

Shared production data

Database access: technical information

DB Server	10.100.145.20 (fkt20g.fa.franke.world)
DB Server Port	5432
DBMS	Postgresql
ODBC Driver	32bit, 64bit
Database name	andon_FWK
Database schema	shareddata
Username	michael.lehmann (readonly)
Password	Swh2Rj6Q

E-R diagram



Data dictionary

Entities

Entity					
Name	Description	Attributes			
		Name	Description	Type	Identifier
prodline	Production resources list	<u>codice</u>	Production resource unique identifier	varchar	Yes
		descrizio	Production resource name	varchar	
		codrep	Department unique identifier	varchar	
		descrep	Department description	varchar	
		codstab	Plant identifier	varchar	
		descstab	Plant description	varchar	
unitprod	Unique unit of production, produced items	<u>codice</u>	Produced item unique identifier	varchar	YES
		codart	Product code	varchar	
		dart	Product description	varchar	
		procord	Work order (from ERP)	varchar	
		qtaprev	Work order total quantity to be produced	double	
		unita	Produced items for each work cycle (generally 1)	double	
		tmcrr	Time Epoch of the tracked production unit (seconds since 01/01/1970)	long	
		datacr	Date of the tracked production unit (YYYYMMGG)	varchar	
		oracr	Time of the tracked production unit (HH:MM:SS)	varchar	
qcausanc	Non compliant causes list	<u>codice</u>	Cause unique identifier	varchar	YES
		descrizio	Cause description	varchar	
qcausafm	Downtime causes list	<u>codice</u>	Downtime unique identifier	varchar	YES

Entity					
Name	Description	Attributes			
		Name	Description	Type	Identifier
		descrizio	Downtime description of the monitored resource	varchar	
		tipofm	Downtime type: F = unplanned downtime, M = microstop, P = planned downtime	varchar	
		setup	Downtime for setup reason (flag): 1 = setup kind, 0 = general downtime	integer	

Relationships

Relationship					
Name	Description	Components	Attributes		
			Name	Description	Type
regprod	Each row refers to a production event	prodline, unitprod	data	Event date (YYYYMMGG)	varchar
			ora	Event time (HH:MM:SS)	varchar
			tm	Event Time Epoch	long
			qta	Number of produced items	double
regnc	Each row refers to a non compliant production event	prodline, unitprod, causanc	data	Event date (YYYYMMGG)	varchar
			ora	Event time (HH:MM:SS)	varchar
			tm	Event Time Epoch	long
			qta	Number of non compliant produced items	double
regfm	Each row refers to a begin or an end of a downtime	prodline, causafm	data	Event date (YYYYMMGG)	varchar
			ora	Event time (HH:MM:SS)	varchar
			tm	Event Time Epoch	long
			tmdiff	Time difference from end and begin of the downtime events	long
			tipoevento	Downtime event type: INFM=downtime start, FIFM=downtime end	long

Logical scheme

Table	Foreign keys
prodline (<u>codice</u> , descrizio, codrep, descprep, codstab, descstab)	
unitprod (<u>codice</u> , codart, dart, procord, qtaprev, unita, tmcr, datacr, oracr)	
causanc (<u>codice</u> , descrizio)	
causafm (<u>codice</u> , descrizio, tipofm, setup)	
regprod (<u>codice</u> , data, ora, tm, qta, codlot, codubi)	- codlot foreign key on unitprod.codice - codubi foreign key on prodline.codice
regnc (<u>codice</u> , data, ora, tm, qta, codlot, codubi, caudef)	- codlot foreign key on unitprod.codice - codubi foreign key on prodline.codice - caudef foreign key on causanc.codice

Table	Foreign keys
regfm (<u>codice</u> , data, ora, tm, tmdiff, tipoevento, codubi, caufm)	- <i>codubi</i> foreign key on <i>prodline.codice</i> - <i>caufm</i> foreign key on <i>causafm.codice</i>

Sample queries

Produced items on June 18th 2018 with date, time, unique identifier, production resource description, department description, article code (model) and work order, sorted by event time epoch

```
SELECT DATA, ora, codlot, prodline.descrizio AS linea, prodline.descrep,
unitprod.dart, unitprod.procord FROM shareddata.regprod
INNER JOIN shareddata.prodline ON prodline.codice=shareddata.regprod.codubi
INNER JOIN shareddata.unitprod ON unitprod.codice=shareddata.regprod.codlot
WHERE DATA='20180618'
ORDER BY tm
```

Count produced items after June 18th 2018 (included) grouped by day, article code and work order on production resource 821102A (DMG LB)

```
SELECT DATA, unitprod.dart, unitprod.procord, SUM(qta) AS pezzi FROM
shareddata.regprod
INNER JOIN shareddata.unitprod ON
shareddata.unitprod.codice=shareddata.regprod.codlot
WHERE regprod.codubi='821102A' AND regprod.data>='20180618'
GROUP BY DATA, dart, procord
```

Get the DMG LB (821102A) downtime events list from 06:00 to 14:00 of June 18th 2018 with date, time, duration in minutes, event type, downtime cause description, downtime kind, changeover time flag

```
SELECT DATA, ora, tmdiff/60 AS dtm, tipoevento, qcausafm.descrizio AS dfermo,
qcausafm.tipofm, qcausafm.setup FROM shareddata.regfm
INNER JOIN shareddata.qcausafm ON shareddata.qcausafm.codice=regfm.caufm
WHERE codubi='821102A' AND DATA='20180618' AND ora>='06:00' AND ora<='14:00'
ORDER BY tm
```