

# 3-2 Developing Reports: Part 1

# Lesson Objectives

## Part I:

- 列出可以在 Apex 中建立的報表類型
- 描述在 Apex 中建立報表的不同方法
- 建立和使用 傳統報告 (Classic Report)
- 建立和使用 互動式報告 (Interactive Report)

## Part II:

- 建立 分面搜尋 (Faceted Search)
- 建立 卡片 (Cards)
- 建立 智慧型過濾器 (Smart Filter)

## Apex 提供的報告類型

先決條件: Installing the Sample Reporting App in the Sample Application.

## Report 概覽

- 報表是 SQL 查詢的格式化結果
  - 你提供 SQL 查詢作為報表資料來源
  - 可以設定報表欄位顯示的型態及屬性

## 可用的報表類型

- 傳統報告 (Classic Report): 使用者無法自訂報表
- 互動式報告 (IR): 使用者可以自訂報表
- 互動式網格 (IG): 使用者可以在報表中編輯資料
- 分面搜尋 (Faceted Search): 使用者可以在畫面左側或上方設定篩選條件
- 卡片 (Cards): 使用色彩區塊顯示記錄
- 智慧型過濾器 (Smart Filter): 提供單一搜尋欄位及篩選條件

# Demo 不同報表類型的外觀和功能

**Interactive Report**

Search:  Go Actions: Columns Filter Data Format Chart Group By Print Report Download Subscription Help

Project	Task Name	Start Date	End Date	Status	Assigned To	Cost	Budget	Available Budget
Migrate from Legacy Server	Get over to new database	10/1/2022	10/31/2022	Pending	Bob Hill	0	1500	1500
Migrate from Legacy Server	Decommission Legacy Server	10/21/2022	10/31/2022	Pending	Al Bines	0	500	500
Public Website	Determine host server	8/5/2022	8/5/2022	Closed	Tiger Scott	200	200	0
Public Website	Check software licenses	8/5/2022	8/5/2022	Closed	Tam Swess	100	100	0
Public Website	Purchase additional software licenses, if needed	8/6/2022	8/7/2022	On-Hold	Al Bines	300	1000	700
Public Website	Develop web pages	9/1/2022	9/2/2022	Open	Tiger Scott	0	100	1000
Public Website	Plan rollout schedule	9/5/2022	9/5/2022	Open	Tam Swess	0	0	2000
Software Project Tracking	Conduct project kickoff meeting	8/28/2022	8/28/2022	Closed	Pam King	800	800	0
Software Project Tracking	Customize Software Projects software	8/31/2022	9/1/2022	Open	Tam Swess	400	1000	600
Software Project Tracking	Enter base data (Projects, Milestones, etc.)	9/2/2022	9/2/2022	Open	Tam Swess	200	200	0
Software Project Tracking	Load current tasks and enhancements	9/4/2022	9/4/2022	Open	Tam Swess	400	100	500
Training for ACME Web Express	Create training workspace	8/15/2022	8/18/2022	Closed	James Cassidy	500	700	200
Training for ACME Web Express	Publish links to self-study courses	8/19/2022	8/19/2022	Closed	John Watson	100	100	0
Training for ACME Web Express	Publish development standards	8/19/2022	8/20/2022	On-Hold	John Watson	1000	2000	1000
ACME Web Express Configuration	Identify server requirements	8/26/2022	8/31/2022	Closed	John Watson	200	500	300

Interactive Report

**Interactive Grid**

Search:  All Text Columns Go Actions: Columns Filter Data Format Chart Group By Print Report Download Subscription Help

