

Metabase

SISTEMI SKLADIŠTA PODATAKA

Sadržaj

Instalacija

Dodavanje izvora podataka

Kreiranje izveštaja

Instalacija

Proces instalacije (JAR file):

Koraci se nalaze na linku: <https://www.metabase.com/docs/latest/installation-and-operation/running-the-metabase-jar-file>

- Potrebna je Java 11 (podesiti i *JAVA_HOME* i *Path* environment vars ako nisu)
- Default port: <http://localhost:3000>

- Rad sa Oracle bazom podataka zahteva dodatno podešavanje: <https://www.metabase.com/docs/latest/databases/connections/oracle>
- Preporučljivi način: Dodati Oracle driver (***ojdbc8.jar***) u *plugins* folder. Nova opcija se neće pojaviti momentalno, potrebno je restartovati računar.

Instalacija sa linka: <https://www.oracle.com/database/technologies/appdev/jdbc-downloads.html>

Alternativa: Docker image

Koraci: <https://www.metabase.com/docs/latest/installation-and-operation/running-metabase-on-docker>

Sadržaj

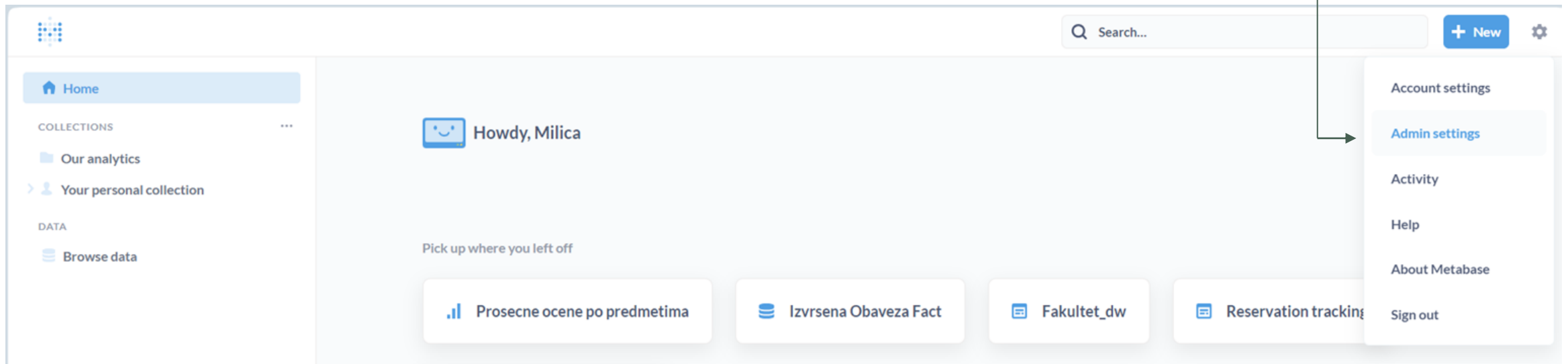
Instalacija

Dodavanje izvora podataka

Kreiranje izveštaja

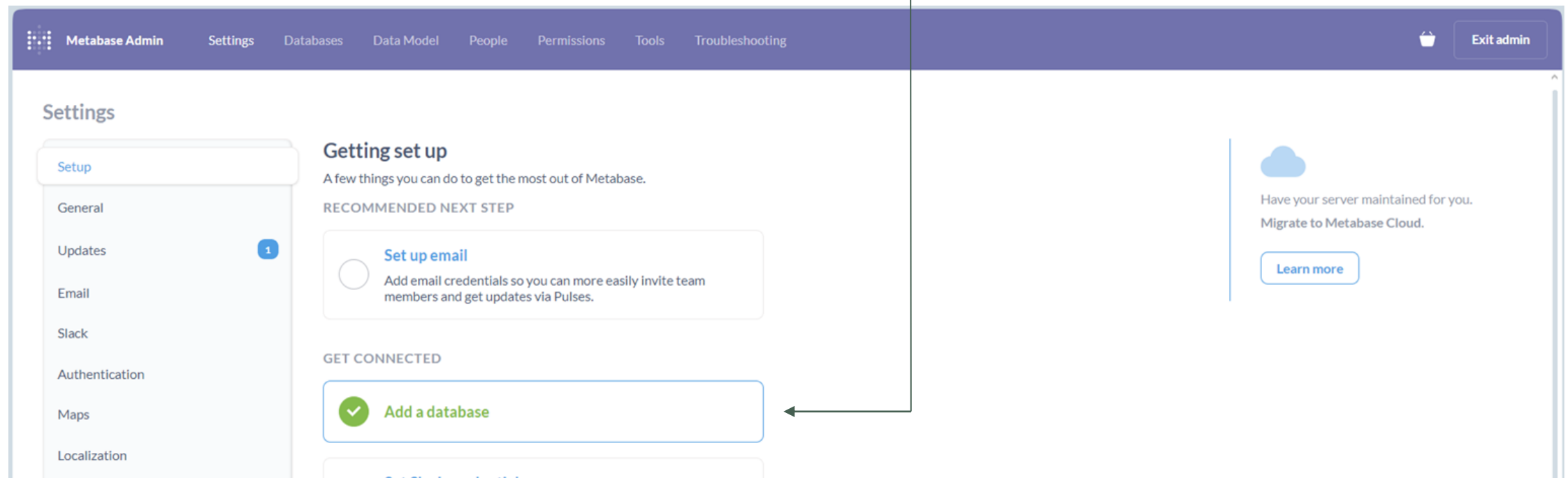
Dodavanje izvora podataka

- Na samom početku, prilikom prvog pokretanja (Odabir SUBP-a i specifikacija parametara konekcije)
- Dodavanje novog izvora podataka naknadno: Admin settings



Dodavanje izvora podataka

- Add a database opcija
- Odabir SUBP-a i specifikacija parametara konekcije



