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Srinivas Tamada's Tech Blog

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MONDAY, MARCH 17, 2014

Facebook Style Friend Request System Database Design.

DATABASE   DESIGN   FACEBOOK   PHP   SQL

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I received few tutorial requests from my readers that asked to me, how to design Facebook style friend request system using MySQL. I had posted few tutorials about twitter style friend follow and follower concept designs, Facebook friend system is involved with few pending steps such as sending a request and accepting a request. Here I have discussed how to design a database and implementation of SQL queries, hope this post will help you to understand the friend system.

Previous Tutorials: Facebook Style Messaging System Database Design.
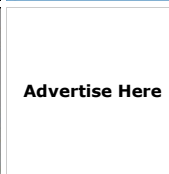

Srinivas Tamada
Entrepreneur, Blogger,Thinker
I love the WEB - **Indian**
Invented The WALL SCRIPT
Lives in Atlanta - United States
srinivas@9lessons.info

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Login with Facebook and Twitter

Ajax Image Upload without Refreshing Page using Jquery.

Auto Load and Refresh Div every 10 Seconds with jQuery.

PHP Login Page Example.

Upload and Resize an Image with PHP

Pagination with jQuery, MySQL and PHP.

Login with Google Account OpenID

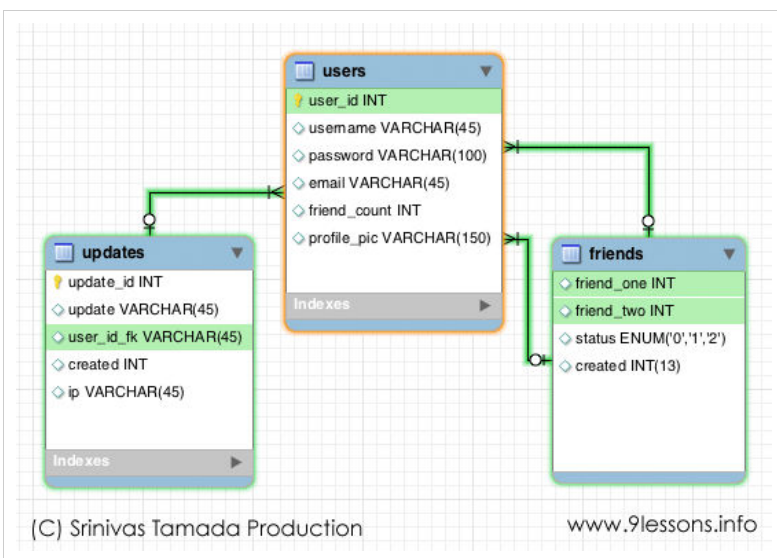Pagination with Jquery, PHP , Ajax and MySQL.

Simple Drop Down Menu with Jquery and CSS

Database Design
To build the friend request system, you have to create three tables such as Users, Updates and Friends.

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Users Table
User table contains all the users registration details.

```
CREATE TABLE `users` (
`user_id` INT(11) NOT NULL AUTO_INCREMENT ,
`username` VARCHAR(45) ,
`password` VARCHAR(100) ,
`email` VARCHAR(45) ,
`friend_count` INT(11) ,
`profile_pic` VARCHAR(150),
PRIMARY KEY (`user_id`));
```

user_id	username	password	email	friend_count	profile_pic
1	srinivas	e10adc3949ba59abbe56e057f20f883e	srinivas@9lessons.info	2	NULL
2	rajesh	92251e8665e19be62c86ff039528e16e	rajesh@9lessons.info	1	NULL
3	arun	ad846fd1138e66a1cacd0fb4b8644671	arun@9lessons.info	1	NULL

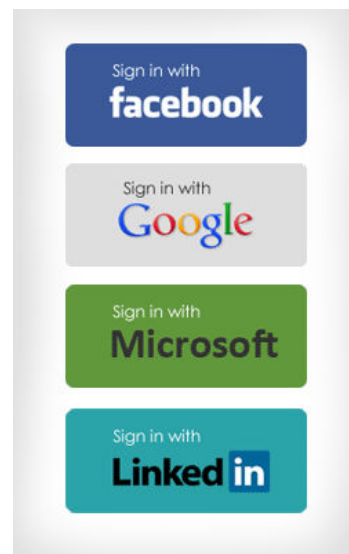Data will store in following way, here the password data encrypted with MD5 format.