Project	Task Name	Start Date	End Date	Status	Assigned To	Cost	Budget
ACME Web Configure	Identify server requirements	8/26/2022	8/31/2022	Closed	John Watson	200	500
Migrate from Legacy Server	Get over to new database	10/1/2022	10/31/2022	Pending	Bob Hill	0	1500
Migrate from Legacy Server	Decommission Legacy Server	10/21/2022	10/31/2022	Pending	Al Bines	0	500
Public Website	Determine host server	8/5/2022	8/5/2022	Closed	Tiger Scott	200	200
Public Website	Check software licenses	8/5/2022	8/5/2022	Closed	Tam Swess	100	100
Public Website	Purchase additional software licenses, if needed	8/6/2022	8/7/2022	On-Hold	Al Bines	300	1000
Public Website	Develop web pages	9/1/2022	9/2/2022	Open	Tiger Scott	0	100
Public Website	Plan rollout schedule	9/5/2022	9/5/2022	Open	Tam Swess	0	2000
Software Project Tracking	Conduct project kickoff meeting	8/28/2022	8/28/2022	Closed	Pam King	800	800
Software Project Tracking	Customize Software Projects software	8/31/2022	9/1/2022	Open	Tam Swess	400	1000
Software Project Tracking	Enter base data (Projects, Milestones, etc.)	9/2/2022	9/2/2022	Open	Tam Swess	200	200
Software Project Tracking	Load current tasks and enhancements	9/4/2022	9/4/2022	Open	Tam Swess	400	100
Training for ACME Web Express	Create training workspace	8/15/2022	8/18/2022	Closed	James Cassidy	500	700
Training for ACME Web Express	Publish links to self-study courses	8/19/2022	8/19/2022	Closed	John Watson	100	100
Training for ACME Web Express	Publish development standards	8/19/2022	8/20/2022	On-Hold	John Watson	1000	2000
ACME Web Express Configuration	Identify server requirements	8/26/2022	8/31/2022	Closed	John Watson	200	500

Interactive Grid

**Classic Report**

Project	Task Name	Start Date	End Date	Status	Assigned To	Cost	Budget	Available Budget
Migrate from Legacy Server	Get over to new database	10/1/2022	10/31/2022	Pending	Bob Hill	0	1500	1500
Migrate from Legacy Server	Decommission Legacy Server	10/21/2022	10/31/2022	Pending	Al Bines	0	500	500
Public Website	Determine host server	8/5/2022	8/5/2022	Closed	Tiger Scott	200	200	0
Public Website	Check software licenses	8/5/2022	8/5/2022	Closed	Tam Swess	100	100	0
Public Website	Purchase additional software licenses, if needed	8/6/2022	8/7/2022	On-Hold	Al Bines	300	1000	700
Public Website	Develop web pages	9/1/2022	9/2/2022	Open	Tiger Scott	0	100	1000
Public Website	Plan rollout schedule	9/5/2022	9/5/2022	Open	Tam Swess	0	0	2000
Software Project Tracking	Conduct project kickoff meeting	8/28/2022	8/28/2022	Closed	Pam King	800	800	0
Software Project Tracking	Customize Software Projects software	8/31/2022	9/1/2022	Open	Tam Swess	400	1000	600
Software Project Tracking	Enter base data (Projects, Milestones, etc.)	9/2/2022	9/2/2022	Open	Tam Swess	200	200	0
Software Project Tracking	Load current tasks and enhancements	9/4/2022	9/4/2022	Open	Tam Swess	400	100	500
Training for ACME Web Express	Create training workspace	8/15/2022	8/18/2022	Closed	James Cassidy	500	700	200
Training for ACME Web Express	Publish links to self-study courses	8/19/2022	8/19/2022	Closed	John Watson	100	100	0
Training for ACME Web Express	Publish development standards	8/19/2022	8/20/2022	On-Hold	John Watson	1000	2000	1000
ACME Web Express Configuration	Identify server requirements	8/26/2022	8/31/2022	Closed	John Watson	200	500	300

Classic Report

The dashboard displays three different data visualization methods for project management data:

- Faceted Search:** A table view with filters on the left and a table of project tasks. The table has columns for Project, Task Name, Start Date, End Date, Status, Assigned To, Cost, and Budget. The total row count is 70.
- Cards:** A grid of project cards, each representing a task with a title, status, and summary information.
- Smart Filters:** A grid of project cards, each representing a task with a title and a brief description.

