Dokumentasi Praktek ETL menggunakan KNIME

Business Understanding

Data Understanding

- Super bowl adalah acara tahunan American Football yang menentukan jawara dari National Football League (NFL). Pertandingan puncak pada satu musim NFL dan menghasilkan kesimpulan dari NFL playoffs. Pertandingan ini dihelat di salah satu kota amerika, ditentukan empat tahun sebelum penyelenggaraan. mulai dari januari 1971, pemenang dari AFC akan menghadapi pemenang dari NFC dan kedua tim akan diadu pada laga puncak NFL Playoffs.

- dataset ini berisi para finalis dari superbowls, mulai dari tahun 1967 sampai 2020.

- dataset ini 54 row dan mempunyai 10 coloumns

  - Date : Tanggal dilaksanakan superbowl final
  - SB : Superbowl Tittle, superbowl final pertama kali dilaksanakan tahun 1967, setiap tahunnya superbowl memasang tittle dengan menggunakan huruf romawi , superbowl terakhir adalah LIV(54). Winner :
  - nama tim yang keluar sebagai pemenang
  - Winnerpts : points yang diraih pada tim pemenang pada laga final Loser :
  - nama tim yang mengalami kekalahan
  - Loserpts : points yang diraih oleh tim yang mengalami kekalahan MVP :
  - nama most valuable player pada superbowl
  - Stadium : Lokasi stadium dilaksanakannya partai puncak City :
  - Lokasi kota dilaksanakan partai puncak
  - State : negara bagian amerika tempat dihelatnya pertandingan puncak

- Source dataset : https://www.kaggle.com/timoboz/superbowl-history-1967-2020

Data Preparation

- memisahkan dengan cara membuat dataframe pada data asli , dan memilih kolom yang akan dimasukkan ke file 1 dan 2 `import pandas as pd data = pd.read_csv("superbowl-asli.csv")` `data.dropna(inplace = True) data_sb_asli = pd.DataFrame(data) def` `select_columns(data_sb_asli, column_names): new_frame = data_sb_asli.loc[:,` `column_names] return new_frame selected_columns = ['Date', 'SB', 'Winner'] new =` `select_columns(data_sb_asli, selected_columns) new.to_csv('superbowl-` `1.csv',index=False) selected_columns = ['Winner Pts', 'Loser', 'Loser` `Pts','MVP','Stadium','City','State'] new_2 = select_columns(data_sb_asli,` `selected_columns) new_2.to_csv('superbowl-2.csv',index=False)` code : split

Modeling

Proses membaca data dari dua sumber yang berbeda

Proses membaca dari MYSQL

- yang pertama membaca data dari mysql, dengan menggunakan mysql connector nodes dari knime

MySQL Connector

Node 10
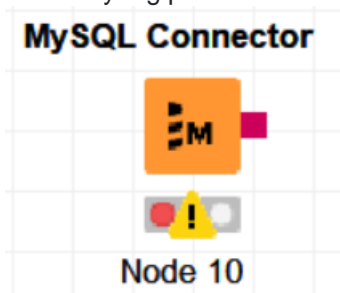
- data di mysql seperti dibawah

COL 1	COL 2	COL 3	COL 4
Date	SB	Winner	Winner Pts
Feb 2 2020	LIV (54)	Kansas City Chiefs	31
Feb 3 2019	LIII (53)	New England Patriots	13
Feb 4 2018	LII (52)	Philadelphia Eagles	41
Feb 5 2017	LI (51)	New England Patriots	34
Feb 7 2016	50	Denver Broncos	24
Feb 1 2015	XLIX (49)	New England Patriots	28
Feb 2 2014	XLVIII (48)	Seattle Seahawks	43
Feb 3 2013	XLVII (47)	Baltimore Ravens	34
Feb 5 2012	XLVI (46)	New York Giants	21
Feb 6 2011	XLV (45)	Green Bay Packers	31
Feb 7 2010	XLIV (44)	New Orleans Saints	31
Feb 1 2009	XLIII (43)	Pittsburgh Steelers	27
Feb 3 2008	XLII (42)	New York Giants	17
Feb 4 2007	XLI (41)	Indianapolis Colts	29
Feb 5 2006	XL (40)	Pittsburgh Steelers	21
Feb 6 2005	XXXIX (39)	New England Patriots	24
Feb 1 2004	XXXVIII (38)	New England Patriots	32
Jan 26 2003	XXXVII (37)	Tampa Bay Buccaneers	48
Feb 3 2002	XXXVI (36)	New England Patriots	20
Jan 28 2001	XXXV (35)	Baltimore Ravens	34
Jan 30 2000	XXXIV (34)	St. Louis Rams	23
Jan 31 1999	XXXIII (33)	Denver Broncos	34
Jan 25 1998	XXXII (32)	Denver Broncos	31
Jan 26 1997	XXXI (31)	Green Bay Packers	35

