

# APEX, Meet the Rest of the Web - Modern Web Technologies in Your APEX Application

Craig Sykes

Explorer



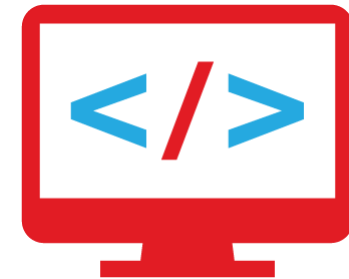
## Who are Explorer?

- Oracle Platinum Partner
- Multiple Award Winners
- Dedicated Oracle Teams
- UK team of Oracle experts
- Oracle Engineered Systems practice



## Development

- DEVELOP - Developing bespoke applications
- CONSULT - Advice, Planning, Design, “Kick-starts” , Apex coaching
- SUPPORT - Application Support and Development Resource
- EDUCATE - Oracle APEX Training ,Workshops, Accelerated learning



## Database Support

- Database support
- Migrations
- Upgrades
- Maintenance
- Performance tuning



## Who am I?

### **Craig Sykes**

- Many years experience in Oracle technologies; PL/SQL, Forms, Reports & APEX working across business sectors
- Trainer, Speaker, Blogger, Consultant & Developer
- Promote and enthuse Oracle APEX



- Current trends
- Searching
- Maps
- Charts
- External file uploads
- Popular website APIs
- IoT Connections



## Advanced platforms mean new responsive design

- No Longer just mobile
- Wearable gadgets, Virtual Reality

## Browser Based IDEs

- Deployment in the cloud
- Flexibility – access from anywhere



## Full Screen Navigation

- Forms jump to full screen when the user accesses from a mobile device

## Internet of Things

- Small household objects and Household appliances linked to the internet
- Many different companies / apps / APIs



## Real-time reporting

- Access to information in real time expected
- Social Media
- Streaming

## Security

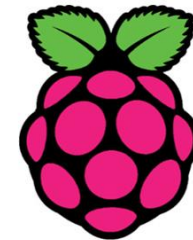
- Exposing business data to the web means lots of security considerations
- [HP Cyber risk report](#) – 86% of web apps had serious issues with authentication, access control and confidentiality.
- 52% have XSS and SQL injection vulnerabilities





# Demonstration





RaspberryPi



The screenshot shows the 'Structure 1' configuration page in the Nest Home Simulator. The interface is divided into several sections:

- Header:** 'Nest Home Simulator' with a home icon and 'Structure 1' with a search icon.
- API Section:**
  - name:** Text input field containing 'Structure 1'.
  - away status:** Dropdown menu set to 'home'.
  - location:** Two input fields for 'USA' and '94304', with a 'SET LOCATION' button.
  - set RHR event:** Dropdown menu set to '1 minute event', with a 'SET RHR' button. Below it, a note says 'Please add a thermostat to set RHR events on this structure'.
  - Set ETA:** Dropdown menu set to '1 minute from now', with a 'SET ETA' button.
- Properties Section:**
  - Buttons: 'ADD THERMOSTAT', 'ADD PROTECT', 'ADD CAMERA', and 'DELETE STRUCTURE'.
  - Custom wheres:** A section with a note: 'Add a custom where by clicking the "add custom where" button'. It contains 'DELETE CUSTOM WHERE(S)' and 'ADD CUSTOM WHERE' buttons.
- Footer:** 'Home' with a search icon, 'Limit reached for structures', and 'version: 2.1.4'.



```
DECLARE

l_clob CLOB;
l_url VARCHAR2(4000);

BEGIN

l_url := 'https://developer-api.nest.com/structures';

apex_web_service.g_request_headers(1).name := 'Content-Type';
apex_web_service.g_request_headers(1).value := 'application/json';
apex_web_service.g_request_headers(1).name := 'Authorization';
apex_web_service.g_request_headers(1).value := 'Bearer ' ||
                                                'c.5rDxxR9NS0pSpBvsvXHujELMe1EMNO1RTTr5PRwX';

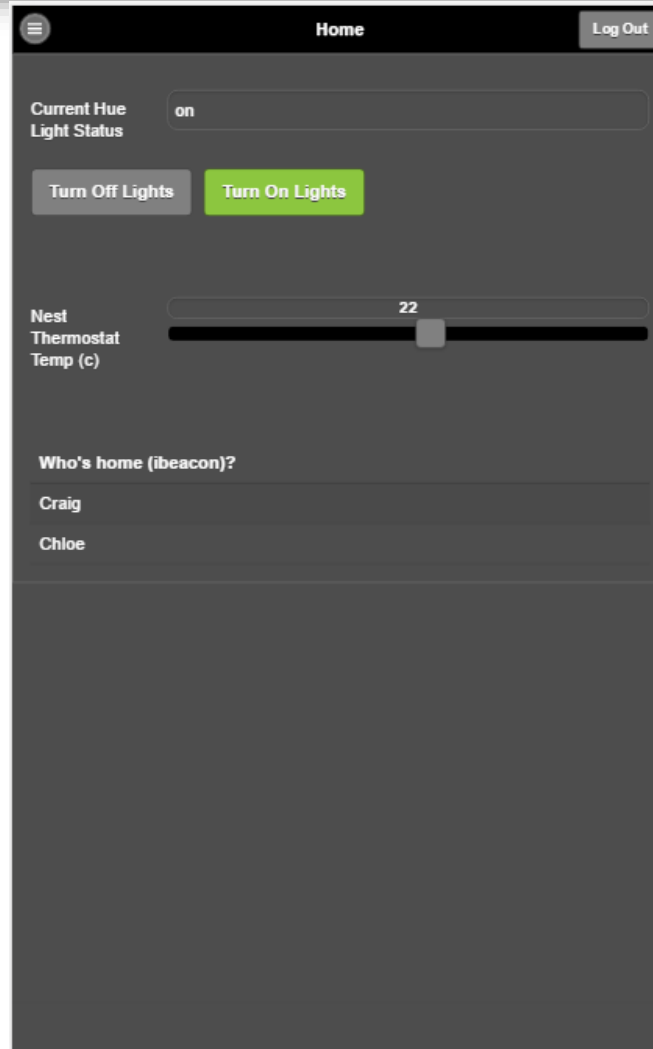
l_clob := apex_web_service.make_rest_request(p_url => l_url,
                                             p_http_method => 'GET');

dbms_output.put_line(l_clob);

END;
```