The screenshot displays the Metabase Admin interface. The top navigation bar includes 'Metabase Admin', 'Settings', 'Databases', 'Data Model', 'People', 'Permissions', 'Tools', and 'Troubleshooting'. On the right side of the navigation bar, there is a shopping cart icon and an 'Exit admin' button. The main content area is titled 'Settings' and features a left-hand sidebar with a list of settings categories: 'Setup', 'General', 'Updates', 'Email', 'Slack', 'Authentication', 'Maps', and 'Localization'. The 'Updates' category is marked with a blue circle containing the number '1'. The main content area is divided into two sections: 'Getting set up' and 'GET CONNECTED'. The 'Getting set up' section includes a sub-section 'RECOMMENDED NEXT STEP' with a card for 'Set up email' and a sub-section 'GET CONNECTED' with a card for 'Add a database'. The 'Add a database' card is highlighted with a blue border and a green checkmark icon. A black arrow points from the 'Add a database' card back to the 'Add a database' bullet point in the list above. On the right side of the main content area, there is a blue cloud icon and a message: 'Have your server maintained for you. Migrate to Metabase Cloud.' with a 'Learn more' button.

Sadržaj

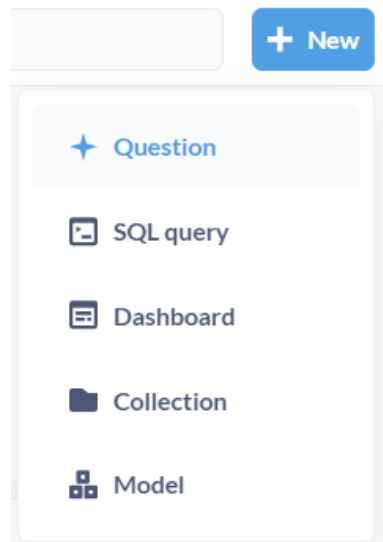
Instalacija

Dodavanje izvora podataka

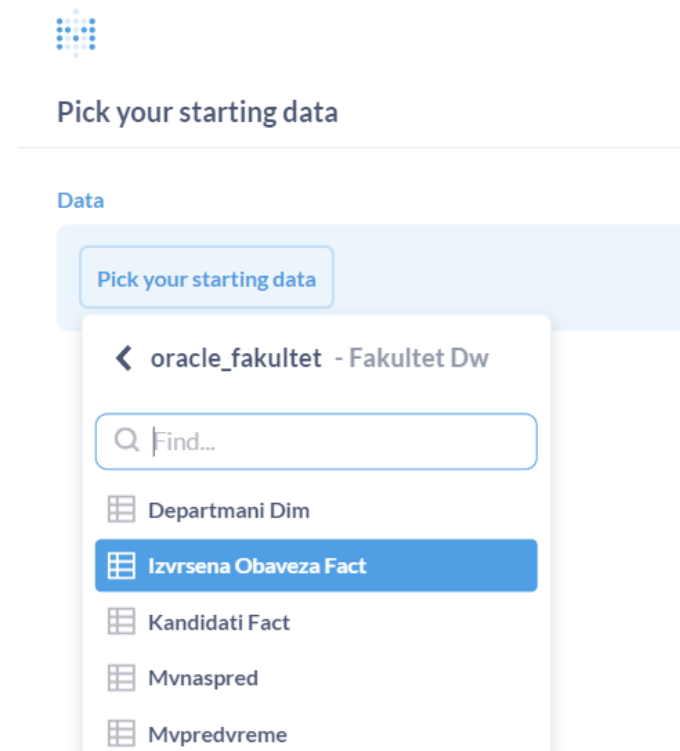
Kreiranje izveštaja

Kreiranje izveštaja

1. New/ Question opcija



2. Odabir polazne tabele iz izvora podataka (fact tabele)



Kreiranje izveštaja

3. Join opcija (moguće je specificirati i tip spoja - *Left outer*, *Right outer*, *Inner join*, *Full outer Join*)

- spoj fact tabele sa svim neophodnim dimenzijama

The screenshot displays a BI tool interface with two panes:

