

Safe harbor statement

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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.

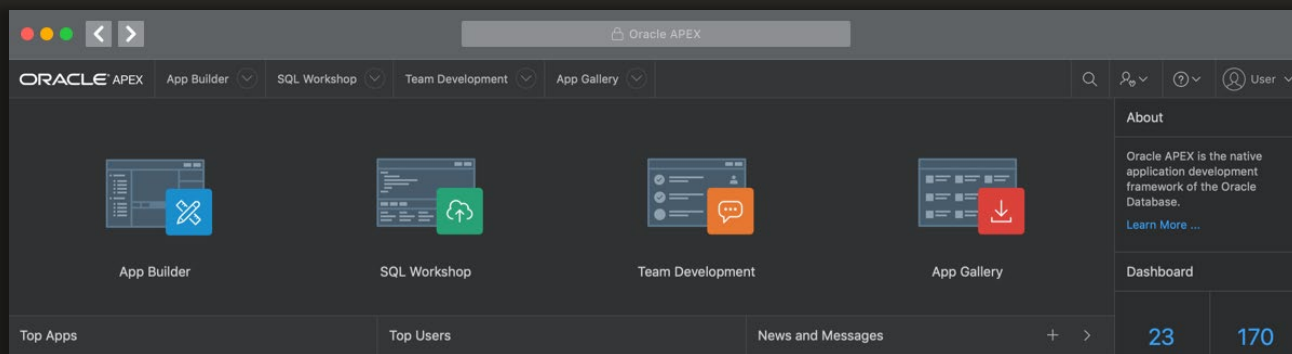
什么是APEX

什么是APEX?

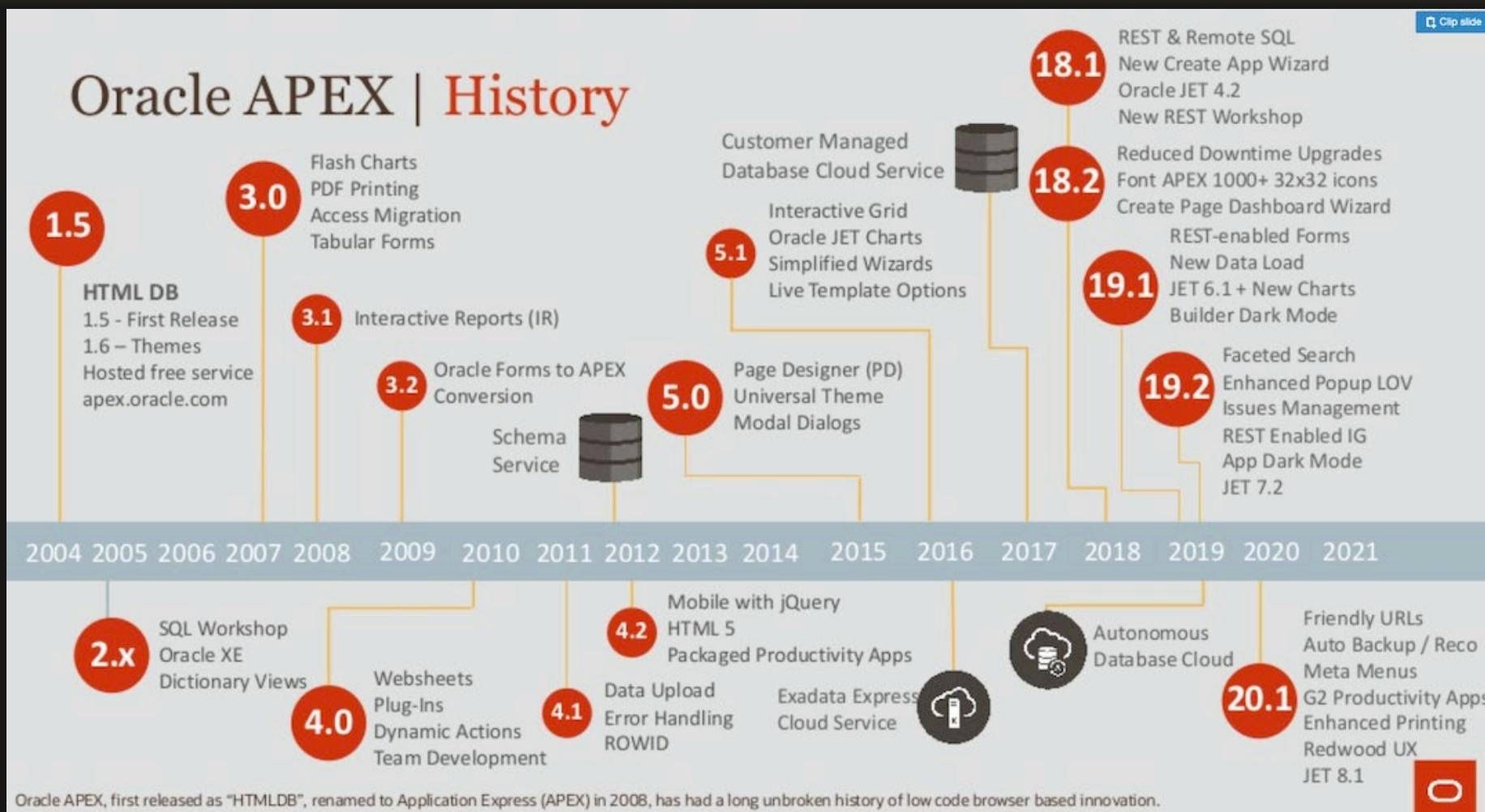
ā'pěks
(#orclapex)