- Merapikan row yang ada di mysql dengan menggunakan syntax ini

```
DELETE FROM `table 1` WHERE `COL 1`='Date'
```

- hasil menjalankan syntax di atas

COL 1	COL 2	COL 3	COL 4
Feb 2 2020	LIV (54)	Kansas City Chiefs	31
Feb 3 2019	LIII (53)	New England Patriots	13
Feb 4 2018	LII (52)	Philadelphia Eagles	41
Feb 5 2017	LI (51)	New England Patriots	34
Feb 7 2016	50	Denver Broncos	24
Feb 1 2015	XLIX (49)	New England Patriots	28
Feb 2 2014	XLVIII (48)	Seattle Seahawks	43
Feb 3 2013	XLVII (47)	Baltimore Ravens	34
Feb 5 2012	XLVI (46)	New York Giants	21
Feb 6 2011	XLV (45)	Green Bay Packers	31
Feb 7 2010	XLIV (44)	New Orleans Saints	31
Feb 1 2009	XLIII (43)	Pittsburgh Steelers	27
Feb 3 2008	XLII (42)	New York Giants	17
Feb 4 2007	XLI (41)	Indianapolis Colts	29
Feb 5 2006	XL (40)	Pittsburgh Steelers	21
Feb 6 2005	XXXIX (39)	New England Patriots	24
Feb 1 2004	XXXVIII (38)	New England Patriots	32
Jan 26 2003	XXXVII (37)	Tampa Bay Buccaneers	48
Feb 3 2002	XXXVI (36)	New England Patriots	20
Jan 28 2001	XXXV (35)	Baltimore Ravens	34
Jan 30 2000	XXXIV (34)	St. Louis Rams	23
Jan 31 1999	XXXIII (33)	Denver Broncos	34
Jan 25 1998	XXXII (32)	Denver Broncos	31
Jan 26 1997	XXXI (31)	Green Bay Packers	35
Jan 28 1996	XXX (30)	Dallas Cowboys	27

- melakukan configurasi disesuaikan dengan mysql yang ada di phpmyadmin, mulai dari database, port dari localhost dan username.
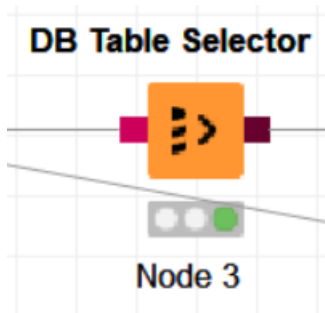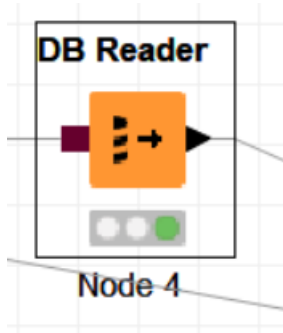
- db table selector untuk mengambil Koneksi DB sebagai input dan memungkinkan untuk memilih tabel atau tampilan dari dalam database yang terhubung.

DB Table Selector

Node 3

- db reader untuk Mengeksekusi kueri input dalam database dan mengambil hasilnya ke dalam tabel data KNIME.

DB Reader

Node 4

- hasil akhir dari pembacaan database yang terhubung dari mysql

Row ID	S COL 1	S COL 2	S COL 3	S COL 4
Row0	Feb 2 2020	LIV (54)	Kansas City Chiefs	31
Row1	Feb 3 2019	LIII (53)	New England Pat...	13
Row2	Feb 4 2018	LII (52)	Philadelphia Eagles	41
Row3	Feb 5 2017	LI (51)	New England Pat...	34
Row4	Feb 7 2016	50	Denver Broncos	24
Row5	Feb 1 2015	XLIX (49)	New England Pat...	28
Row6	Feb 2 2014	XLVIII (48)	Seattle Seahawks	43
Row7	Feb 3 2013	XLVII (47)	Baltimore Ravens	34
Row8	Feb 5 2012	XLVI (46)	New York Giants	21
Row9	Feb 6 2011	XLV (45)	Green Bay Packers	31
Row10	Feb 7 2010	XLIV (44)	New Orleans Saints	31
Row11	Feb 1 2009	XLIII (43)	Pittsburgh Steelers	27
Row12	Feb 3 2008	XLII (42)	New York Giants	17
Row13	Feb 4 2007	XLI (41)	Indianapolis Colts	29
Row14	Feb 5 2006	XL (40)	Pittsburgh Steelers	21
Row15	Feb 6 2005	XXXIX (39)	New England Pat...	24
Row16	Feb 1 2004	XXXVIII (38)	New England Pat...	32
Row17	Jan 26 2003	XXXVII (37)	Tampa Bay Bucc...	48
Row18	Feb 3 2002	XXXVI (36)	New England Pat...	20
Row19	Jan 28 2001	XXXV (35)	Baltimore Ravens	34
Row20	Jan 30 2000	XXXIV (34)	St. Louis Rams	23
Row21	Jan 31 1999	XXXIII (33)	Denver Broncos	34
Row22	Jan 25 1998	XXXII (32)	Denver Broncos	31
Row23	Jan 26 1997	XXXI (31)	Green Bay Packers	35
Row24	Jan 28 1996	XXX (30)	Dallas Cowboys	27
Row25	Jan 29 1995	XXIX (29)	San Francisco 49...	49
Row26	Jan 30 1994	XXVIII (28)	Dallas Cowboys	30
Row27	Jan 31 1993	XXVII (27)	Dallas Cowboys	52
Row28	Jan 26 1992	XXVI (26)	Washington Red...	37
Row29	Jan 27 1991	XXV (25)	New York Giants	20
Row30	Jan 28 1990	XXIV (24)	San Francisco 49...	55
Row31	Jan 22 1989	XXIII (23)	San Francisco 49...	20
Row32	Jan 31 1988	XXII (22)	Washington Red...	42
Row33	Jan 25 1987	XXI (21)	New York Giants	39
Row34	Jan 26 1986	XX (20)	Chicago Bears	46
Row35	Jan 20 1985	XIX (19)	San Francisco 49...	38
Row36	Jan 22 1984	XVIII (18)	Los Angeles Raid...	38
Row37	Jan 30 1983	XVII (17)	Washington Red...	27

