

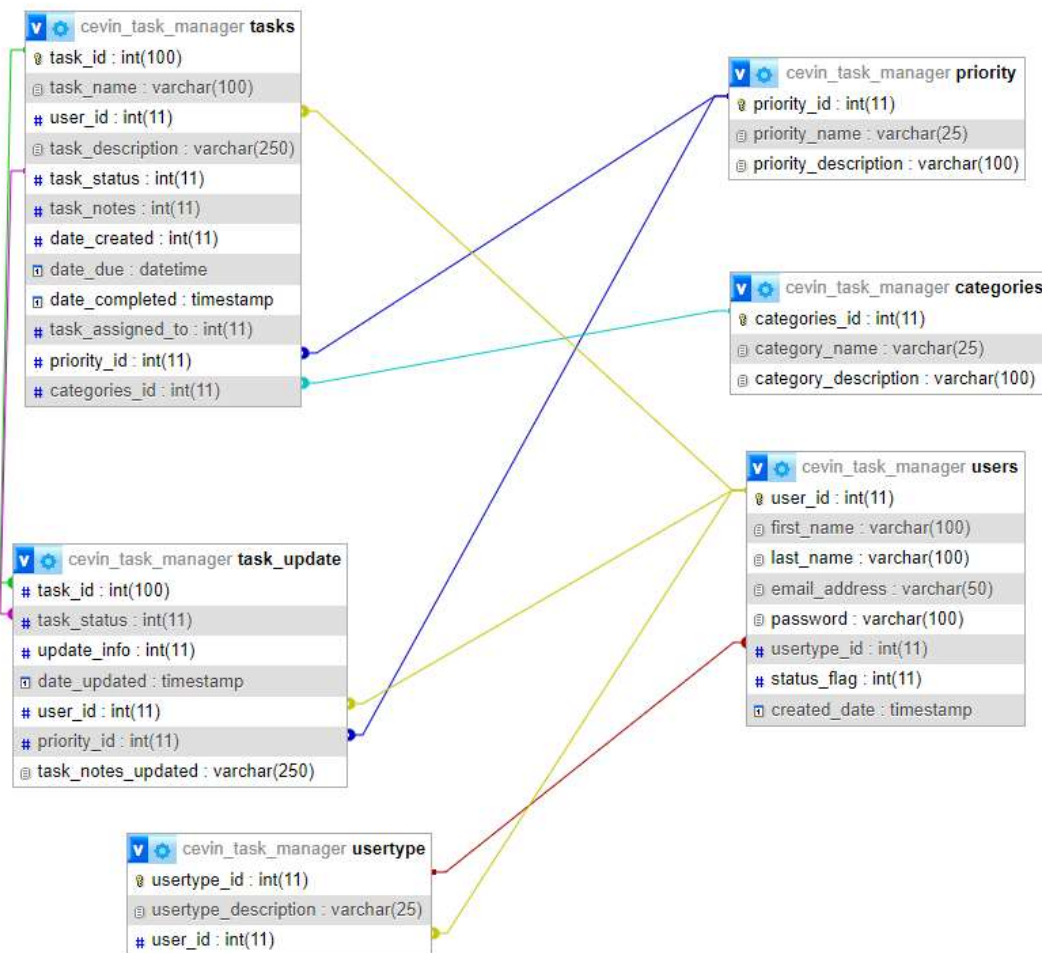
# Database Design

## 1. Overview

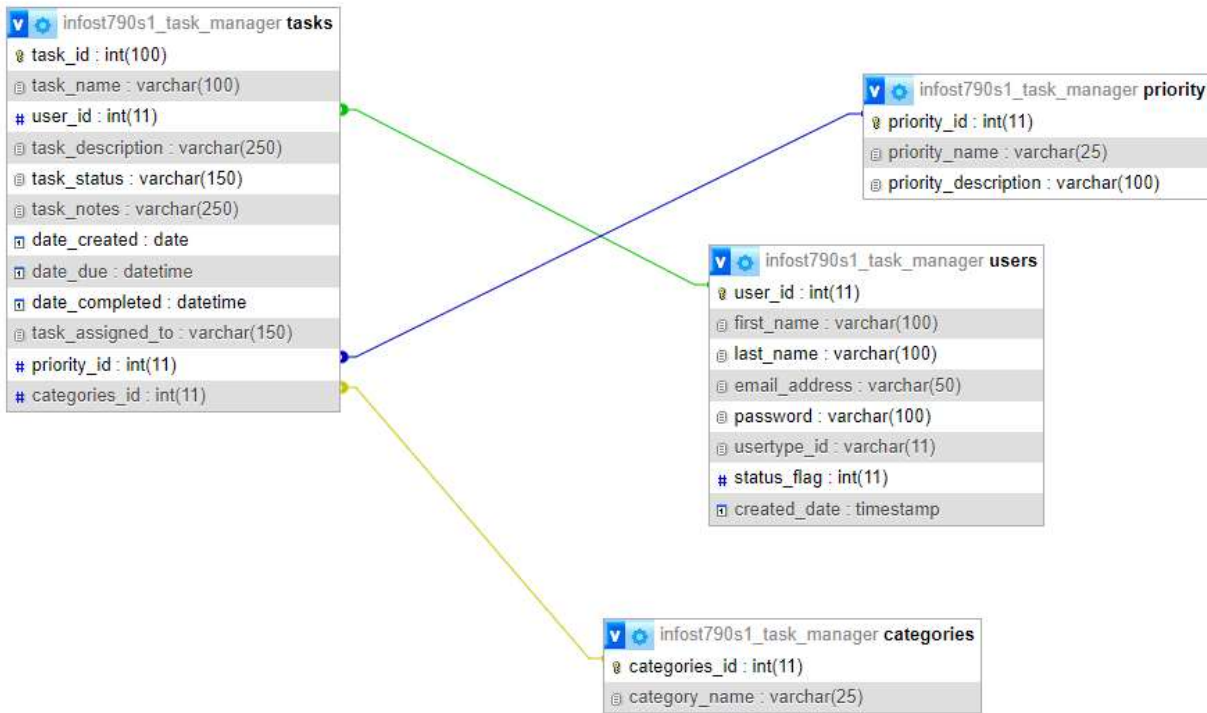
The Task Genius website database is hosted on MySQL for maximum compatibility with PHP, the chosen web programming language for the site. It consists of four tables now with one to one relationships. In earlier designs it had 6 tables with a couple of one to many relationships.. To focus on the main scope of the project a couple of tables were dropped because they didn't fit the criteria of what we were trying to accomplish. The tables can be associated into two main focus areas. One is the Tasks and the other is the Users, with the other smaller tables(categories & priority supporting both main tables. Only the main tables of Users and Tasks had auto-incrementing IDs that uniquely identifies each record in the tables. The tables utilize the INNODB engine so that foreign key relationships could be created to enforce referential integrity and overall data integrity throughout. The design is simple and flexible enough to support continuously changing business requirements.

The following section outlines the Entity-Relationship Diagram (ERD) which is a conceptual and representational model of data used to represent the entity framework infrastructure.

## 1. Entity-Relationship Diagram (ERD) 1:N Prototype #1



## 2. Entity-Relationship Diagram (ERD) 1:1 Prototype Final



## 3. Data Definition Language (DDL)

### Prototype #1

```
