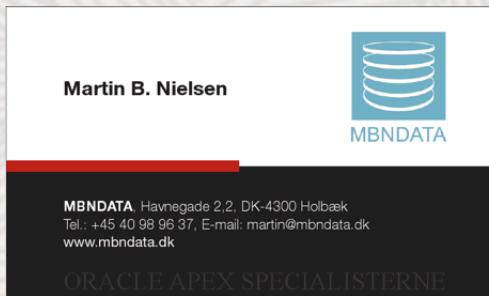


# APEX: New features

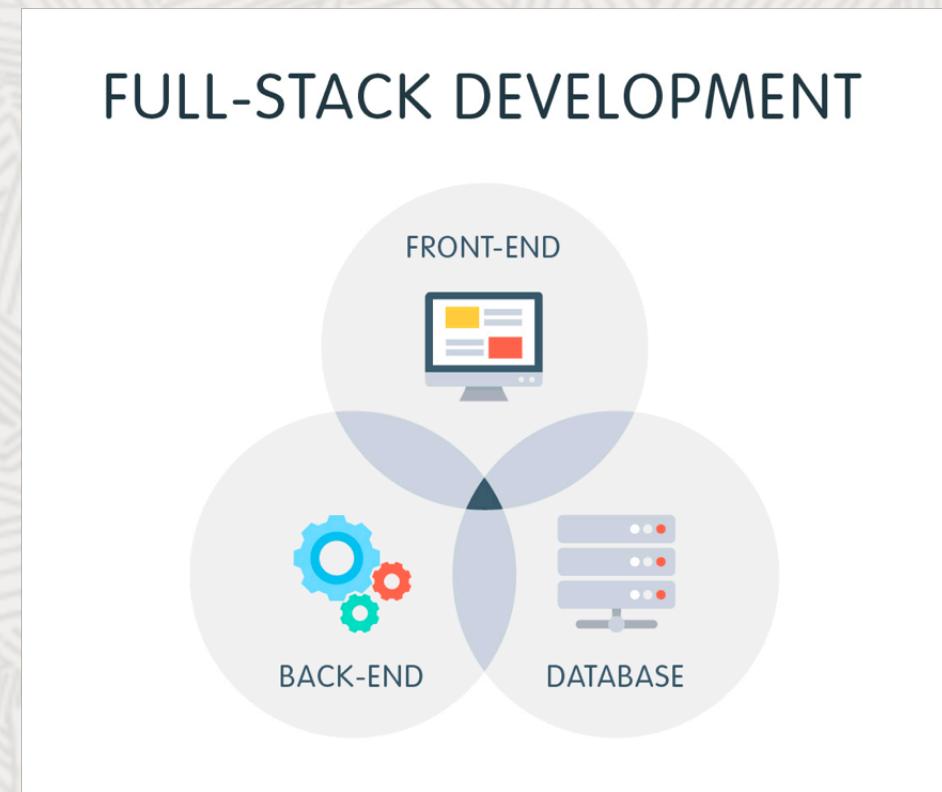
**Version 19.2, 20.1, 20.2**

Martin B. Nielsen  
MBN Data ApS  
Oktober, 2020

# Præsentation



The screenshot shows the Oracle Application Express homepage. The title 'Oracle Application Express' is at the top, followed by the subtext 'Build applications using only your web browser.' and a 'Get Started' button. To the right is a white icon with a yellow pencil and a red 'X' on a grid background.



- **MBNDATA**
- Udviklings Projekter
- Konsulentbistand
- Mentoring
- Undervisning

W: [mbndata.dk](http://mbndata.dk)  
@: [martin@mbndata.dk](mailto:martin@mbndata.dk)

# Agenda

1. APEX i dag
2. APEX historik
3. Nye features i 19.2
4. Nye features i 20.1
5. Nye features i 20.2
6. Nye features til udviklere
7. Nye features til slutbrugerne



