



Univerzitet u Novom Sadu
Tehnički fakultet "Mihajlo Pupin"
Zrenjanin



SEMINARSKI RAD

Predmet: Arhitektura sistema za upravljanje bazom podataka

Tema: Baza plivačkog saveza

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Smer: Softversko inženjerstvo

Zrenjanin 2020

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UVOD

Baza podataka koja je opisana i uradjena u ovom seminarskom radu predstavlja plivački savez, u kom se nalaze imena plivača, trenera, nazivi klubova. itd... Tabele od kojih se sastoji ova baza podataka su: plivač, trener, disciplina, drzava, klub, mesto, pliva, takmičenje, rekordi, trenira.

Kreiranje baze podataka(DDL)

```
-- phpMyAdmin SQL Dump
-- version 4.8.5
-- https://www.phpmyadmin.net/
--
-- Host: 127.0.0.1
-- Generation Time: Jan 15, 2020 at 12:33 PM
-- Server version: 10.1.38-MariaDB
-- PHP Version: 7.3.2
SET SQL_MODE = "NO_AUTO_VALUE_ON_ZERO";
SET AUTOCOMMIT = 0;
START TRANSACTION;
SET time_zone = "+00:00";
/*!40101 SET @OLD_CHARACTER_SET_CLIENT=@@CHARACTER_SET_CLIENT */;
/*!40101 SET @OLD_CHARACTER_SET_RESULTS=@@CHARACTER_SET_RESULTS */;
/*!40101 SET @OLD_COLLATION_CONNECTION=@@COLLATION_CONNECTION */;
/*!40101 SET NAMES utf8mb4 */;
-- Database: `plivacki savez`
-----
-- Table structure for table `disciplina`
CREATE TABLE `disciplina` (
  `idDiscipline` tinyint(10) UNSIGNED NOT NULL,
  `nazivDiscipline` varchar(20) COLLATE latin2_croatian_ci NOT NULL,
  `duzinaDiscipline` varchar(12) COLLATE latin2_croatian_ci NOT NULL
) ENGINE=InnoDB DEFAULT CHARSET=latin2 COLLATE=latin2_croatian_ci;
-----
-- Table structure for table `drzava`
CREATE TABLE `drzava` (
  `idDrzave` tinyint(3) UNSIGNED NOT NULL,
  `nazivDrzave` varchar(20) COLLATE latin2_croatian_ci NOT NULL
) ENGINE=InnoDB DEFAULT CHARSET=latin2 COLLATE=latin2_croatian_ci;
-----
```

```
-- Table structure for table `klub`  
CREATE TABLE `klub` (  
  `idKluba` smallint(6) UNSIGNED NOT NULL,  
  `nazivKluba` varchar(15) COLLATE latin2_croatian_ci NOT NULL,  
  `idMesta` int(11) UNSIGNED NOT NULL  
) ENGINE=InnoDB DEFAULT CHARSET=latin2 COLLATE=latin2_croatian_ci;  
-----
```

```
-- Table structure for table `mesto`  
CREATE TABLE `mesto` (  
  `idMesta` int(11) UNSIGNED NOT NULL,  
  `nazivMesta` varchar(25) COLLATE latin2_croatian_ci NOT NULL,  
  `idDrzave` tinyint(3) UNSIGNED NOT NULL  
) ENGINE=InnoDB DEFAULT CHARSET=latin2 COLLATE=latin2_croatian_ci;  
-----
```

```
--Table structure for table `pliva`  
CREATE TABLE `pliva` (  
  `idDiscipline` tinyint(10) UNSIGNED NOT NULL,  
  `idPlivaca` mediumint(10) UNSIGNED NOT NULL  
) ENGINE=InnoDB DEFAULT CHARSET=latin2 COLLATE=latin2_croatian_ci;  
-----
```

```
-- Table structure for table `plivac`  
CREATE TABLE `plivac` (  
  `idPlivaca` mediumint(10) UNSIGNED NOT NULL,  
  `imePlivaca` varchar(25) COLLATE latin2_croatian_ci NOT NULL,  
  `prezimePlivaca` varchar(30) COLLATE latin2_croatian_ci NOT NULL,  
  `kategorija` varchar(15) COLLATE latin2_croatian_ci NOT NULL,  
  `idTrenera` smallint(10) UNSIGNED NOT NULL,  
  `idKluba` smallint(6) UNSIGNED NOT NULL,  
  `idMesta` int(11) UNSIGNED NOT NULL  
) ENGINE=InnoDB DEFAULT CHARSET=latin2 COLLATE=latin2_croatian_ci;  
-----
```

-- Table structure for table `rekordi`

```
CREATE TABLE `rekordi` (  
  `idRekorda` smallint(5) UNSIGNED NOT NULL,  
  `vreme` varchar(10) COLLATE latin2_croatian_ci NOT NULL,  
  `idPlivaca` mediumint(10) UNSIGNED NOT NULL,  
  `idDiscipline` tinyint(10) UNSIGNED NOT NULL,  
  `idTakmicenja` smallint(5) UNSIGNED NOT NULL,  
  `idKluba` smallint(6) UNSIGNED NOT NULL,  
  `datum` date NOT NULL  
) ENGINE=InnoDB DEFAULT CHARSET=latin2 COLLATE=latin2_croatian_ci;
```

-- Table structure for table `takmicenje`

```
CREATE TABLE `takmicenje` (  
  `idTakmicenja` smallint(5) UNSIGNED NOT NULL,  
  `nazivTakmicenja` varchar(40) COLLATE latin2_croatian_ci NOT NULL,  
  `datum` date NOT NULL,  
  `idMesta` int(11) UNSIGNED NOT NULL  
) ENGINE=InnoDB DEFAULT CHARSET=latin2 COLLATE=latin2_croatian_ci;
```

