



**opentext**<sup>TM</sup>

## **SQLBase 12.2**

Neue Funktionen in der SQLBase 12.2

August 2019 | Helmut Reimann

# Agenda

- SQLTalk-Plus Erweiterungen
- Audit Logging in SQLBase 12.2
- Neue Server – Konsole
- Neue API Funktionen
  - Offset / Limit
  - IFBOOL( )
  - ISNUMERIC( )
- .NET Core Router
- Demos

# SQLTalk-Plus Erweiterungen

- DB-Verbindungen testen:

The screenshot shows a 'Connection Tester' dialog box with the following fields and results:

- Provider: <Built-in SQLBase>
- Server: SERVER1
- Database: ISLAND
- Username: sysadm
- Password: [masked]
- Additional: [empty]
- Result: Pass

Server Information:

servername	SERVER1
version	12.2.0.12222
computername	HREIMANN-02
ssl	0
sslonly	0
bits	64

# SQLTalk-Plus Erweiterungen

- Server Explorer:

The screenshot displays the SQLTalk Plus application interface. The top menu bar includes 'Home', 'View', and 'Data'. Below it, a toolbar contains icons for 'Last Command', 'Execution Plan', 'Output', 'Grid Results', 'Errors', 'Server Explorer', 'Clear', and 'Test Connect...'. The 'Server Explorer' pane on the left shows a tree view of the server hierarchy: SERVER1 (localhost) > ISLAND > Tables > SYSADM.BL > SYSADM.CA > SYSADM.CO. The main editor area shows a SQL script with the following queries:

```
connect island;

select company_ID, @IFBOOL(STATUS = 'PAID', 'TRUE', 'FALSE') from invo

select company_Name, @IFBOOL(Company_ID = 101, 'TRUE', 'FALSE') from in

select Company_Name, @ISNUMERIC(Company_ID), @ISNUMERIC(STATUS) from Inv
```

The 'Grid Results' pane at the bottom shows a table with the following data:

Company_Name	@ISNUMERIC(Comp...	@ISNUMERIC(STATU...
Clothing Connoisseurs	1	0
Clothing Connoisseurs	1	0
Clothing Connoisseurs	1	0
Clothing Connoisseurs	1	0



# SQLTalk-Plus Erweiterungen

- Server Explorer:
  - DB-Schema

The screenshot displays the SQLTalk Plus application interface. The top menu bar includes Home, View, and Data. The Data menu is expanded, showing options like Add Row, Delete Row, Apply Changes, Discard Changes, Refresh, Save as CSV, From CSV, Report, Options, and Audit. The Server Explorer on the left shows a tree view of the database structure, with the 'ISLAND' schema expanded to show the 'SYSADM.COMPANY' table. The main window displays the schema details for 'SYSADM.COMPANY', listing columns and their ordinal positions. The Grid Results pane at the bottom shows a preview of data for the 'Company\_Name' column, with a group-by instruction.

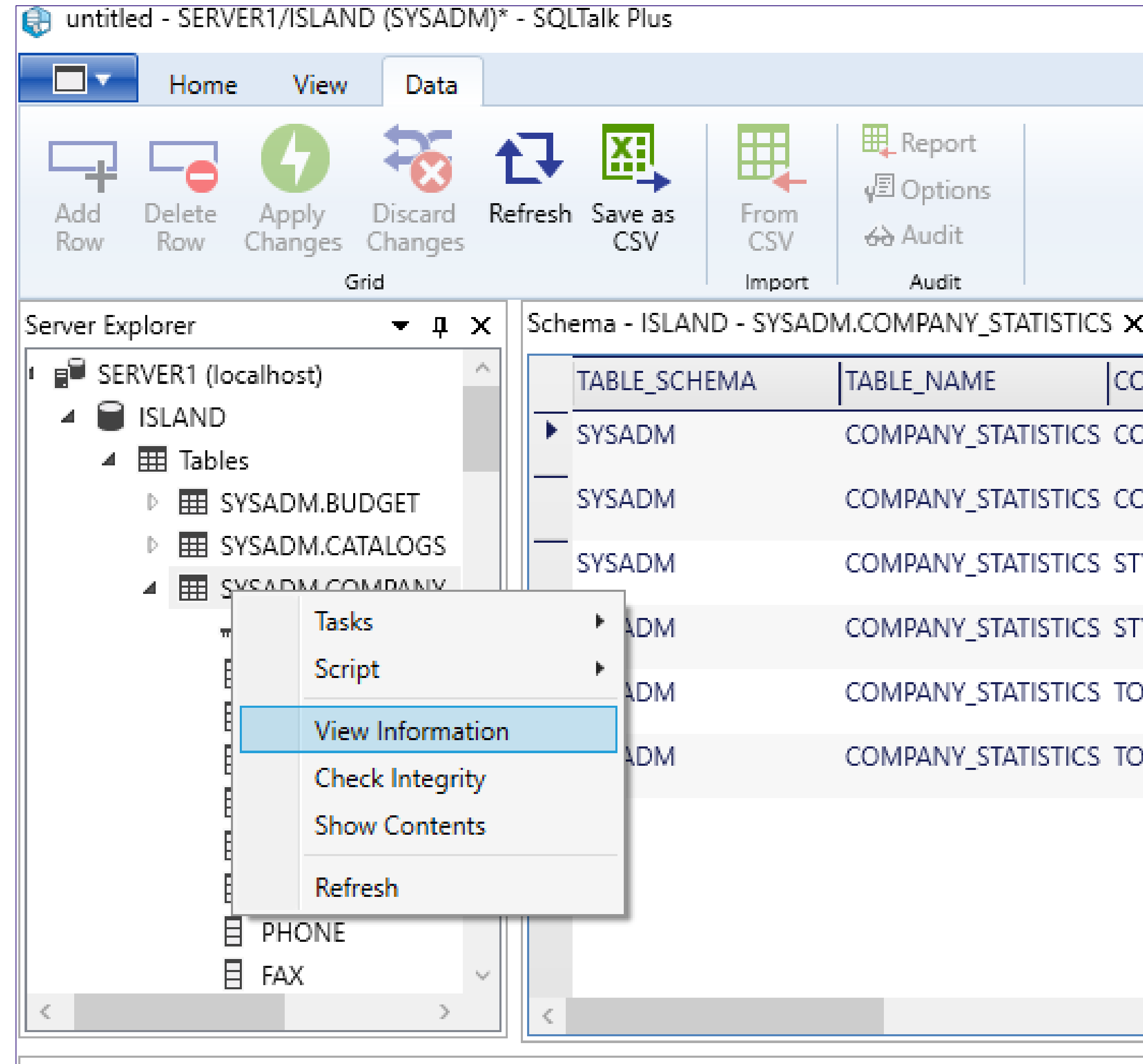
TABLE_SCHEMA	TABLE_NAME	COLUMN_NAME	COLUMN_GUID	COLUMN_PROPID	ORDINAL_POSITION	CC
SYSADM	COMPANY	COMPANY_ID			1	<input type="checkbox"/>
SYSADM	COMPANY	COMPANY_NAME			2	<input type="checkbox"/>
SYSADM	COMPANY	ADDRESS			3	<input type="checkbox"/>
SYSADM	COMPANY	CITY			4	<input type="checkbox"/>
SYSADM	COMPANY	STATE			5	<input type="checkbox"/>
SYSADM	COMPANY	ZIP			6	<input type="checkbox"/>
SYSADM	COMPANY	COUNTRY			7	<input type="checkbox"/>
SYSADM	COMPANY	PHONE			8	<input type="checkbox"/>
SYSADM	COMPANY	FAX			9	<input type="checkbox"/>

