Database: ServerEquipmentStatistic

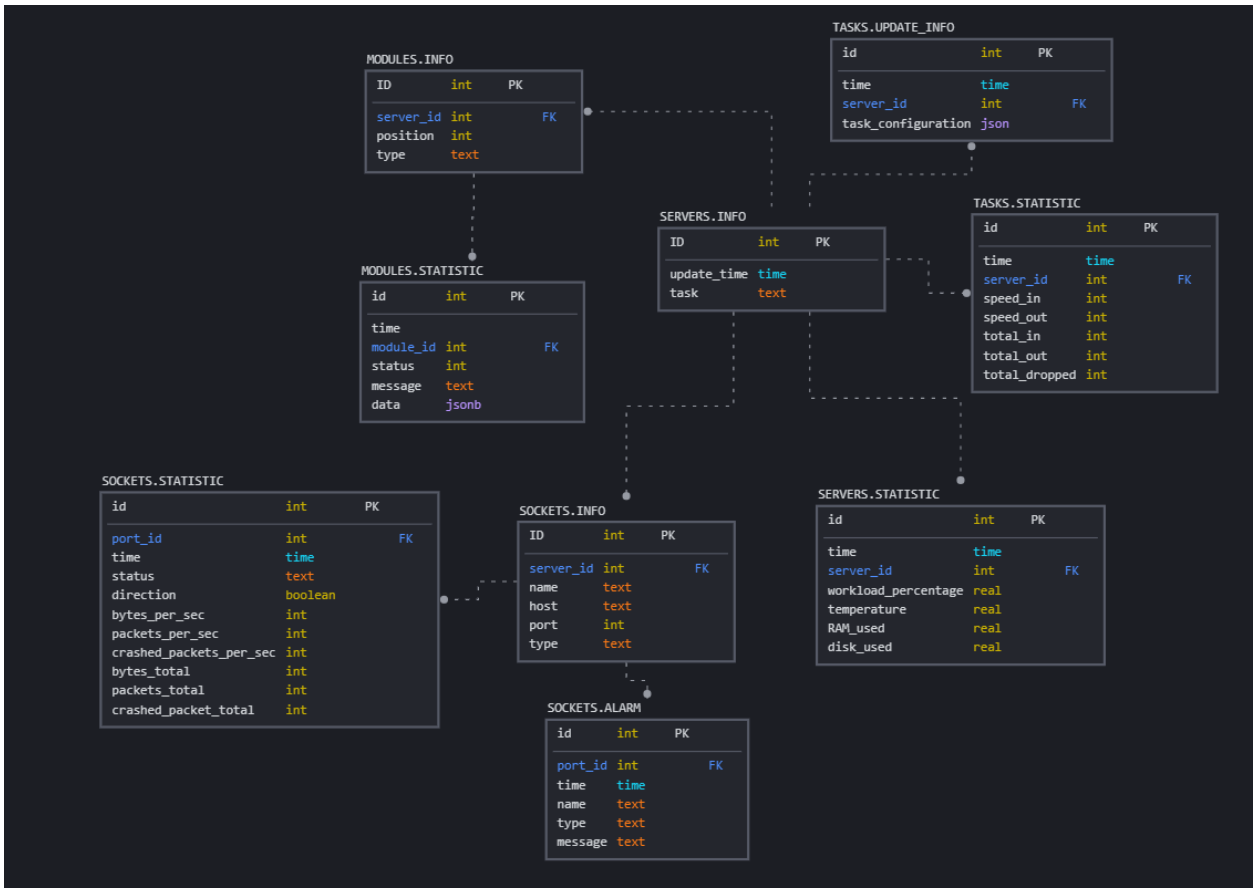

Table SERVERS.INFO

Information about servers

Cardinality: One-to-many

Columns (3)

№	Name	Type	Description	Logical constrains
1	ID (PK)	int	Server ID	NOT NULL
2	update_time	time	Time of task updating	
3	task	text	Task description	

Table: SERVERS.STATISTIC

Statistic of servers

Cardinality: Many-to-one

Columns (7)