Updates Table
This table contains user status updates data. Here user_id_fk is the FOREIGN KEY to REFERENCES users.user_id

```
CREATE TABLE `updates` (
`update_id` INT(11) AUTO_INCREMENT ,
`update` VARCHAR(45),
`user_id_fk` VARCHAR(45),
`created` INT(11) ,
`ip` VARCHAR(45),
PRIMARY KEY (`update_id`),
FOREIGN KEY (user_id_fk) REFERENCES users(user_id));
```

update_id	update	user_id_fk	created	ip
1	My first update.	1	2147483647	123.223.23.43
2	9lessons Programmin Blog	2	1385348557	182.243.232.121
3	My second update	1	2147483647	123.232.111.121
4	TheWallScript.com	3	2147483647	231.221.191.43

Friends Table

This table contains user friends relation data. Here friend_one and friend_two are the FOREIGN KEYs to REFERENCES users.user_id

```
CREATE TABLE `friends` (
`friend_one` INT(11) ,
`friend_two` INT(11) ,
`status` ENUM('0','1','2') DEFAULT '0',
PRIMARY KEY (`friend_one`,`friend_two`),
FOREIGN KEY (friend_one) REFERENCES users(user_id),
FOREIGN KEY (friend_two) REFERENCES users(user_id));
```

Here status 0, 1 and 2 values references to Pending Friend Request, Confirm Friend Request and You.

friend_one	friend_two	status	created
1	1	2	2147483647
2	2	2	2147483654
1	2	1	2147483726
3	3	2	2147484111
1	3	1	2147484642
3	2	0	2147485546

User Registration

This statement is required for user registration, here status 2 represents to you. This helps while retrieving friend updates along with your updates.

```
INSERT INTO friends
(friend_one,friend_two,status)
VALUES
('$user_id','$user_id','2');
```

Add Friend

Use the following insert statement for adding a friend.

```
INSERT INTO friends
(friend_one,friend_two)
VALUES
('$user_id','$friend_id');
```

Confirm Friend Request

Here confirming the friend request, updating the status 0 to 1

```
UPDATE friends
SET status="1"
WHERE
(friend_one="$user_id" OR friend_two="$user_id")
AND
(friend_one="$friend_id" OR friend_two="$friend_id");
```

Checking Friend

Here friend_one represents the friend request owner.

```
SELECT 'friend_one','friend_two','status' FROM friends
WHERE
```

```
(friend_one="$user_id" OR friend_two="$user_id")
AND
(friend_one="$friend_id" OR friend_two="$friend_id")
```

PHP Code

This contains simple PHP code, this helps you to display the proper friend request related buttons.

```php
<?php
include 'db.php';
$user_id=user session value;
$friend_id=frined id value;
$result=mysqli_query($connection,"SELECT 'friend_one','friend_two','status' FROM
friends WHERE (friend_one="$user_id" OR friend_two="$user_id") AND
(friend_one="$friend_id" OR friend_two="$friend_id")");
$row=mysqli_fetch_array($result,MYSQLI_ASSOC);

if($row['friend_one']=='$user_id' && $row['status']=='0')
{
```
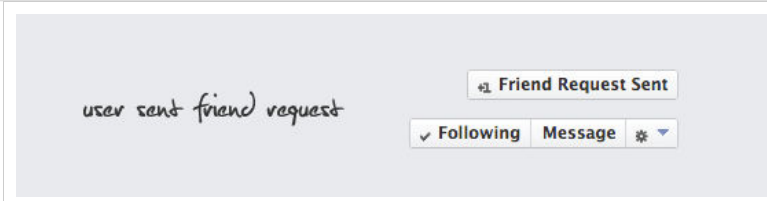


```
}
else
{
```



```
}
?>
```
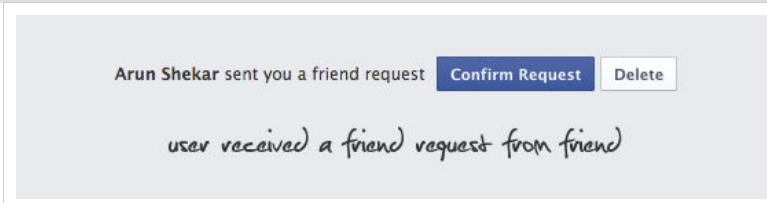
Friends Updates List