Company_Name	@ISNUMERIC(Comp...	@ISNUMERIC(STATU...
Clothing Connoisseurs	1	0
Clothing Connoisseurs	1	0
Clothing Connoisseurs	1	0
Clothing Connoisseurs	1	0

# SQLTalk-Plus Erweiterungen

- Server Explorer:
  - Funktionen



# Audit in SQLBase 12.2

- Datenbank Audit mit *SQLTalk Plus*
  - Verbindungs - Informationen:

The screenshot displays the SQLTalk Plus application window. The main window title is "untitled - SERVER1/ISLAND (SYSADM)\* - SQLTalk Plus". The interface includes a menu bar (Home, View, Data), a toolbar with icons for "Add Row", "Delete Row", "Apply Changes", "Discard Changes", "Refresh", "Save as CSV", "From CSV", "Report", "Options", and "Audit".

The **Server Explorer** on the left shows a tree view for "SERVER1 (localhost)" with folders for "ISLAND" (containing Tables, Indexes, Views, Stored Procedures, Users), "SBTASK", and "SPORT".

The central pane shows a SQL query: `select * from invoice;`

The **Properties** pane on the right, titled "SQLBase Connection", displays the following details:

- Connection:** Database: ISLAND, DataSource: localhost, Port: 2155, Transport: TCP
- Data:** Connection String: input message size=2000;ou
- Misc:** ANSI Join Syntax: True, Default Isolation Level: RC, Default Schema: SYSADM, Input Message Size: 2000, Isolation Level: RC, Output Message Size: 1000, Server Name: SERVER1, Server Version: 12.02.0000

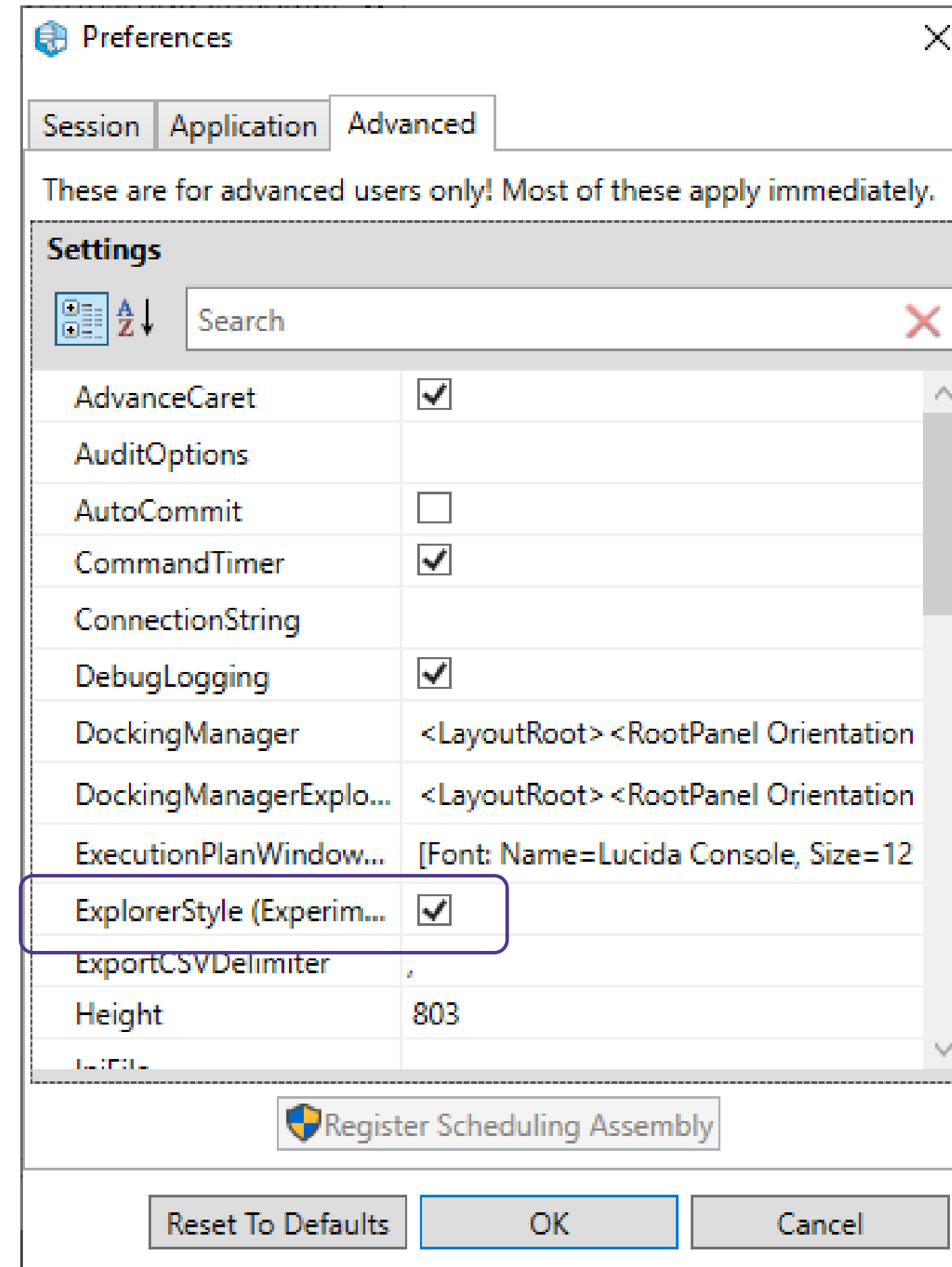
The **Grid Results** pane at the bottom shows the following data:

INVOICE_NO	COMPANY_ID	COMPANY_NAME	INVOICE_DATE	DATE_PAID	STATUS	AMOUNT_PAID	EMPLOYEE_ID
6	101	Clothing Connoisseurs	08.03.1995	01.04.1995	PAID	1536,75	FKB
8	101	Clothing Connoisseurs	29.03.1995	28.04.1995	PAID	1836,9	FKB

At the bottom of the window, there are tabs for "Output\*", "Grid Results", "Execution Plan", and "Last Command".

