



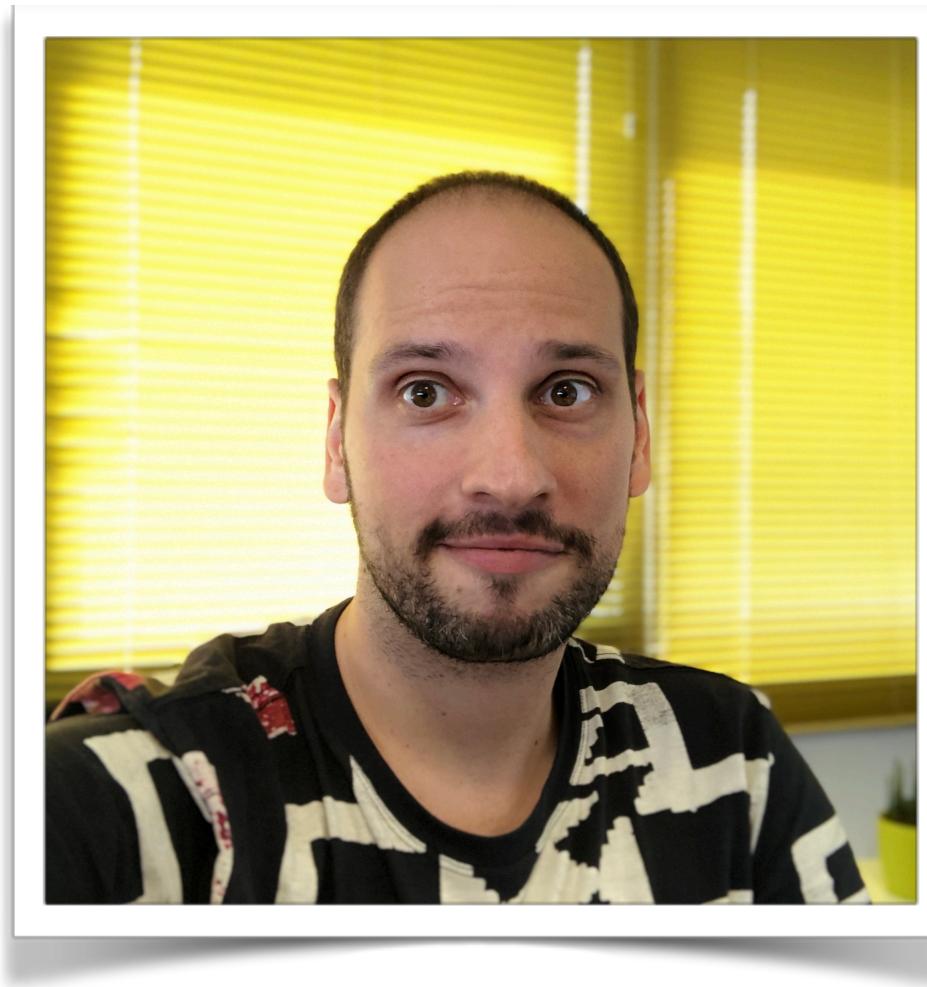
Oracle Application Express

27th September 2018 · Malaga



novoshore.com

About us



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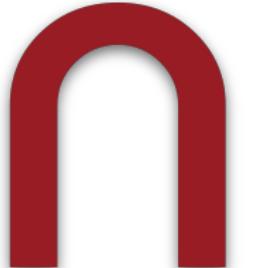
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Oracle APEX

“Oracle Application Express (APEX) is a low-code development platform that enables you to build stunning, scalable, secure apps, with world-class features, that can be deployed anywhere.”

Low Code Development

“With Oracle APEX and low code, your organisation can be more agile - develop solutions faster, for less cost, and with greater consistency. You can adapt to changing requirements with ease. Empower professional developers and everyone else in your organization to be a part of the solution.”



Low Code

Oracle APEX empowers developers to build incredible apps and solve real problems. And you won't need to become an expert in a vast array of web technologies. Focus on the problem to be solved, and let Oracle APEX do the heavy lifting for you.