**Faceted Search Table Data:**

Project	Task Name	Start Date	End Date	Status	Assigned To	Cost	Budget
ACME Web Configuration	Identify server requirements	10/19/2021	12/6/2021	Closed	John Watson	300	300
Maintain Support Systems	HR software upgrades	12/4/2021	1/1/2022	On-Hold	Pam King	8,000	7,000
Maintain Support Systems	Apply Billing System updates	1/7/2022	1/29/2022	On-Hold	Russ Sanders	4,500	7,000
ACME Web Configuration	Determine Web Listener configuration(s)	12/16/2021	12/17/2021	Closed	James Cassidy	100	100
ACME Web Configuration	Specify security authentication scheme(s)	1/3/2022	1/4/2022	Closed	John Watson	200	300
ACME Web Configuration	Select servers for Development, Test, Production	11/24/2021	11/26/2021	Closed	James Cassidy	200	600
Email Integration	Complete plan	11/19/2021	12/15/2021	Closed	Mark Nile	1,000	1,500
ACME Web Configuration	Configure Workspace provisioning	12/20/2021	1/4/2022	Closed	John Watson	200	100
ACME Web Configuration	Create pilot workspace	1/15/2022	2/6/2022	Closed	John Watson	100	100
ACME Web Configuration	Run installation	11/22/2021	12/12/2021	Closed	James Cassidy	100	100
Bug Tracker	Implement bug tracking software						
	Review automated testing tools						
	Document o						
	development standards						

**Cards View Data:**

Project	Task Name	Status	Start Date	End Date	Budget	Cost
ACME Web Configuration	Identify server requirements	Closed	10/19/2021	12/6/2021	300	300
Maintain Support Systems	HR software upgrades	On-Hold	12/4/2021	1/1/2022	7,000	8,000
Maintain Support Systems	Apply Billing System updates	On-Hold	1/7/2022	1/29/2022	7,000	4,500
ACME Web Configuration	Determine Web Listener configuration(s)	Closed	12/16/2021	12/17/2021	100	100
ACME Web Configuration	Specify security authentication scheme(s)	Closed	1/3/2022	1/4/2022	200	300
ACME Web Configuration	Select servers for Development, Test, Production	Closed	11/24/2021	11/26/2021	600	200
Email Integration	Complete plan	Closed	11/19/2021	12/15/2021	1,500	1,000
ACME Web Configuration	Configure Workspace provisioning	Closed	12/20/2021	1/4/2022	100	200
Bug Tracker	Implement bug tracking software	On-Hold				

**Smart Filters View Data:**

Project	Task Name
ACME Web Configuration	Identify server requirements
ACME Web Configuration	Determine Web Listener configuration(s)
ACME Web Configuration	Specify security authentication scheme(s)
ACME Web Configuration	Select servers for Development, Test, Production
ACME Web Configuration	Configure Workspace provisioning
ACME Web Configuration	Create pilot workspace
ACME Web Configuration	Run installation
Bug Tracker	Implement bug tracking software
Bug Tracker	Review automated testing tools
Bug Tracker	Document o
Bug Tracker	development standards

## 選擇合適的報告類型

- 傳統報告 (Classic Report)
  - 只顯示資料
  - 使用者無法自訂報表
  - 內建排序功能
- 互動式報告 (IR)
  - 只顯示資料
  - 使用者可以自訂報表
  - 提供搜尋欄位、動作選單、欄位標題選單、及連結欄位
- 互動式網格 (IG)
  - 使用者可以在報表中編輯資料
  - 使用者可以使用滑鼠重新排列報表
  - IR 功能 + 編輯資料 + 使用滑鼠重新排列欄位