-- -----Table structure for table `trener`

```
CREATE TABLE `trener` (  
  `idTrenera` smallint(10) UNSIGNED NOT NULL,  
  `imeTrenera` varchar(25) COLLATE latin2_croatian_ci NOT NULL,  
  `prezimeTrenera` varchar(30) COLLATE latin2_croatian_ci NOT NULL,  
  `licenca` char(1) COLLATE latin2_croatian_ci NOT NULL,  
  `idMesta` int(11) UNSIGNED NOT NULL  
) ENGINE=InnoDB DEFAULT CHARSET=latin2 COLLATE=latin2_croatian_ci;
```

-- Table structure for table `trenira`

```
CREATE TABLE `trenira` (  
  `idTrenera` smallint(10) UNSIGNED NOT NULL,  
  `idPlivaca` mediumint(10) UNSIGNED NOT NULL
```

```
) ENGINE=InnoDB DEFAULT CHARSET=latin2 COLLATE=latin2_croatian_ci;
```

```
-----  
-- Indexes for table `disciplina`
```

```
ALTER TABLE `disciplina`  
  ADD PRIMARY KEY (`idDiscipline`);  
-----
```

```
-- Indexes for table `drzava`
```

```
ALTER TABLE `drzava`  
  ADD PRIMARY KEY (`idDrzave`)  
-----
```

```
-- Indexes for table `klub`
```

```
ALTER TABLE `klub`  
  ADD PRIMARY KEY (`idKluba`),  
  ADD KEY `idMesta` (`idMesta`);  
-----
```

```
-- Indexes for table `mesto`
```

```
ALTER TABLE `mesto`  
  ADD PRIMARY KEY (`idMesta`),  
  ADD KEY `idDrzave` (`idDrzave`)  
-----
```

```
-- Indexes for table `pliva`
```

```
ALTER TABLE `pliva`  
  ADD PRIMARY KEY (`idDiscipline`,`idPlivaca`),  
  ADD KEY `idPlivaca` (`idPlivaca`);  
-----
```

```
-- Indexe for table `plivac`
```

```
ALTER TABLE `plivac`  
  ADD PRIMARY KEY (`idPlivaca`),  
  ADD KEY `idTrenera` (`idTrenera`),  
  ADD KEY `idKluba` (`idKluba`),  
  ADD KEY `idMesta` (`idMesta`);  
-----
```

```
-- Indexes for table `rekordi`
```

```
ALTER TABLE `rekordi`  
  ADD PRIMARY KEY (`idRekorda`),  
  ADD KEY `idPlivaca` (`idPlivaca`),  
  ADD KEY `idDiscipline` (`idDiscipline`),  
  ADD KEY `idTakmicenja` (`idTakmicenja`),  
  ADD KEY `idKluba` (`idKluba`);
```

```
-- Indexes for table `takmicenje`
```

```
ALTER TABLE `takmicenje`  
  ADD PRIMARY KEY (`idTakmicenja`),  
  ADD KEY `idMesta` (`idMesta`);
```

```
-- Indexes for table `trener`
```

```
ALTER TABLE `trener`  
  ADD PRIMARY KEY (`idTrenera`),  
  ADD KEY `idMesta` (`idMesta`);
```

```
-- Indexes for table `trenira`
```

```
ALTER TABLE `trenira`  
  ADD PRIMARY KEY (`idTrenera`, `idPlivaca`),  
  ADD KEY `idPlivaca` (`idPlivaca`);
```

```
-- Constraints for table `klub`
```

```
ALTER TABLE `klub`  
  ADD CONSTRAINT `klub_ibfk_1` FOREIGN KEY (`idMesta`) REFERENCES `mesto` (`idMesta`);
```

```
-- Constraints for table `mesto`
```

```
ALTER TABLE `mesto`  
  ADD CONSTRAINT `mesto_ibfk_1` FOREIGN KEY (`idDrzave`) REFERENCES `drzava` (`idDrzave`);
```

-- Constraints for table `pliva`

ALTER TABLE `pliva`

ADD CONSTRAINT `pliva_ibfk_1` FOREIGN KEY (`idDiscipline`) REFERENCES `disciplina`
(`idDiscipline`),

ADD CONSTRAINT `pliva_ibfk_2` FOREIGN KEY (`idPlivaca`) REFERENCES `plivac` (`idPlivaca`);

-- Constraints for table `plivac`

ALTER TABLE `plivac`

ADD CONSTRAINT `plivac_ibfk_1` FOREIGN KEY (`idTrenera`) REFERENCES `trener`
(`idTrenera`),

ADD CONSTRAINT `plivac_ibfk_2` FOREIGN KEY (`idKluba`) REFERENCES `klub` (`idKluba`),

ADD CONSTRAINT `plivac_ibfk_3` FOREIGN KEY (`idMesta`) REFERENCES `mesto` (`idMesta`);

-- Constraints for table `rekordi`

ALTER TABLE `rekordi`

ADD CONSTRAINT `rekordi_ibfk_1` FOREIGN KEY (`idPlivaca`) REFERENCES `plivac`
(`idPlivaca`),

ADD CONSTRAINT `rekordi_ibfk_2` FOREIGN KEY (`idDiscipline`) REFERENCES `disciplina`
(`idDiscipline`),

ADD CONSTRAINT `rekordi_ibfk_3` FOREIGN KEY (`idTakmicenja`) REFERENCES `takmicenje`
(`idTakmicenja`),

ADD CONSTRAINT `rekordi_ibfk_4` FOREIGN KEY (`idKluba`) REFERENCES `klub` (`idKluba`);