Oracle Application Express (APEX) 是一个**低代码**开发平台，您可以在该平台上构建**可扩展的、安全的企业应用**。这些应用将具有先进的功能，而且可以在任何地方部署。

- Web 开发工具
- 低代码
- 基于Oracle数据库



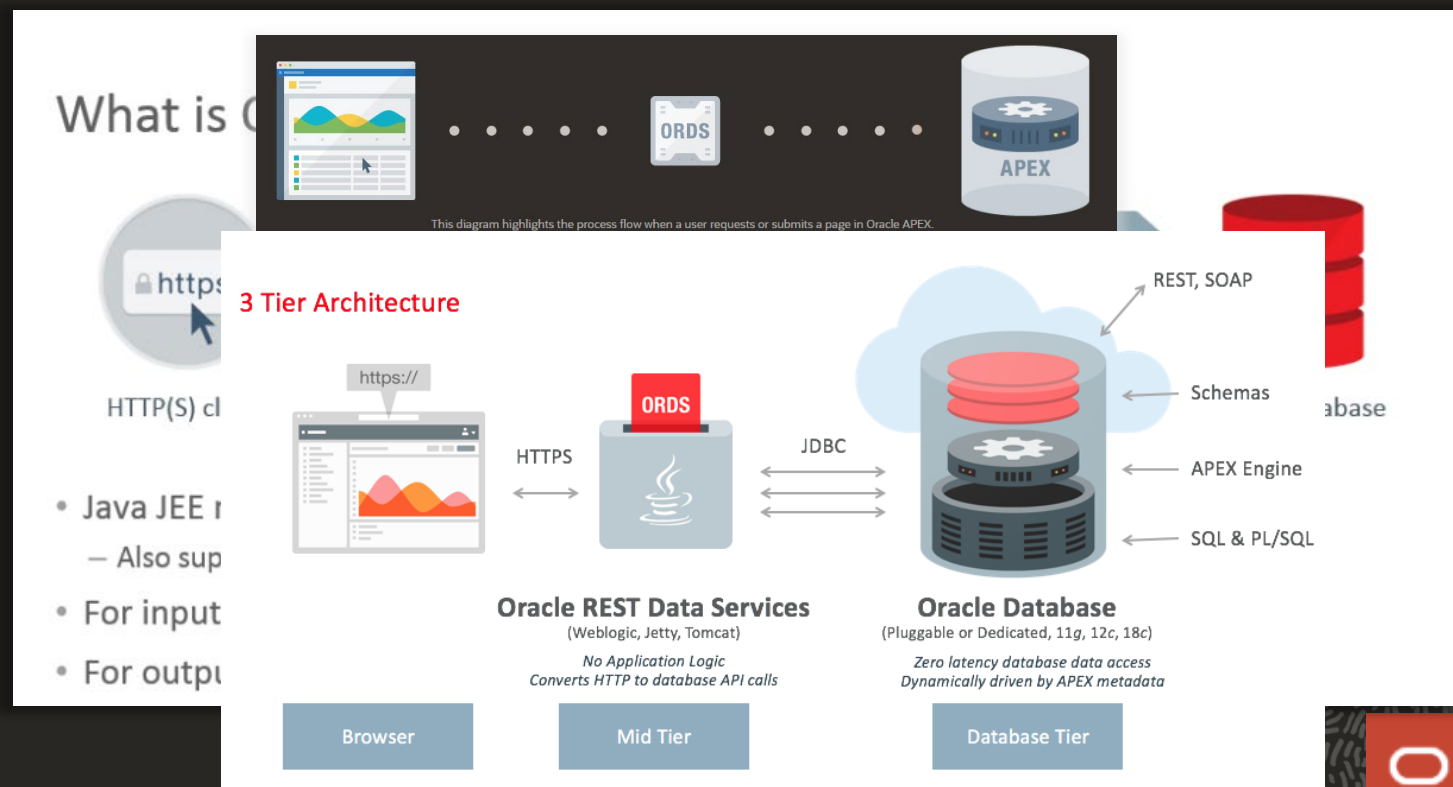
APEX发展史



APEX架构

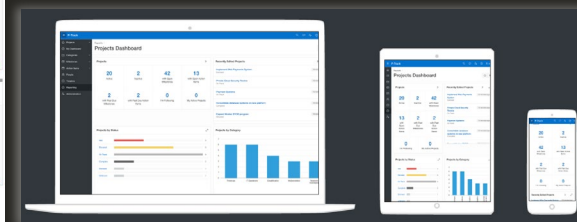
Oracle APEX uses a simple 3-tier architecture where requests are sent from the browser, through a web server, to the database. **All processing, data manipulation and business logic is executed in the database.** This architecture guarantees **zero latency** data access, top performance, and scalability, out of the box.

- **三层架构RAD**
REST Data Services (ORDS)
APEX
Database
- **浏览器开发**
- **直接在数据库处理执行, 高效零延时**
- **REST/SOAP, DB Link, Remote Data Sources等外部集成方式**



为什么选择APEX 企业级就绪 – 不仅仅是前端开发工具

- 强大的交互式报表组件
- 响应式页面设计
- 数据加载
 - 批量导入向导组件
 - 开发人员用的数据工作室
- REST API 集成
- 大量图表组件
- 邮件发送
- 安全性
- 全球化
- 可访问性



安全性

- 安全属性
- 验证方案
- 授权方案
- 应用程序访问控制
- 会话状态保护
- Web 身份证明

Cancel Next >

Data Load Source Data / Table Mapping Data Validation Data Load Results

Choose the **Import From** of "Copy and Paste", input **Separator** as "," and ensure the **First Row has Column Names** is checked.

[Click here](#) to copy and paste, or select the text below and paste it into the **Copy and Paste Delimited Data** section.

```
First Name,Last Name,Street Address,City,State,Postal Code,Email,Phone Number,Alternate Number,Credit Limit,Tags  
John,Dulles,5987 Whitehart Lane,Chicago,Illinois,60606,john.dulles@mailman.com,312-666-5987,720-666-1234,4000,New Address  
Peter,Williams,1212 Technology Way,Denver,Colorado,80227,,303-555-6688,,1500,  
Susan,Peters,9000 Reston Parkway,Reston,Virginia,20191,susan.peters@email.com,703-999-5467,703-123-9876,2500,  
Albert,Lambert,2468 Longmire Place,St. Louis,Missouri,63149,,314-000-1000,,3300,New Address  
Bob,Uncle,888 Mason St,San Francisco,California,94110,bob.uncle@mail.com,,2200
```