1. Developer Experience

2. Accelerate Development

3. Improve Consistency

4. Minimise Defects

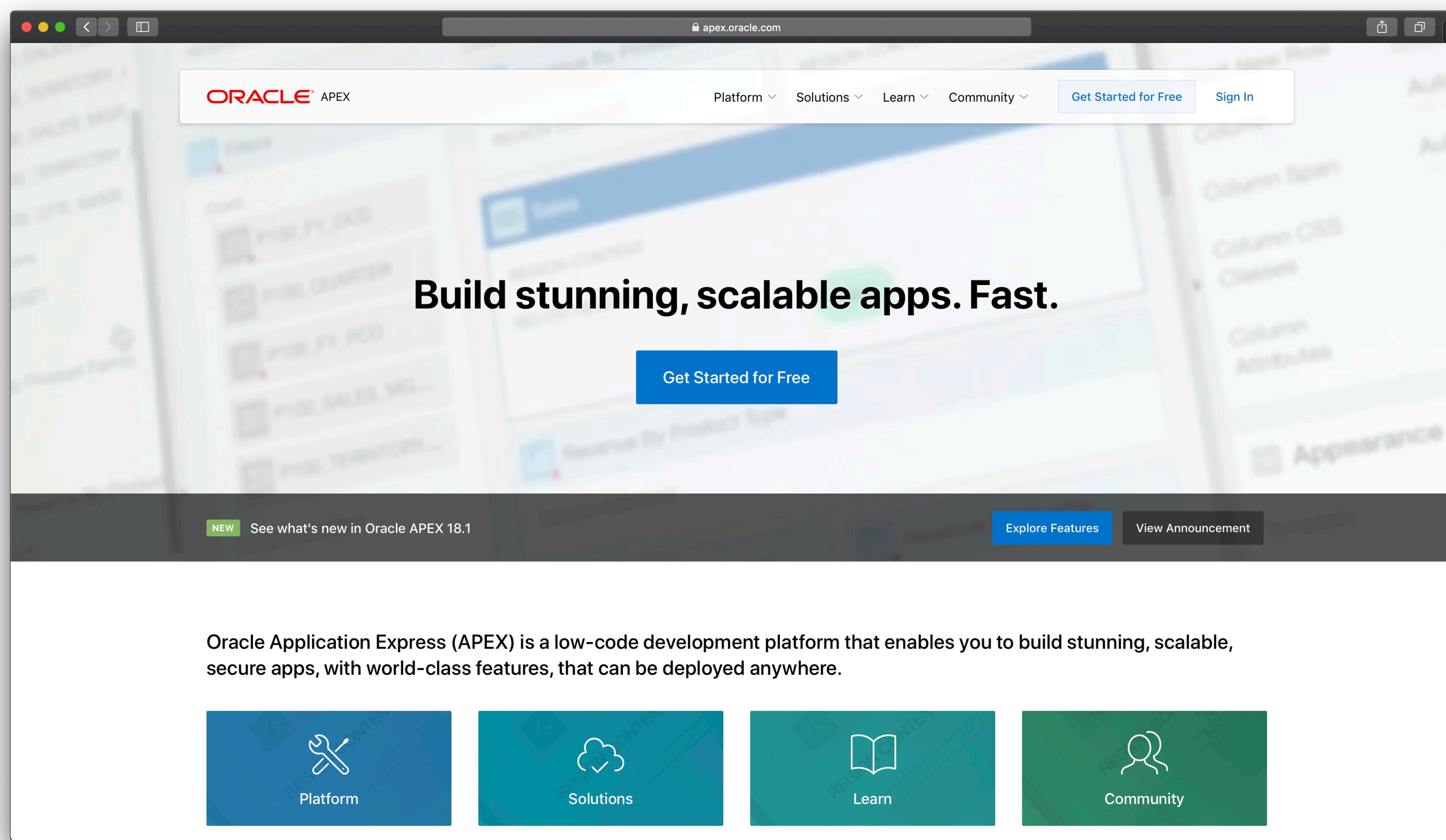
5. Reduce Costs

6. Lower Maintenance

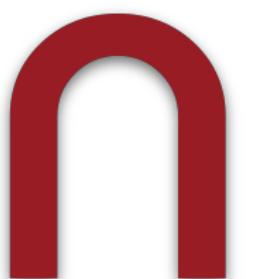
7. Simplify Deployment



Oracle APEX website



<https://apex.oracle.com>



QuickSQL

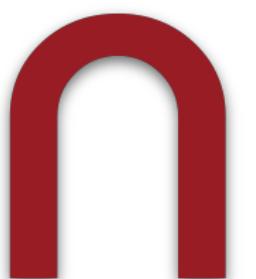
Quick SQL enables you to rapidly design and prototype data models using a markdown-like shorthand syntax that expands to standards-based Oracle SQL. You can easily create master detail relationships, check constraints, and even generate sample data.

Use this free Quick SQL app to generate SQL to use with any Oracle Database. All you need to get started is your Oracle or Oracle Technology Network (OTN) account. You can also prototype for free using Oracle Live SQL or by signing up for a free workspace on apex.oracle.com.

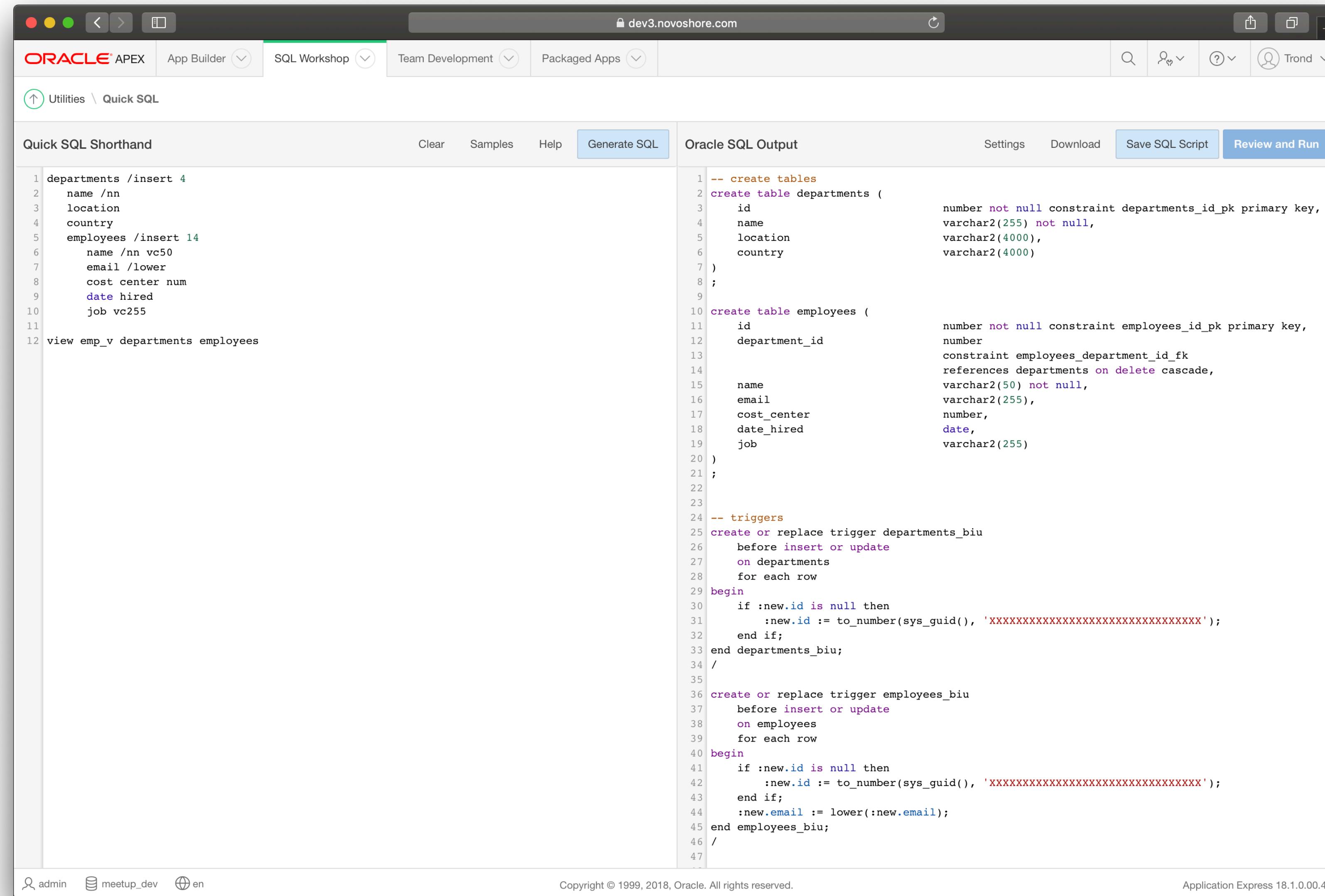
QuickSQL: Example

```
departments /insert 4
    name /nn
    location
    country
employees /insert 14
    name /nn vc50
    email /lower
    cost center num
    date hired
    job vc255
view emp_v departments employees
```