## IR 中的1)搜尋列、2)操作選單和 3)列標題選單

1

Q

Go

1. Primary Report

2

Actions

	Project	3 Task Name	Start Date	End Date	Status	Assigned To	Cost	Budget	Available Budget
	Bug Tracker	<div><div>↑</div><div>↓</div><div>×</div><div></div></div> <div><div>Q Filter...</div><div>Apply Billing System updates</div><div>Arrange for vacation coverage</div><div>Check software licenses</div><div>Collect mission-critical spreads...</div><div>Complete plan</div></div>	04-JUN-23	07-JUN-23	Closed	Myra Sutcliff	3,000	2,000	-1,000
	Bug Tracker		08-JUN-23	10-JUN-23	Closed	Myra Sutcliff	750	1,500	750
	Bug Tracker		23-JUN-23	23-JUN-23	Closed	Myra Sutcliff	100	100	0
	Discussion Forum		24-JUN-23	24-JUN-23	Closed	Hank Davis	250	300	50
	Maintain Support Systems		27-JUN-23	30-JUN-23	Closed	Pam King	8,000	7,000	-1,000

# 建立報表的方法

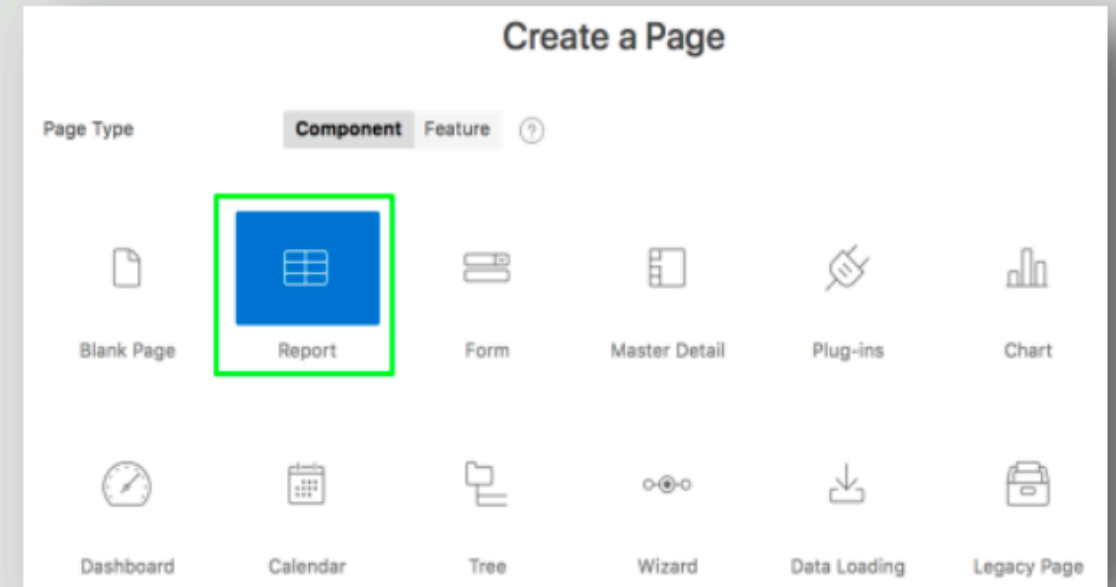
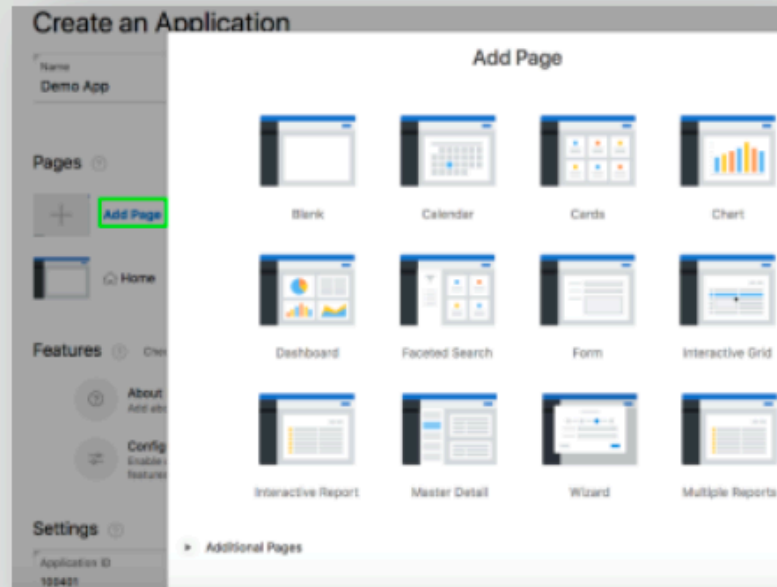
三種建立報表的方法:

- App Wizard: 在建立新的資料庫應用程式時建立報表頁面
  - 適用於建立新的應用程式時使用
- Page Wizard: 在現有應用程式中建立報表頁面
  - 適用於已有應用程式時使用
- 手動建立: 在現有頁面中建立報表區域
  - 適用於已有頁面時使用

Note: 一個頁面可以包含多種區域類型。

使用應用程式或頁面精靈建立報表：

### Creating a report when you create a new app



### Creating a report as a new page in an app

**ORACLE**  
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ADFo 3-2

The screenshot displays the Oracle APEX Page Designer interface for 'Application 23192'. The left sidebar shows the page structure with 'Page 1: Home' expanded. The 'Regions' folder is selected, and a context menu is open with options: 'Create Region', 'Expand All Below', and 'Collapse All Below'. The main workspace shows the page layout with sections like 'PAGE HEADER', 'PAGE NAVIGATION', 'BREADCRUMB BAR', 'Demo Projects', 'ITEMS', and 'REGION CONTENT'. A red text overlay 'Drag and drop from the gallery' points to the 'Demo Projects' section. At the bottom, a component gallery is visible with tabs for 'Regions', 'Items', and 'Buttons'. Several components are highlighted with green boxes: 'Classic Report', 'Column Toggle Report', 'Faceted Search', 'Form', 'Interactive Grid', 'Interactive Report', 'List View', and 'Reflow Report'. A red text overlay 'Using the context menu' is positioned near the 'Regions' folder in the sidebar.

Application 23192 \ Page Designer

Rendering Dynamic... Process... Page Sh...

Layout Component... Messages Page Search Help

Page 1: Home

Pre-Rendering

Regions

Breadcrumb Bar

Content Body

Page Navigation

Attributes

Post-Rendering

Create Region

Expand All Below

Collapse All Below

Home

PAGE HEADER

PAGE NAVIGATION

BREADCRUMB BAR

Demo Projects

ITEMS

REGION CONTENT

Drag and drop from the gallery

Regions Items Buttons

Breadcrumb

Calendar

Chart

Classic Report

Column Toggle Report

Faceted Search

Form

Help Text

Interactive Grid

Interactive Report

List

List View

Map Chart

PL/SQL Dynamic Content

Reflow Report

Using the context menu

## Classic Report 傳統報告

# Class report 概覽

- 傳統報告是 SQL 查詢的格式化結果
- 你必須提供資料來源
  - 可以是資料表或 SQL 查詢
- 可以設定 Report 上的欄位上的不同顯示型態
  - 例如: 文字、連結等
- 只支援排序功能