# Audit in SQLBase 12.2

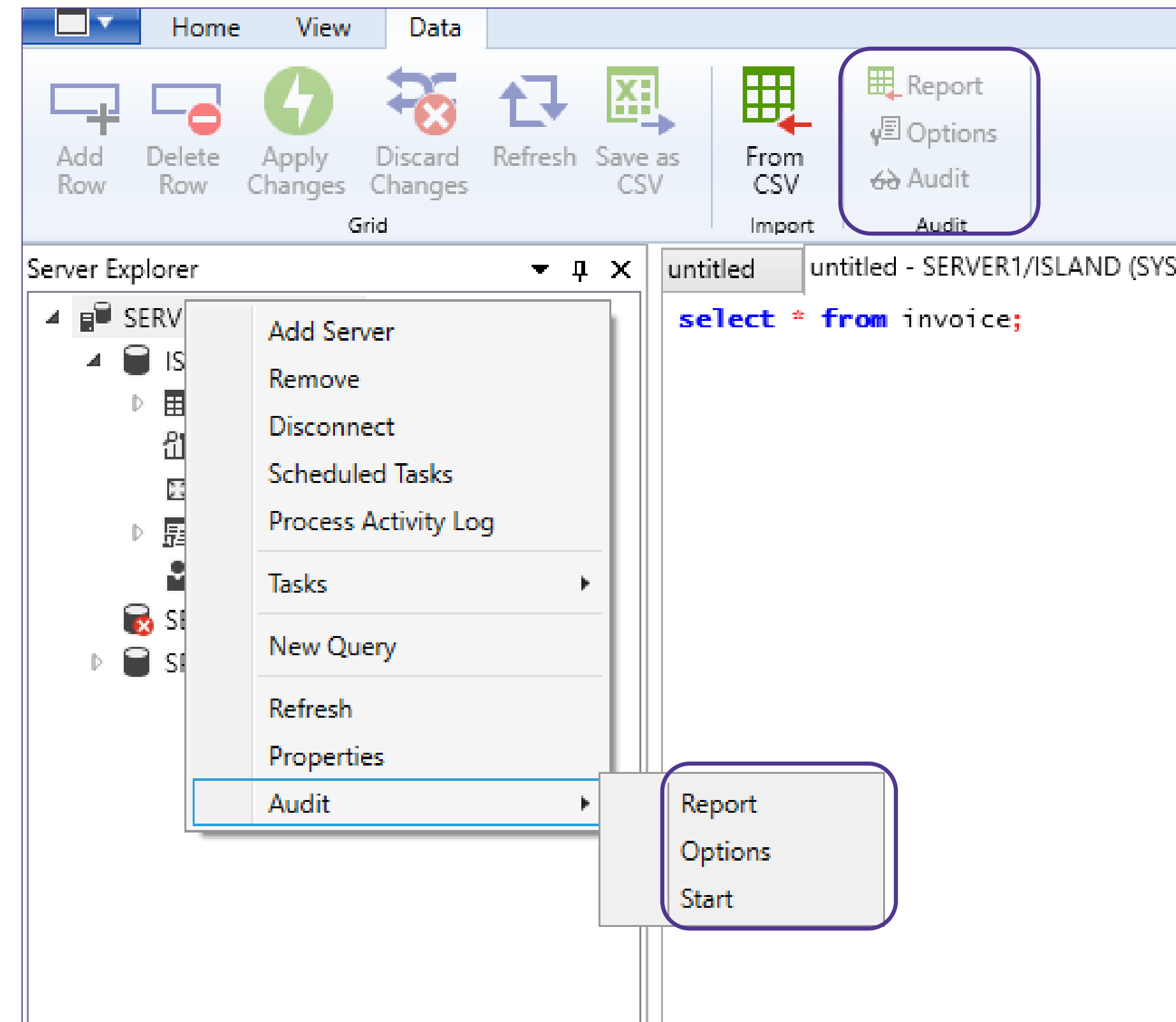
- Audit einschalten:





# Audit in SQLBase 12.2

- Audit Menü



# Audit in SQLBase 12.2

- Menü: *Options*

SERVER1: Audit Options

Audit Types

<input checked="" type="checkbox"/>	Types	Description
<input checked="" type="checkbox"/>	Rejected logons	Records unsuccessful login attempts. Useful to s
<input checked="" type="checkbox"/>	Security violations	Tells you if a user tried to access data without p
<input checked="" type="checkbox"/>	Valid logons/logoffs	Records all valid logons, telling you when a user
<input checked="" type="checkbox"/>	Valid connects/disconnect	Records CONNECT and DISCONNECT statemen
<input checked="" type="checkbox"/>	Database operations	Records CREATE DATABASE, DROP DATABASE, II
<input checked="" type="checkbox"/>	Recovery operations	Records all ROLLBACK commands.
<input checked="" type="checkbox"/>	Backup/Restore operation	Records all BACKUP and RESTORE commands.
<input checked="" type="checkbox"/>	Deadlocks, timeouts	Records information about deadlocks and timeo
<input checked="" type="checkbox"/>	Table queries	Tells which users accessed which tables.
<input checked="" type="checkbox"/>	Table updates/inserts	Records database manipulation language comm
<input checked="" type="checkbox"/>	Connects/Disconnects per	Tells how long it takes users to connect to and c
<input checked="" type="checkbox"/>	SQL perf	Tells you how much time SQLBase takes to com
<input checked="" type="checkbox"/>	Transaction perf	Tells you when a transaction ended, and how lo

Output Directory: C:\Users\hreimann\Documents\Projects\RoadShow\_2019\SQLBase 122\Sample

