Project 4: Founders Directory (Revisited)

Database Information

```
mysql> show tables;
+---------------------+
| Tables_in_founders |
+---------------------+
| founder             |
| session             |
| stats               |
| user                |
+---------------------+
4 rows in set (0.00 sec)
```

Let Dr. Liddle know if you'd like a user record created and added to the database.

```
mysql> select * from user;
+-----+--------------------------------+------------------------------------------+---------+
| uid | username                       | password                                 | version |
+-----+--------------------------------+------------------------------------------+---------+
|   1 | drliddlexxxxxxxxxx             | cfb3596e677cc608727fb42f69340243b469adf6 |       1 |
|  ...
+-----+--------------------------------+------------------------------------------+---------+
21 rows in set (0.00 sec)

mysql> select * from session;
+----------------------------------+-----+-----------+---------------------+
| session_key                      | uid | device_id | last_updated        |
+----------------------------------+-----+-----------+---------------------+
| 41471165af5bb678bf58467811505450 | 1   | 12345678  | 2016-11-05 15:39:02 |
+----------------------------------+-----+-----------+---------------------+
1 row in set (0.00 sec)

mysql> describe stats;
+--------------+--------------+------+-----+-------------------+-----------------------------+
| Field        | Type         | Null | Key | Default           | Extra                       |
+--------------+--------------+------+-----+-------------------+-----------------------------+
| id           | int(11)      | NO   | PRI | NULL              | auto_increment              |
| device       | varchar(64)  | YES  |     | NULL              |                             |
| manufacturer | varchar(64)  | YES  |     | NULL              |                             |
| model        | varchar(64)  | YES  |     | NULL              |                             |
| product      | varchar(64)  | YES  |     | NULL              |                             |
| rel          | varchar(64)  | YES  |     | NULL              |                             |
| sdk          | varchar(64)  | YES  |     | NULL              |                             |
| page         | varchar(64)  | YES  |     | NULL              |                             |
| version      | varchar(64)  | YES  |     | NULL              |                             |
| logged       | timestamp    | NO   |     | CURRENT_TIMESTAMP | on update CURRENT_TIMESTAMP |
| url          | varchar(255) | YES  |     | NULL              |                             |
+--------------+--------------+------+-----+-------------------+-----------------------------+
11 rows in set (0.00 sec)

mysql> describe founder;
+-----------------------------+--------------+------+-----+---------+----------------+
| Field                       | Type         | Null | Key | Default | Extra          |
+-----------------------------+--------------+------+-----+---------+----------------+
| id                          | int(11)      | NO   | PRI | NULL    | auto_increment |
| uid                         | int(11)      | NO   | MUL | NULL    |                |
| given_names                 | varchar(255) | YES  |     | NULL    |                |
| surnames                    | varchar(255) | YES  |     | NULL    |                |
| preferred_first_name        | varchar(255) | YES  |     | NULL    |                |
| preferred_full_name         | varchar(255) | YES  |     | NULL    |                |
| cell                        | varchar(50)  | YES  |     | NULL    |                |
| email                       | varchar(255) | YES  |     | NULL    |                |
| web_site                    | varchar(255) | YES  |     | NULL    |                |
| linked_in                   | varchar(255) | YES  |     | NULL    |                |
| biography                   | text         | YES  |     | NULL    |                |
| expertise                   | text         | YES  |     | NULL    |                |
| spouse_given_names          | varchar(255) | YES  |     | NULL    |                |
| spouse_surnames             | varchar(255) | YES  |     | NULL    |                |
| spouse_preferred_first_name | varchar(255) | YES  |     | NULL    |                |
| spouse_preferred_full_name  | varchar(255) | YES  |     | NULL    |                |
| spouse_cell                 | varchar(50)  | YES  |     | NULL    |                |
| spouse_email                | varchar(255) | YES  |     | NULL    |                |
| status                      | varchar(50)  | YES  |     | NULL    |                |
| year_joined                 | varchar(50)  | YES  |     | NULL    |                |
| home_address1               | varchar(255) | YES  |     | NULL    |                |
| home_address2               | varchar(255) | YES  |     | NULL    |                |
| home_city                   | varchar(50)  | YES  |     | NULL    |                |
| home_state                  | varchar(50)  | YES  |     | NULL    |                |
| home_postal_code            | varchar(50)  | YES  |     | NULL    |                |
| home_country                | varchar(50)  | YES  |     | NULL    |                |
| organization_name           | varchar(255) | YES  |     | NULL    |                |
| job_title                   | varchar(255) | YES  |     | NULL    |                |
| work_address1               | varchar(255) | YES  |     | NULL    |                |
| work_address2               | varchar(255) | YES  |     | NULL    |                |
| work_city                   | varchar(50)  | YES  |     | NULL    |                |
| work_state                  | varchar(50)  | YES  |     | NULL    |                |
| work_postal_code            | varchar(50)  | YES  |     | NULL    |                |
| work_country                | varchar(50)  | YES  |     | NULL    |                |
| mailing_address1            | varchar(255) | YES  |     | NULL    |                |
| mailing_address2            | varchar(255) | YES  |     | NULL    |                |
| mailing_city                | varchar(50)  | YES  |     | NULL    |                |
| mailing_state               | varchar(50)  | YES  |     | NULL    |                |
| mailing_postal_code         | varchar(50)  | YES  |     | NULL    |                |
| mailing_country             | varchar(50)  | YES  |     | NULL    |                |
| mailing_same_as             | varchar(4)   | YES  |     | NULL    |                |
| image_url                   | varchar(255) | YES  |     | NULL    |                |
| spouse_image_url            | varchar(255) | YES  |     | NULL    |                |
| deleted                     | char(1)      | YES  |     | NULL    |                |
| version                     | int(11)      | NO   |     | 1       |                |
| registration_id             | varchar(255) | NO   |     |         |                |
| post_admin                  | char(1)      | NO   |     | 0       |                |
| is_phone_listed             | char(1)      | YES  |     | 1       |                |
| is_email_listed             | char(1)      | YES  |     | 1       |                |
+-----------------------------+--------------+------+-----+---------+----------------+
49 rows in set (0.00 sec)
```