- Data:** Contains a table named "Izvršena Obaveza Fact". A tooltip labeled "Join data" is visible over this table.
- Join data:** Shows a join configuration between two tables:
 - Table 1: "Izvršena Obaveza Fact" (with a join type dropdown set to "Left outer").
 - Table 2: "Tipobaveze Dim".
 - Join field: "Obv ID".
 - Join type: "Left outer".

Kreiranje izveštaja

4. Opcije filtriranja, agregacije, sortiranja, ograničavanja broja redova kao i dodavanje custom kolone.

The image shows a user interface for data analysis with three main sections:

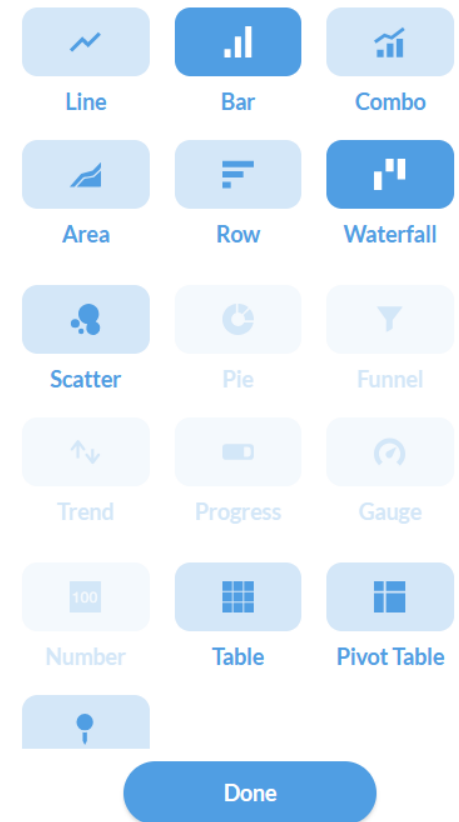
- Filter:** A light purple bar with a close button (X) on the right and a button that says "Add filters to narrow your answer".
- Summarize:** A light green bar with two input fields. The first is "Pick the metric you want to see" and the second is "Pick a column to group by", separated by the word "by".
- Navigation/Action Bar:** A row of icons and buttons. From left to right: a sort icon (up/down arrows), a list icon (three horizontal lines), a "Filter" button (purple), a "Summarize" button (green with a sigma symbol), a "Join data" button (blue with a moon icon), another sort icon, a "Row limit" button (grey with a list icon), and a "Custom column" button (grey with a grid icon).

Kreiranje izveštaja

5. Vizualizacija

- u zavisnosti od pitanja koji se vizualizuje, ponuđene su opcije za kreiranje grafikona
- nakon odabira vrste grafikona, potrebno je pridružiti kolonu (ili više kolona) x i y
- u zavisnosti od vrste grafikona, pojaviće se i dodatni parametri
- opcije za podešavanje boja, veličine, naziva osa..

Choose a visualization



Kreiranje izveštaja - primer 1

- Za svaki predmet prikazati procenat šestica, sedmica, osmica, devetki i desetki.
 1. Polazi se od fact tabele Izvrsena Obaveza (njena mera je vrednost ocene).
 2. Pošto nam trebaju samo završne obaveza, radi se operacija spoja sa dimenzijom Tip Obaveze.
 3. Želimo prikaz naziva predmeta, ne samo njegov ključ pa spajamo polaznu tabelu i sa dimenzijom Predmet.
 4. Tip obaveze koji nas zanima je samo završna obaveza, pa je potrebno primeniti filtriranje po koloni naziv tipa obaveze (TipObavezeDim)
 5. Potrebno je grupisati rezultat po predmetu, tj. nazivu predmeta.
 6. Da bismo prebrojali sve ocene koje imaju odgovarajuću vrednost za odgovarajući predmet, potrebno je iskoristiti opciju custom expression koja poseduje ugrađenu funkciju CountIf. Custom kolonu potrebno je dodati za svaku ocenu.
 7. Vizualizacija odabirom stubičaste vrste grafikona i pridruživanje kolona x i y osama.