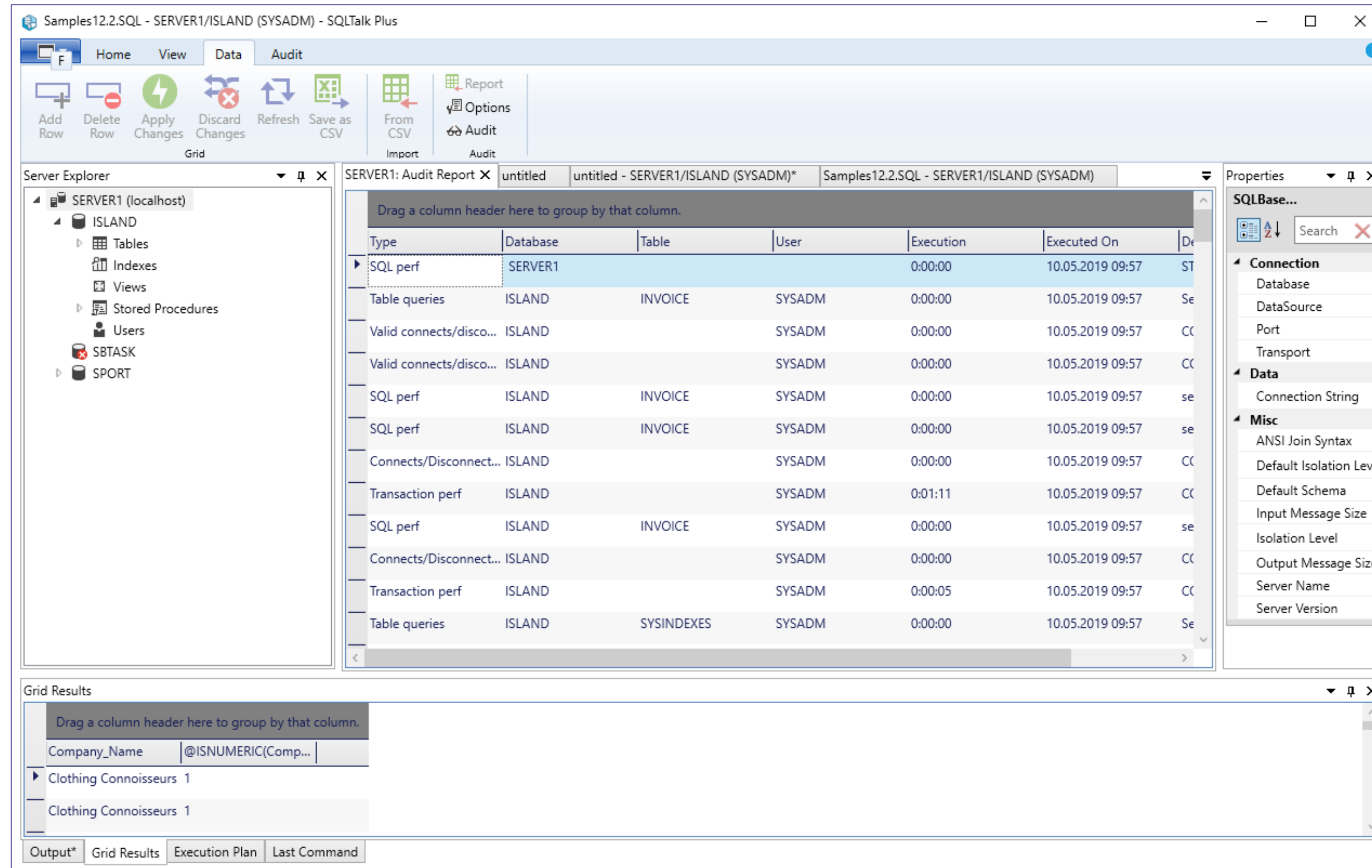
Max Records: 1000

Max Old Logs: 1

Start OK Cancel

# Audit in SQLBase 12.2

- Report des Audit:



The screenshot shows the SQLBase 12.2 Audit Report window. The main pane displays a table of audit results with columns: Type, Database, Table, User, Execution, Executed On, and Details. The table contains several rows of data, including SQL perf, Table queries, Valid connects/disco..., Connects/Disconnect..., Transaction perf, and SYSINDEXES.

Type	Database	Table	User	Execution	Executed On	Details
SQL perf	SERVER1			0:00:00	10.05.2019 09:57	ST
Table queries	ISLAND	INVOICE	SYSADM	0:00:00	10.05.2019 09:57	Se
Valid connects/disco...	ISLAND		SYSADM	0:00:00	10.05.2019 09:57	CC
Valid connects/disco...	ISLAND		SYSADM	0:00:00	10.05.2019 09:57	CC
SQL perf	ISLAND	INVOICE	SYSADM	0:00:00	10.05.2019 09:57	se
SQL perf	ISLAND	INVOICE	SYSADM	0:00:00	10.05.2019 09:57	se
Connects/Disconnect...	ISLAND		SYSADM	0:00:00	10.05.2019 09:57	CC
Transaction perf	ISLAND		SYSADM	0:01:11	10.05.2019 09:57	CC
SQL perf	ISLAND	INVOICE	SYSADM	0:00:00	10.05.2019 09:57	se
Connects/Disconnect...	ISLAND		SYSADM	0:00:00	10.05.2019 09:57	CC
Transaction perf	ISLAND		SYSADM	0:00:05	10.05.2019 09:57	CC
Table queries	ISLAND	SYSINDEXES	SYSADM	0:00:00	10.05.2019 09:57	Se

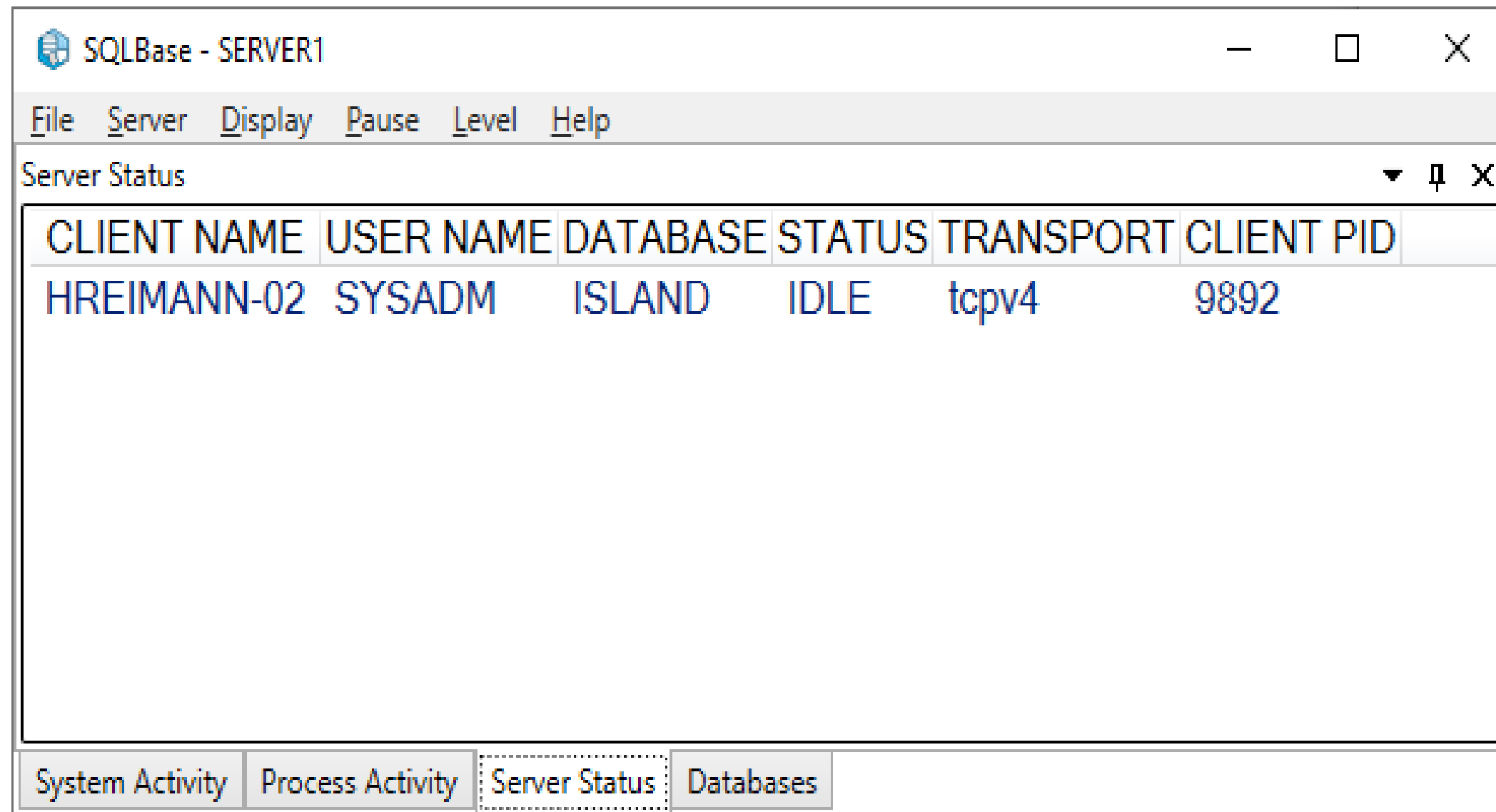
The bottom pane shows Grid Results with a table containing columns Company\_Name and @ISNUMERIC(Comp...).