- Create table *DEPARTMENTS* with primary key *ID*. Define column *NAME* required. Create sequence and trigger associated. Insert 4 data rows.
- Create table *EMPLOYEES* with primary key *ID*. Define column *NAME* required, column *EMAIL* as lowercase text, *COST* as numeric column. Foreign key *DEPARTMENTS_ID* to table *DEPARTMENTS*. Create sequence and trigger associated. Insert 14 data rows.
- Create view *EMP_V* as join between tables *EMPLOYEES* and *DEPARTMENTS*.



Oracle APEX: QuickSQL



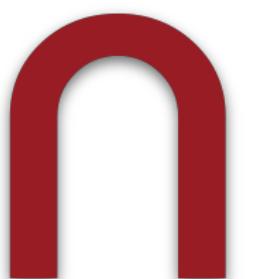
The screenshot shows the Oracle APEX QuickSQL interface. On the left, the "Quick SQL Shorthand" pane contains the following input:

```
1 departments /insert 4
2   name /nn
3   location
4   country
5 employees /insert 14
6     name /nn vc50
7     email /lower
8     cost_center num
9     date_hired
10    job vc255
11
12 view emp_v departments employees
```

On the right, the "Oracle SQL Output" pane displays the generated SQL script:

```
1 -- create tables
2 create table departments (
3   id number not null constraint departments_id_pk primary key,
4   name varchar2(255) not null,
5   location varchar2(4000),
6   country varchar2(4000)
7 )
8 ;
9
10 create table employees (
11   id number not null constraint employees_id_pk primary key,
12   department_id number
13   constraint employees_department_id_fk
14   references departments on delete cascade,
15   name varchar2(50) not null,
16   email varchar2(255),
17   cost_center number,
18   date_hired date,
19   job varchar2(255)
20 )
21 ;
22
23
24 -- triggers
25 create or replace trigger departments_biu
26   before insert or update
27   on departments
28   for each row
29 begin
30   if :new.id is null then
31     :new.id := to_number(sys_guid(), 'XXXXXXXXXXXXXXXXXXXXXXXXXXXXXX');
32   end if;
33 end departments_biu;
34 /
35
36 create or replace trigger employees_biu
37   before insert or update
38   on employees
39   for each row
40 begin
41   if :new.id is null then
42     :new.id := to_number(sys_guid(), 'XXXXXXXXXXXXXXXXXXXXXXXXXXXXXX');
43   end if;
44   :new.email := lower(:new.email);
45 end employees_biu;
46 /
47
```

The interface includes tabs for "Clear", "Samples", "Help", "Generate SQL", "Settings", "Download", "Save SQL Script", and "Review and Run". At the bottom, there are links for "admin", "meetup_dev", and "en", along with copyright and version information.



Oracle APEX: App Builder

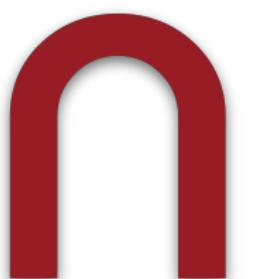
The screenshot shows the Oracle APEX App Builder interface on a Mac OS X system. The window title is "dev3.novoshore.com". The top navigation bar includes "ORACLE APEX", "App Builder", "SQL Workshop", "Team Development", "Packaged Apps", a search bar, and a user profile for "Trond".

The main content area features four large buttons: "Create" (blue icon with a plus sign), "Import" (blue icon with an upward arrow), "Dashboard" (blue icon with various charts and graphs), and "Workspace Utilities" (blue icon with a wrench). Below these are several smaller buttons: "Sample Database Application" (gray icon with a red database and cursor), "NASA API REST" (blue icon with a white rocket), and "DEMO" (green icon with a white clock).

A search bar at the top of the main area contains "Q", "Go", and "Actions" dropdowns. To the right of the search bar are "Reset" and "Create >" buttons.

The right sidebar is titled "About" and describes the App Builder's purpose: "The App Builder enables you to design, develop and deploy applications which are beautiful and responsive." It includes a "Learn More ..." link. The sidebar also lists "Recent" applications: "119 DEMO", "117 NASA API REST", and "115 Sample Database Application". It includes sections for "Tasks" (with links to "Create Application from Spreadsheet", "Install Sample App", "Install Productivity App", "Migrations", and "Oracle Forms Migrations") and "1 - 3" items.

At the bottom of the interface, there are user account links for "admin", "meetup_dev", and "en", along with copyright information: "Copyright © 1999, 2018, Oracle. All rights reserved." and "Application Express 18.1.0.00.45".



BluePrint

You can view the application blueprint by running the Create Application Wizard and clicking the View Blueprint link at the top of the Create Application Wizard. The Application Blueprint window transforms and displays the current application definition as a JSON document. Edit the document to update application properties and then click Apply Blueprint to change the current application details.

If you need to create a large number of similar pages you can copy the relevant JSON code for one page, paste it numerous times, and then make small adjustments to the JSON. This approach can be significantly quicker than manually clicking the Add Page button for each page in the wizard.

You can also replace the blueprint with the definition from a previously generated application. Click Load a Previous Blueprint to replace the blueprint with the definition from a previously generated application. This approach is a simple way to iterate the application design by adding additional pages, changing the features, or tweaking the settings, before generating the application again.



BluePrint

The screenshot shows the Oracle APEX App Builder interface for creating a new application. The top navigation bar includes links for ORACLE APEX, App Builder, SQL Workshop, Team Development, and Packaged Apps. Below the navigation is a toolbar with search and filter icons.