Posle svakog koraka je moguć preview podataka

Data

Izvršena Obaveza Fact

Join data

Izvršena Obaveza Fact

Predmeti Dim

on

Izvršena Obaveza Fact
Pred ID

x

=

Predmeti Dim
Pred ID

x

+

Join data

Izvršena Obaveza Fact

Tipobaveze Dim

on

Izvršena Obaveza Fact
Obv ID

x

=

Tipobaveze Dim
Obv ID

x

+

Preview

Obv ID	Nas ID	Pred ID	Vre ID	Std ID	Dep ID	Io Vrednost	Predmeti Dim - Pred → Pred ID	Predmeti Dim - Pred → Pred Spid	Predmeti Dim - Pred → Pred Nazivpredmeta	Predmeti Dim
2	1	32	101	458	1040	50	32	20	racunari	
2	1	32	101	451	1040	70	32	20	racunari	
2	1	32	101	460	1040	60	32	20	racunari	

Koraci 1, 2 i 3

oracle_fakultet / FAKULTET_DW / Izvršena Obaveza

← Tipobaveze Dim - Obv Nazivtipaobaveze Is ▾

Search the list

- ispitna
- predispitna
- prisutnost
- završna

Add filter

Add filters to narrow your answer

Korak 4

oracle_fakultet / FAKULTET_DW / Izvršena Obaveza

2	1	32	101	455	1040
2	1	32	101	453	1040
2	1	32	101	456	1040
2	1	32	101	454	1040
2	1	32	102	461	1040

Filter

Obv Nazivtipaobaveze is ispitna ✕ +

Summarize

Pick the metric you want to see by Pick a column to group by

Izvršena Obaveza Fact ▾

- Predmeti Dim - Pred ▲
- Pred ID
- Pred Spid
- Aa Pred Nazivpredmeta**
- # Pred Brojsemestra
- # Pred Predavanja
- # Pred Labvezbe
- # Pred Audiovezbe
- # Pred Pk
- Tipobaveze Dim - Obv ▾
- Nas ▾

Korak 5

Summarize

Average of Io Vrednost × ProcenatDesetki × + by Predmeti Dim - Pred → Pred Nazivpredmeta × +

Preview

Predmeti Dim - Pred → Pred Nazivpredmeta	Average of Io Vrednost
mreze	
racunari	

Filter Summarize Join data

← Custom Expression

= CountIf([Io Vrednost] = 6) / Count

ProcenatSestica

Done

Sort Row limit Custom column

ProcenatDesetki × ProcenatSestica ×
ProcenatSedmica × ProcenatOsmica ×
ProcenatDevetki × +

by Predmeti Dim - Pred → Pred Nazivpredmeta × +

Sort

↓ ProcenatDesetki × +

Preview

Predmeti Dim - Pred → Pred Nazivpredmeta	ProcenatDesetki	ProcenatSestica	ProcenatSedmica	ProcenatOsmica	ProcenatDevetki
racunari	0.091	0.18	0.18	0.45	0.091
mreze	0	0	0.5	0.5	0

< Bar options

Data

Display

Axes

X-axis

Predmeti Dim - Pred → Pred Naziv...