Company_Name	@ISNUMERIC(Comp...)
Clothing Connoisseurs 1	
Clothing Connoisseurs 1	

# Audit in SQLBase 12.2

- SQLTalk Plus
  - Ein Werkzeug für (fast) alle Datenbank Operationen
  - Umfangreiche Audit Funktionen
  - Anzeige des DB-Schemas erleichtert die „SQL – Erstellung“
  - Überprüfen der Verbindungseinstellungen zu Datenbanken
  - Terminieren von Aufgaben (System Tasks)
  - ...

# Neue Server – Konsole



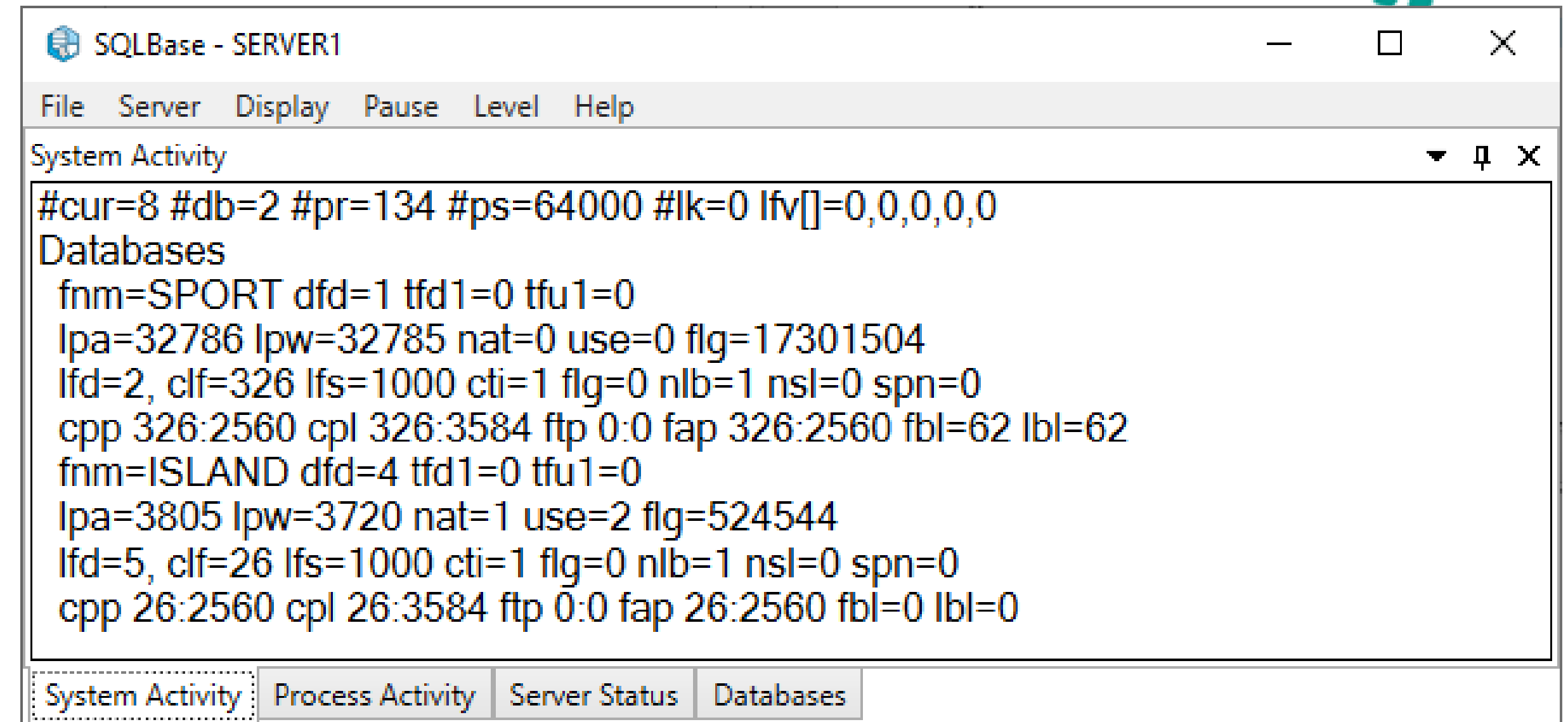
SQLBase - SERVER1

File Server Display Pause Level Help

Server Status

CLIENT NAME	USER NAME	DATABASE	STATUS	TRANSPORT	CLIENT PID
HREIMANN-02	SYSADM	ISLAND	IDLE	tcpv4	9892

System Activity Process Activity **Server Status** Databases



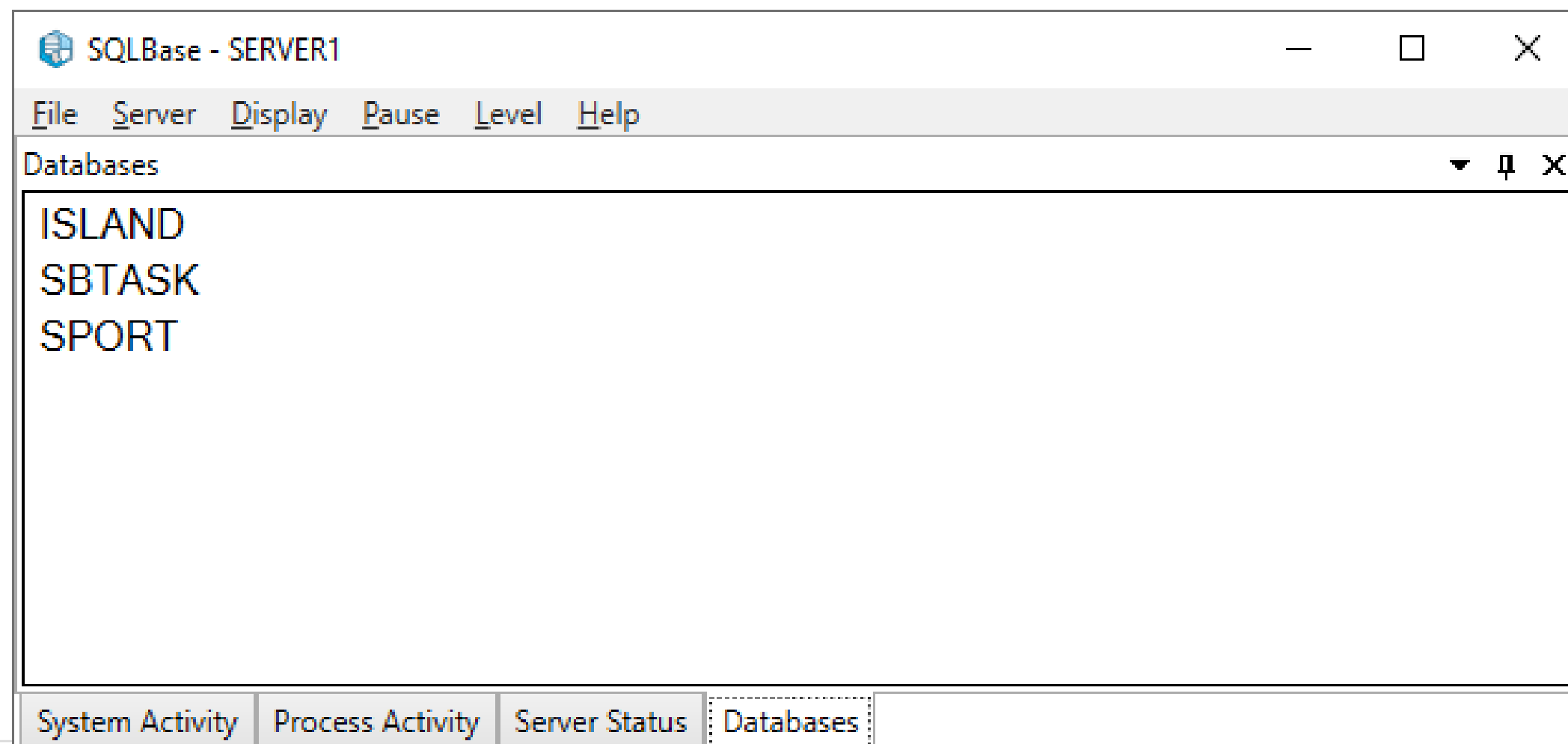
SQLBase - SERVER1

File Server Display Pause Level Help

System Activity

```
#cur=8 #db=2 #pr=134 #ps=64000 #lk=0 lfv[]=0,0,0,0
Databases
fnm=SPORT dfd=1 tfd1=0 tfu1=0
lpa=32786 lpw=32785 nat=0 use=0 flg=17301504
lfd=2, clf=326 lfs=1000 cti=1 flg=0 nlb=1 nsl=0 spn=0
cpp 326:2560 cpl 326:3584 ftp 0:0 fap 326:2560 fbl=62 lbl=62