Note that the strategy for storing photos is that we keep the "url" or path to the photo in the database, but we store the file in a separate folder (see photo.php and uploadphoto.php to understand how this works).

REST API

The REST API we will use is located at https://scriptures.byu.edu/founders/v4/. There are several commands:

`addfounder.php`	Add a Founder record (not used in Project 4)
`deletefounder.php`	Delete a Founder record (not used in Project 4)
`getupdatessince.php`	Get updates since version number
`login.php`	Log in and create a session
`photo.php`	Get a photo
`r.php`	Report usage statistics
`setpassword.php`	Change a user's password
`updatefounder.php`	Update a Founder record
`uploadphoto.php`	Upload a Founder or spouse photo

Most of these are demonstrated in the Project 4 foundation I've provided. You won't use the `add`/`delete` commands. The foundation already integrates `getupdatessince`, `photo`, `updatefounder`, and `uploadphoto`. You will need to integrate `login`, `r`, and `setpassword`.

The source code for the REST API is provided on Learning Suite in case you'd like to see exactly what's happening on the other side. For most of the commands, you perform a `GET` request and supply parameters in the query string. Here are examples of the endpoints you'll need to use in Project 4 (all prefixed with `https://scriptures.byu.edu/founders/v4/`):

`login.php?u=`*username*`&p=`*password*`&d=`*deviceId*

Use your email address for *username*. You may either supply the plain-text password or the SHA1-encrypted password. The *deviceId* parameter is an arbitrary string intended to identify the user's device. Apple no longer allows you to use the real hardware device ID, but a decent substitute is: `UIDevice.current.identifierForVendor!.uuidString`

The JSON returned from this endpoint will either be `{"userId":"NNN","sessionId":"someSessionToken"}` or `{"result":"Unable to log in"}`. **Note that** you can use the user ID value to determine which Founder record is yours. This is important because this is the only Founder profile you can edit (the one whose ID is your user ID).

`setpassword.php?k=`*sessionToken*`&p=`*newPassword*

Be sure to double-check the password in the app. The REST API assumes you're passing the correct new password. As with most endpoint calls, the session token is the "sessionId" returned when you logged in.

The JSON returned from this endpoint will either be `{"result":"success"}` or `{"error":0}`.

`r.php?d=`*device*`&m=`*manufacturer*`&o=`*model*`&p=`*product*`&r=`*release*`&s=`*sdk*`&g=`*page*`&v=`*version*`&u=`*url*

The intent of this endpoint is to capture usage and device information. Note that you don't need to be logged in to use this endpoint. For the first six parameters, use the corresponding properties in the AnalyticsHelper.shared singleton provided in the Project 4 foundation. *Page*, *version*, and *url* are intended for you to supply usage details at key points in your app. *Page* could be "login", or "list", or any other string that would identify an MVC scene in your app. *Version* should be a version number you associate with your app (e.g. "1.0.0"). *Url* could give any other information you'd like to capture about the page.