Import From Upload file, comma separated (*.csv) or tab delimited
 Copy and Paste

* File Name No file chosen ⓘ

* Separator ⓘ

Optionally Enclosed By ⓘ

First Row has Column Names ⓘ

Use Advanced Settings ⓘ

全球化

- 全球化属性
- 文本消息
- 翻译应用程序

报表及表单 快速开发CRUD

Report报表

➤ Interactive Grid

交互式网格，向用户提供可搜索、定制的报表

➤ Interactive Report

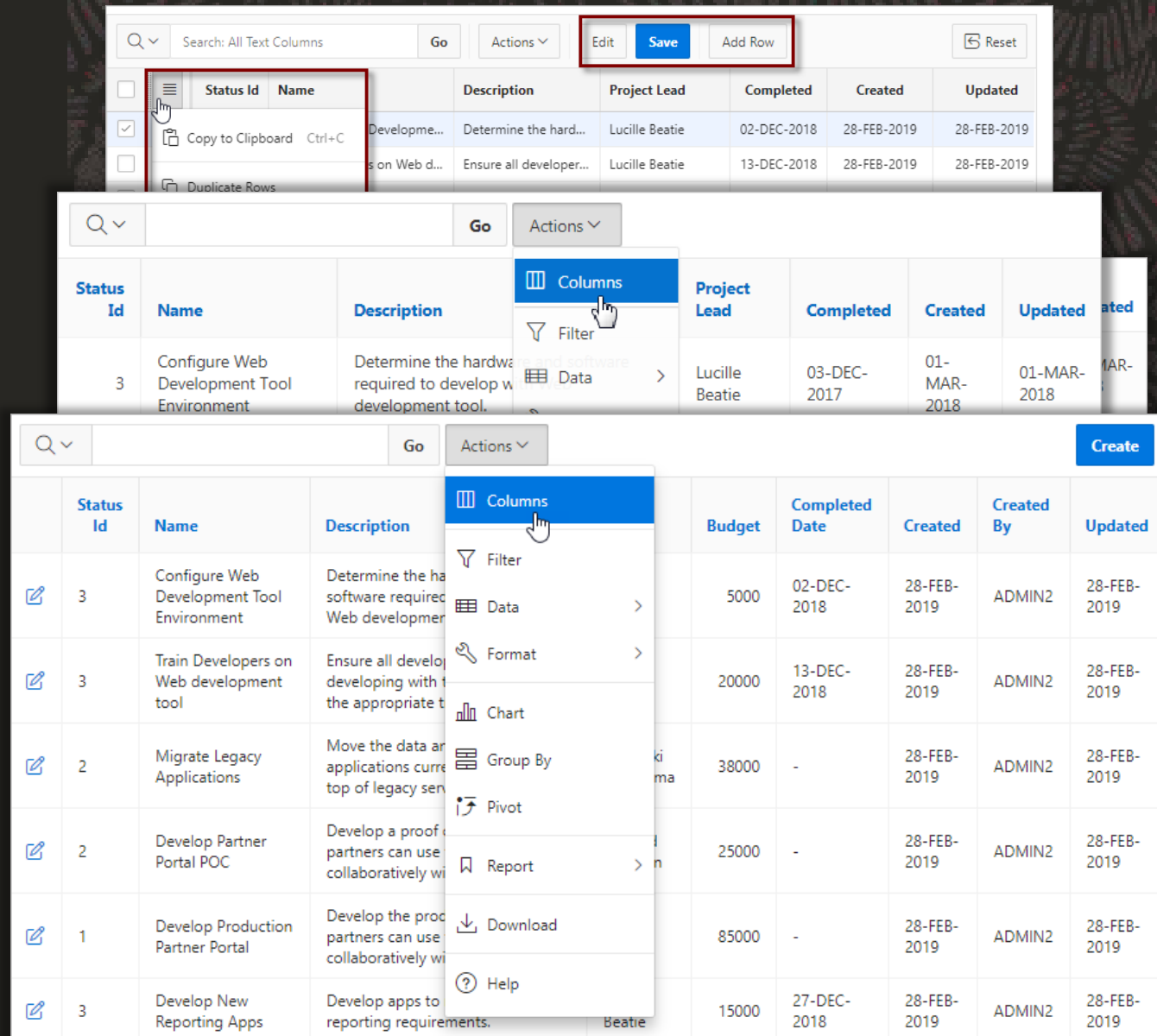
交互式报表，SQL查询的格式化结果，end-user可定制布局、控制数据显示方式等