Y-axis

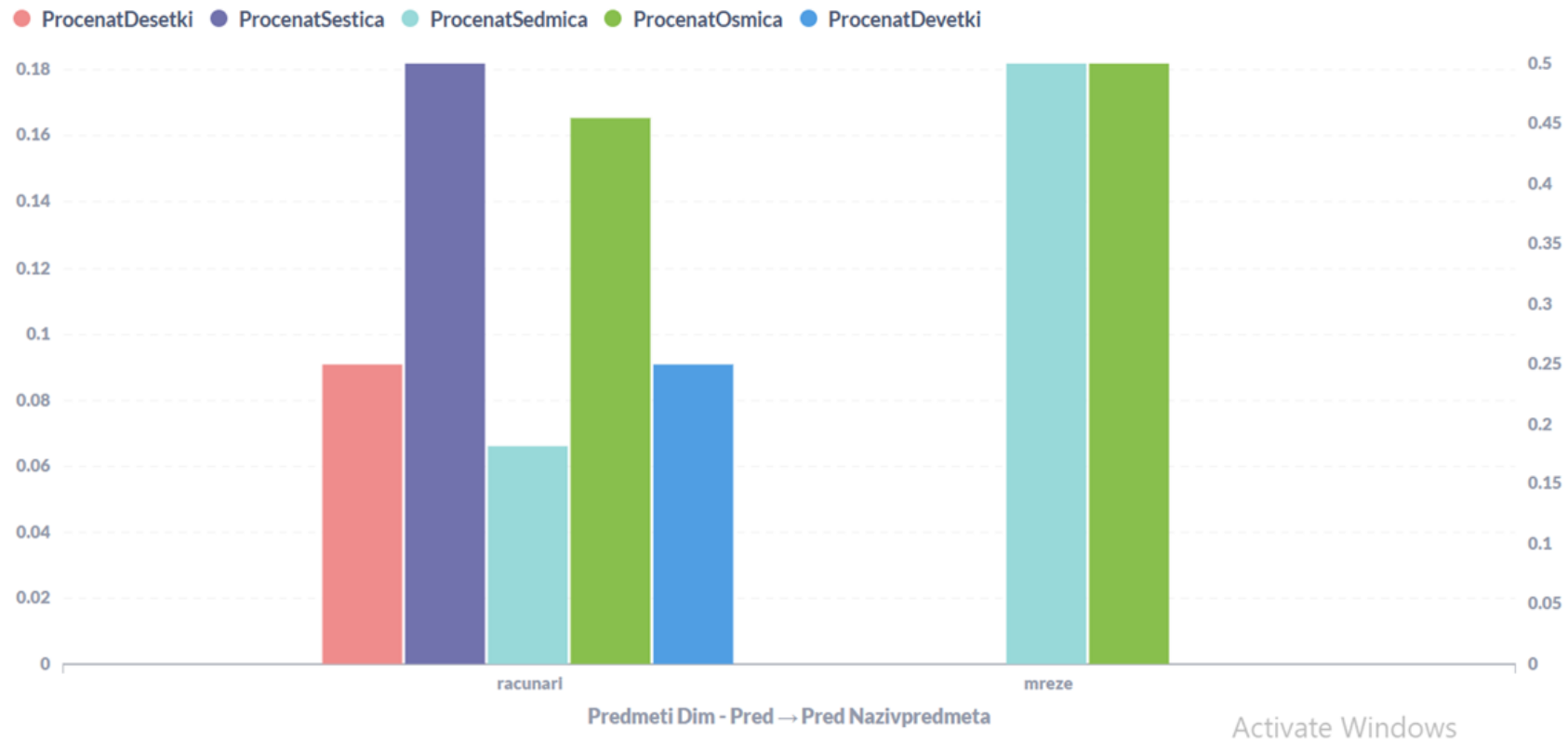
☰ ● ProcenatDesetki ... ✕

☰ ● ProcenatSestica ... ✕

☰ ● ProcenatSedmica ... ✕

☰ ● ProcenatOsmica ... ✕

☰ ● ProcenatDevetki ... ✕



Kreiranje izveštaja - primer 2

1. Prikazati prosečno vrednost za svaki tip obaveze po predmetima.

Data

Izvršena Obaveza Fact

Join data

Izvršena Obaveza Fact  Predmeti Dim  on Izvršena Obaveza Fact  = Predmeti Dim  

Join data

Predmeti Dim  Stud Program Level  on Predmeti Dim  = Stud Program Level  

Join data

Izvršena Obaveza Fact  Tipobaveze Dim  on Izvršena Obaveza Fact  = Tipobaveze Dim  



Summarize



Average of Io Vrednost



by

Predmeti Dim - Pred → Pred Nazivpredmeta

Tipobaveze Dim - Obv → Obv Nazivtipaobaveze



Preview

Predmeti Dim - Pred → Pred Nazivpredmeta

Tipobaveze Dim - Obv → Obv Nazivtipaobaveze

Average of Io Vrednost

mreze	ispitna	60
mreze	predispitna	19
mreze	prisutnost	9
mreze	zavrsna	7.5
racunari	ispitna	59.09
racunari	predispitna	50.64
racunari	prisutnost	8.27
racunari	zavrsna	7.73

Bar options

Data

Display

Axes

X-axis

Tipobaveze Dim - Obv → Obv ...

Predmeti Dim - Pred → Pred N...