# Hvad er APEX

**Oracle APEX**  
Database-centric web application development framework

Develop desktop and mobile web apps

Visualize and maintain database data

Leverage SQL Skills and database capabilities

<https://apex.oracle.com/shortcuts>

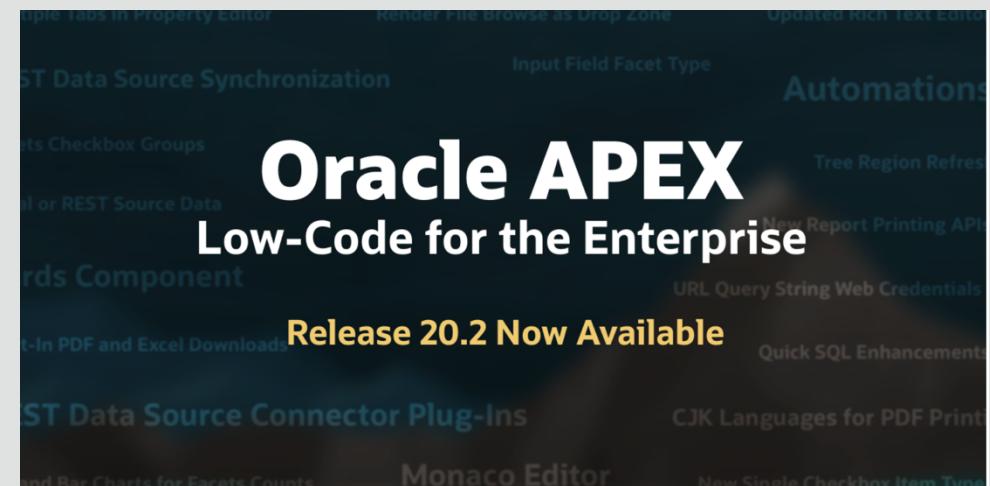
7 Copyright © 2020, Oracle and/or its affiliates