--  
  
-- Database: `cevin_task_manager`  
  
--  
--  
-- Table structure for table `categories`  
--  
  
CREATE TABLE `categories` (  
  `categories_id` int(11) NOT NULL,  
  `category_name` varchar(25) NOT NULL,
```

```
`category_description` varchar(100) NOT NULL COMMENT 'leisure, work, home'  
) ENGINE=InnoDB DEFAULT CHARSET=latin1;
```

-----

--

-- Table structure for table `priority`

--

```
CREATE TABLE `priority` (  
  `priority_id` int(11) NOT NULL DEFAULT '2' COMMENT '1=low 2=medium, 3=high',  
  `priority_name` varchar(25) NOT NULL COMMENT 'low, medium, high',  
  `priority_description` varchar(100) NOT NULL  
) ENGINE=InnoDB DEFAULT CHARSET=latin1;
```

-----

--

-- Table structure for table `tasks`

--

```
CREATE TABLE `tasks` (  
  `task_id` int(100) NOT NULL,  
  `task_name` varchar(100) NOT NULL,  
  `user_id` int(11) NOT NULL,  
  `task_description` varchar(250) NOT NULL,  
  `task_status` int(11) NOT NULL,  
  `task_notes` int(11) NOT NULL,  
  `date_created` int(11) NOT NULL,  
  `date_due` datetime NOT NULL,  
  `date_completed` timestamp NOT NULL DEFAULT CURRENT_TIMESTAMP ON UPDATE CURRENT_TIMESTAMP,
```

```
`task_assigned_to` int(11) NOT NULL,  
`priority_id` int(11) NOT NULL COMMENT '1=low,2=medium,3=high',  
`categories_id` int(11) NOT NULL  
) ENGINE=InnoDB DEFAULT CHARSET=latin1;
```

