```
classdef firebaseRealtimeDatabase < matlab.apps.AppBase

    % Properties that correspond to app components
    properties (Access = public)
        UIFigure                matlab.ui.Figure
        RetrieveDataButton      matlab.ui.control.Button
        ResponseparametersPanel  matlab.ui.container.Panel
        SWITCHLamp              matlab.ui.control.Lamp
        SWITCHLampLabel         matlab.ui.control.Label
        CurrentGauge            matlab.ui.control.SemicircularGauge
        CurrentGaugeLabel       matlab.ui.control.Label
        VoltageGauge            matlab.ui.control.SemicircularGauge
        VoltageGaugeLabel       matlab.ui.control.Label
        FirebasedatabaseLabel   matlab.ui.control.Label
    end

    % Callbacks that handle component events
    methods (Access = private)

        % Button pushed function: RetrieveDataButton
        function RetrieveDataButtonPushed(app, event)
            response = webread('https://pythondevelopment-649e0-default-rtdb.asia-southeast1.firebasedatabase.app/.json?print=pretty');
            app.CurrentGauge.Value = response.current;
            app.VoltageGauge.Value = response.voltage;
            switchPosition = strcmp(response.switch, "ON");
            if(switchPosition == 1)
                app.SWITCHLamp.Color = [1 1 1];
            else
                app.SWITCHLamp.Color = [0 0 0];
            end
        end
    end

    % Component initialization
    methods (Access = private)

        % Create UIFigure and components
        function createComponents(app)

            % Create UIFigure and hide until all components are created
            app.UIFigure = uifigure('Visible', 'off');
            app.UIFigure.Position = [100 100 640 480];
            app.UIFigure.Name = 'MATLAB App';

            % Create FirebasedatabaseLabel
            app.FirebasedatabaseLabel = uilabel(app.UIFigure);
            app.FirebasedatabaseLabel.BackgroundColor = [1 0 0];
            app.FirebasedatabaseLabel.HorizontalAlignment = 'center';
            app.FirebasedatabaseLabel.Position = [1 410 640 71];
            app.FirebasedatabaseLabel.Text = 'Firebase database';

            % Create ResponseparametersPanel
            app.ResponseparametersPanel = uipanel(app.UIFigure);
            app.ResponseparametersPanel.Title = 'Response parameters';
            app.ResponseparametersPanel.Position = [18 130 391 261];

            % Create VoltageGaugeLabel
            app.VoltageGaugeLabel = uilabel(app.ResponseparametersPanel);
            app.VoltageGaugeLabel.HorizontalAlignment = 'center';
            app.VoltageGaugeLabel.Position = [56 99 45 22];
            app.VoltageGaugeLabel.Text = 'Voltage';

            % Create VoltageGauge
            app.VoltageGauge = uigauge(app.ResponseparametersPanel, 'semicircular');
            app.VoltageGauge.Limits = [0 300];
            app.VoltageGauge.Position = [18 136 120 65];

            % Create CurrentGaugeLabel
            app.CurrentGaugeLabel = uilabel(app.ResponseparametersPanel);
            app.CurrentGaugeLabel.HorizontalAlignment = 'center';
            app.CurrentGaugeLabel.Position = [281 99 45 22];
            app.CurrentGaugeLabel.Text = 'Current';

            % Create CurrentGauge
            app.CurrentGauge = uigauge(app.ResponseparametersPanel, 'semicircular');
            app.CurrentGauge.Position = [243 136 120 65];

            % Create SWITCHLampLabel
            app.SWITCHLampLabel = uilabel(app.ResponseparametersPanel);
            app.SWITCHLampLabel.HorizontalAlignment = 'right';
            app.SWITCHLampLabel.Position = [51 23 52 22];
            app.SWITCHLampLabel.Text = 'SWITCH';

            % Create SWITCHLamp
            app.SWITCHLamp = uilamp(app.ResponseparametersPanel);
            app.SWITCHLamp.Position = [118 23 20 20];

            % Create RetrieveDataButton
            app.RetrieveDataButton = uibutton(app.UIFigure, 'push');
            app.RetrieveDataButton.ButtonPushedFcn = createCallbackFcn(app, @RetrieveDataButtonPushed, true);
            app.RetrieveDataButton.Position = [492 249 100 22];
            app.RetrieveDataButton.Text = 'RetrieveData';

            % Show the figure after all components are created
            app.UIFigure.Visible = 'on';
        end
    end
```

```
        % App creation and deletion
        methods (Access = public)

            % Construct app
            function app = firebaseRealtimeDatabase

                % Create UIFigure and components
                createComponents(app)

                % Register the app with App Designer
                registerApp(app, app.UIFigure)

                if nargout == 0
                    clear app
                end
            end

            % Code that executes before app deletion
            function delete(app)

                % Delete UIFigure when app is deleted
                delete(app.UIFigure)
            end
        end
    end
```