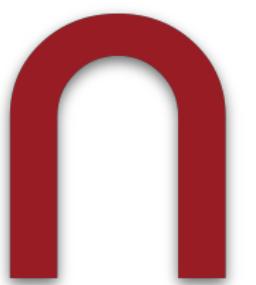
The main content area is titled "Create an Application". It features a "Name" input field and an "Appearance" dropdown set to "Vita, Side Menu".

The "Pages" section contains a "Home" page icon and a "Blank" page icon, each with an "Edit" button.

The "Features" section includes checkboxes for "About Page", "Access Control", "Activity Reporting", "Configuration Options", "Feedback", and "Theme Style Selection".

The "Settings" section includes dropdowns for "Application ID" (set to 130), "Schema" (set to MEETUP_DEV), "Authentication" (set to Application Express Accounts), "Language" (set to English (en)), "Advanced Settings", and "User Interface Defaults".

At the bottom are "Cancel" and "Create Application" buttons. The footer includes links for admin, meetup_dev, and en, along with copyright information: Copyright © 1999, 2018, Oracle. All rights reserved. Application Express 18.1.0.00.45.



Oracle APEX: App Builder

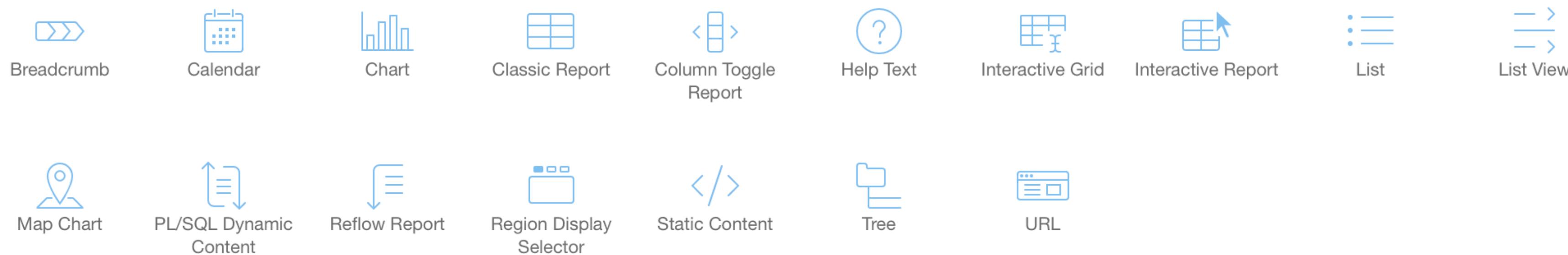
The screenshot shows the Oracle APEX App Builder interface. At the top, there's a navigation bar with tabs for ORACLE APEX, App Builder (selected), SQL Workshop, Team Development, and Packaged Apps. The URL in the address bar is dev3.novoshore.com. Below the navigation bar, the title "Application 115" is displayed, followed by "Application 115 - Sample Database Application". On the right side of the header, there are buttons for Edit Application Properties, About, Learn More, Tasks, Delete this Application, and Copy this Application. A sidebar on the right lists Recently Edited Pages, including items like "3. Products", "33. Administration", and various feedback-related pages. The main content area displays a grid of icons representing different application components and pages, such as Run Application, Supporting Objects, Shared Components, Utilities, Export / Import, and numerous numbered pages from 0 to 53. Each icon has a corresponding label below it.

Icon	Label
Run Application	0 - Page Zero
Supporting Objects	1 - Sample Database Application
Shared Components	2 - Customers
Utilities	3 - Products
Export / Import	4 - Orders
	5 - Sales by Month
	6 - Product Details
	7 - Customer Details
	8 - Order Confirmation
	9 - Application Theme Style
	10 - Order Calendar
	11 - Identify Customer
	12 - Order Items
	13 - Customer Map
	14 - Order Summary
	15 - Help
	16 - Sales by Category
	17 - Customer Orders
	19 - Product Order Tree
	20 - Product Info
	25 - Manage Sample Data
	26 - Reports
	27 - Sales by Product
	28 - Tags
	29 - Order Details
	30 - Search Results
	31 - Sales by State
	33 - Administration
	35 - Maintain States
	51 - Data Load Source
	52 - Data / Table Mapping
	53 - Data Validation

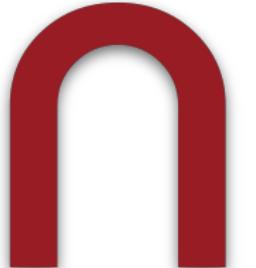
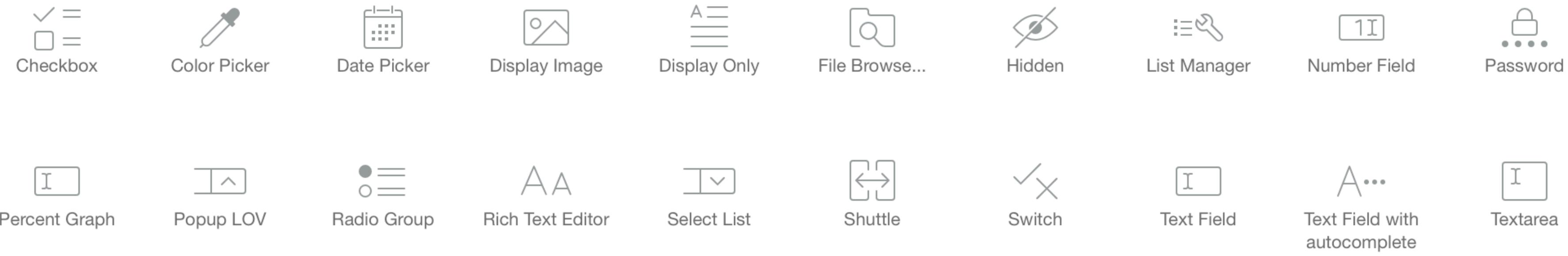