-----

--

-- Table structure for table `task\_update`

--

```
CREATE TABLE `task_update` (  
  `task_id` int(100) NOT NULL,  
  `task_status` int(11) NOT NULL COMMENT 'In Progress, Behind, Not started',  
  `update_info` int(11) NOT NULL,  
  `date_updated` timestamp NOT NULL DEFAULT CURRENT_TIMESTAMP ON UPDATE CURRENT_TIMESTAMP,  
  `user_id` int(11) NOT NULL,  
  `priority_id` int(11) NOT NULL COMMENT '1=low 2=medium, 3=high',  
  `task_notes_updated` varchar(250) NOT NULL  
) ENGINE=InnoDB DEFAULT CHARSET=latin1;
```

-----

--

-- Table structure for table `users`

--

```
CREATE TABLE `users` (  
  `user_id` int(11) NOT NULL,  
  `first_name` varchar(100) NOT NULL,  
  `last_name` varchar(100) NOT NULL,
```

```
`email_address` varchar(50) NOT NULL,  
`password` varchar(100) NOT NULL,  
`usertype_id` int(11) NOT NULL COMMENT 'admin or user',  
`status_flag` int(11) NOT NULL COMMENT 'disabled or active',  
`created_date` timestamp NOT NULL DEFAULT CURRENT_TIMESTAMP  
) ENGINE=InnoDB DEFAULT CHARSET=latin1;
```

```
-- -----
```

```
--
```

```
-- Table structure for table `usertype`
```

```
--
```

```
CREATE TABLE `usertype` (  
  `usertype_id` int(11) NOT NULL,  
  `usertype_description` varchar(25) NOT NULL COMMENT 'admin or user',  
  `user_id` int(11) NOT NULL  
) ENGINE=InnoDB DEFAULT CHARSET=latin1;
```

```
--
```

```
-- Indexes for dumped tables
```

```
--
```

```
--
```

```
-- Indexes for table `categories`
```

```
--
```

```
ALTER TABLE `categories`  
  ADD PRIMARY KEY (`categories_id`);
```

```
--
```

```
-- Indexes for table `priority`
```

```
--  
  
ALTER TABLE `priority`  
  ADD PRIMARY KEY (`priority_id`);  
  
--  
  
-- Indexes for table `tasks`  
  
--  
  
ALTER TABLE `tasks`  
  ADD PRIMARY KEY (`task_id`),  
  ADD KEY `priority_id` (`priority_id`),  
  ADD KEY `categories_id` (`categories_id`),  
  ADD KEY `user_id` (`user_id`) USING BTREE,  
  ADD KEY `task_status` (`task_status`);  
  
--  
  
-- Indexes for table `task_update`  
  
--  
  
ALTER TABLE `task_update`  
  ADD KEY `task_id` (`task_id`),  
  ADD KEY `user_id` (`user_id`),  
  ADD KEY `priority_id` (`priority_id`),  
  ADD KEY `task_status` (`task_status`);  
  
--  
  
-- Indexes for table `users`  
  
--  
  
ALTER TABLE `users`  
  ADD PRIMARY KEY (`user_id`),  
  ADD KEY `usertype_id` (`usertype_id`);  
  
--
```

```
-- Indexes for table `usertype`

--

ALTER TABLE `usertype`

  ADD PRIMARY KEY (`usertype_id`),

  ADD KEY `user_id` (`user_id`) USING BTREE,

  ADD KEY `usertype_description` (`usertype_description`);

--

-- AUTO_INCREMENT for dumped tables

--

--

-- AUTO_INCREMENT for table `categories`

--

ALTER TABLE `categories`

  MODIFY `categories_id` int(11) NOT NULL AUTO_INCREMENT;

--

-- AUTO_INCREMENT for table `tasks`

--

ALTER TABLE `tasks`

  MODIFY `task_id` int(100) NOT NULL AUTO_INCREMENT;

--

-- AUTO_INCREMENT for table `users`

--

ALTER TABLE `users`

  MODIFY `user_id` int(11) NOT NULL AUTO_INCREMENT;

--

-- AUTO_INCREMENT for table `usertype`
```

```

--

ALTER TABLE `usertype`

  MODIFY `usertype_id` int(11) NOT NULL AUTO_INCREMENT;

--

-- Constraints for dumped tables

--

--

-- Constraints for table `tasks`

--

ALTER TABLE `tasks`

  ADD CONSTRAINT `tasks_ibfk_1` FOREIGN KEY (`categories_id`) REFERENCES `categories` (`categories_id`) ON DELETE CASCADE ON UPDATE CASCADE,

  ADD CONSTRAINT `tasks_ibfk_2` FOREIGN KEY (`priority_id`) REFERENCES `priority` (`priority_id`) ON DELETE CASCADE ON UPDATE CASCADE,

  ADD CONSTRAINT `tasks_ibfk_3` FOREIGN KEY (`user_id`) REFERENCES `users` (`user_id`) ON DELETE CASCADE ON UPDATE CASCADE;

--

-- Constraints for table `task_update`

--

ALTER TABLE `task_update`

  ADD CONSTRAINT `task_update_ibfk_1` FOREIGN KEY (`task_id`) REFERENCES `tasks` (`task_id`) ON DELETE CASCADE ON UPDATE CASCADE,

  ADD CONSTRAINT `task_update_ibfk_2` FOREIGN KEY (`priority_id`) REFERENCES `priority` (`priority_id`) ON DELETE CASCADE ON UPDATE CASCADE,

  ADD CONSTRAINT `task_update_ibfk_3` FOREIGN KEY (`user_id`) REFERENCES `users` (`user_id`) ON DELETE CASCADE ON UPDATE CASCADE,

  ADD CONSTRAINT `task_update_ibfk_4` FOREIGN KEY (`task_status`) REFERENCES `tasks` (`task_status`);

--

-- Constraints for table `users`