# Internet of Things





## Raspberry Pi Weather Measurements

- Rainfall
- Wind speed
- Wind gust speed
- Wind direction
- Ambient temperature
- Soil temperature
- Barometric pressure
- Relative humidity
- Air Quality
- Real Time Clock (for data logging purposes)



# APEX 4.2 to 5 Upgrade

Raspberry Pi® Weather Station Project Admin Logout

Home Schools Weather Stations Weather Measurement All Weather Measurements Admin Tools

## All Weather Measurements

Country	Longitude	Latitude	Ambient temp	Ground temp	Air quality	Air pressure	Humidity	Wind direction	Wind speed	Wind gust speed	Rainfall	Reading timestamp
England	50	10	15.37	4.88	54.11	101.36	55.39	18.53	.28	1.2	0	04-DEC-2014 04:10:02
England	50	10	18.46	5	53.25	101.33	49.6	180	.41	1.44	0	04-DEC-2014 06:45:02
England	50	10	20.91	3.75	43.25	101.09	51.81	45	1.43	3.12	0	04-DEC-2014 14:45:02
England	50	10	19.43	3.88	44.07	101.13	53.49	45	.95	2.16	0	04-DEC-2014 19:15:02
England	50	10	22.05	9.38	45.81	100.64	51.54	315	.08	.72	0	26-NOV-2014 12:55:02
England	50	10	21.63	9.38	45.51	100.61	53.06	225	.02	.24	0	26-NOV-2014 14:00:02
England	50	10	21.69	9.38	45.48	100.61	52.91	45	.01	.24	0	26-NOV-2014 14:05:02
England	50	10	21.78	9.38	45.39	100.6	52.92	45	.03	.24	0	26-NOV-2014 14:10:01
England	50	10	23.17	11.06	37.09	99.89	50.5	45	.27	.96	0	27-NOV-2014 11:45:03
England	50	10	23.24	11.38	37	99.87	50.45	97.5	.07	.72	0	27-NOV-2014 11:50:02
England	50	10	23.31	11.38	37.02	99.88	50.3	90	.08	.48	0	27-NOV-2014 11:55:01
England	50	10	23.7	12.19	37	99.89	49.77	90	.06	.24	0	27-NOV-2014 12:15:03
England	50	10	23.73	10.94	36.92	99.88	50.28	180	.1	.72	0	27-NOV-2014 13:00:02
England	50	10	23.62	11.13	36.96	99.87	50.53	315	.02	.24	0	27-NOV-2014 13:05:01
England	50	10	23.52	11.31	36.94	99.86	50.79	225	.08	.72	0	27-NOV-2014 13:10:02
England	50	10	22.54	10.44	38.04	99.88	53.47	270	0	0	0	27-NOV-2014 14:45:03
England	50	10	22.5	10.44	38.19	99.88	53.55	270	0	0	0	27-NOV-2014 14:50:02
England	50	10	22.49	10.38	38.13	99.88	53.89	270	0	0	0	27-NOV-2014 14:55:01



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- Charts
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We design, build & support bespoke APEX applications...



SOLVE... >

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DEVELOP... >

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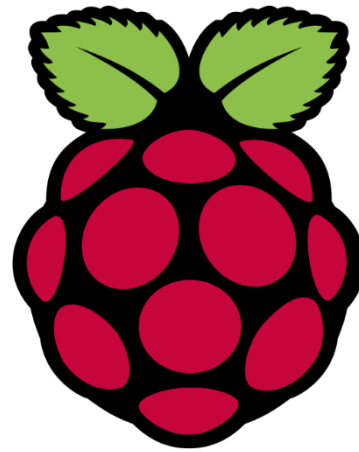


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# Win a Raspberry Pi !



Simply visit our stand by the entrance to the exhibitor hall!