fnm=ISLAND dfd=4 tfd1=0 tfu1=0
lpa=3805 lpw=3720 nat=1 use=2 flg=524544
lfd=5, clf=26 lfs=1000 cti=1 flg=0 nlb=1 nsl=0 spn=0
cpp 26:2560 cpl 26:3584 ftp 0:0 fap 26:2560 fbl=0 lbl=0
```

System Activity **Process Activity** Server Status Databases



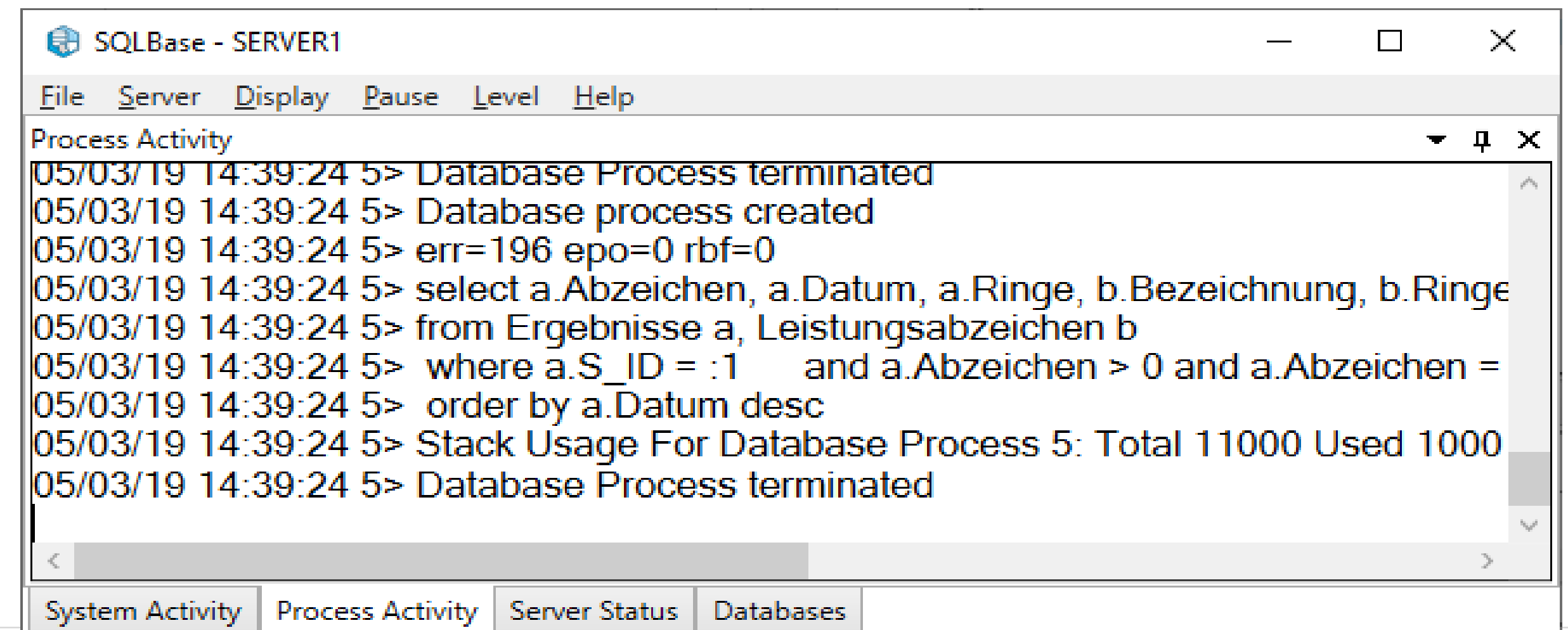
SQLBase - SERVER1

File Server Display Pause Level Help

Databases

```
ISLAND
SBTASK
SPORT
```

System Activity Process Activity Server Status **Databases**



SQLBase - SERVER1

File Server Display Pause Level Help

Process Activity

```
05/03/19 14:39:24 5> Database Process terminated
05/03/19 14:39:24 5> Database process created
05/03/19 14:39:24 5> err=196 epo=0 rbf=0
05/03/19 14:39:24 5> select a.Abzeichen, a.Datum, a.Ringe, b.Bezeichnung, b.Ringe
05/03/19 14:39:24 5> from Ergebnisse a, Leistungsabzeichen b
05/03/19 14:39:24 5> where a.S_ID = :1 and a.Abzeichen > 0 and a.Abzeichen =
05/03/19 14:39:24 5> order by a.Datum desc
05/03/19 14:39:24 5> Stack Usage For Database Process 5: Total 11000 Used 1000
05/03/19 14:39:24 5> Database Process terminated
```