O

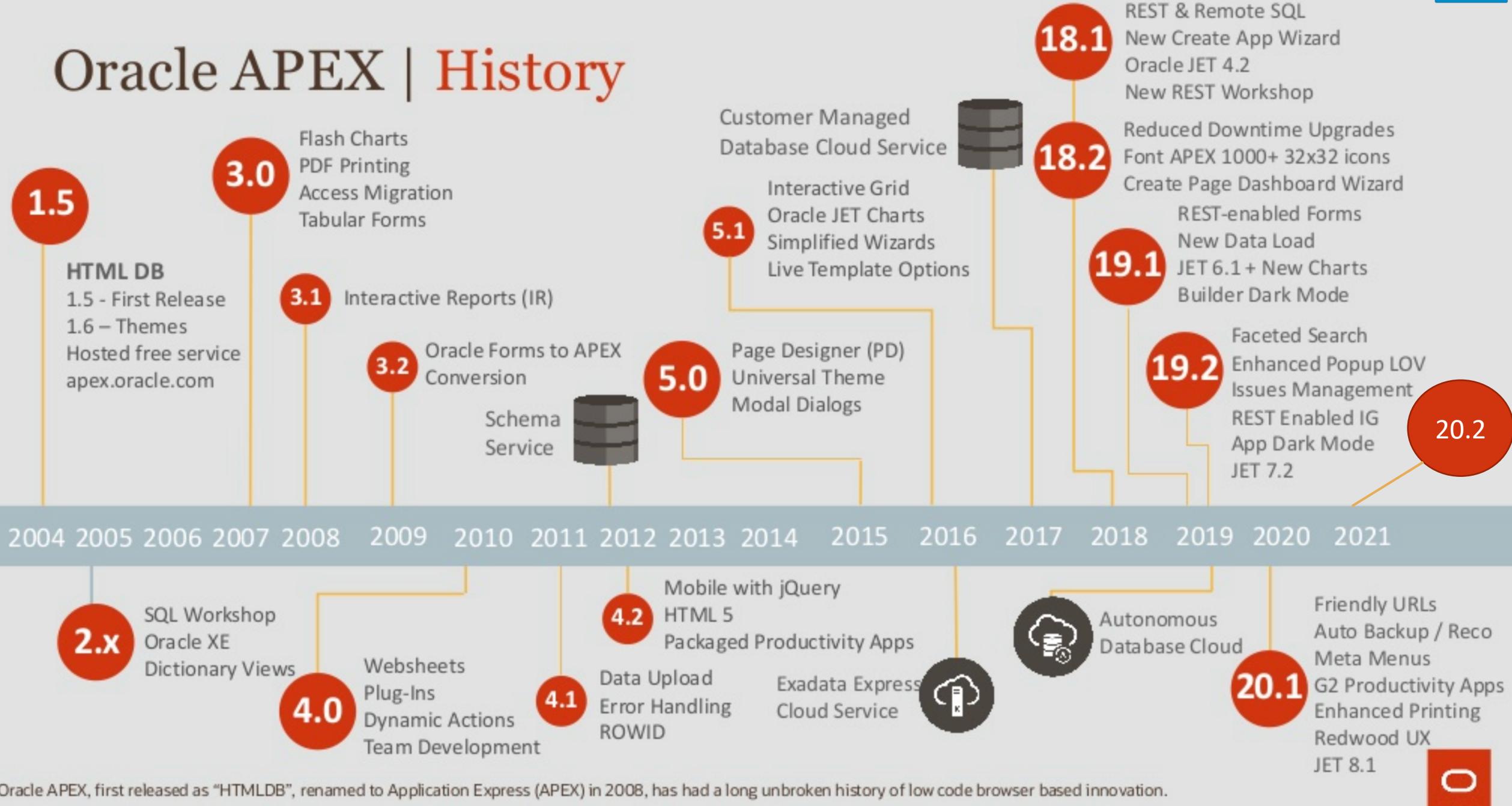


# APEX: I dag

- Over 500.000 udviklere worldwide
- Mere end 100 aktive bloggere
- Et meget aktivt community
- Mange online præsentationer fra både Oracle samt community.
- Åbent og hjælpsomt team hos Oracle
- ”No cost – fully supported features” (altså når man har købt databasen).
- En del af pakken i ”Autonomous Cloud”.
- Hyppige releases med mange nye features
- Har bevist sit værd som ”Enterprise ready” til både små og store løsninger.



# Oracle APEX | History



# APEX 19.2



Faceted Search



Enhanced Shared List of Values



Enhanced Popup List of Values



New Team Development



REST Enabled Interactive Grid



Data Loading into Existing Tables



SQL Workshop Improvements



Universal Theme Improvements



Oracle JET and jQuery  
Library Upgrades



# APEX 20.1



Friendly URLs



Redwood Theme UI



Mega Menus



Remote App Deployment



Export as Zip Files



Automatic Backups



Built-in PDF Printing



Session Timeout Alerts



Faceted Search Enhancements



SQL Workshop Enhancements



Interactive Grid Enhancements



Other Enhancements and Library Upgrades



# APEX 20.2

[Download](#)

New Cards Region



Automations



Faceted Search Enhancements



Report Printing



REST Data Source Synchronization



REST Data Source Connector Plug-ins



New Web Credential Types



Redwood UI



Developer Experience



New and Improved Items



Miscellaneous



JavaScript Library Upgrades



# Nye features for udviklere

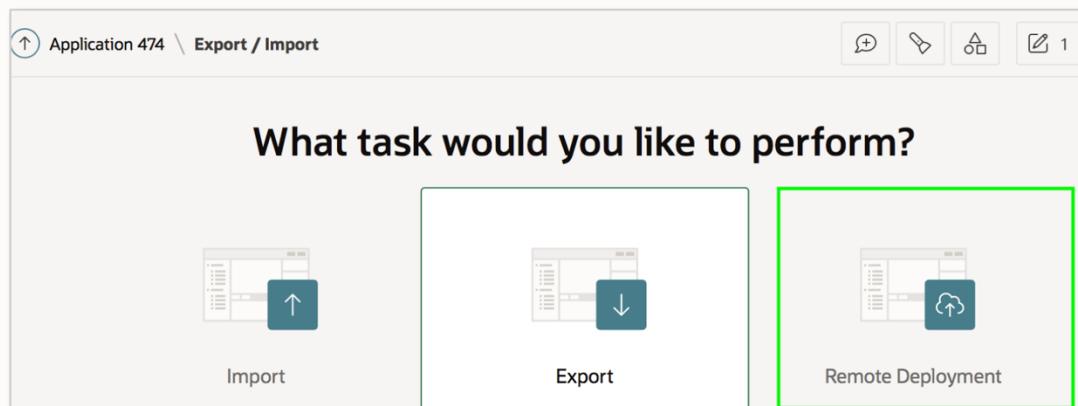
- **Remote App Deployment**
- Quick SQL
- Export as zip files
- Automatic backup
- Developer Experience (Page Designer)
- Forbedring af indbygget editor (Monaco editor)
- Embedded code utility (review, download)



# Remote Deployment

## One-Click Remote App Deployment

- Deploy an application along with supporting object definitions to another workspace or remote Oracle APEX instances.
- Leverages Oracle REST Data Services (ORDS) REST Enabled SQL Service.