Proses membaca dari csv

- memasang csv reader untuk membaca file csv

CSV Reader

Node 1

melakukan konfigurasi , menentukan path file dimana csv disimpan

Comment Header		Number Format	Encoding	Flow Variables	Memory Policy
Settings			Advanced		Quotes

Output location:

D:\big data\bigdatanew\tugas1\hasil_tugas1.csv   ∨   Browse...

Writer options:
☑ Write column header

☐ Don't write column headers if file exists

☐ Write row ID

☐ Compress output file (gzip)

If file exists...
- ◉ Overwrite   ○ Append   ○ Abort

- hasil dari csv reader

Row ID	S Loser	I Loser Pts	S MVP	S Stadium	S City	S State
Row0	San Francisco 49ers	20	Patrick Mahomes	Hard Rock Stadium	Miami Gardens	Florida
Row1	Los Angeles Rams	3	Julian Edelman	Mercedes-Benz S...	Atlanta	Georgia
Row2	New England Patri...	33	Nick Foles	U.S. Bank Stadium	Minneapolis	Minnesota
Row3	Atlanta Falcons	28	Tom Brady	NRG Stadium	Houston	Texas
Row4	Carolina Panthers	10	Von Miller	Levi's Stadium	Santa Clara	California
Row5	Seattle Seahawks	24	Tom Brady	University of Pho...	Glendale	Arizona
Row6	Denver Broncos	8	Malcolm Smith	MetLife Stadium	East Rutherf...	New Jersey
Row7	San Francisco 49ers	31	Joe Flacco	Mercedes-Benz S...	New Orleans	Louisiana
Row8	New England Patri...	17	Eli Manning	Lucas Oil Stadium	Indianapolis	Indiana
Row9	Pittsburgh Steelers	25	Aaron Rodgers	Cowboys Stadium	Arlington	Texas
Row10	Indianapolis Colts	17	Drew Brees	Sun Life Stadium	Miami Gardens	Florida
Row11	Arizona Cardinals	23	Santonio Holmes	Raymond James ...	Tampa	Florida
Row12	New England Patri...	14	Eli Manning	University of Pho...	Glendale	Arizona
Row13	Chicago Bears	17	Peyton Manning	Dolphin Stadium	Miami Gardens	Florida
Row14	Seattle Seahawks	10	Hines Ward	Ford Field	Detroit	Michigan
Row15	Philadelphia Eagles	21	Deion Branch	Alltel Stadium	Jacksonville	Florida
Row16	Carolina Panthers	29	Tom Brady	Reliant Stadium	Houston	Texas
Row17	Oakland Raiders	21	Dexter Jackson	Qualcomm Stadium	San Diego	California
Row18	St. Louis Rams	17	Tom Brady	Louisiana Superd...	New Orleans	Louisiana
Row19	New York Giants	7	Ray Lewis+	Raymond James ...	Tampa	Florida
Row20	Tennessee Titans	16	Kurt Warner+	Georgia Dome	Atlanta	Georgia
Row21	Atlanta Falcons	19	John Elway+	Pro Player Stadium	Miami Gardens	Florida
Row22	Green Bay Packers	24	Terrell Davis+	Qualcomm Stadium	San Diego	California
Row23	New England Patri...	21	Desmond Howard	Louisiana Superd...	New Orleans	Louisiana
Row24	Pittsburgh Steelers	17	Larry Brown	Sun Devil Stadium	Tempe	Arizona
Row25	San Diego Chargers	26	Steve Young+	Joe Robbie Stadium	Miami Gardens	Florida
Row26	Buffalo Bills	13	Emmitt Smith+	Georgia Dome	Atlanta	Georgia
Row27	Buffalo Bills	17	Troy Aikman+	Rose Bowl	Pasadena	California
Row28	Buffalo Bills	24	Mark Rypien	Metrodome	Minneapolis	Minnesota
Row29	Buffalo Bills	19	Ottis Anderson	Tampa Stadium	Tampa	Florida
Row30	Denver Broncos	10	Joe Montana+	Louisiana Superd...	New Orleans	Louisiana
Row31	Cincinnati Bengals	16	Jerry Rice+	Joe Robbie Stadium	Miami Gardens	Florida
Row32	Denver Broncos	10	Doug Williams	Jack Murphy Sta...	San Diego	California
Row33	Denver Broncos	20	Phil Simms	Rose Bowl	Pasadena	California
Row34	New England Patri...	10	Richard Dent+	Louisiana Superd...	New Orleans	Louisiana
Row35	Miami Dolphins	16	Joe Montana+	Stanford Stadium	Palo Alto	California
Row36	Washington Reds...	9	Marcus Allen+	Tampa Stadium	Tampa	Florida
Row37	Miami Dolphins	17	John Riggins+	Rose Bowl	Pasadena	California