Interfaces Components

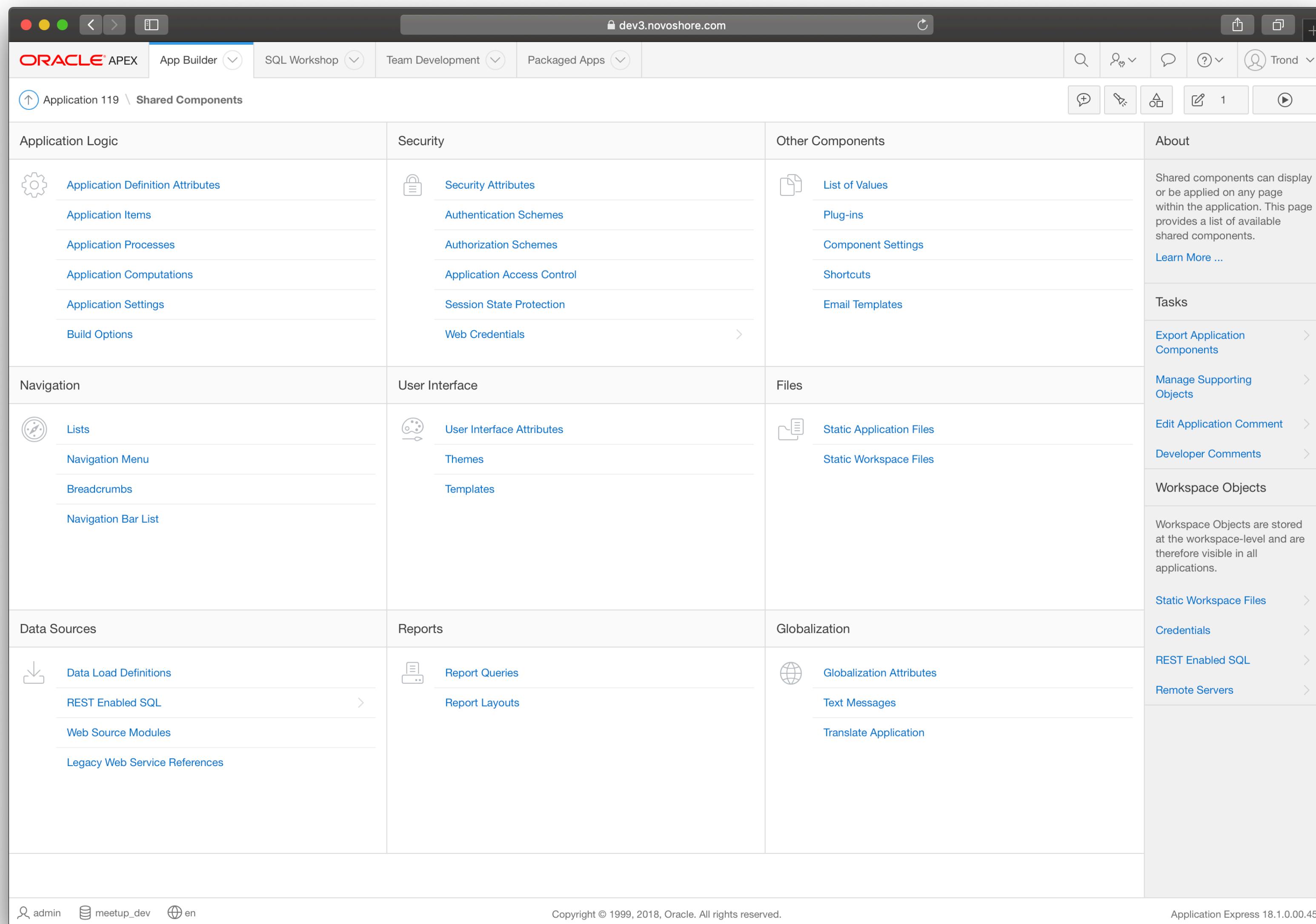
Regions



Items



Share Components

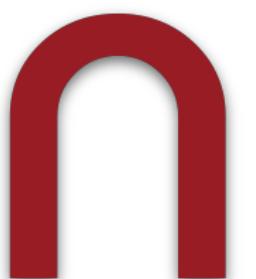


The screenshot shows the Oracle APEX Shared Components page. The URL is dev3.novoshore.com. The top navigation bar includes links for ORACLE APEX, App Builder, SQL Workshop, Team Development, Packaged Apps, and user Trond. The main content area is titled "Application 119 \ Shared Components". It is organized into four columns:

- Application Logic**: Includes Application Definition Attributes, Application Items, Application Processes, Application Computations, Application Settings, and Build Options.
- Security**: Includes Security Attributes, Authentication Schemes, Authorization Schemes, Application Access Control, Session State Protection, and Web Credentials.
- Other Components**: Includes List of Values, Plug-ins, Component Settings, Shortcuts, and Email Templates.
- About**: Describes shared components and provides links for Learn More, Tasks, Export Application Components, Manage Supporting Objects, Edit Application Comment, Developer Comments, and Workspace Objects.

The "About" section notes that shared components can be applied on any page within the application. It also mentions that workspace objects are stored at the workspace-level and are therefore visible in all applications.

At the bottom, there are footer links for admin, meetup_dev, en, Copyright © 1999, 2018, Oracle. All rights reserved., Application Express 18.1.0.00.45, and a red logo for novoshore.com.