-- Constraints for table `takmicenje`

ALTER TABLE `takmicenje`

ADD CONSTRAINT `takmicenje_ibfk_1` FOREIGN KEY (`idMesta`) REFERENCES `mesto`
(`idMesta`);

-- Constraints for table `trener`

ALTER TABLE `trener`

ADD CONSTRAINT `trener_ibfk_1` FOREIGN KEY (`idMesta`) REFERENCES `mesto` (`idMesta`);

-- Constraints for table `trenira`

```

ALTER TABLE `trenira`

  ADD CONSTRAINT `trenira_ibfk_1` FOREIGN KEY (`idPlivaca`) REFERENCES `plivac` (`idPlivaca`),

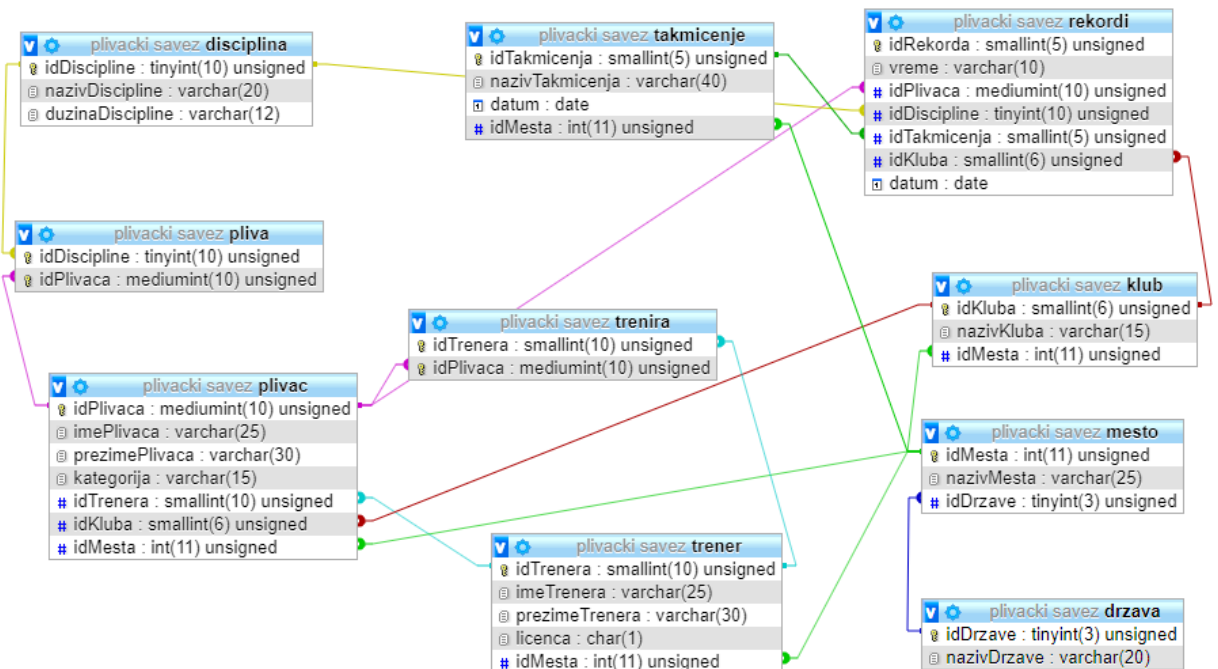
  ADD CONSTRAINT `trenira_ibfk_2` FOREIGN KEY (`idTrenera`) REFERENCES `trener`
(`idTrenera`);

COMMIT;

/*!40101 SET CHARACTER_SET_CLIENT=@OLD_CHARACTER_SET_CLIENT */;
/*!40101 SET CHARACTER_SET_RESULTS=@OLD_CHARACTER_SET_RESULTS */;
/*!40101 SET COLLATION_CONNECTION=@OLD_COLLATION_CONNECTION */;

```

Šematski prikaz baze podataka



Rečnik podataka(Data Dictionary) disciplina

Column	Type	Null	Default	Links to	Comments	MIME
idDiscipline (<i>Primary</i>)	tinyint(10)	No				
nazivDiscipline	varchar(20)	No				

duzinaDiscipline	varchar(12)	No					
------------------	-------------	----	--	--	--	--	--

Indexes

Keyname	Type	Unique	Packed	Column	Cardinality	Collation	Null	Comment
PRIMARY	BTREE	Yes	No	idDiscipline	17	A	No	

drzava

Column	Type	Null	Default	Links to	Comments	MIME
idDrzave <i>(Primary)</i>	tinyint(3)	No				
nazivDrzave	varchar(20)	No				

Indexes

Keyname	Type	Unique	Packed	Column	Cardinality	Collation	Null	Comment
PRIMARY	BTREE	Yes	No	idDrzave	6	A	No	

klub

Column	Type	Null	Default	Links to	Comments	MIME
idKluba <i>(Primary)</i>	smallint(6)	No				
nazivKluba	varchar(15)	No				
idMesta	int(11)	No		mesto -> idMesta		

Indexes

Keyname	Type	Unique	Packed	Column	Cardinality	Collation	Null	Comment
PRIMARY	BTREE	Yes	No	idKluba	16	A	No	
idMesta	BTREE	No	No	idMesta	16	A	No	

mesto

Column	Type	Null	Default	Links to	Comments	MIME
idMesta <i>(Primary)</i>	int(11)	No				
nazivMesta	varchar(25)	No				
idDrzave	tinyint(3)	No		drzava -> idDrzave		

Indexes

Keyname	Type	Unique	Packed	Column	Cardinality	Collation	Null	Comment
PRIMARY	BTREE	Yes	No	idMesta	11	A	No	
idDrzave	BTREE	No	No	idDrzave	11	A	No	

pliva

Column	Type	Null	Default	Links to	Comments	MIME
idDiscipline (<i>Primary</i>)	tinyint(10)	No		disciplina -> idDiscipline		
idPlivaca (<i>Primary</i>)	mediumint(10)	No		plivac -> idPlivaca		