Proses Modeling

- menggunakan joiner node, dengan mengsambungkan node dari database yang mengolah mysql dan csv
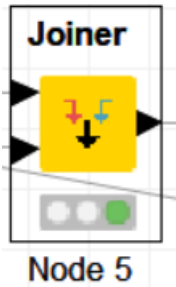
- melakukan configure dengan memilih kolom yang urutannya sama, bisa dibilang foreign key agar datanya berhasil di append

- dan hasilnya seperti ini

Row ID	S COL 1	S COL 2	S COL 3	S COL 4	S Loser	I Loser Pts	S MVP	S Stadium	S City	S State
Row0	Feb 2 2020	LIV (54)	Kansas City Chiefs	31	San Francisco 49ers	20	Patrick Mahomes	Hard Rock Stadium	Miami Gardens	Florida
Row1	Feb 3 2019	LIII (53)	New England Pat...	13	Los Angeles Rams	3	Julian Edelman	Mercedes-Benz S...	Atlanta	Georgia
Row2	Feb 4 2018	LII (52)	Philadelphia Eagles	41	New England Patri...	33	Nick Foles	U.S. Bank Stadium	Minneapolis	Minnesota
Row3	Feb 5 2017	LI (51)	New England Pat...	34	Atlanta Falcons	28	Tom Brady	NRG Stadium	Houston	Texas
Row4	Feb 7 2016	50	Denver Broncos	24	Carolina Panthers	10	Von Miller	Levi's Stadium	Santa Clara	California
Row5	Feb 1 2015	XLIX (49)	New England Pat...	28	Seattle Seahawks	24	Tom Brady	University of Pho...	Glendale	Arizona