```



```

--

ALTER TABLE `users`

  ADD CONSTRAINT `users_ibfk_1` FOREIGN KEY (`usertype_id`) REFERENCES `usertype` (`usertype_id`) ON DELETE
  CASCADE ON UPDATE CASCADE;

--

-- Constraints for table `usertype`

--

ALTER TABLE `usertype`

  ADD CONSTRAINT `usertype_ibfk_1` FOREIGN KEY (`user_id`) REFERENCES `users` (`user_id`) ON DELETE CASCADE
  ON UPDATE CASCADE;

COMMIT;

```

## Prototype Final

```

--

-- Database: `infost790s1_task_manager`

--

-----

--

-- Table structure for table `categories`

--

CREATE TABLE `categories` (

  `categories_id` int(11) NOT NULL,

  `category_name` varchar(25) NOT NULL

) ENGINE=InnoDB DEFAULT CHARSET=latin1;

--

```

```
-- Dumping data for table `categories`
```

```
--
```

```
INSERT INTO `categories` (`categories_id`, `category_name`) VALUES
```

```
(1, 'leisure'),
```

```
(2, 'work'),
```

```
(3, 'home');
```

```
-----
```

```
--
```

```
-- Table structure for table `priority`
```

```
--
```

```
CREATE TABLE `priority` (
```

```
  `priority_id` int(11) NOT NULL DEFAULT '2' COMMENT '1=low 2=medium, 3=high',
```

```
  `priority_name` varchar(25) NOT NULL COMMENT 'low, medium, high',
```

```
  `priority_description` varchar(100) NOT NULL
```

```
) ENGINE=InnoDB DEFAULT CHARSET=latin1;
```

```
--
```

```
-- Dumping data for table `priority`
```

```
--
```

```
INSERT INTO `priority` (`priority_id`, `priority_name`, `priority_description`) VALUES
```

```
(1, 'low', ''),
```

```
(2, 'medium', ''),
```

```
(3, 'high', '');
```

```
-----
```

```

--

-- Table structure for table `tasks`

--

CREATE TABLE `tasks` (
  `task_id` int(100) NOT NULL,
  `task_name` varchar(100) NOT NULL,
  `user_id` int(11) NOT NULL,
  `task_description` varchar(250) NOT NULL,
  `task_status` varchar(150) NOT NULL COMMENT 'In Progress, Behind, Not started',
  `task_notes` varchar(250) NOT NULL,
  `date_created` date NOT NULL,
  `date_due` datetime NOT NULL,
  `date_completed` datetime DEFAULT CURRENT_TIMESTAMP,
  `task_assigned_to` varchar(150) NOT NULL COMMENT 'name assigned to',
  `priority_id` int(11) NOT NULL COMMENT '1=low,2=medium,3=high',
  `categories_id` int(11) NOT NULL COMMENT 'Is this needed?'
) ENGINE=InnoDB DEFAULT CHARSET=latin1;

--

-- Dumping data for table `tasks`

--

INSERT INTO `tasks` (`task_id`, `task_name`, `user_id`, `task_description`, `task_status`, `task_notes`,
`date_created`, `date_due`, `date_completed`, `task_assigned_to`, `priority_id`, `categories_id`) VALUES
(17, 'test', 1, 'test', 'In Progress', '', '2023-04-28', '0000-00-00 00:00:00', '2023-04-28 18:57:43', '1', 1, 1),
(18, 'test2', 1, 'test2', 'In Progress', '', '2023-04-28', '2023-04-29 00:00:00', '2023-04-28 21:55:00', '1', 1, 1),
(19, 'test task1', 1, 'This is a test', 'Not Started', 'This is a test', '2023-04-29', '2023-04-29 00:00:00', '0000-00-00
00:00:00', '1', 1, 1),
(20, 'test task2', 1, 'This is a test', 'Not Started', 'This is a test', '2023-04-29', '2023-04-29 00:00:00', '0000-00-00
00:00:00', '1', 1, 1),