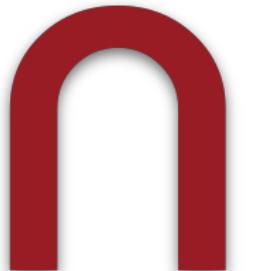


Web Source Modules

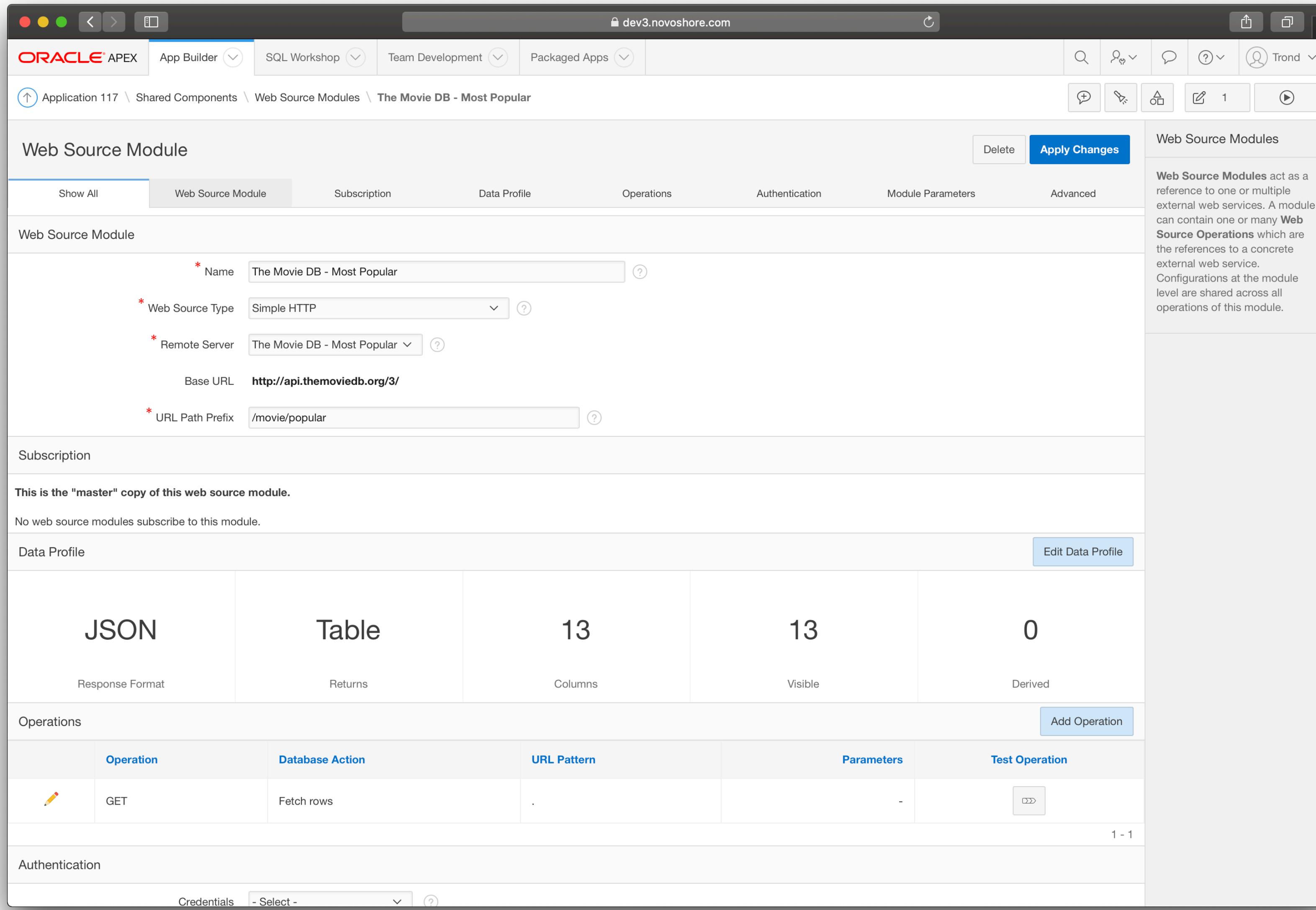
Web Source Modules enable developers to access to Representational State Transfer (REST) services or generic JSON data feeds in applications, and use the data in Application Express components such as reports, interactive reports, and interactive grids.

Unlike existing Web Service References, a Web Source Module contains metadata about the Web service which can be used by Application Express Components or PL/SQL processes to invoke the service and to process the responses.

{ REST }



Web Source Modules



The screenshot shows the Oracle APEX interface for managing a Web Source Module. The URL is dev3.novoshore.com. The navigation bar includes links for ORACLE APEX, App Builder, SQL Workshop, Team Development, and Packaged Apps. The current page is "Application 117 \ Shared Components \ Web Source Modules \ The Movie DB - Most Popular".

The main content area displays the "Web Source Module" configuration. The "Web Source Module" tab is selected. The configuration includes:

- Name: The Movie DB - Most Popular
- Web Source Type: Simple HTTP
- Remote Server: The Movie DB - Most Popular
- Base URL: <http://api.themoviedb.org/3/>
- URL Path Prefix: /movie/popular

The "Subscription" section indicates that this is the "master" copy of the module and shows no subscribers.

The "Data Profile" section has an "Edit Data Profile" button.

The "Operations" section shows a single operation:

Operation	Database Action	URL Pattern	Parameters	Test Operation
GET	Fetch rows	.	-	...

The "Authentication" section shows a dropdown menu for "Credentials" with the option "- Select -".

A sidebar on the right provides a summary of the Web Source Modules:

Web Source Modules
Web Source Modules act as a reference to one or multiple external web services. A module can contain one or many **Web Source Operations** which are the references to a concrete external web service. Configurations at the module level are shared across all operations of this module.



Web Source Modules: Example

The Movie DB - Most Popular

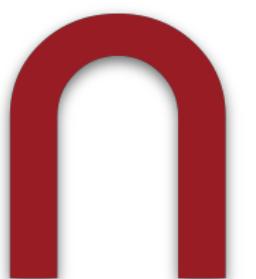
- **Web Source Type:** Simple HTTP
- **Base URL:** `http://api.themoviedb.org/3/`
- **Service URL Path:** `movie/popular`
- **Parameters:** Query Single variable
 - **Parameter Name:** `api_key`, **Value:** `<YOUR-API-KEY>`, **Static:** Yes
 - **Parameter Name:** `region`, **Value:** `us`, **Static:** Yes