- nama coloumn di sesuaikan agar mudah dimengerti

- menggunakan coloumn filter untuk menentukan coloumn mana yang mau ditampilkan

Column Filter

Node 7
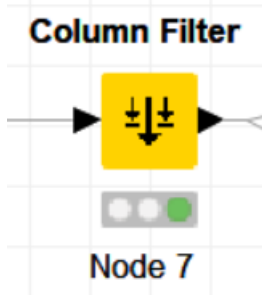
- hasil akhir

Row ID	S Loser	I Loser Pts	S MVP	S Stadium	S City	S State
Row0	San Francisco 49ers	20	Patrick Mahomes	Hard Rock Stadium	Miami Gardens	Florida
Row1	Los Angeles Rams	3	Julian Edelman	Mercedes-Benz S...	Atlanta	Georgia
Row2	New England Patri...	33	Nick Foles	U.S. Bank Stadium	Minneapolis	Minnesota
Row3	Atlanta Falcons	28	Tom Brady	NRG Stadium	Houston	Texas
Row4	Carolina Panthers	10	Von Miller	Levi's Stadium	Santa Clara	California
Row5	Seattle Seahawks	24	Tom Brady	University of Pho...	Glendale	Arizona
Row6	Denver Broncos	8	Malcolm Smith	MetLife Stadium	East Rutherf...	New Jersey
Row7	San Francisco 49ers	31	Joe Flacco	Mercedes-Benz S...	New Orleans	Louisiana
Row8	New England Patri...	17	Eli Manning	Lucas Oil Stadium	Indianapolis	Indiana
Row9	Pittsburgh Steelers	25	Aaron Rodgers	Cowboys Stadium	Arlington	Texas
Row10	Indianapolis Colts	17	Drew Brees	Sun Life Stadium	Miami Gardens	Florida
Row11	Arizona Cardinals	23	Santonio Holmes	Raymond James ...	Tampa	Florida
Row12	New England Patri...	14	Eli Manning	University of Pho...	Glendale	Arizona
Row13	Chicago Bears	17	Peyton Manning	Dolphin Stadium	Miami Gardens	Florida
Row14	Seattle Seahawks	10	Hines Ward	Ford Field	Detroit	Michigan
Row15	Philadelphia Eagles	21	Deion Branch	Alltel Stadium	Jacksonville	Florida
Row16	Carolina Panthers	29	Tom Brady	Reliant Stadium	Houston	Texas
Row17	Oakland Raiders	21	Dexter Jackson	Qualcomm Stadium	San Diego	California
Row18	St. Louis Rams	17	Tom Brady	Louisiana Superd...	New Orleans	Louisiana
Row19	New York Giants	7	Ray Lewis+	Raymond James ...	Tampa	Florida
Row20	Tennessee Titans	16	Kurt Warner+	Georgia Dome	Atlanta	Georgia
Row21	Atlanta Falcons	19	John Elway+	Pro Player Stadium	Miami Gardens	Florida
Row22	Green Bay Packers	24	Terrell Davis+	Qualcomm Stadium	San Diego	California
Row23	New England Patri...	21	Desmond Howard	Louisiana Superd...	New Orleans	Louisiana
Row24	Pittsburgh Steelers	17	Larry Brown	Sun Devil Stadium	Tempe	Arizona
Row25	San Diego Chargers	26	Steve Young+	Joe Robbie Stadium	Miami Gardens	Florida
Row26	Buffalo Bills	13	Emmitt Smith+	Georgia Dome	Atlanta	Georgia
Row27	Buffalo Bills	17	Troy Aikman+	Rose Bowl	Pasadena	California
Row28	Buffalo Bills	24	Mark Rypien	Metrodome	Minneapolis	Minnesota
Row29	Buffalo Bills	19	Ottis Anderson	Tampa Stadium	Tampa	Florida
Row30	Denver Broncos	10	Joe Montana+	Louisiana Superd...	New Orleans	Louisiana
Row31	Cincinnati Bengals	16	Jerry Rice+	Joe Robbie Stadium	Miami Gardens	Florida
Row32	Denver Broncos	10	Doug Williams	Jack Murphy Sta...	San Diego	California
Row33	Denver Broncos	20	Phil Simms	Rose Bowl	Pasadena	California
Row34	New England Patri...	10	Richard Dent+	Louisiana Superd...	New Orleans	Louisiana
Row35	Miami Dolphins	16	Joe Montana+	Stanford Stadium	Palo Alto	California
Row36	Washington Reds...	9	Marcus Allen+	Tampa Stadium	Tampa	Florida
Row37	Miami Dolphins	17	John Riggins+	Rose Bowl	Pasadena	California