System Activity Process Activity **Server Status** Databases



# Neue SQL Funktionen

- Offset / Limit

SQLBase 12.2

Nr	ID	Name	Datum	Bezahlt	Status	Betrag
2	105	Zanzibar Limited	1995-01-27-...	1995-02-20-...	PAID	0
3	106	Genevieve Casuals	1995-02-14-...	1995-02-24-...	PAID	840
5	107	Montana Activewear	1995-02-25-...	1995-03-25-...	PAID	0
6	101	Clothing Connoisseurs	1995-03-08-...	1995-04-01-...	PAID	0
7	103	Fashion Outlet	1995-03-13-...	1995-03-23-...	PAID	0
8	101	Clothing Connoisseurs	1995-03-29-...	1995-04-28-...	PAID	0
9	102	Maui Mu-Mus	1995-04-09-...	1995-05-07-...	PAID	0
10	109	Evelyn Clothing	1995-04-19-...	1995-05-17-...	PAID	2495
11	103	Fashion Outlet	1995-05-03-...	1995-06-02-...	PAID	0
12	109	Evelyn Clothing	1995-05-14-...	1995-06-07-...	PAID	0
13	104	Garcia Tiedye Barn	1995-05-15-...	1995-06-14-...	PAID	0
14	102	Maui Mu-Mus	1909-05-17-...	1995-06-14-...	PAID	424
15	107	Montana Activewear	1995-06-18-...	1995-07-12-...	PAID	0
16	106	Genevieve Casuals	1995-06-22-...	1995-07-02-...	PAID	0
18	108	Michael's Big and Tall	1995-07-28-...	1995-08-07-...	PAID	0
20	108	Michael's Big and Tall	1995-08-08-...	1995-09-07-...	PAID	0
21	107	Montana Activewear	1995-08-10-...	1995-09-09-...	PAID	0
22	106	Genevieve Casuals	1995-08-20-...	1995-10-04-...	PAID	0
23	105	Zanzibar Limited	1995-09-11-...	1995-09-21-...	PAID	384
24	105	Zanzibar Limited	1995-09-15-...	1995-10-09-...	PAID	0
25	104	Garcia Tiedye Barn	1995-09-19-...	1995-10-17-...	PAID	0
26	109	Evelyn Clothing	1995-10-19-...	1995-12-03-...	PAID	0
27	101	Clothing Connoisseurs	1995-10-20-...	1995-11-13-...	PAID	2965
28	108	Michael's Big and Tall	1995-10-22-...		LATE	0
29	103	Fashion Outlet	1995-11-05-...	1995-12-20-...	PAID	0
30	102	Maui Mu-Mus	1995-11-20-...	1995-12-18-...	PAID	0
31	104	Garcia Tiedye Barn	1995-11-27-...		LATE	0

Count 54

Limit:  Limit

Offset:  Offset

Nr	ID	Name	Da
2	105	Zanzibar Limited	1995-01-27-...
3	106	Genevieve Casuals	1995-02-14-...
5	107	Montana Activewear	1995-02-25-...
6	101	Clothing Connoisseurs	1995-03-08-...
7	103	Fashion Outlet	1995-03-13-...
8	101	Clothing Connoisseurs	1995-03-29-...
9	102	Maui Mu-Mus	1995-04-09-...
10	109	Evelyn Clothing	1995-04-19-...
11	103	Fashion Outlet	1995-05-03-...
12	109	Evelyn Clothing	1995-05-14-...

Count 10

Nr	ID	Name	D
8	101	Clothing Connoisseurs	1995-03-08-...
9	102	Maui Mu-Mus	1995-04-09-...
10	109	Evelyn Clothing	1995-04-19-...
11	103	Fashion Outlet	1995-05-03-...
12	109	Evelyn Clothing	1995-05-14-...
13	104	Garcia Tiedye Barn	1995-05-15-...
14	102	Maui Mu-Mus	1909-05-17-...
15	107	Montana Activewear	1995-06-18-...
16	106	Genevieve Casuals	1995-06-22-...
18	108	Michael's Big and Tall	1995-07-28-...

Count 10

# Neue SQL Funktionen

- LIMIT
  - Ausgabe von n-Datensätzen

```

◇ Set sSQL = 'select Invoice_No, Company_ID, Company_Name, Invoice_Date, Date_Paid, Status,
              Amount_Paid from Invoice order by Invoice_No LIMIT 10'
◇ Call SqlConnectEx( hSQL, 'ISLAND', 'SYSADM', 'SYSADM' )
◇ Call SaITblPopulate( grid2, hSQL, sSQL, TBL_FillAll )
◇ Call SqlDisconnect( hSQL )

```

```

◇ Set sLimit = ' Limit ' || SaINumberToStrX( dfLimit, 0 )
◇ Set sSQL = 'select Invoice_No, Company_ID, Company_Name, Invoice_Date, Date_Paid, Status,
              Amount_Paid from Invoice order by Invoice_No ' || sLimit
◇ Call SqlConnectEx( hSQL, 'ISLAND', 'SYSADM', 'SYSADM' )
◇ Call SaITblPopulate( grid2, hSQL, sSQL, TBL_FillAll )
◇ Call SqlDisconnect( hSQL )

```

# Neue SQL Funktionen

- LIMIT / Offset

- Ausgabe von n-Datensätzen, starten bei n-Offset
- Syntax: *LIMIT nOffset, nLimit*

```

◇ Set sSQL = 'select Invoice_No, Company_ID, Company_Name, Invoice_Date, Date_Paid, Status,
              Amount_Paid from Invoice order by Invoice_No LIMIT 5,10 '
◇ Call SqlConnectEx( hSQL, 'ISLAND', 'SYSADM', 'SYSADM' )
◇ Call SalTblPopulate( grid3, hSQL, sSQL, TBL_FillAll )
◇ Call SqlDisconnect( hSQL )
◇ Return TRUE

```

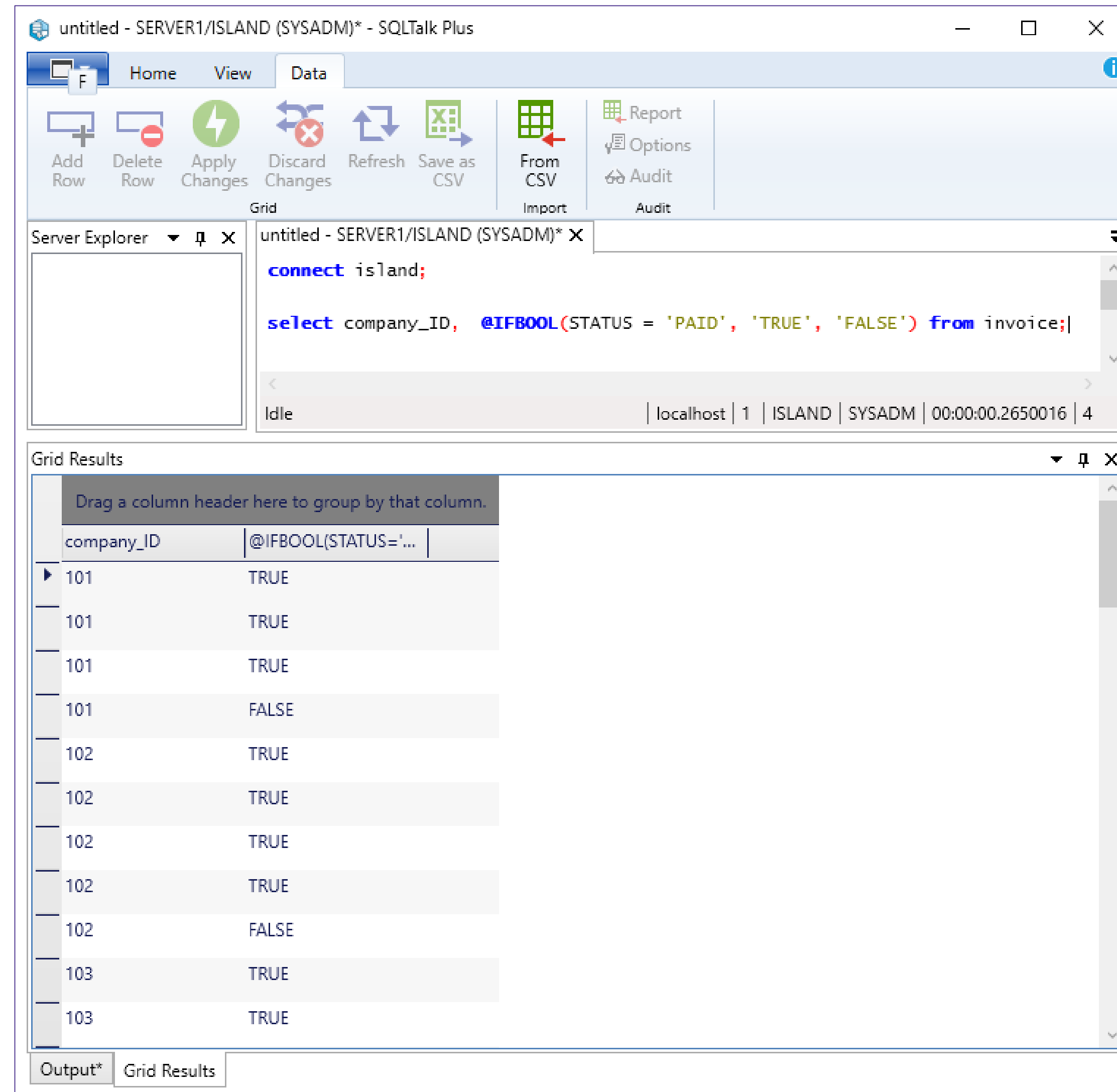
```

◇ Set sLimit = ' Limit ' || SalNumberToStrX( dfOffset, 0 ) || ',' || SalNumberToStrX( dfLimit, 0 )
◇ Set sSQL = 'select Invoice_No, Company_ID, Company_Name, Invoice_Date, Date_Paid, Status,
              Amount_Paid from Invoice order by Invoice_No ' || sLimit
◇ Call SqlConnectEx( hSQL, 'ISLAND', 'SYSADM', 'SYSADM' )
◇ Call SalTblPopulate( grid3, hSQL, sSQL, TBL_FillAll )
◇ Call SqlDisconnect( hSQL )