```

```
(26, '', 12, 'Another test task', 'In Progress', 'Wow such test', '2023-04-29', '2023-04-30 07:30:00', '2023-04-29
20:51:14', '12', 2, 3),

(28, '04/30 test', 12, 'test task', 'Not Started', 'test', '2023-04-30', '2023-04-30 07:30:00', '0000-00-00 00:00:00',
'12', 2, 3);
```

```
-- -----
```

```
--
```

```
-- Table structure for table `users`
```

```
--
```

```
CREATE TABLE `users` (
  `user_id` int(11) NOT NULL,
  `first_name` varchar(100) NOT NULL,
  `last_name` varchar(100) NOT NULL,
  `email_address` varchar(50) NOT NULL,
  `password` varchar(100) NOT NULL,
  `usertype_id` varchar(11) NOT NULL COMMENT 'admin or user',
  `status_flag` int(11) NOT NULL COMMENT '1=active 0=inactive ',
  `created_date` timestamp NOT NULL DEFAULT CURRENT_TIMESTAMP
) ENGINE=InnoDB DEFAULT CHARSET=latin1;
```

```
--
```

```
-- Dumping data for table `users`
```

```
--
```

```
INSERT INTO `users` (`user_id`, `first_name`, `last_name`, `email_address`, `password`, `usertype_id`, `status_flag`,
`created_date`) VALUES
(1, 'admin', '', 'admin', 'd033e22ae348aeb5660fc2140aec35850c4da997', 'admin', 1, '2023-04-22 04:08:11'),
(2, 'Bridgette', 'Antonat', 'bantonat1@mediafire.com', 'ac92fb8b3e0275f9415836badcab3ae7068ec031', 'user', 1,
'2023-02-04 06:00:00'),
```

(3, 'Smitty', 'Kelloway', 'skelloway2@google.ru', '62926f9f584838a1cf6953aff4244e67e68254dc', 'user', 1, '2023-03-03 06:00:00'),

(4, 'Corene', 'Paintain', 'cpaintain3@xinhuanet.com', 'de7d41b60611d47e82a4d72111fe9875ed5d5083', 'user', 1, '2023-03-31 05:00:00'),

(5, 'Serene', 'Grelak', 'sgrelak4@springer.com', '0bb4e633d813cd1fa18f133464077472920a1f96', 'user', 0, '2023-03-12 06:00:00'),

(6, 'Barbaraanne', 'Wand', 'bwand5@instagram.com', '4ea55462111b3de4e97496e55c83232d0bd1400f', 'user', 1, '2023-03-11 06:00:00'),

(7, 'Tom', 'Baker', 'tom@uwm.com', '5baa61e4c9b93f3f0682250b6cf8331b7ee68fd8', 'user', 1, '2023-04-22 04:15:02'),

(8, 'Holly', 'Cricket', 'hcricket6@nbcnews.com', 'd672ca8c3151d2f0897fa011265df6efd1b49b1e', 'user', 0, '2023-02-15 06:00:00'),

(9, 'Gennie', 'Mougeot', 'gmougeot7@vimeo.com', '5e754d2a4c6a473028026ff79a9ed0c61e781d42', 'user', 1, '2023-02-15 06:00:00'),

(10, 'Dorey', 'Pettie', 'dpettie8@cam.ac.uk', 'bd3bbfb29404471baa354b62355f9e9f54176401', 'user', 1, '2023-04-01 05:00:00'),

(11, 'Tersina', 'Seath', 'tseath9@artisteer.com', '10b2eb76749cd414cb4f2da446e1f4932390d822', 'user', 0, '2023-04-07 05:00:00'),