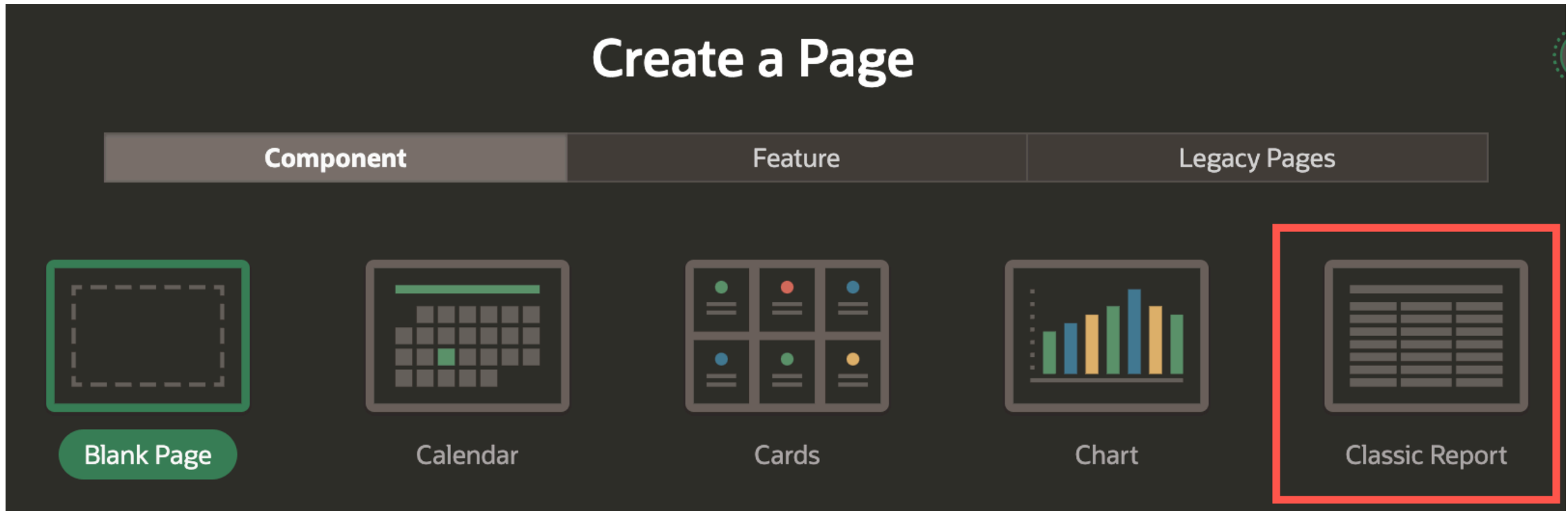
## Classic Report

Project ↑≡	Task	Start Date	End Date	Status	Assigned To	Cost	Budget
ACME Web Express Configuration	<a href="#">Configure Workspace provisioning</a>	01-AUG-23	01-AUG-23	Open	John Watson	200	100
ACME Web Express Configuration	<a href="#">Create pilot workspace</a>	26-JUL-23	26-JUL-23	Closed	John Watson	100	100
ACME Web Express Configuration	<a href="#">Determine Web listener configuration(s)</a>	21-JUL-23	21-JUL-23	Closed	James Cassidy	600	500
ACME Web Express Configuration	<a href="#">Identify server requirements</a>	19-JUL-23	20-JUL-23	Closed	John Watson	200	500
ACME Web Express Configuration	<a href="#">Run installation</a>	24-JUL-23	24-JUL-23	Closed	James Cassidy	200	200
ACME Web Express Configuration	<a href="#">Select servers for Development, Test, Production</a>	04-AUG-23	06-AUG-23	Open	James Cassidy	200	600
ACME Web Express Configuration	<a href="#">Specify security authentication scheme(s)</a>	31-JUL-23	31-JUL-23	Open	John Watson	200	300

# 使用頁面精靈(Page Wizard) 建立傳統報告

Steps:

1. 在 SQLDeveloper 或 SQL Workshop 中準備報表所需要的查詢
2. 啟用 Page Wizard
  - Navigate: App Home > Create Page > Classic Report



### 3. 設定頁面名稱、資料來源和導覽路徑(Navigation path)。

- 資料來源: 表格或 SQL 查詢

Create Classic Report

Page Definition

\* Page Number

44

?