Indexes

Keyname	Type	Unique	Packed	Column	Cardinality	Collation	Null	Comment
PRIMARY	BTREE	Yes	No	idDiscipline	9	A	No	
				idPlivaca	9	A	No	
idPlivaca	BTREE	No	No	idPlivaca	9	A	No	

plivac

Column	Type	Null	Default	Links to	Comments	MIME
idPlivaca (<i>Primary</i>)	mediumint(10)	No				
imePlivaca	varchar(25)	No				
prezimePlivaca	varchar(30)	No				
kategorija	varchar(15)	No				
idTrenera	smallint(10)	No		trener -> idTrenera		
idKluba	smallint(6)	No		klub -> idKluba		
idMesta	int(11)	No		mesto -> idMesta		

Indexes

Keyname	Type	Unique	Packed	Column	Cardinality	Collation	Null	Comment
PRIMARY	BTREE	Yes	No	idPlivaca	9	A	No	
idTrenera	BTREE	No	No	idTrenera	9	A	No	
idKluba	BTREE	No	No	idKluba	9	A	No	

Keyname	Type	Unique	Packed	Column	Cardinality	Collation	Null	Comment
idMesta	BTREE	No	No	idMesta	9	A	No	

rekordi

Column	Type	Null	Default	Links to	Comments	MIME
idRekorda (<i>Primary</i>)	smallint(5)	No				
vreme	varchar(10)	No				
idPlivaca	mediumint(10)	No		plivac -> idPlivaca		
idDiscipline	tinyint(10)	No		disciplina -> idDiscipline		
idTakmicenja	smallint(5)	No		takmicenje -> idTakmicenja		
idKluba	smallint(6)	No		klub -> idKluba		
datum	date	No				

Indexes

Keyname	Type	Unique	Packed	Column	Cardinality	Collation	Null	Comment
PRIMARY	BTREE	Yes	No	idRekorda	9	A	No	
idPlivaca	BTREE	No	No	idPlivaca	9	A	No	
idDiscipline	BTREE	No	No	idDiscipline	9	A	No	
idTakmicenja	BTREE	No	No	idTakmicenja	9	A	No	
idKluba	BTREE	No	No	idKluba	9	A	No	

takmicenje

Column	Type	Null	Default	Links to	Comments	MIME
idTakmicenja (<i>Primary</i>)	smallint(5)	No				
nazivTakmicenja	varchar(40)	No				
datum	date	No				
idMesta	int(11)	No		mesto -> idMesta		

Indexes

Keyname	Type	Unique	Packed	Column	Cardinality	Collation	Null	Comment
PRIMARY	BTREE	Yes	No	idTakmicenja	8	A	No	
idMesta	BTREE	No	No	idMesta	8	A	No	

trener

Column	Type	Null	Default	Links to	Comments	MIME
idTrenera (<i>Primary</i>)	smallint(10)	No				
imeTrenera	varchar(25)	No				
prezimeTrenera	varchar(30)	No				
licenca	char(1)	No				
idMesta	int(11)	No		mesto -> idMesta		

Indexes

Keyname	Type	Unique	Packed	Column	Cardinality	Collation	Null	Comment
PRIMARY	BTREE	Yes	No	idTrenera	9	A	No	
idMesta	BTREE	No	No	idMesta	9	A	No	

trenira

Column	Type	Null	Default	Links to	Comments	MIME
idTrenera (<i>Primary</i>)	smallint(10)	No		trener -> idTrenera		
idPlivaca (<i>Primary</i>)	mediumint(10)	No		plivac -> idPlivaca		

Indexes

Keyname	Type	Unique	Packed	Column	Cardinality	Collation	Null	Comment
PRIMARY	BTREE	Yes	No	idTrenera	11	A	No	
				idPlivaca	11	A	No	
idPlivaca	BTREE	No	No	idPlivaca	11	A	No	

DML (Data manipulation language) SQL

INSERT

-- Dumping data for table `disciplina`

```
INSERT INTO `disciplina` (`idDiscipline`, `nazivDiscipline`, `duzinaDiscipline`)
VALUES (1, 'Delfin', '50 metara'), (2, 'Delfin', '100 metara'), (3, 'Delfin', '200 metara'),
(4, 'Ledjno', '50 metara'), (5, 'Ledjno', '100 metara'), (6, 'Ledjno', '200 metara'),(7,'Prsno',
'50 metara'), (8, 'Prsno', '100 metara'), (9, 'Prsno', '200 metara'),(10, 'Slobodno', '50
metara'),(11, 'Slobodno', '100 metara'),(12, 'Slobodno', '200 metara'), (13, 'Slobodno',
'400 metara'),(14, 'Slobodno', '800 metara'),(15, 'Slobodno ', '1500 metara'),(16,
'mesovito', '100 metara'),(17, 'mesovito', '200 metara'),(18, 'mesovito', '400 metara');
```

-- Dumping data for table `drzava`

```
INSERT INTO `drzava` (`idDrzave`, `nazivDrzave`) VALUES (1, 'Srbija'),(2,
'Hrvatska'),(3, 'Slovenija'),(4, 'Crna Gora'),(5, 'Makedonija'),(6, 'Bosna i Hercegovina'),
(7, 'Grcka');
```