(12, 'Andrew', 'Lukowski', 'test', 'a94a8fe5ccb19ba61c4c0873d391e987982fbbd3', 'user', 1, '2023-04-26 22:45:48'),

(13, 'Andrew', 'Lukowski', 'test2', 'a94a8fe5ccb19ba61c4c0873d391e987982fbbd3', 'user', 1, '2023-04-29 12:48:27'),

(14, 'Cassandra', 'Franco', 'clfranco@uwm.edu', 'd7cd56f2a2a3f47830760edfb89946eb7b9e2cd1', 'user', 1, '2023-04-30 18:15:05'),

(15, 'Andrew', 'Lukowski', 'lukowsk2@uwm.edu', '9d4e1e23bd5b727046a9e3b4b7db57bd8d6ee684', 'user', 1, '2023-04-30 18:20:15');

--

-- Indexes for dumped tables

--

--

-- Indexes for table `categories`

--

ALTER TABLE `categories`

ADD PRIMARY KEY (`categories\_id`);

```
--  
  
-- Indexes for table `priority`  
  
--  
  
ALTER TABLE `priority`  
  ADD PRIMARY KEY (`priority_id`);  
  
--  
  
-- Indexes for table `tasks`  
  
--  
  
ALTER TABLE `tasks`  
  ADD PRIMARY KEY (`task_id`),  
  ADD KEY `priority_id` (`priority_id`),  
  ADD KEY `categories_id` (`categories_id`),  
  ADD KEY `user_id` (`user_id`) USING BTREE;  
  
--  
  
-- Indexes for table `users`  
  
--  
  
ALTER TABLE `users`  
  ADD PRIMARY KEY (`user_id`);  
  
--  
  
-- AUTO_INCREMENT for dumped tables  
  
--  
  
--  
  
-- AUTO_INCREMENT for table `categories`  
  
--  
  
ALTER TABLE `categories`  
  MODIFY `categories_id` int(11) NOT NULL AUTO_INCREMENT, AUTO_INCREMENT=4;
```

```

--

-- AUTO_INCREMENT for table `tasks`

--

ALTER TABLE `tasks`

  MODIFY `task_id` int(100) NOT NULL AUTO_INCREMENT, AUTO_INCREMENT=29;

--

-- AUTO_INCREMENT for table `users`

--

ALTER TABLE `users`

  MODIFY `user_id` int(11) NOT NULL AUTO_INCREMENT, AUTO_INCREMENT=16;

--

-- Constraints for dumped tables

--

--

-- Constraints for table `tasks`

--

ALTER TABLE `tasks`

  ADD CONSTRAINT `tasks_ibfk_3` FOREIGN KEY (`user_id`) REFERENCES `users` (`user_id`) ON DELETE CASCADE ON
  UPDATE CASCADE,

  ADD CONSTRAINT `tasks_ibfk_4` FOREIGN KEY (`priority_id`) REFERENCES `priority` (`priority_id`) ON DELETE
  CASCADE ON UPDATE CASCADE,

  ADD CONSTRAINT `tasks_ibfk_5` FOREIGN KEY (`categories_id`) REFERENCES `categories` (`categories_id`) ON
  DELETE CASCADE ON UPDATE CASCADE;

COMMIT;

```

## Encrypted pre-existing passwords on database

```
UPDATE `users` SET `password` = SHA1('i8Ai4mjM9NZi') WHERE `users`.`user_id` = 2; UPDATE `users` SET `password` = SHA1('VaZGWG') WHERE `users`.`user_id` = 3; UPDATE `users` SET `password` = SHA1('Rx5arhDXF') WHERE `users`.`user_id` = 4; UPDATE `users` SET `password` = SHA1('gVb9gV') WHERE `users`.`user_id` = 5; UPDATE `users` SET `password` = SHA1('2ttWEDfm') WHERE `users`.`user_id` = 6; UPDATE `users` SET `password` = SHA1('password') WHERE `users`.`user_id` = 7; UPDATE `users` SET `password` = SHA1('kZpeRbJYi3r') WHERE `users`.`user_id` = 8; UPDATE `users` SET `password` = SHA1('XPWEJ4ZiH') WHERE `users`.`user_id` = 9; UPDATE `users` SET `password` = SHA1('Jyisyobl') WHERE `users`.`user_id` = 10; UPDATE `users` SET `password` = SHA1('8RuDcE') WHERE `users`.`user_id` = 11;
```