Data relations between users, friends and updates tables for friend feed results. The following SQL statement users table object as U, updates table object as D and friends table object as F . Here $user_id reference to user session value and $friend_id is reference to friend user row id value.

```sql
SELECT U.username, U.email, D.update_id, D.update, D.created
FROM users U, updates D, friends F
WHERE
D.user_id_fk = U.user_id
AND

CASE
WHEN F.friend_one = '$user_id'
THEN F.friend_two = D.user_id_fk
WHEN F.friend_two= '$user_id'
THEN F.friend_one= D.user_id_fk
END

AND
F.status > '0'
ORDER BY D.update_id DESC;
```
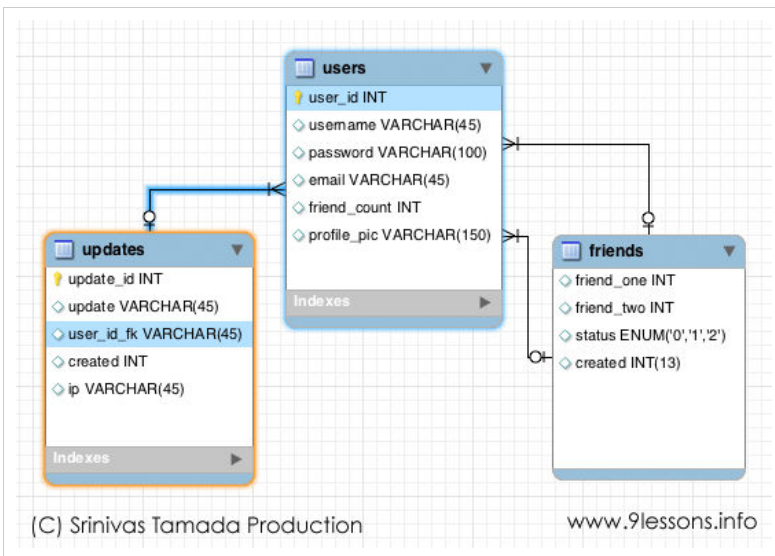
Friends List

Data relations between users and friends tables for displaying user friends. Take a look at the following SQL statement users table object as U and friends table object as F . Here user_id is the login user session value.

```sql
SELECT F.status, U.username, U.email
FROM users U, friends F
WHERE
CASE

WHEN F.friend_one = '$user_id'
THEN F.friend_two = U.user_id
WHEN F.friend_two= '$user_id'
THEN F.friend_one= U.user_id
END

AND
F.status='1';
```
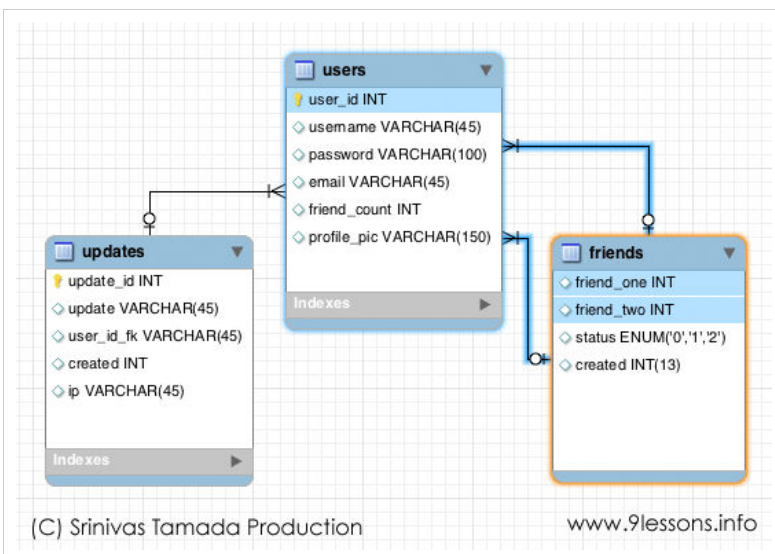

db.php

Database configuration file, modify username, password and database values.

```php
<?php
define('DB_SERVER', 'localhost');
define('DB_USERNAME', 'username');
define('DB_PASSWORD', 'password');
```

```
define('DB_DATABASE', 'database');
$connection = mysqli_connect(DB_SERVER,DB_USERNAME,DB_PASSWORD,DB_DATABASE);
?>
```