-- Dumping data for table `klub`

```
INSERT INTO `klub` (`idKluba`, `nazivKluba`, `idMesta`) VALUES (1, 'Proleter', 3),
(2, 'Vojvodina', 2), (3, 'Novi Sad', 2), (4, '11. April', 1), (5, 'Vracar', 1), (6, 'PK Vardar',8),
(7, 'Spartak', 11), (8, 'Partizan', 1), (9, 'Crvena Zvezda', 1), (10, 'Velika Kikinda', 4), (12,
'Nis 2005', 5), (13, 'PK Beta Skoplje', 8), (14, 'Mladost', 6), (15, 'Buducnost', 10), (16,
'Mornar', 7), (17, 'Radnicki', 12);
```

-- Dumping data for table `mesto`

```
INSERT INTO `mesto` (`idMesta`, `nazivMesta`, `idDrzave`) VALUES
(1, 'Beograd', 1), (2, 'Novi Sad', 1), (3, 'Zrenjanin', 1), (4, 'Kikinda', 1), (5, 'Nis', 1), (6,
'Zagreb', 2), (7, 'Split', 2), (8, 'Skoplje', 5), (9, 'Sarajevo', 6), (10, 'Podgorica', 4), (11,
'Subotica', 1), (12, 'Kragujevac', 7);
```

-- Dumping data for table `pliva`

```
INSERT INTO `pliva` (`idDiscipline`, `idPlivaca`) VALUES
(1, 1), (3, 1), (5, 5), (6, 11), (8, 6), (10, 1), (11, 4), (15, 9), (18, 6);
```

-- Dumping data for table `plivac`

```
INSERT INTO `plivac` (`idPlivaca`, `imePlivaca`, `prezimePlivaca`, `kategorija`,
`idTrenera`, `idKluba`, `idMesta`) VALUES (1, 'Igor', 'Zuber', 'Apsolutna', 1, 1, 3), (2,
'Nemanja', 'Maric', 'Apsolutno', 2, 1, 3), (3, 'Nikola', 'Maric', 'Junior', 2, 1, 3), (4,
```

'Aleksa', 'Bobar', 'Apsolutna', 7, 2, 2), (5, 'Nikola', 'Acin', 'Apsolutna', 1, 1, 3), (6, 'Anja', 'Crevar', 'Apsolutna', 5, 4, 1), (7, 'Mihajlo', 'Ceprkalo', 'Apsolutna', 7, 2, 2), (8, 'Bosko', 'Adzic', 'Apsolutna', 4, 4, 1), (9, 'Franko', 'Grgic', 'Junior', 10, 14, 6), (10, 'Ljupco', 'Angelovski', 'Junior', 10, 13, 8), (11, 'Nikola', 'Adzic', 'Apsolutna', 4, 4, 1);

-- Dumping data for table `rekordi`

```
INSERT INTO `rekordi` (`idRekorda`, `vreme`, `idPlivaca`, `idDiscipline`,  
`idTakmicenja`, `idKluba`, `datum`) VALUES (1, '21:24', 1, 10, 1, 1, '2019-11-01'), (2,  
'45:86', 4, 11, 10, 2, '2019-08-03'), (3, '52:87', 5, 5, 10, 1, '2019-08-03'), (4, '1:54', 11, 6,  
4, 4, '2019-12-28'), (5, '48:89', 1, 3, 1, 1, '2019-11-01'), (6, '23:50', 1, 1, 10, 1, '2019-08-  
03'), (7, '13:48:89', 9, 15, 10, 14, '2019-08-03'), (8, '58:46', 6, 8, 4, 4, '2019-12-28'), (9,  
'4:46:68', 6, 18, 10, 4, '2019-08-03');
```

-- Dumping data for table `takmicenje`

```
INSERT INTO `takmicenje` (`idTakmicenja`, `nazivTakmicenja`, `datum`, `idMesta`)  
VALUES (1, 'Serbian Grand Prix', '2019-11-01', 3), (2, 'Mlade nade', '2019-09-07', 4),  
(3, 'Sveti Nikola ', '2019-12-20', 5), (4, 'Deda Mraz', '2019-12-28', 2), (5, 'Otvoreno  
prvenstvo Vojvodine', '2019-06-23', 2), (7, 'Nemo kup', '2019-11-24', 8), (8, 'Mladost',  
'2019-10-26', 6), (9, 'Miting 200 i vise', '2019-03-09', 11), (10, 'Letnje drzavno  
prvenstvo', '2019-08-03', 1);
```

-- Dumping data for table `trener`

```
INSERT INTO `trener` (`idTrenera`, `imeTrenera`, `prezimeTrenera`, `licenca`,  
`idMesta`) VALUES (1, 'Milorad', 'Radisic', 'A', 3), (2, 'Dragan', 'Jocic', 'B', 3), (3,  
'Nikola', 'Gogic', 'B', 3), (4, 'Boris', 'Drobac', 'A', 1), (5, 'Radovan', 'Siljevski', 'A', 1), (6,  
'Nikola', 'Mircetic', 'A', 1), (7, 'Igor', 'Beretic', 'A', 2), (8, 'Milan', 'Jovanovic', 'A', 11), (9,  
'Zoran', 'Velickovski', 'C', 8), (10, 'Mika', 'Mikic', 'C', 10);
```

INSERT INTO `trenira` (`idTrenera`, `idPlivaca`) VALUES (1, 1), (1, 5), (2, 2), (2, 3),
(4, 8), (4, 11), (5, 6), (7, 4), (7, 7), (10, 9), (10, 10);

UPDATE

```
UPDATE drzava  
SET `nazivDrzave`='Madjarska'  
WHERE `id drzave`='5';
```

```
UPDATE `trener` SET `prezimeTrenera` = 'Radisic' WHERE `trener`.`idTrenera` = 1;
```

DELETE

```
DELETE FROM `plivacki savez`.`takmicenje` WHERE `takmicenje`.`idTakmicenja` = 9;
```