➤ Classic Report

经典报表是SQL查询的格式化结果

➤ Report with Form

带表单的报表，是根据某一张表上或SQL查询的结果，来创建一个报表（交互式网格或交互式报表或经典报告表）和表单



Report报表

- **Interactive Grid**
交互式网格，向用户提供可搜索、定制的报表
- **Interactive Report**
交互式报表，SQL查询的格式化结果，end-user可定制布局、控制数据显示方式等
- **Classic Report**
经典报表是SQL查询的格式化结果
- **Report with Form**
带表单的报表，是根据某一张表上或SQL查询的结果，来创建一个报表 (交互式网格 or 交互式报表 or 经典报告表) 和表单

- **Interactive Grid – 适合数据维度**
 - ✓ 可交互，可多条记录同时编辑，可定制
 - ❖ 有些组件类型不支持 (*File Browse, Markdown Editor, Rich Text Editor...*), 很多plugin也不支持
- **Interactive Report**
 - ✓ 可交互，少量可定制
 - ❖ 不可编辑
- **Classic Report**
 - ✓ 高定制化
 - ❖ 不可交互
- **Report with Form**
 - ✓ 可交互，可编辑，表单高定制化
 - ❖ 逐条修改

Interactive Report 交互式报表

- **最终用户使用交互式报表的定制化**

<https://docs.oracle.com/en/database/oracle/application-express/19.1/htmdb/customizing-interactive-reports-as-an-end-user.html#GUID-69D9A5BA-76B0-4BE5-AA1F-8D631846EB61>

- Column **列**
- Filter **过滤器**
- Compute **数据 -> 计算**
- Highlight **格式 -> 突出显示**
- Download **下载**
- Primary/Private/Public report
默认主报表/专用/公共报表
- Chart **图表**
- Pivot **交互式报表**

	Name	Description	End Date	Start Date
	Configure Web Development Tool Environment	Determine the hardware and software required to develop with Web development tool.	20- JUL	26- AUG
	Train Developers on Web development tool	Ensure all developers who will be developing with the new tool get the appropriate training.	4- AUG	26- AUG
	Migrate Legacy Applications	Move the data and redevelop the applications currently running on top of legacy servers		26- AUG
	Develop Partner Portal POC	Develop a proof of concept that partners can use to work more collaboratively with us.		26- AUG
	Develop Production Partner Portal	Develop the production app that partners can use to work more collaboratively with us.		26- AUG

1 - 5



Interactive Report 交互式报表

- URL语法: [Linking to Interactive Report](#)

- **C** = 包含 Contains *e.g.* IR[EMP]C_ENAME:KING
- **EQ** = 等于 Equals (this is the default)
- **GTE** = 大于等于 Greater than or equal to
- **GT** = 大于 Greater Than
- **LIKE** = SQL Like operator Like
- **LT** = 小于 Less than
- **LTE** = 小于等于 Less than or equal to
- **N** = 空 Null
- **NC** = 不包含 Not Contains
- **NEQ** = 不等于 Not Equals
- **NLIKE** = Not Like
- **NN** = 非空 Not Null
- **NIN** = Not In (escape the comma separated values with a leading and trailing backslash, \)
- **IN** = In (escape the comma separated values with a leading and trailing backslash, \)
- **ROWFILTER** = 行过滤 Row Text Contains (this searches all columns displayed in the report with type STRING or NUMBER)

Valid Linking Example 1

This example includes a link with no Request value, but includes a qualified filter column with region static ID in the itemNames section of the URL. This example creates a filter on the primary default report in the referenced region item name.

```
f?p=&APP_ID.:2:&SESSION.....:IR[EMP]_ENAME:KING
```