### Remote Deployment

Choose an existing REST Enabled SQL service or create a new one.

\* Deployment Server: Remote App Dev Demo

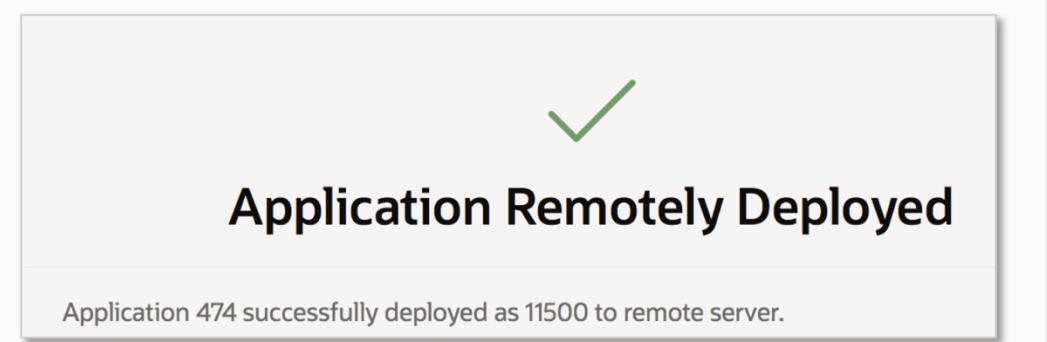
Endpoint URL: [https://hostname:port/ords/workspace\\_path\\_prefix](https://hostname:port/ords/workspace_path_prefix)

Credential Name: APEX\_PM

Authentication Type: Basic Authentication

Empty Credential Store: Off

\* Client ID: APEX\_PM



# Nye features for udviklere

- **Remote App Deployment**
- **Quick SQL**
- **Export as zip files**
- **Automatic backup**
- **Developer Experience (Page Designer)**
- **Forbedring af indbygget editor (Monaco editor)**
- **Embedded code utility (review, download)**



# Nye features for slutbrugerne

- Faceted Search
- Mega menu
- Report Printing
- Cards Region
- Automations



# Faceted Search

## Faceted Search Enhancements

The image displays two screenshots of Oracle APEX Employee Search pages. The left screenshot shows a detailed view of the facets configuration, while the right screenshot shows the resulting search results.

**Employee Search (Left Screenshot):**

- Facet Group:** IS\_NEWHIRE (5) is selected.
- Job Facets:** CLERK (2), ANALYST (1), and MANAGER (1) are listed.
- P3\_SEARCH Facet Group:** Contains checkboxes for P3\_ONLEAVE, P3\_JSMGR, and P3\_NEWHIRE, all of which are checked.

Ename	Sal	Comm	Onleave	Is Mgr	Newhire
SMITH	800		N	N	Y
WARD	1,250	500	N	N	Y
CLARK	2,450		N	Y	Y
SCOTT	3,000		N	N	Y
JAMES	950		N	N	Y

**Employees Search (Right Screenshot):**

- Facet Group:** Salary greater than or equals 3000 (3).
- Department Facets:** Manager, Job, and Salary are listed.
- Input Field:** A facet column labeled 'Salary' contains a numeric input field with the value '3000' and a unit dropdown set to 'USD'.

Employee Name	Job	Manager	Hired	Salary	Commission	Department
SCOTT	ANALYST	JONES	12/9/1982	3,000		RESEARCH
KING	PRESIDENT		11/17/1981	5,000		ACCOUNTING
FORD	ANALYST	JONES	12/3/1981	3,000		RESEARCH