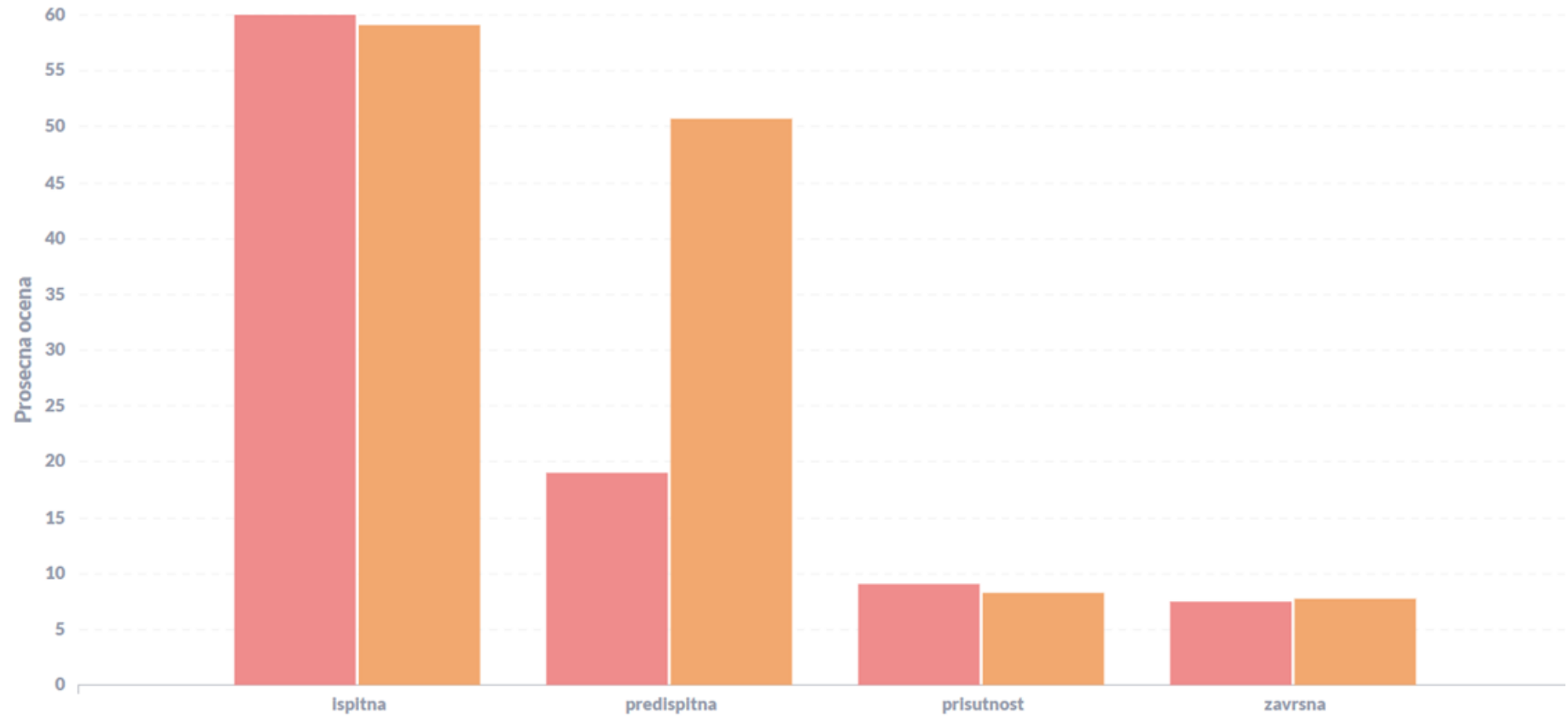
mreze

racunari

Y-axis

Average of Io Vrednost

mreze racunari



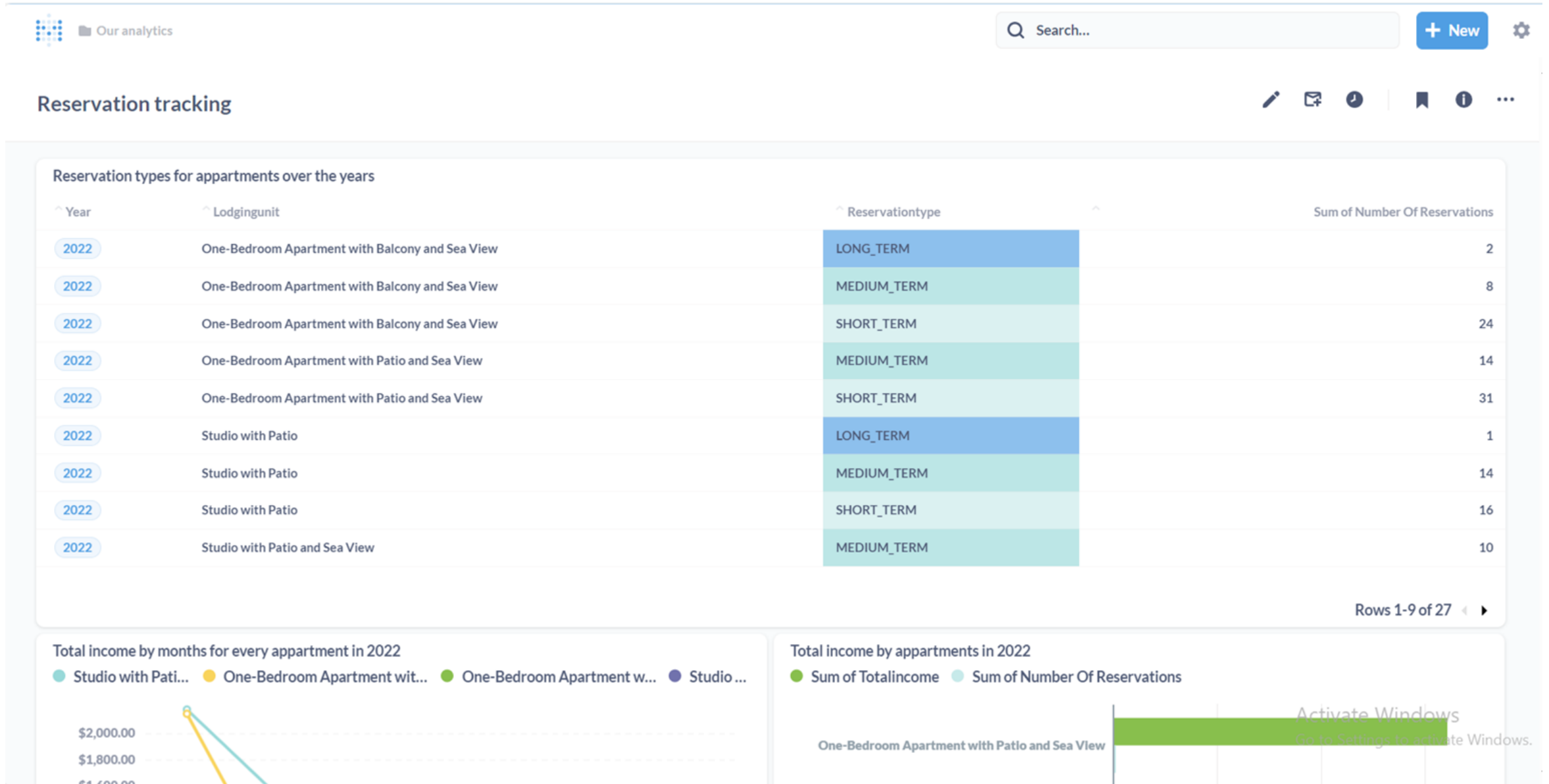
Sadržaj

Instalacija

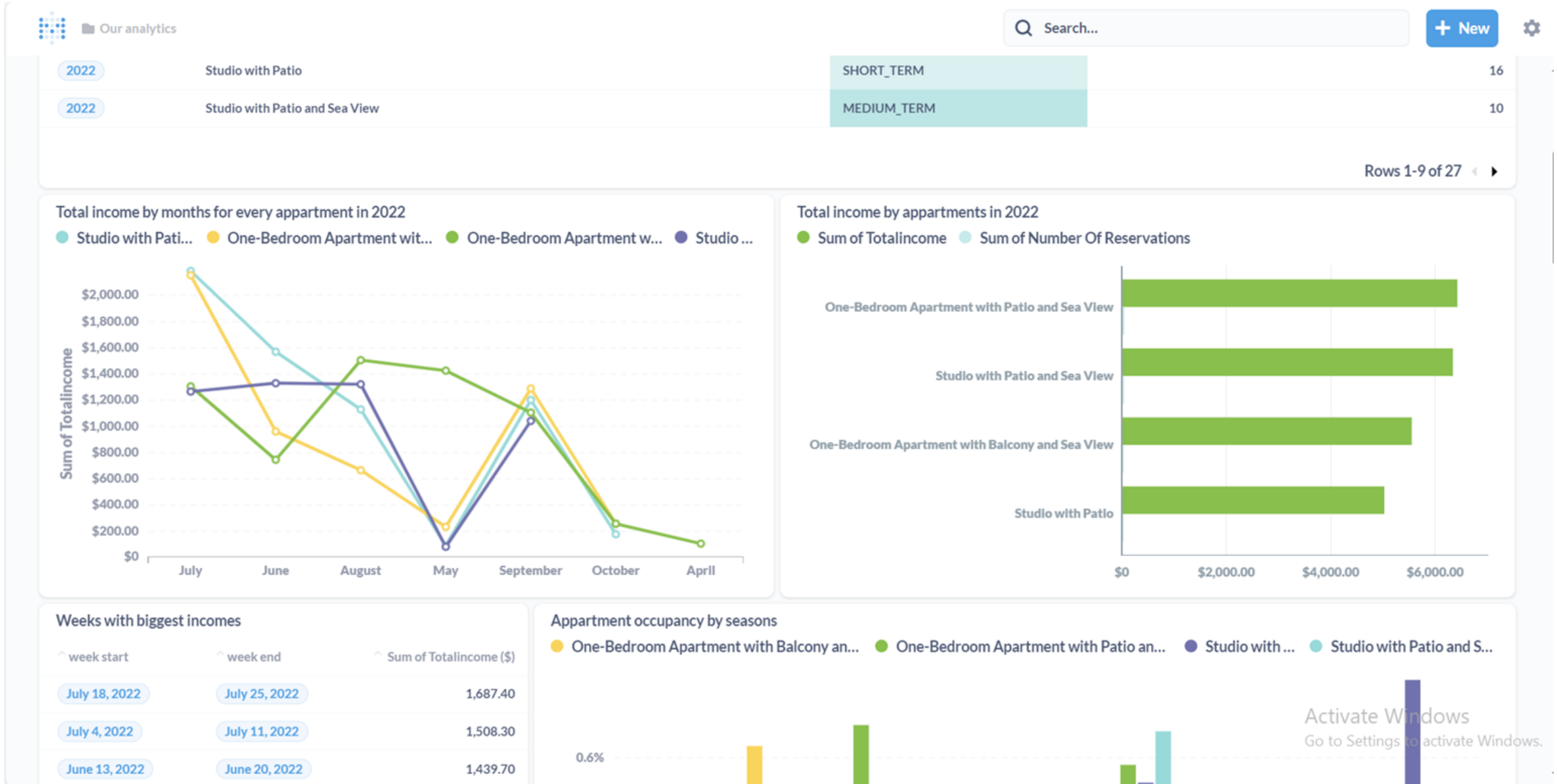
Dodavanje izvora podataka

Kreiranje izveštaja

Primer dashboard-a za projekat



Primer dashboard-a za projekat



Primer dashboard-a za projekat



Primer dashboard-a za projekat

Earnings, full report							Occupancy, full report							
Year	Month	One-Bedroo...	One-Bedroo...	Studio with P...	Studio with P...	Row totals	Year	Month	One-Bedroo...	One-Bedroo...	Studio with P...	Studio with P...	Row totals	
Totals for 2019		\$1,470.00	\$362.00	\$1,660.20	\$710.00	\$4,202.20								
2021	August	\$1,652.00	\$1,551.00	\$859.80	\$1,495.00	\$5,557.80	2021	June	0.2%	0.3%	0.18%	0.23%	0.22%	