\* Name

?

Page Mode

Normal

Modal Dialog

Drawer

?

Include Form Page

?

Data Source

Data Source

Local Database

REST Enabled SQL Service

REST Data Source

?

Source Type

Table

SQL Query

?

\* Table / View Owner

WKSP\_HYCHEN39

▼

?

\* Table / View Name

?

▼ Navigation

Use Breadcrumb

?

Breadcrumb Parent Entry

▼

?

<

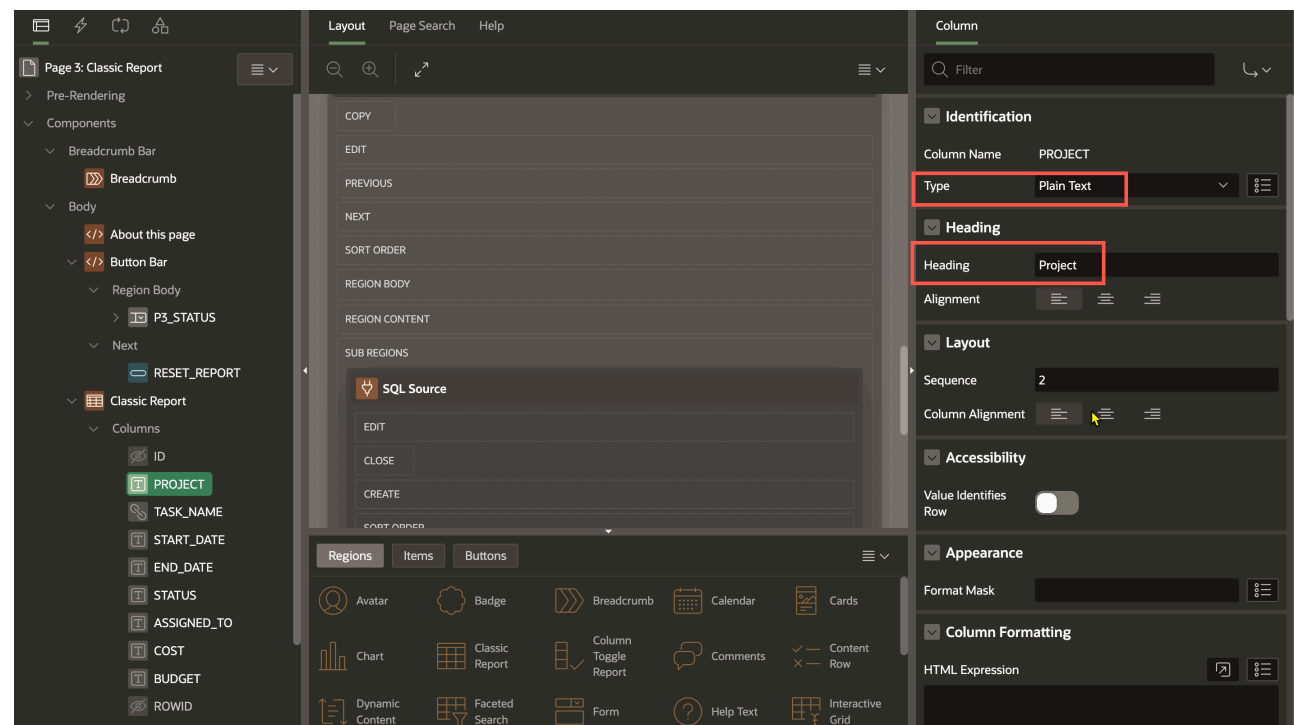
Cancel

Create Page



## 4. 每個 SQL Column 會對應到一個 Report Column

- 設定 Report Column 的屬性 (如有必要)
  - Column type: Plain Text, Link, and others.
  - Column heading
  - Others