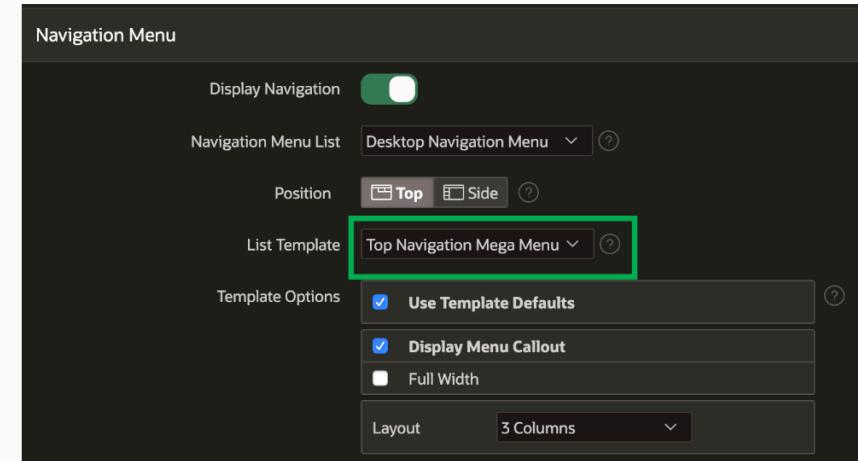
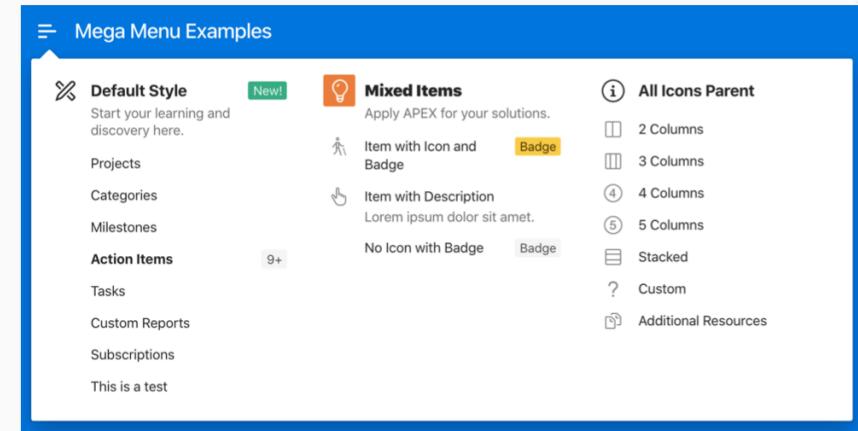
- Groups of checkbox facets for Boolean columns
- Input Field facet type supports user-entered value with the facet column



# Mega Menus

## Mega Menus

- Universal Theme now supports Mega Menu navigation
- Display all navigation items at once
- Customize with badges, descriptions, icons, and display in multiple columns.
- Can be selected within Create Application Wizard



# Build in printing

## Report Printing

- Built-in PDF printing and Native Excel download for Interactive Reports, Interactive Grids and Classic Reports
- Built-in PDF printing now supports Chinese, Japanese, and Korean languages

Name	Description	Language
示例應用	這是一個示例應用程序	Chinese
サンプルアプリ	これはサンプルアプリケーションです	Japanese
샘플 앱	이것은 샘플 애플리케이션입니다.	Korean

Application 104349 Edit Application Definition

Definition Security Globalization User Interface

Application 104349

Name Properties Application Icon Availability Error Handling Global Notification Substitutions Build Options Report Printing

Report Printing

Print Server Type  Native Printing

Remote Print Server Use Instance Settings

Created: 3 months ago - CHAITANYA

Home Insert Draw Tell me Share Comments

Clipboard Font Alignment Number Conditional Formatting Format as Table Cell Styles

A1 Empno

	A	B	C	D	E	F	G
1	Empno	Ename	Mgr	Hiredate	Sal	Comm	Deptno
2	Job : ANALYST						
3	7902	FORD	7566	38.9 years ago	3000		20
4	7788	SCOTT	7566	37.8 years ago	3000		20
5	Job : CLERK						
6	7369	SMITH	7902	39.8 years ago	800		20
7	7900	JAMES	7698	39.9 years ago	950		30
8	7876	ADAMS	7788	37.7 years ago	1100		20
9	7934	MILLER	7782	38.7 years ago	1300		10
10	Job : MANAGER						
11	7698	BLAKE	7839	39.4 years ago	2850		30
12	7566	JONES	7839	39.5 years ago	2975		20
13	7782	CLARK	7839	39.3 years ago	2450		10
14	Job : PRESIDENT						
15	7839	KING		38.9 years ago	5000		10
16	Job : SALESMAN						
17	7844	TURNER	7698	39.1 years ago	1500	0	30
18	7499	ALLEN	7698	39.6 years ago	1600	300	30
19	7521	WARD	7698	39.6 years ago	1250	500	30
20	7654	MARTIN	7698	39 years ago	1250	1400	30