	July	\$2,128.00	\$1,217.00	\$1,065.90	\$1,600.40	\$6,011.30		September	0.13%	0.3%	0.53%	0.27%	0.31%	
	June	\$196.00	\$338.00	\$355.10	\$156.00	\$1,045.10		August		0.84%	0.34%		0.51%	
	September	\$186.00	\$216.00	\$390.00	\$176.00	\$968.00		July		0.77%	0.68%		0.71%	
	May			\$28.00		\$28.00	Totals for 2021		0.17%	0.56%	0.42%	0.25%	0.4%	
Totals for 2021		\$4,162.00	\$3,322.00	\$2,698.80	\$3,427.40	\$13,610.20	2022	August	0.53%	0.16%	0.94%	0.56%	0.55%	
2022	August	\$660.00	\$1,502.90	\$1,317.00	\$1,129.70	\$4,609.60		July	0.65%	0.55%	0.16%	0.61%	0.54%	
	July	\$2,156.90	\$1,299.60	\$1,264.90	\$2,185.60	\$6,907.00		June	0.55%	0.68%	0.57%	0.63%	0.61%	
	June	\$958.80	\$738.00	\$1,326.70	\$1,564.10	\$4,587.60		October	0.15%	0.26%	0.032%	0.35%	0.19%	
	May	\$231.40	\$1,424.00	\$78.00	\$86.80	\$1,820.20		September	0.67%	0.57%		0.33%	0.56%	