Data obtained from RestAPI

The screenshot shows the Postman application interface. At the top, there's a navigation bar with 'New', 'Import', 'Runner', and a '+' button. The title bar says 'Postman' and 'My Workspace'. Below the title bar, there are several environment dropdowns and icons for sync, notifications, and sign in. The main area has tabs for 'History' and 'Collections', with 'Collections' currently selected. A message states 'You haven't created any collections yet. Postman Collections let you group related requests, making them easier to access and run.' In the center, a request card shows a 'GET' method pointing to 'http://api.themoviedb.org/3/movie/popular?api_key=d796e5dac982f9ab60ebfb14426dfa44®ion=us'. Below the card are tabs for 'Authorization', 'Headers', 'Body', 'Pre-request Script', and 'Tests'. The 'Body' tab is selected, showing a table with columns 'Key', 'Value', and 'Description'. There's a single row with 'Key' 'New key' and 'Value' empty. To the right of the table are buttons for 'Cookies', 'Code', 'Bulk Edit', and 'Presets'. Below the table, it says 'Status: 200 OK Time: 207 ms Size: 13.53 KB'. The 'Body' section also includes tabs for 'Pretty', 'Raw', 'Preview', and 'JSON'. The JSON preview pane displays the following movie data:

```
1 [ { "page": 1, "total_results": 19816, "total_pages": 991, "results": [ { "vote_count": 1804, "id": 348350, "video": false, "vote_average": 6.7, "title": "Solo: A Star Wars Story", "popularity": 214.308, "poster_path": "/3IGbjc5ZC5yim5W0sFING2kdcz.jpg", "original_language": "en", "original_title": "Solo: A Star Wars Story", "genre_ids": [ 28, 12, 878 ], "backdrop_path": "/96B1qMN9RxrAFu6uikwFhQ6N6J9.jpg", "adult": false, "overview": "Through a series of daring escapades deep within a dark and dangerous criminal underworld, Han Solo meets his mighty future copilot Chewbacca and encounters the notorious gambler Lando Calrissian.", "release_date": "2018-05-15" }, { "vote_count": 674, "id": 439079, "video": false, "vote_average": 5.9, "original_title": "Solo: A Star Wars Story", "original_language": "en", "title": "Solo: A Star Wars Story", "popularity": 214.308, "backdrop_path": "/96B1qMN9RxrAFu6uikwFhQ6N6J9.jpg", "adult": false, "overview": "Through a series of daring escapades deep within a dark and dangerous criminal underworld, Han Solo meets his mighty future copilot Chewbacca and encounters the notorious gambler Lando Calrissian.", "release_date": "2018-05-15" } ] }
```



Show data from RestAPI

dev3.novoshore.com

NASA API REST

admin ▾

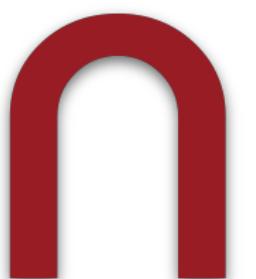
Home test TMDB

TMDB

Report 1

Vote Count	Id	Video	Vote Average	Title	Popularity	Poster Path	Original Language	Original Title	Backdrop Path	Adult	Overview
1	335983	false	0	Venom	61.822	/2uNW4WbgBXL25BAbXGLnLqX71Sw.jpg	en	Venom	/VuukZLgaCrho2Ar8Sci9HtV3yD.jpg	false	When Eddie Brock acquires the powers of a symbiote, he will have to release his alter-ego "Venom" to save his life.
8	530442	false	4.5	My Teacher, My Obsession	71.546	/zrdhT7Mkk23M59cdV0aaiHLYQWs.jpg	en	My Teacher, My Obsession	/e71OYBLTWRayGVIUYAdVya9XrAB.jpg	false	Riley is struggling to make friends after transferring to a new high school where her father, Chris, is an English teacher. When she meets Kyla, they quickly becomes close friends. However, the friendship takes a strange turn when Riley learns that Kyla is obsessed with her dad. Will Kyla successfully seduce Chris and start a twisted new life with him by removing everyone in her path, or will Riley be able to save her father from Kyla's treacherous plot before it's too late?
17	476292	false	5.6	Maquia: When the Promised Flower Blooms	69.625	/qcnOKCPleLOTWPPgYl0YT1MOQwR.jpg	ja	さよならの朝に約束の花をかざろう	/cfbjFQ14hSTgXChBEvaEjFiUaKb.jpg	false	A story of encounters and partings interwoven between people; this is a human drama with feelings that touch one's heart gradually, which everyone has experienced at least once.
26	135870	false	4	Rebel	105.778	/dNTzorrVmCJ25fUGzs9Ffkoxb0P.jpg	te	భార్యలు	/yCGEkEqy7uOo7NwlbgOzGrI8i43.jpg	false	Rebel is a romantic action revenge drama, which revolves around the story of a happy-go-lucky guy. The hero (Prabhas) is the son of a good-natured mafia don (Krishnam Raju). The hero becomes Rebel after his father is killed. How he takes revenge upon the people, who killed his father, will form the second half of the movie. Apart from directing, Raghava Lawrence also handles the choreography, screenplay and music direction for the film. The film is being produced by J. Bhaskaran and J. Pulla Rao under Sri Balaji Global Media banner.

Home Application 117 Edit Page 3 Session View Debug Debug Page Info Quick Edit Theme Roller



Show Report as Cards

The screenshot displays two side-by-side interfaces related to a TMDB report.

Left Side (Browser View): Shows a card-based report titled "Report 1" with five cards. The cards are:

- Venom
- My Teacher, My Obsession
- Maquia: When the Promised Flower Blooms
- Rebel
- The Seven Deadly Sins Prisoners of the Sky

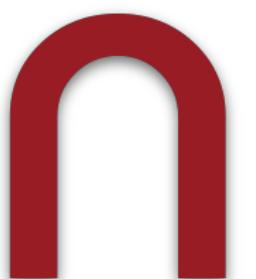
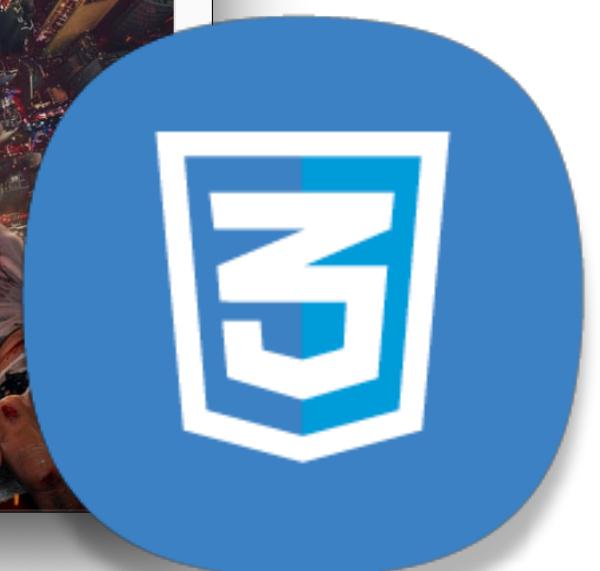
Right Side (Page Designer): Shows the Oracle APEX Page Designer interface for "Page 3: TMDB". The "Template Options" dialog is open, specifically the "Common" tab, which includes settings for:

- General: Use Template Defaults (checked), Apply Theme Colors, Display Subtitle.
- Style: Featured.
- Icons: No Icons.
- Layout: 5 Columns.
- Body Text: Auto.
- Animation: Color Fill.