# Cards region

## New Cards Region

- New Native Report Region Type
- Useful for presenting a variety of information in small blocks
- Can be displayed in three styles, with icons or initials, images as part of the body or as the background
- Can embed images from BLOB column, URL or video in iFrame
- Actions can be added to each card's image, title, subtitle, as new buttons or even using the entire card
- Fully declarative, but still flexible to customize
- Can be used with Faceted Search

**Badges Demo**

Fernanda Mendez fernanda.mendez@yourcompany.com Product Manager	Krist Grohl k.grohl@yourcompany.com Quality Manager	Charles Statman charlie.s@yourcompany.com QA Specialist
Susan Parrish susan.parrish@yourcompany.com Software Developer	Johnnathan Brie johnnathan.b@yourcompany.com Team Lead	Diana Flores diana.flores@yourcompany.com CFO

**Backgrounds Demo**

<b>Accessibility</b> Creating Accessible Apps 200.00  This conference breaks down all aspects of creating accessible web applications. We focus on the latest World Wide Web Consortium (W3C) standards in sessions discussing tables, labels, forms, images, color contrast, links, page structure, screen reader testing, and Voluntary Product Accessibility Templates (VPATs). The conference starts at 8am and ends at 4pm. Lunch will be served, with vegan options for those interested.  <a href="#">Details</a>	<b>Security</b> Creating Secure Apps 200.00  This conference discusses all aspects of securing/hardening a web application. You'll learn how to protect against Cross Side Scripting vulnerabilities and SQL Injection attacks. Other topics discussed are virus protection, VPNs and port sniffing, phishing and malware, and handling data breaches. The conference starts at 8am and ends at 4pm. Lunch will be served, with vegan options for those interested.  <a href="#">Details</a>	<b>Responsive Design</b> Creating Responsive Apps 200.00  This conference discusses all aspects of making a web application responsive. We will discuss topics like responsive design, minimalism, parallax vs. infinite scrolling, cross-browser compatibility, typography, and CSS animations. The conference starts at 8am and ends at 4pm. Lunch will be served, with vegan options for those interested.  <a href="#">Details</a>
--	--	--



# Cards region

## New Cards Region

Before APEX 20.2	APEX 20.2
Classic Report with Cards Template	Native Region Type
SQL Query with specific column alias required	Declarative Table, SQL Query, REST Source
Declarative from Create App wizard	Declarative from Create App, Create Page and Page Designer
Server-side Rendering	Client-side Rendering
Hard to Customize	Declarative Customizations
N/A	Badge, Media, conditional Actions



# Automations

## Automations

- Conditional set of actions that are automatically triggered by changes that occur within database tables or remote data sources
- Used to monitor data and then perform the appropriate action
  - ✓ Examples: Auto-approving specific requests, and sending email alerts
- Can be triggered on Schedule or on Demand, by invoking the `APEX_AUTOMATION` package
- Query results can be derived from :
  - ✓ Table or View, SQL Query or a PL/SQL function returning a SQL Query
  - ✓ Local Database or REST Enabled SQL
  - ✓ REST Data Source

The screenshot shows the Oracle APEX Shared Components Automations page. An automation named "Automation on the EMP Table" is selected. The "Action" section shows a new action being configured with the following details:

- Name:** Increase Salary for Dept 10
- Type:** Execute Code
- Execution Sequence:** 10
- Location:** Local Database, REST Enabled SQL Service
- Language:** PL/SQL

The "Code" section contains the following PL/SQL code:

```

1 declare
2   l_new_sal number;
3
4 begin
5   update emp set sal = sal*1.05 where empno = :EMPNO returning sal into l_new_sal;
6   apex_automation.log_info('Salary of ' || :ENAME || ' increased to ' || l_new_sal);
7 end;

```

The "Server Side Condition" section defines a condition where the value of DEPTNO is 10.



# Spørgsmål