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23,352 people like 9lessons.
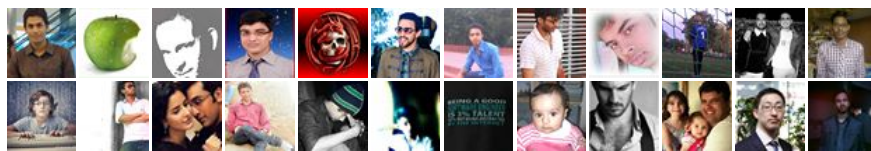
Facebook social plugin

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Wall Script 7 The Social Network Clone Script.

Facebook Style Messaging System Database Design.

MySQL Event Scheduler

Comments   { **59** comments }

SHIVA SURYA said...

awsome tutorial sir!!
i could understand this in easy manner!

March 17, 2014 at 10:49 PM

Jón Grétarsson said...

Awsome tutorial Srinivas :)
What is your opinion of object oriented syntax versus procedural style in mysqli ?

March 18, 2014 at 5:03 AM

vydyabhushana siddhu said...

thats why i love 9lessons

March 18, 2014 at 6:36 AM

Rafael said...

Superb!
Tks!

March 18, 2014 at 7:50 AM

shingate ganesh said...

awsome tutorial sir

March 18, 2014 at 8:15 AM

kundansinha15 said...

best tutorial to understand.

March 18, 2014 at 9:05 AM

Vishal Prakash Sharma said...

i thing here should be a demo! please

March 18, 2014 at 9:41 AM

Atif Ali Khan said...

nice...!

March 18, 2014 at 9:53 AM

aashishmittal said...

superb

March 18, 2014 at 10:21 AM

Shubham TT said...

Nice tutorial

March 18, 2014 at 11:00 AM

Grafixnerd Matji said...

im always looking forwad to ur new Tuts, greate work mane!!!...just wondering if
facebook wont hv a problem if they found out u giving tutorials to imitate their site..

March 18, 2014 at 11:21 AM

Anonymous said...

nice tut

March 18, 2014 at 1:27 PM

Subhash Viswakarma said...

wow just apply in my website

March 18, 2014 at 3:50 PM

Anonymous said...

good job bro

March 18, 2014 at 7:16 PM

Anonymous said...

sir plz help me mujhe ek box me user ki upload ki gai photos show karna hai magr
kese
for ex jese facebook me profile page me photos ka box hai wese

March 18, 2014 at 7:33 PM

Anonymous said...

best tut but i thing video tut add u r awsome

March 18, 2014 at 7:45 PM

Mohit Bumb said...

I really needed for one of my application, I'll try to modify it lol anyways thanks buddy

March 19, 2014 at 1:51 AM

Anonymous said...

thanks for the post...

March 19, 2014 at 10:44 AM

Grigor said...

Awesome tutorial (y)
I think in 'Confirm Friend Request' function we need to update the `friend_count` in users table too

March 19, 2014 at 1:28 PM

Vinay Kumar said...

nice tutorial bro.. (Y)

March 20, 2014 at 6:55 AM

Pretty Pree said...

Very nice information. Thank you so much for sharing.

March 21, 2014 at 5:08 PM

Mukesh Negi said...

That awsome tutorial Bro. This is first post i read you blog.

March 26, 2014 at 12:24 PM

Chirag Mishra said...

Really interesting, I always found you informative. Thanks for sharing such a great post. Keep blogging!

March 26, 2014 at 12:53 PM

Anonymous said...

best if come with demo.

March 30, 2014 at 8:17 PM

Shirisha said...

Thanks for sharing such an intellectual post!!! really nice coding!!!

April 3, 2014 at 11:33 AM

ravinder payal said...

how to get mutual friends of a specific user plz plz tell the exect sql command/query

April 3, 2014 at 12:42 PM

joseph101 said...