## 手動建立傳統報告

Steps:

1. 建立一個新頁面
2. 在頁面中新增傳統報表區域(Classical Report Region)。
3. 指定報表區域的資料來源。(必要)
4. 如有必要，設定列標題。

The screenshot illustrates the Oracle ADF Report Builder interface. On the left, the 'Page 1: Home' structure is visible, including 'Pre-Rendering' and 'Regions'. The 'Content Body' region is selected, and a 'New' button is highlighted. A red arrow points from the 'Classic Report' icon in the gallery to the 'New' button. The 'Classic Report' icon is highlighted with a green box. On the right, the report configuration pane shows the 'Identification' section with 'Title' set to 'Projects Classic Report' and 'Type' set to 'Classic Report'. The 'Source' section shows 'Location' set to 'Local Database' and 'Type' set to 'SQL Query'. The 'SQL Query' text area contains the following query:

```
select ID,
       ROW_VERSION_NUMBER,
       PROJECT,
       TASK_NAME,
       START_DATE,
       END_DATE,
       ASSIGNED_TO,
       COST,
       BUDGET,
       STATUS_ID
from EBA_DEMO_IR_PROJECTS
```

**Dragging and dropping from the gallery**

## Interactive Reports (IR) 互動式報告

## IR 概觀

- 允許使用者自訂報表的欄位資料顯示、排序、篩選、及格式
- 可以完全替代 Classic Report
- 在 IR 上可以執行的操作:
  - Search box 指定單一或跨欄位搜尋
  - Action Menu 資料操作選單
    - 自訂報告的各種操作
  - 欄位標題選單(Column Heading Menu)
    - 針對特定欄位進行排序、篩選、隱藏等操作
  - 儲存成自訂報告供自己或其他使用者使用

<div> <div>Q</div> <div>Go</div> <div>Actions</div> </div>									
Project	Task Name	Columns	Start Date	End Date	Assigned To	Cost	Budget	Status	Id
ACME Web Express Configuration	Identify server requirements	Filter	02-AUG-19	03-AUG-19	John Watson	200	500		4
ACME Web Express Configuration	Determine Web listener configuration	Data	04-AUG-19	04-AUG-19	James Cassidy	600	500		4
ACME Web Express Configuration	Run installation	Format	07-AUG-19	07-AUG-19	James Cassidy	200	200		4
ACME Web Express Configuration	Create pilot workspace	Chart	09-AUG-19	09-AUG-19	John Watson	100	100		4
ACME Web Express Configuration	Specify security authentication	Group By	14-AUG-19	14-AUG-19	John Watson	200	300		1
ACME Web Express Configuration	Configure Workspace provision	Pivot	15-AUG-19	15-AUG-19	John Watson	200	100		1
ACME Web Express Configuration	Select servers for Development	Report	18-AUG-19	20-AUG-19	James Cassidy	200	600		1
Bug Tracker	Document quality assurance process	Download	18-JUN-19	21-JUN-19	Myra Sutcliff	3000	2000		4
Bug Tracker	Review automated testing tools	Subscription	22-JUN-19	24-JUN-19	Myra Sutcliff	750	1500		4

## **Case Studies: Use the Page Wizard to create an Interactive Report**

Based table: EMP

Case Study 1: Create an IR by the Page Wizard 中文

## 結語

- Apex 提供多種報表類型：傳統報告、互動式報告、互動式網格、分面搜尋、卡片、智慧型過濾器
- 建立報表的方法：App Wizard、Page Wizard、手動建立
- 傳統報告 (Classic Report) 只顯示資料，使用者無法自訂報表
- 互動式報告 (IR) 使用者可以自訂報表，提供搜尋欄位、動作選單、欄位標題選單、及連結欄位
- 使用 Report 之前，必須準備好 SQL 查詢或資料表，做為資料來源。
- 修改報表的 Column 屬性，可以改變欄位的顯示型態及屬性