	October	\$256.10	\$256.10		\$169.80	\$682.00	May		0.5%			0.5%		
	September	\$1,285.80	\$1,103.50	\$1,037.00	\$1,200.30	\$4,626.60	Totals for 2022		0.51%	0.5%	0.45%	0.54%	0.5%	
	April		\$98.00			\$98.00	2019	August			0.71%		0.71%	
Totals for 2022		\$5,549.00	\$6,422.10	\$5,023.60	\$6,336.30	\$23,331.00		July			0.13%		0.13%	
2020	August			\$90.30		\$90.30		June			0.7%		0.7%	
	July			\$218.30		\$218.30		September			0.5%		0.5%	
	June			\$135.90		\$135.90	Totals for 2019				0.51%		0.51%	
Totals for 2020				\$444.50		\$444.50	2020	August			0.13%		0.13%	
Grand totals			\$11,181.00	\$10,106.10	\$9,827.10	\$10,473.70		\$41,587.90	July			0.23%		0.23%
									June			0.2%		0.2%
							Totals for 2020				0.18%		0.18%	
							Grand totals		0.45%	0.52%	0.41%	0.48%	0.46%	

DW sistem za obraćenje nastavnog procesa

SISTEMI SKLADIŠTA PODATAKA

Kraj prezentacije