SELECT UPITI

Prikaz svih rekorda koje drži plivač Igor Zuber

```
SELECT
`plivac`.`imePlivaca`,`plivac`.`prezimePlivaca`,`plivac`.`kategorija`,`klub`.`nazivKluba`
`,`takmicenje`.`nazivTakmicenja`,`takmicenje`.`datum`,`disciplina`.`nazivDiscipline`,`di
sciplina`.`duzinaDiscipline`,`rekordi`.`vreme`
FROM plivac INNER JOIN klub
ON plivac.idKluba=klub.idKluba
INNER JOIN pliva
on plivac.idPlivaca=pliva.idPlivaca
INNER JOIN disciplina
ON disciplina.idDiscipline=pliva.idDiscipline
INNER JOIN rekordi on rekordi.idPlivaca=rekordi.idPlivaca AND
rekordi.idDiscipline=disciplina.idDiscipline AND rekordi.idKluba=klub.idKluba
inner JOIN takmicenje
on takmicenje.idTakmicenja=rekordi.idTakmicenja
WHERE `plivac`.`imePlivaca` LIKE '%Igor%' AND `plivac`.`prezimePlivaca` LIKE
'%Zuber%'
```

Options

imePlivaca	prezimePlivaca	kategorija	nazivKluba	nazivTakmicenja	datum	nazivDiscipline	duzinaDiscipline	vreme
Igor	Zuber	Apsolutna	Proleter	Serbian Grand Prix	2019-11-01	Slobodno	50 metara	21:24
Igor	Zuber	Apsolutna	Proleter	Serbian Grand Prix	2019-11-01	Delfin	200 metara	48:89
Igor	Zuber	Apsolutna	Proleter	Letnje drzavno prvenstvo	2019-08-03	Delfin	50 metara	23:50

Prikaz svih rekorda poredjanih po datumu postavljanja

```
SELECT
`plivac`.`imePlivaca`,`plivac`.`prezimePlivaca`,`plivac`.`kategorija`,`klub`.`nazivKluba`
`,`takmicenje`.`nazivTakmicenja`,`takmicenje`.`datum`,`disciplina`.`nazivDiscipline`,`di
sciplina`.`duzinaDiscipline`,`rekordi`.`vreme`
FROM plivac INNER JOIN klub
ON plivac.idKluba=klub.idKluba
INNER JOIN pliva
```

on plivac.idPlivaca=pliva.idPlivaca

INNER JOIN disciplina

ON disciplina.idDiscipline=pliva.idDiscipline

INNER JOIN rekordi on rekordi.idPlivaca=rekordi.idPlivaca AND
rekordi.idDiscipline=disciplina.idDiscipline AND rekordi.idKluba=klub.idKluba

inner JOIN takmicenje

on takmicenje.idTakmicenja=rekordi.idTakmicenja

order BY `rekordi`.`datum` ASC

imePlivaca	prezimePlivaca	kategorija	nazivKluba	nazivTakmicenja	datum	nazivDiscipline	duzinaDiscipline	vreme
Aleksa	Bobar	Apsolutna	Vojvodina	Letnje drzavno prvenstvo	2019-08-03	Slobodno	100 metara	45:86
Nikola	Acin	Apsolutna	Proleter	Letnje drzavno prvenstvo	2019-08-03	Ledjno	100 metara	52:87
Igor	Zuber	Apsolutna	Proleter	Letnje drzavno prvenstvo	2019-08-03	Delfin	50 metara	23:50
Franko	Grgic	Junior	Mladost	Letnje drzavno prvenstvo	2019-08-03	Slobodno	1500 metara	13:48:89
Anja	Crevar	Apsolutna	11. April	Letnje drzavno prvenstvo	2019-08-03	mesovito	400 metara	4:46:68
Igor	Zuber	Apsolutna	Proleter	Serbian Grand Prix	2019-11-01	Slobodno	50 metara	21:24
Igor	Zuber	Apsolutna	Proleter	Serbian Grand Prix	2019-11-01	Delfin	200 metara	48:89
Nikola	Adzic	Apsolutna	11. April	Deda Mraz	2019-12-28	Ledjno	200 metara	1:54
Anja	Crevar	Apsolutna	11. April	Deda Mraz	2019-12-28	Prsno	100 metara	58:46

Prikaz broja plivača koji plivaju kod trenera Milorada Radišića

```
SELECT `trener`.`imeTrenera`, `trener`.`prezimeTrenera`,  
COUNT(plivac.`idPlivaca`) AS 'Broj plivaca koji pliva kod ovog trenera'
```

FROM trener inner JOIN trenira

on trener.idTrenera=trenira.idTrenera

INNER JOIN plivac

on plivac.idPlivaca=trenira.idPlivaca

```
WHERE `trener`.`imeTrenera` LIKE '%Milorad%' AND `trener`.`prezimeTrenera`  
LIKE '%Radisic%'
```

+ Options		
imeTrenera	prezimeTrenera	Broj plivaca koji pliva kod ovog trenera
Milorad	Radisic	2

Upit sa podupitom koji ispisuje plivace koji drze rekorde, a plivaju za plivački klub „11. April“

```
SELECT  
`plivac`.`imePlivaca`, `plivac`.`prezimePlivaca`, `plivac`.`kategorija`, `klub`.`nazivKluba`
```

```

,`takmicenje`.`nazivTakmicenja`,`takmicenje`.`datum`,`disciplina`.`nazivDiscipline`,`disciplina`.`duzinaDiscipline`,`rekordi`.`vreme`
FROM plivac INNER JOIN klub
ON plivac.idKluba=klub.idKluba
INNER JOIN pliva
on plivac.idPlivaca=pliva.idPlivaca
INNER JOIN disciplina
ON disciplina.idDiscipline=pliva.idDiscipline
INNER JOIN rekordi on rekordi.idPlivaca=rekordi.idPlivaca AND
rekordi.idDiscipline=disciplina.idDiscipline AND rekordi.idKluba=klub.idKluba
inner JOIN takmicenje
on takmicenje.idTakmicenja=rekordi.idTakmicenja
WHERE `klub`.`nazivKluba`=(SELECT nazivKluba
FROM klub
WHERE nazivKluba='11. April')