Evaluation

- dari kedua data yang ada di mysql dan csv telah berhasil di join

- hasiljoin

Row ID	Date	SuperB...	Winner	Winner...	Loser	Loser Pts	MVP	Stadium	City	State
Row0	Feb 2 2020	LIV (54)	Kansas City Chiefs	31	San Francisco 49ers	20	Patrick Mahomes	Hard Rock Stadium	Miami Gardens	Florida
Row1	Feb 3 2019	LIII (53)	New England Pat...	13	Los Angeles Rams	3	Julian Edelman	Mercedes-Benz S...	Atlanta	Georgia
Row2	Feb 4 2018	LII (52)	Philadelphia Eagles	41	New England Patri...	33	Nick Foles	U.S. Bank Stadium	Minneapolis	Minnesota
Row3	Feb 5 2017	LI (51)	New England Pat...	34	Atlanta Falcons	28	Tom Brady	NRG Stadium	Houston	Texas
Row4	Feb 7 2016	50	Denver Broncos	24	Carolina Panthers	10	Von Miller	Levi's Stadium	Santa Clara	California
Row5	Feb 1 2015	XLIX (49)	New England Pat...	28	Seattle Seahawks	24	Tom Brady	University of Pho...	Glendale	Arizona
Row6	Feb 2 2014	XLVIII (48)	Seattle Seahawks	43	Denver Broncos	8	Malcolm Smith	MetLife Stadium	East Rutherf...	New Jersey
Row7	Feb 3 2013	XLVII (47)	Baltimore Ravens	34	San Francisco 49ers	31	Joe Flacco	Mercedes-Benz S...	New Orleans	Louisiana
Row8	Feb 5 2012	XLVI (46)	New York Giants	21	New England Patri...	17	Eli Manning	Lucas Oil Stadium	Indianapolis	Indiana
Row9	Feb 6 2011	XLV (45)	Green Bay Packers	31	Pittsburgh Steelers	25	Aaron Rodgers	Cowboys Stadium	Arlington	Texas
Row10	Feb 7 2010	XLIV (44)	New Orleans Saints	31	Indianapolis Colts	17	Drew Brees	Sun Life Stadium	Miami Gardens	Florida
Row11	Feb 1 2009	XLIII (43)	Pittsburgh Steelers	27	Arizona Cardinals	23	Santonio Holmes	Raymond James ...	Tampa	Florida
Row12	Feb 3 2008	XLII (42)	New York Giants	17	New England Patri...	14	Eli Manning	University of Pho...	Glendale	Arizona
Row13	Feb 4 2007	XLI (41)	Indianapolis Colts	29	Chicago Bears	17	Peyton Manning	Dolphin Stadium	Miami Gardens	Florida
Row14	Feb 5 2006	XL (40)	Pittsburgh Steelers	21	Seattle Seahawks	10	Hines Ward	Ford Field	Detroit	Michigan
Row15	Feb 6 2005	XXXIX (39)	New England Pat...	24	Philadelphia Eagles	21	Deion Branch	Alltel Stadium	Jacksonville	Florida
Row16	Feb 1 2004	XXXVIII (38)	New England Pat...	32	Carolina Panthers	29	Tom Brady	Reliant Stadium	Houston	Texas
Row17	Jan 26 2003	XXXVII (37)	Tampa Bay Bucc...	48	Oakland Raiders	21	Dexter Jackson	Qualcomm Stadium	San Diego	California
Row18	Feb 3 2002	XXXVI (36)	New England Pat...	20	St. Louis Rams	17	Tom Brady	Louisiana Superd...	New Orleans	Louisiana
Row19	Jan 28 2001	XXXV (35)	Baltimore Ravens	34	New York Giants	7	Ray Lewis+	Raymond James ...	Tampa	Florida
Row20	Jan 30 2000	XXXIV (34)	St. Louis Rams	23	Tennessee Titans	16	Kurt Warner+	Georgia Dome	Atlanta	Georgia
Row21	Jan 31 1999	XXXIII (33)	Denver Broncos	34	Atlanta Falcons	19	John Elway+	Pro Player Stadium	Miami Gardens	Florida
Row22	Jan 25 1998	XXXII (32)	Denver Broncos	31	Green Bay Packers	24	Terrell Davis+	Qualcomm Stadium	San Diego	California
Row23	Jan 26 1997	XXXI (31)	Green Bay Packers	35	New England Patri...	21	Desmond Howard	Louisiana Superd...	New Orleans	Louisiana
Row24	Jan 28 1996	XXX (30)	Dallas Cowboys	27	Pittsburgh Steelers	17	Larry Brown	Sun Devil Stadium	Tempe	Arizona
Row25	Jan 29 1995	XXIX (29)	San Francisco 49...	49	San Diego Chargers	26	Steve Young+	Joe Robbie Stadium	Miami Gardens	Florida
Row26	Jan 30 1994	XXVIII (28)	Dallas Cowboys	30	Buffalo Bills	13	Emmitt Smith+	Georgia Dome	Atlanta	Georgia
Row27	Jan 31 1993	XXVII (27)	Dallas Cowboys	52	Buffalo Bills	17	Troy Aikman+	Rose Bowl	Pasadena	California
Row28	Jan 26 1992	XXVI (26)	Washington Red...	37	Buffalo Bills	24	Mark Rypien	Metrodome	Minneapolis	Minnesota
Row29	Jan 27 1991	XXV (25)	New York Giants	20	Buffalo Bills	19	Ottis Anderson	Tampa Stadium	Tampa	Florida
Row30	Jan 28 1990	XXIV (24)	San Francisco 49...	55	Denver Broncos	10	Joe Montana+	Louisiana Superd...	New Orleans	Louisiana
Row31	Jan 22 1989	XXIII (23)	San Francisco 49...	20	Cincinnati Bengals	16	Jerry Rice+	Joe Robbie Stadium	Miami Gardens	Florida
Row32	Jan 31 1988	XXII (22)	Washington Red...	42	Denver Broncos	10	Doug Williams	Jack Murphy Sta...	San Diego	California
Row33	Jan 25 1987	XXI (21)	New York Giants	39	Denver Broncos	20	Phil Simms	Rose Bowl	Pasadena	California
Row34	Jan 26 1986	XX (20)	Chicago Bears	46	New England Patri...	10	Richard Dent+	Louisiana Superd...	New Orleans	Louisiana
Row35	Jan 20 1985	XIX (19)	San Francisco 49...	38	Miami Dolphins	16	Joe Montana+	Stanford Stadium	Palo Alto	California
Row36	Jan 22 1984	XVIII (18)	Los Angeles Raid...	38	Washington Reds...	9	Marcus Allen+	Tampa Stadium	Tampa	Florida
Row37	Jan 30 1983	XVII (17)	Washington Red...	27	Miami Dolphins	17	John Riggins+	Rose Bowl	Pasadena	California