№	Name	Type	Description	Logical constrains
1	id (PK)	int	Record id	surrogate
2	time	time	Time of record	NOT NULL
3	server_id (FK)	int	Server ID	
4	workload_percentage	real	Workload	>= 0
5	temperature	real	Server temperature	
6	RAM_used	real	Used RAM (bytes)	>= 0
7	disk_used	real	Used disk memory (bytes)	

Table: TASKS.UPDATE_INFO

Statistic of tasks updating

Cardinality: Many-to-one

Columns (4)

№	Name	Type	Description	Logical constrains
1	id (PK)	int	Record id	surrogate
2	time	time	Time of record	
3	server_id (FK)	int	Server ID	
4	task_configuration	json	Task configuration	NOT NULL

Table: TASKS.STATISTIC

Statistic of tasks

Cardinality: Many-to-one

Columns (8)

№	Name	Type	Description	Logical constrains
1	ID (PK)	int	Socket ID	surrogate
2	time	time	Time of record	
3	server_id (FK)	int	Server ID	

4	speed_in	int	Speed of data receiving (bytes/sec)	>= 0
5	speed_out	int	Speed of data sending (bytes/sec)	
6	total_in	int	All bytes has been received	
7	total_out	int	All bytes has been sending	
8	total_dropped	int	All bytes has been dropped	

Table: MODULES.INFO

Information about tasks modules

Cardinality: One-to-many

Columns (4)

№	Name	Type	Description	Logical constrains
1	ID (PK)	int	Module ID	NOT NULL
2	server_id (FK)	int	Server ID	
3	position	int	Module position in task	>= 0
4	type	text	Type of module	NOT NULL

Indexes: server_id, type, server_id-type – User needs data about servers modules. There are many modules for each server, and amount of reading operation is expected to be less than writing.

Table: MODULES.STATISTIC

Modules statistic

Cardinality: Many-to-one

№	Name	Type	Description	Logical constrains
1	id (PK)	int	Record id	surrogate
2	time	time	Time of record	
3	server_id (FK)	int	Server ID	
4	status	int	Module status	
5	message	text	Message from module	
6	data	jsonb	Module statistic	

Table: SOCKETS.INFO

Information about sockets

Cardinality: One-to-many

Columns (5)

№	Name	Type	Description	Logical constrains
1	ID (PK)	int	Socket ID	NOT NULL
2	server_id (FK)	int	Server ID	
3	name	text	Name of socket	NOT NULL
4	host	text	Host of socket	
5	port	int	Port of socket	
6	type	text	Type of socket	

Indexes:

- server_id – User needs data about sockets, which is used by each server. Amount of reading operation is expected to be less than writing.
- Type – It will be helpful, if it needs get ports by type.

Table: SOCKET.STATISTIC

Sockets statistic

Cardinality: Many-to-one

Columns (11)

№	Name	Type	Description	Logical constrains
1	ID (PK)	int	Socket ID	surrogate
2	port_id (FK)	int	Pot ID	
3	time	time	Time of record	
4	status	text	Port status	NOT NULL
5	direction	Boolean	0 – in / 1 – out	
6	bytes_per_second	int	Bytes amount per second	>= 0
7	packate_per_sec	int	Packets amount per second	
8	crashed_packet_per_sec	int	Crashed packets amount per second	
9	bytes_total	int	Bytes amount during the work	

10	packets_total	int	Packets amount during the work	>= 0
11	crashed_packed_total	int	Crashed packets amount during the work	

Table: SOCKETS.ALARM

Cardinality: Many-to-one

Statistic of socket alarms

№	Name	Type	Description	Logical constrains
1	ID (PK)	int	Socket ID	surrogate
2	port_id (FK)	int	Pot ID	
3	time	time	Time of record	
4	name	text	Alarm name	NOT NULL
5	type	text	Alarm type	
6	message	text	Alarm text	

Indexes: port_id – This table stories data about alarms from all sockets. It need to get information about separate sockets. Amount of reading operation is expected to be less than writing.