```

+ Options								
imePlivaca	prezimePlivaca	kategorija	nazivKluba	nazivTakmicenja	datum	nazivDiscipline	duzinaDiscipline	vreme
Nikola	Adzic	Apsolutna	11. April	Deda Mraz	2019-12-28	Ledjno	200 metara	1:54
Anja	Crevar	Apsolutna	11. April	Deda Mraz	2019-12-28	Prsno	100 metara	58:46
Anja	Crevar	Apsolutna	11. April	Letnje drzavno prvenstvo	2019-08-03	mesovito	400 metara	4:46:68

POGLED-VIEW

Pogled koji prikazuje rekorde oborene na takmičenju pod nazivom „Deda Mraz“

```
CREATE VIEW `Pogled`
```

```
AS
```

```
SELECT
```

```

`plivac`.`imePlivaca`,`plivac`.`prezimePlivaca`,`plivac`.`kategorija`,`klub`.`nazivKluba`
`,`takmicenje`.`nazivTakmicenja`,`takmicenje`.`datum`,`disciplina`.`nazivDiscipline`,`disciplina`.`duzinaDiscipline`,`rekordi`.`vreme`

```

```
FROM plivac INNER JOIN klub
```

```
ON plivac.idKluba=klub.idKluba
```

```
INNER JOIN pliva
```

```
on plivac.idPlivaca=pliva.idPlivaca
```

```
INNER JOIN disciplina
```

```
ON disciplina.idDiscipline=pliva.idDiscipline
```

```

INNER JOIN rekordi on rekordi.idPlivaca=rekordi.idPlivaca AND
rekordi.idDiscipline=disciplina.idDiscipline AND rekordi.idKluba=klub.idKluba

```

inner JOIN takmicenje

on takmicenje.idTakmicenja=rekordi.idTakmicenja

WHERE `takmicenje`.`nazivTakmicenja` LIKE '%Deda Mraz%'

Poziv pogleda:

SELECT * FROM pogled

Brisanje pogleda:

DROP VIEW pogled



	imePlivaca	prezimePlivaca	kategorija	nazivKluba	nazivTakmicenja	datum	nazivDiscipline	duzinaDiscipline	vreme
<input type="checkbox"/>	Nikola	Adzic	Apsolutna	11. April	Deda Mraz	2019-12-28	Ledjno	200 metara	1:54
<input type="checkbox"/>	Anja	Crevar	Apsolutna	11. April	Deda Mraz	2019-12-28	Prsno	100 metara	58:46

USKLADIŠTENA PROCEDURA

Prikaz plivača koji plivaju kod trenera Dragana Jocica

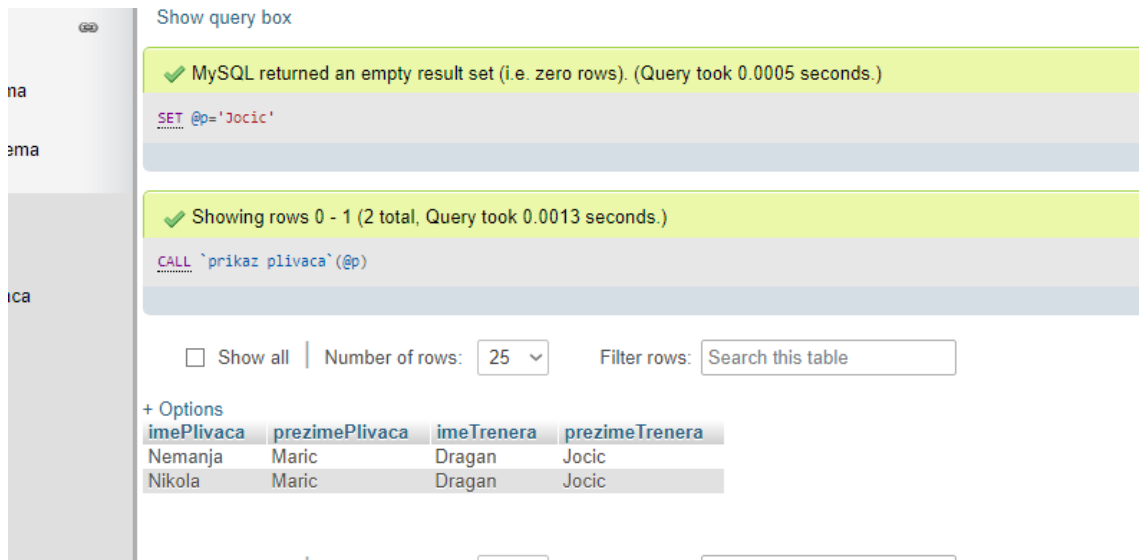
DELIMITER //

```
CREATE PROCEDURE `prikaz plivaca`(  
in prez varchar(50))  
BEGIN  
SELECT  
`plivac`.`imePlivaca`,`plivac`.`prezimePlivaca`,`trener`.`imeTrenera`,`trener`.`prezimeTrenera`  
from plivac inner JOIN trenira ON plivac.idPlivaca=trenira.idPlivaca  
INNER JOIN trener on trener.idTrenera=trenira.idTrenera  
HAVING `prezimeTrenera`=prez;  
END //
```

DELIMITER ;

