

I Think bitwise operator are the best way to implement user permission. Here I am showing how we can implement it with Mysql.

Below is a sample tables with some sample data:

**Table 1** : Permission table to store permission name along with it bit like 1,2,4,8..etc (multiple of 2)

```
CREATE TABLE IF NOT EXISTS `permission` (  
  `bit` int(11) NOT NULL,  
  `name` varchar(50) NOT NULL,  
  PRIMARY KEY (`bit`)  
) ENGINE=InnoDB DEFAULT CHARSET=latin1;
```

Insert some sample data into the table.

```
INSERT INTO `permission` (`bit`, `name`) VALUES  
(1, 'User-Add'),  
(2, 'User-Edit'),  
(4, 'User-Delete'),  
(8, 'User-View'),  
(16, 'Blog-Add'),  
(32, 'Blog-Edit'),  
(64, 'Blog-Delete'),  
(128, 'Blog-View');
```

**Table 2:** User table to store user id,name and role. Role will be calculated as sum of permissions.

Example :

If user 'Ketan' having permission of 'User-Add' (bit=1) and 'Blog-Delete' (bit=64) so role will be 65 (1+64).

If user 'Mehata' having permission of 'Blog-View' (bit=128) and 'User-Delete' (bit=4) so role will be 132 (128+4).

```
CREATE TABLE IF NOT EXISTS `user` (  
  `id` int(11) NOT NULL AUTO_INCREMENT,  
  `name` varchar(50) NOT NULL,  
  `role` int(11) NOT NULL,  
  `created_date` datetime NOT NULL  
  PRIMARY KEY (`id`)  
) ENGINE=InnoDB DEFAULT CHARSET=latin1;
```

Sample data-

```
INSERT INTO `user` (`id`, `name`, `role`, `created_date`)  
VALUES (NULL, 'Ketan', '65', '2013-01-09 00:00:00'),  
(NULL, 'Mehata', '132', '2013-01-09 00:00:00');
```

Loading permission of user After login if we want to load user permission than we can query below to get the permissions:

```
SELECT permission.bit,permission.name  
FROM user LEFT JOIN permission ON user.role & permission.bit  
WHERE user.id = 1
```

Here user.role "&" permission.bit is a Bitwise operator which will give output as -

```
User-Add - 1  
Blog-Delete - 64
```

If we want to check weather a particular user have user-edit permission or not-

```
SELECT * FROM `user`  
WHERE role & (select bit from permission where name='user-edit')
```

Output = No rows.

You can see also : <http://goo.gl/ATnj6j>

answered Sep 3 '14 at 12:09



Suresh Kamrushi  
6,003 ● 3 ● 27 ● 46