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-- TwilioRestClient.lua
-- by Stewart Bracken http://stewart.bracken.bz stew.bracken@gmail.com
-- Access the Twilio Rest API within a Corona application.
-- License: just friggin use it. Shoot me an email for any questions.
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local mime = require "mime"
local json = require("json")
local Util = require "Twilio.Util"

local TwilioRestClient = setmetatable({}, nil)
TwilioRestClient.__index = TwilioRestClient

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-- create() - public
-- @param acc_sid - type(string) - Your account SID.
-- @param acc_token - type(string) - Your account token.
-- @param [base_url] - type(string) - Optionally define base Twilio URL
-- @param api_version - type(string) - Optionally define API version.
-- @return - Your new TwilioRestClient instance.
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function TwilioRestClient.create(acc_sid, acc_token, base_url, api_version)
    assert(acc_sid and type(acc_sid) == "string",
        acc_token and type(acc_token) == "string",
        base_url == nil or type(base_url) == "string",
        api_version == nil or type(api_version) == "string",
        "Rest.create(acc_sid string, acc_token string[, \"..\" \"base_url string[, api_version string]]")

    base_url = base_url or "https://api.twilio.com"
    api_version = api_version or "2010-04-01"

    local instance = setmetatable({}, TwilioRestClient)
    instance.sid = acc_sid
    instance.token = acc_token
    instance.base = base_url
    instance.api_version = api_version

    return instance
end

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-- buildURL() - private
-- @param client - type(TwilioRestClient) - instance of your Twilio client.

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-- @param arg - type(string) - any additional arguments will append to the
-- request URL.
-- @return - type(string) - Twilio http request URL, which is only valid if
-- all args are Twilio valid.
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local function buildURL(client, ...)
    local out = client.base .. "/" .. client.api_version .. "/Accounts/" ..
client.sid
    for i,v in ipairs(arg) do
        out = out .. "/" .. tostring(v)
    end
    out = out .. ".json"
    return out
end

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-- formatPhoneNumber() - private
-- @param number - type(string) - phone number in Twilio format 11234567890
-- @return - type(string) - number with + in front if it doesn't have it.
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local function formatPhoneNumber(number)
    -- use '%2B' for +
    local s,e = string.find(number,"+")
    if not s then
        number = "+" .. number
    end
    return number
end

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-- buildURI() - private
-- @param vars - type(table) - table containing body uri data. For example,
-- passing {Url=blah.com, To=123456789} returns
-- 'Url=blah.com&To=123456789'
-- @return - type(string)
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--Vars is a table containing body uri data ie passing
--{Url=blah.com, To=123456789} returns Url=blah.com&To=123456789
-- Used by post function
local function buildURI(vars)
    local out = ""
    local first = true
    for k,v in pairs(vars) do
        if first then

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        first = false
    end
    --Prevent tables or other unwanted types
    if Util.typechk(v,"string","number") and
        Util.typechk(k,"string","number") then
        if k == "To" or k == "From" then v = formatPhoneNumber(v) end
        out = out .. (not first and "&" or "") .. tostring(k) .. "=" ..
tostring(v)
    end
    end
    return out
end

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-- network_middle_man() - private
-- @param e - type(table) - event recieved from Corona network.
-- @param listener - type(function) - user defined network listener
-- Used internally by TwilioRestClient to format data from server and handle
-- errors. Formats Twilio data for you :D
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local function network_middle_man(e, listener)
    --Convert json response into Lua table. Magic!
    e.response = json.decode(e.response)

    --Combine Twilio response errors (ie bad request by user)
    -- and HTTP errors as a general success status
    -- TODO: is this bad practice?
    e.success = (e.status < 300 and e.status > 199) and not e.isError
        and not e.response.code

    if not e.success then
        e.message = e.response.message
    end

    --Send formatted event data to user defined listener
    listener(e)
end

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-- post() - private
-- @param vars - type(table) - table containing body uri data. For example,
-- passing {Url=blah.com, To=123456789} returns
-- 'Url=blah.com&To=123456789'
-- @return - type(string)

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local function post(client, vars, listener)
    local t = vars.Type
    vars.Type = nil
    local body = buildURI(vars)
    local url = buildURL(client,t)

    local headers = {}
    headers["Content-Type"] = "application/x-www-form-urlencoded"
    headers["Authorization"] = "Basic " .. mime.b64(client.sid .. ":" .. client.token)

    local params = {}
    params.headers = headers
    params.body = body

    network.request(url, "POST", listener, params)
end

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-- get() - private
-- @param vars - type(table) - table containing body uri data. Get requests can
-- optionally have an instance SID in which case no
-- no body data is sent to Twilio except the ISid.
-- @return - type(string)
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--GET requests can optionally have an instance sid, in which
--case no body data is sent to twilio
function get(client, vars, listener)
    local t = vars.Type
    local ISid = vars.InstanceSid
    vars.Type = nil
    vars.InstanceSid = nil
    local url = buildURL(client, t, ISid)
    --If InstanceSid is provided, REST doesn't need any properties
    local body = ISid and "" or buildURI(vars)

    local headers = {}
    headers["Content-Type"] = "application/x-www-form-urlencoded"
    headers["Authorization"] = "Basic " .. mime.b64(client.sid .. ":" .. client.token)

    local params = {headers = headers, body = body}

    network.request(url, "GET", listener, params)
end

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-- Request() - public
-- @param vars - type(table) - [key,val] pairs associated with a Twilio request
--               special key 'Type' defines what kind of request you're making.
-- @param method - type(string) - either "POST" or "GET".
-- @param listener - type(function) - function that accepts the http request
--                  events asynchronously.
-- @return the return value comes to the user defined listener(event) function
--         event.success specifies if the request was valid. Refer to
--         event.message for failure information. event.response is a lua table
--         containing your data returned from Twilio. Refer to
--         https://www.twilio.com/docs/api/rest for Twilio response infos.
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function TwilioRestClient:request(vars, method, listener)
    assert( type(vars) == 'table',
            method == "POST" or method == "GET",
            type(listener) == 'function',
            "TwilioRestClient:request(vars, method)" )
    vars = (vars and Util.DeepCopy(vars)) or {} --deep copy so I can modify in place
    local net_listener = function(e) network_middle_man(e,listener) end
    if method == "POST" then
        return pcall(function() post(self, vars, net_listener) end)
    elseif method == "GET" then
        return pcall(function() get(self, vars, net_listener) end)
    end
end

return TwilioRestClient
```