Poziv procedure:

```
SET @p='Jocic' ; CALL `prikaz plivaca`(@p);
```



Brisanje procedure: `DROP PROCEDURE `prikaz plivaca``

TRIGGER-okidac

Brisanje praznih karaktera oko imena trenera, prezimena trenera, kao i pretvaranje karktera u veliko slovo za licencu:

DELIMITER

\$\$

CREATE TRIGGER `okidac`

BEFORE INSERT

ON trener FOR EACH ROW

BEGIN

SET NEW.imeTrenera = TRIM(NEW.imeTrenera);

SET NEW.prezimeTrenera = TRIM(NEW.prezimeTrenera);

SET NEW.licenca = UPPER(NEW.licenca);END;

\$\$

Brisanje trigera:

`DROP TRIGGER `okidac``

Rad sa korisnicima baze podataka - DCL (Data Control Language)

Korisnik\Komanda	SELECT	INSERT	UPDATE	DELETE	CREATE, DROP, EXECUTE, CALL, ALTER
Sportski direktor	Sve	Plivac, Trener, Klub, Takmicenja	Plivac, Trener, Klub, Takmicenja	-	-
IT Administrator	Sve	Sve	Sve	Sve	Da

Kreiranje korisnika:

```
CREATE USER 'sportski direktor'@'localhost'  
CREATE USER 'administrator'@'localhost' identified by 'admin';
```

Dodavanje dozvole korisnicima:

```
GRANT all privileges ON 'administrator'@'localhost'.* TO administrator WITH GRANT  
OPTION;
```

```
GRANT SELECT ON `plivacki savez`.* TO 'sportski direktor'@localhost
```

Dodela prava korisniku sportski director:

```
GRANT insert ON `plivacki savez`.plivac TO 'sportski direktor'@localhost;  
GRANT insert ON `plivacki savez`.trener TO 'sportski direktor'@localhost;  
GRANT insert ON `plivacki savez`.klub TO 'sportski direktor'@localhost;  
GRANT insert ON `plivacki savez`.takmicenje TO 'sportski direktor'@localhost;  
GRANT UPDATE ON `plivacki savez`.plivac TO 'sportski direktor'@localhost;  
GRANT UPDATE ON `plivacki savez`.trener TO 'sportski direktor'@localhost;  
GRANT UPDATE ON `plivacki savez`.klub TO 'sportski direktor'@localhost;  
GRANT UPDATE ON `plivacki savez`.takmicenje TO 'sportski direktor'@localhost;
```

Zabrana prava korisnicima

```
REVOKE UPDATE ON `plivacki savez`.takmicenje FROM 'sportski direktor'  
REVOKE INSERT ON `plivacki savez`.takmicenje FROM 'sportski direktor'
```

Brisanje korisnika:

```
DROP USER 'sportski direktor'@'localhost';  
DROP USER 'administrator'@'localhost';
```

Obrada transakcija i zaključavanje baze podataka - TCL (Transaction Control Language)**Transkcija:**

```
SET AUTOCOMMIT=0;  
  
START TRANSACTION;  
  
SELECT case when `idDrzave` is null then @idDr:=1 else @idDr:=(max(`idDrzave`)+1)  
end FROM `drzava`;  
  
SET @drzava='Grcka';  
  
LOCK TABLES `drzava` WRITE;  
  
INSERT IGNORE INTO `drzava`(`idDrzave`, `nazivDrzave`) VALUES  
(@idDr,@drzava);  
  
SELECT case when `idMesta` is null then @idM:=1 else @idM:=(max(`idMesta`)+1)  
end FROM `mesto`;  
  
SET @mesto='Kragujevac';
```

```

LOCK TABLES `mesto` WRITE;
INSERT IGNORE INTO `mesto` (`idMesta`,`nazivMesta`,`idDrzave`)
VALUES (@idm, @mesto, @iddr);
SELECT case when `idKluba` is null then @idk:=1 else @idk:=(max(`idKluba`)+1)
end FROM `klub`;
SET @klub='Radnicki';
LOCK TABLES `klub` WRITE;
INSERT IGNORE INTO `klub` (`idKluba`,`nazivKluba`,`idMesta`) VALUES (@idk,
@klub, @idm);
UNLOCK TABLES;
        COMMIT;
        ROLLBACK;
        SET AUTOCOMMIT=1;

```

Opis softvera za rukovanje bazama podataka

MySQL je sistem za upravljanje relacionim bazama otvorenog koda (RDBMS). MySQL je besplatan i open-source softver pod uslovima GNU General Public License, a dostupan je i pod raznim vlasničkim licencama. MySQL koriste mnoge veb aplikacije koje pokreću baze podataka, uključujući Drupal, Joomla, phpBB i WordPress. MySQL se takođe koristi na mnogim popularnim veb aplikacijama

phpMyAdmin je besplatan alat za administraciju otvorenog koda za MySQL i MariaDB. Kao prenosiva veb aplikacija napisana prewashodno na PHP-u, postala je jedno od najpopularnijih alata za administraciju MySQL-a, posebno za veb hosting usluge.

Zaključak

Odradjena baza podataka odradjena u ovom seminarskom radu predstavlja neku osnovu za nastavak rada na ovu temu. Prema tome se mogu dodati neki dodatni redovi unutar svih tabela kao na primer u tabeli klub može se dodati strani ključ od tabele država kao i strani ključ tabele takmičenje kako bi se moglo odrediti koja takmičenja klub organizuje. Takođe se može napraviti nova tabela „Najbolji rezultati“, koja bi bila spojena sa tabelom plivač i koja bi sadržala discipline plivača i najbolja vremena u toj disciplini.

Literatura

- [1] Literatura data kao primer;
 - [2] https://www.w3schools.com/php/php_mysql_intro.asp;
 - [3] <https://www.siteground.com/tutorials/phpmyadmin/>;
- 