Thats awesome.. I was always curious how to design such system in php... never got any success ... Thanks Keep it up

April 3, 2014 at 2:21 PM

simran said...

Awesome tut... thanks for sharing...

April 3, 2014 at 2:55 PM

Anonymous said...

Thanks for the tut!

When "checking a friend", what if the current user has already confirmed the friend's request (i.e. the status has been set to 1), as it's written, wouldn't your logic errantly display the "confirm request" box?

Regarding the sql for confirming a friend request, how could the user ever be in a position to confirm a friend request as friend_one? Your SQL suggest he could.

Was that your intension to include your OWN updates in the "Friends Updates list", because isn't that what "F.status > '0'" would allow for?

I'm thinking the app shouldn't allow for the same pair of friends to have multiple rows in the friends table, right? So, the following shouldn't be possible, But I didn't see where your script was checking for that when adding a new record.

friend_one = 123; friend_two = 456
friend_one = 456; friend_two = 123

April 10, 2014 at 8:19 AM

Vivek Adarsh said...

Thank You sir....!! awesome work

April 10, 2014 at 1:45 PM

Rahul Karma said...

really very helpful tutorial

April 18, 2014 at 12:09 PM

Rahul Karma said...

really very helpful tutorial

April 18, 2014 at 12:12 PM

haseeb ali said...

very good tutorial.

April 19, 2014 at 1:25 PM

Ryangga Osborn said...

This is Amazing Tutorial... Thanks...

April 24, 2014 at 2:46 PM

Himanshu Yadav said...

script is awesome
but we can do directly
through make a relationship table with friends..
hemanjosko

April 25, 2014 at 9:46 AM

Ohwyeh said...

awesome man... nice and easy tutorial

April 26, 2014 at 12:32 AM

Luker said...

Thanks for the tutorial! Good job man.

May 16, 2014 at 1:44 AM

bhoopal t said...

goo job........

May 18, 2014 at 10:30 AM

bhoopal t said...

good job....

May 18, 2014 at 10:30 AM

cubic zirconia baguette said...

Great article, it is nice to read your article..

May 19, 2014 at 12:35 PM

Online Name change form said...

Awesome post, thanks for sharing this post..

May 19, 2014 at 12:36 PM

Anonymous said...

why can't I get this to work ..... I cannot create an updates table it comes up with an error !!! HELP

May 21, 2014 at 11:52 PM

Fayaz Bin Abdu said...

Thank you. but I got a doubt. As db grows bigger, this is really going to hit the performance right?

May 27, 2014 at 11:15 AM

PTV OF WORLD said...

Plz sir my id facebook withe twitter connetid on u site

May 27, 2014 at 12:52 PM

PTV OF WORLD said...

Plz maked on connect it id

May 27, 2014 at 12:55 PM

Ranjeet said...

Great article sir!
Thanks

May 29, 2014 at 9:01 AM

Rama Yaganti said...

Great Job Srinivas. Very much appreciated for this article, As this made my task more easy
Thank you for posting

June 5, 2014 at 7:44 PM

raza said...

good

June 6, 2014 at 4:26 PM

suds said...

nice

June 6, 2014 at 4:48 PM

Anonymous said...

It is nice.

June 17, 2014 at 8:53 PM

hoangnam cao said...

good...very very good

June 23, 2014 at 9:05 PM

jaykumarwebproject.com said...

very nice stuff

July 11, 2014 at 12:43 AM

atul blog said...

i am not understand why you using friend_one and friend_two if i got 10 friend request than what gonna do any idea?

July 12, 2014 at 1:07 PM

Anonymous said...

I'm stucked with update table.. I need help!

July 21, 2014 at 8:21 AM

Anonymous said...

why can't I get this to work ..... I cannot create an updates table it comes up with an error !!! HELP

July 21, 2014 at 8:25 AM

Guru said...

Thanks

July 26, 2014 at 9:31 AM

Nida Hasan said...

This is an awesome tutorial! How would you go about getting a list of users for a person that are friends yet.?

September 6, 2014 at 3:39 AM

Anonymous said...

cute

October 8, 2014 at 9:46 AM

Anonymous said...

Please, how can i create the request button. I don't see where you include it in your tutorial. Please help!

November 18, 2014 at 11:39 AM

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