- dataasli

	Date	SB	Winner	Winner ...	Loser	Loser Pts	MVP	Stadium	City	State
1	Feb 2 2020	LIV (54)	Kansas City Chiefs	31	San Francisco 49ers	20	Patrick Mahomes	Hard Rock Stadium	Miami Gardens	Florida
2	Feb 3 2019	LIII (53)	New England Patriots	13	Los Angeles Rams	3	Julian Edelman	Mercedes-Benz Stadium	Atlanta	Georgia
3	Feb 4 2018	LII (52)	Philadelphia Eagles	41	New England Patriots	33	Nick Foles	U.S. Bank Stadium	Minneapolis	Minnesota
4	Feb 5 2017	LI (51)	New England Patriots	34	Atlanta Falcons	28	Tom Brady	NRG Stadium	Houston	Texas
5	Feb 7 2016	50	Denver Broncos	24	Carolina Panthers	10	Von Miller	Levi's Stadium	Santa Clara	California
6	Feb 1 2015	XLIX (49)	New England Patriots	28	Seattle Seahawks	24	Tom Brady	University of Phoenix Stadium	Glendale	Arizona
7	Feb 2 2014	XLVIII (48)	Seattle Seahawks	43	Denver Broncos	8	Malcolm Smith	MetLife Stadium	East Rutherford	New Jersey
8	Feb 3 2013	XLVII (47)	Baltimore Ravens	34	San Francisco 49ers	31	Joe Flacco	Mercedes-Benz Superdome	New Orleans	Louisiana
9	Feb 5 2012	XLVI (46)	New York Giants	21	New England Patriots	17	Eli Manning	Lucas Oil Stadium	Indianapolis	Indiana

- dari kedua data di atas, berhasil karena dari hasil join sama dengan data asli ketika sebelum dipisah
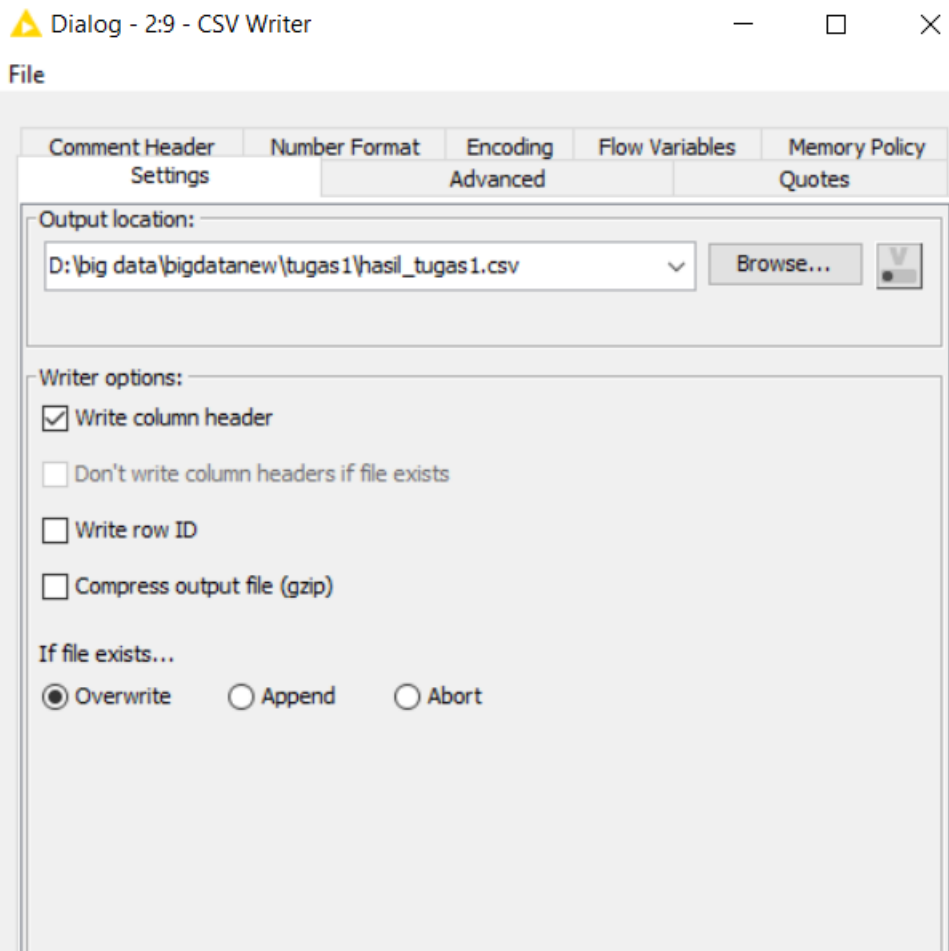
Deployment

simpan ke csv

- data yang pertama akan disimpan ke csv dengan menggunakan csv writer

CSV Writer

Node 9

- memilih penempatan dan konfigurasi lain nya

Dialog - 2:9 - CSV Writer

File

| Comment Header | Number Format | Encoding | Flow Variables | Memory Policy |
| Settings | | Advanced | | Quotes |

Output location:

D:\big data\bigdatanew\tugas1\hasil_tugas1.csv   Browse...