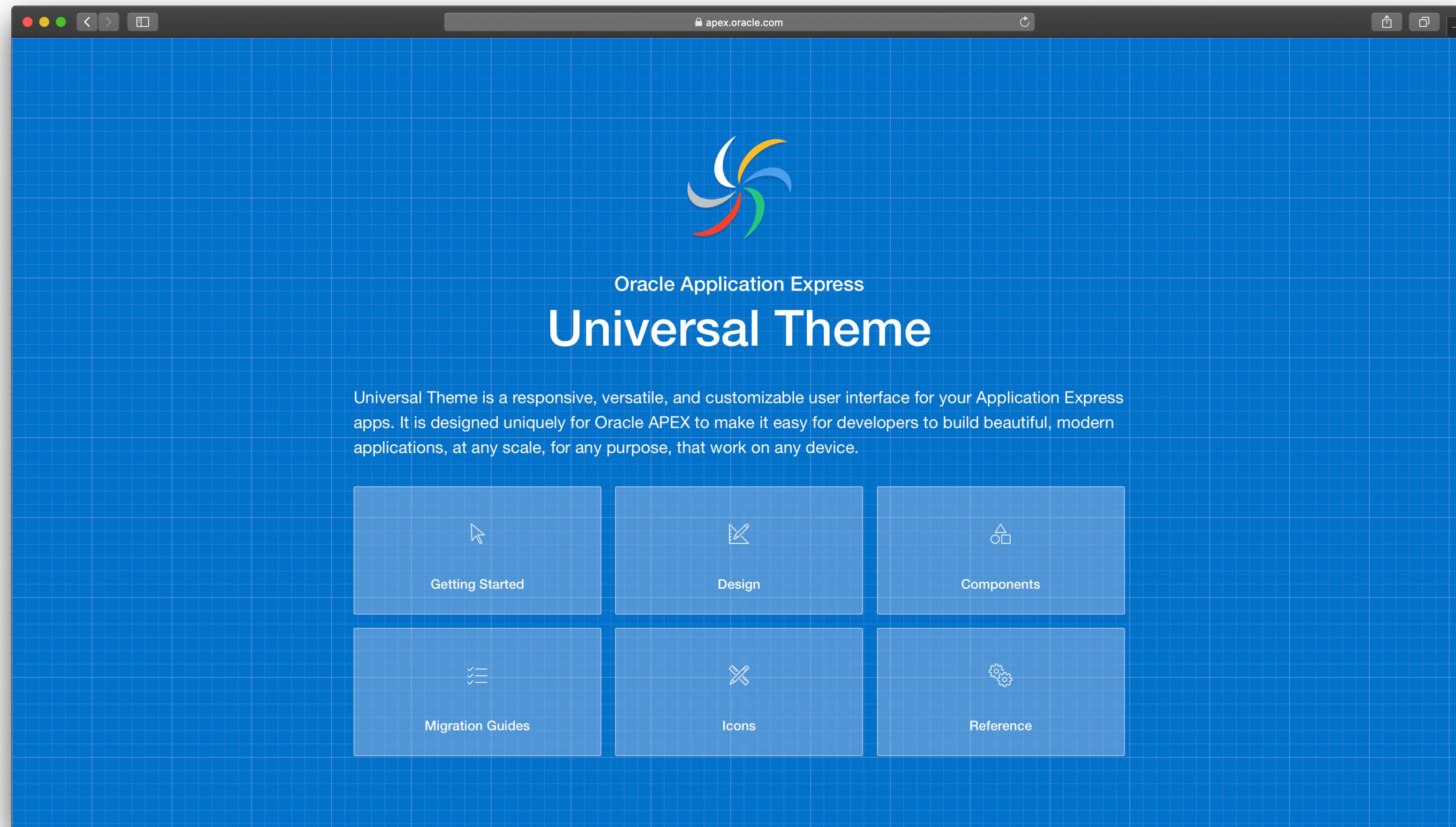
The "Template Type" is set to "Cards". Other tabs in the dialog include "Advanced", "Messages", and "Regions". Below the dialog, there are icons for various report components: Breadcrumb, Calendar, Chart, Classic Report, Column Toggle Report, Help Text, Interactive Grid, Interactive Report, List, and List View.

Customising the Cards

The screenshot shows a web application interface titled "NASA API REST" with a blue header bar. The header includes navigation links for "Home", "test", and "TMDB". A user profile "admin" is visible on the right. The main content area is titled "TMDB" and displays a grid of movie cards. Each card features a movie poster and its title. The cards are arranged in two rows of five. The titles visible are: Venom, My Teacher, My Obsession, Maquia: When the Promised Flower Blooms, Rebel, The Seven Deadly Sins: Prison..., and several other partially visible titles. At the bottom of the page, there is a navigation bar with icons and labels: Home, Application 117, Edit Page 3, Session, View Debug, Debug, Page Info, Quick Edit, Theme Roller, and a magnifying glass icon.



Universal Theme



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



novoshore.com

Responsive Theme

The image displays two side-by-side screenshots of a movie database application, likely built with a responsive theme, running on a Mac OS X desktop environment.

Left Screenshot: The title bar reads "NASA API REST". Below it, a navigation bar has "Home" and "test" buttons. A "TMDB" button is also present. The main content area is titled "TMDB" and shows a grid of movie posters. The first poster is for the Japanese drama "Injury Devil" (傷だらけの悪魔). The second poster is for the movie "Venom". Other visible titles include "My Teacher, My Obsession", "Rebel", "The Seven Dead", and "Mandy". Each poster has a caption below it: "Demon Covered in Scars", "Venom", "My Teacher, My Obsession", "Rebel", "The Seven Dead", and "Mandy".

Right Screenshot: The title bar reads "NASA API REST". Below it, a navigation bar has "Home" and "test" buttons. A "TMDB" button is also present. The main content area is titled "TMDB" and shows a grid of movie posters. The first poster is for the Japanese drama "Injury Devil" (傷だらけの悪魔). The second poster is for the movie "Venom". Other visible titles include "Demon Covered in Scars" and "Venom". Each poster has a caption below it: "Demon Covered in Scars" and "Venom".