Valid Linking Example 2

To support backwards compatibility with previous releases, this example uses older syntax and works on a page with one interactive report region.

```
?p=&APP_ID.:1:&SESSION.:IR_REPORT_12345::RIR,CIR::RIR,CIR:IR_ENAME:KING
```

Valid Linking Example 3

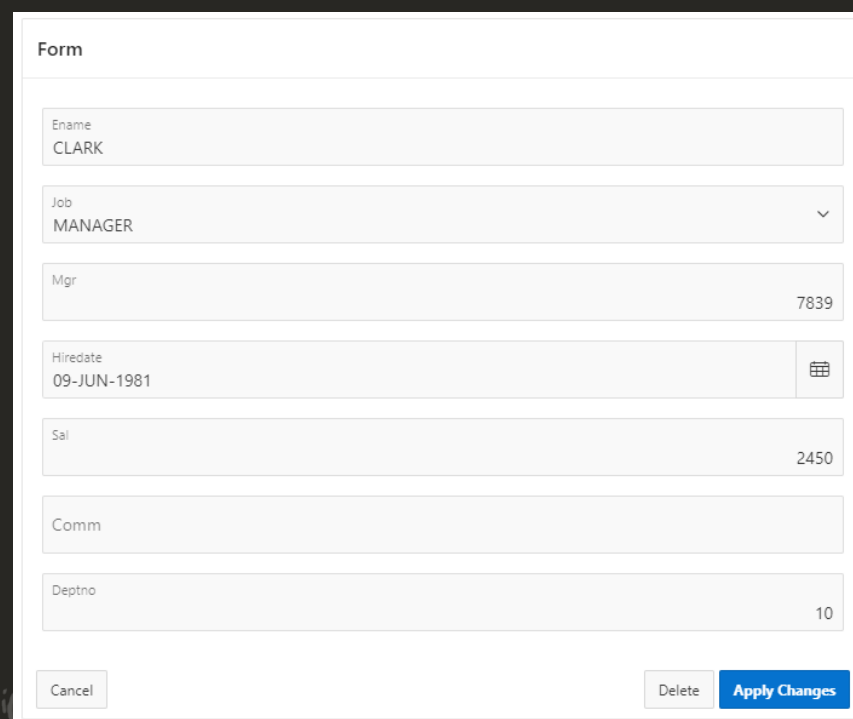
In this example the link has no Request value. The clear cache section has RIR or CIR or RP and will reset, clear, or reset the pagination of the primary default reports of all interactive report regions.

```
f?p=&APP_ID.:1:&SESSION.....:RIR:
```

Parent topic: [Linking to Interactive Reports](#)

表单

- ✓ Create Form 创建表单页
- ✓ Page Mode – Modal Dialog 页模式 - 模态对话框
- ✓ LOV 下拉列表
- ✓ Condition 条件
- ✓ Dynamic Action 动态操作
 - Hide/show
- ✓ Validation 校验
- ✓ Process 处理
- ✓ [Debug 调试](#)
 - [APEX_DEBUG](#) e.g. `apex_debug.message('the value of %s + %s equals %s', 3, 5, 'eight');`



The screenshot shows a modal dialog box titled "Form" with the following fields and values:

Field Name	Value
Ename	CLARK
Job	MANAGER
Mgr	7839
Hiredate	09-JUN-1981
Sal	2450
Comm	
Deptno	10

At the bottom of the form, there are three buttons: "Cancel", "Delete", and "Apply Changes".



APEX组件介绍 - URL语法

➤ APEX URL语法

<https://docs.oracle.com/en/database/oracle/application-express/20.2/htmldb/understanding-friendly-url-syntax.html#GUID-716B85EC-2D9B-49F7-BABE-2C4CA347F198>

➤ `https://hostname:port/ords/path_prefix/r/app_alias/page_alias?parameters`

• `http://hostname:port/ords/mycompany/r/myapp/myinfo?session=13766599855150`

• *e.g.*

`https://apex.oracle.com/pls/apex/.../home?session=716047436814565&clear=1,RIR&IR[EMP_REPORT]GT_SAL=2000`



Q & A