Writer options:

☑ Write column header

☐ Don't write column headers if file exists

☐ Write row ID

☐ Compress output file (gzip)

If file exists...

◉ Overwrite   ○ Append   ○ Abort

- data berhasil tersimpan

hasil_tugas1 - Excel (Product Activation Failed)

A1   Date,"SuperBowl_Tittle","Winner","Winner_Pts","Loser","Loser Pts","MVP","Stadium","City","State"

	A	B	C	D	E	F	G	H	I	J	K	L	M	N
1	Date,"SuperBowl_Tittle","Winner","Winner_Pts","Loser","Loser Pts","MVP","Stadium","City","State"													
2	Feb 2 2020,"LIV (54)","Kansas City Chiefs","31","San Francisco 49ers",20,"Patrick Mahomes","Hard Rock Stadium","Miami Gardens","Florida"													
3	Feb 3 2019,"LIII (53)","New England Patriots","13","Los Angeles Rams",3,"Julian Edelman","Mercedes-Benz Stadium","Atlanta","Georgia"													
4	Feb 4 2018,"LII (52)","Philadelphia Eagles","41","New England Patriots",33,"Nick Foles","U.S. Bank Stadium","Minneapolis","Minnesota"													
5	Feb 5 2017,"LI (51)","New England Patriots","34","Atlanta Falcons",28,"Tom Brady","NRG Stadium","Houston","Texas"													
6	Feb 7 2016,"50","Denver Broncos","24","Carolina Panthers",10,"Von Miller","Levi's Stadium","Santa Clara","California"													
7	Feb 1 2015,"XLIX (49)","New England Patriots","28","Seattle Seahawks",24,"Tom Brady","University of Phoenix Stadium","Glendale","Arizona"													
8	Feb 2 2014,"XLVIII (48)","Seattle Seahawks","43","Denver Broncos",8,"Malcolm Smith","MetLife Stadium","East Rutherford","New Jersey"													
9	Feb 3 2013,"XLVII (47)","Baltimore Ravens","34","San Francisco 49ers",31,"Joe Flacco","Mercedes-Benz Superdome","New Orleans","Louisiana"													
10	Feb 5 2012,"XLVI (46)","New York Giants","21","New England Patriots",17,"Eli Manning","Lucas Oil Stadium","Indianapolis","Indiana"													
11	Feb 6 2011,"XLV (45)","Green Bay Packers","31","Pittsburgh Steelers",25,"Aaron Rodgers","Cowboys Stadium","Arlington","Texas"													

simpan ke db

- data akan disimpan ke database menggunakan db writer

DB Writer

Node 8

- memilih konfigurasi lain nya, seperti nama dan db yang dituju

Table to write

Schema: superbowl_tugas1   Table: tabel_tugas1   Select a table

Batch Size: 1.000 ☑ Fail on error ☑ Append write status columns ☐ Disable DB Data output port ☑ Remove existing table

Select the columns to write (SET in SQL)

◉ Manual Selection ◯ Wildcard/Regex Selection ◯ Type Selection

Exclude

▼ Filter

No columns in this list

◉ Enforce exclusion

Include

▼ Filter

S Date
S SuperBowl_Tittle
S Winner
S Winner_Pts
S Loser
I Loser Pts
S MVP
S Stadium
S City
S State

◯ Enforce inclusion

- berhasil tersimpan

SELECT * FROM `tabel_tugas1`

☐ Profil [Edit dikotak] [Ubah] [Jelaskan SQL] [Buat kode PHP] [Segarkan]

1 ▼ > >> ☐ Tampilkan semua Jumlah baris: 25 ▼ Saring baris: Cari di tabel ini

+ Opsi

Date	SuperBowl_Tittle	Winner	Winner_Pts	Loser	Loser Pts	MVP	Stadium	City	State
Feb 2 2020	LIV (54)	Kansas City Chiefs	31	San Francisco 49ers	20	Patrick Mahomes	Hard Rock Stadium	Miami Gardens	Florida
Feb 3 2019	LIII (53)	New England Patriots	13	Los Angeles Rams	3	Julian Edelman	Mercedes-Benz Stadium	Atlanta	Georgia
Feb 4 2018	LII (52)	Philadelphia Eagles	41	New England Patriots	33	Nick Foles	U.S. Bank Stadium	Minneapolis	Minnesota