```

# Neue SQL Funktion

- @IFBOOL



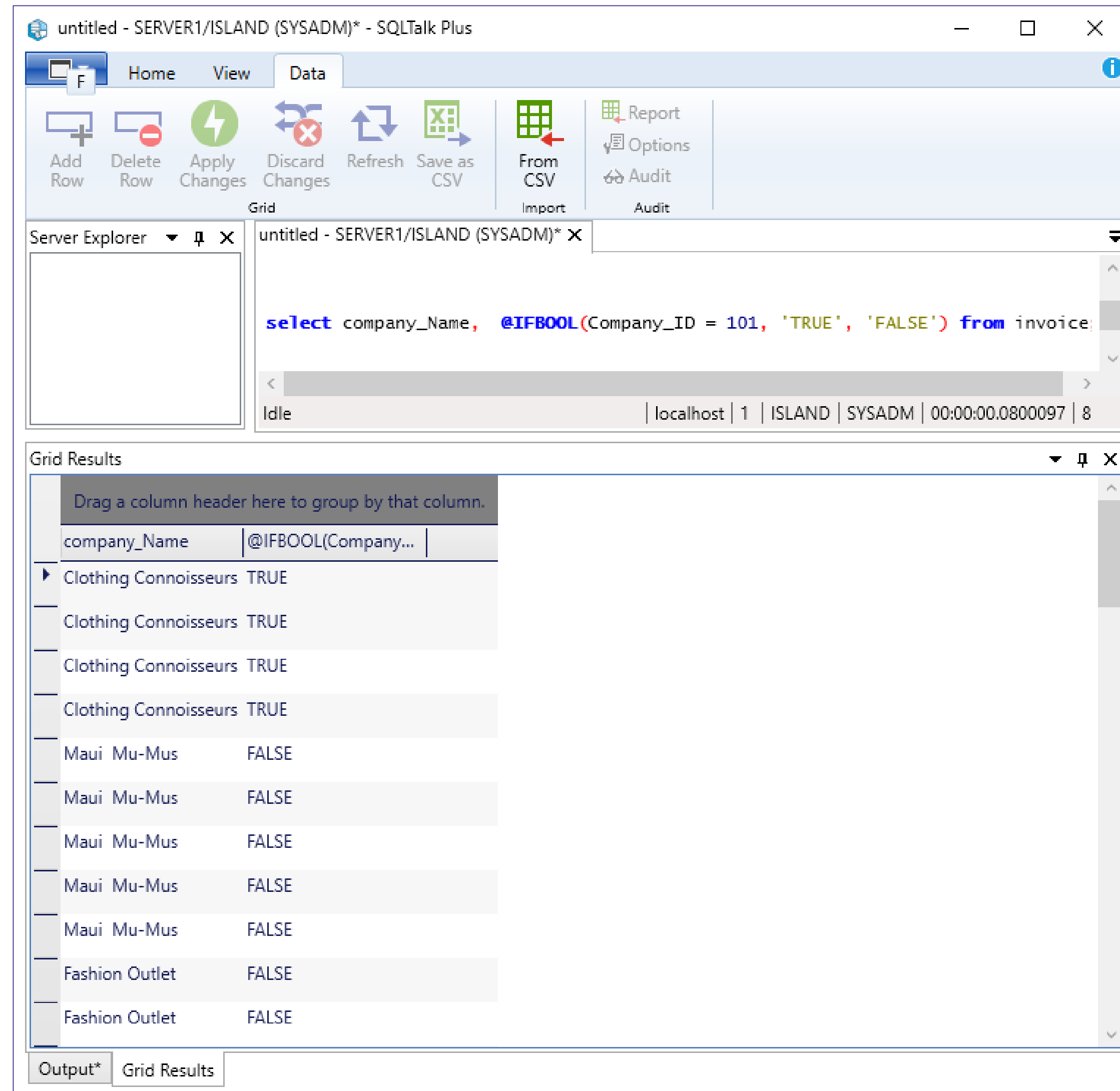
The screenshot shows the SQLTalk Plus interface with the following components:

- Toolbar:** Includes buttons for Add Row, Delete Row, Apply Changes, Discard Changes, Refresh, Save as CSV, From CSV, Report, Options, and Audit.
- Server Explorer:** Shows the connection to 'SERVER1/ISLAND (SYSADM)\*'.
- SQL Editor:** Contains the query: `connect island;` and `select company_ID, @IFBOOL(STATUS = 'PAID', 'TRUE', 'FALSE') from invoice;`
- Grid Results:** Displays the output of the query in a table format.

company_ID	@IFBOOL(STATUS='...)
101	TRUE
101	TRUE
101	TRUE
101	FALSE
102	TRUE
102	TRUE
102	TRUE
102	TRUE
102	FALSE
103	TRUE
103	TRUE

# Neue SQL Funktion

- @IFBOOL



The screenshot shows the SQLTalk Plus interface with a query editor and a results grid. The query is:

```
select company_Name, @IFBOOL(Company_ID = 101, 'TRUE', 'FALSE') from invoice
```

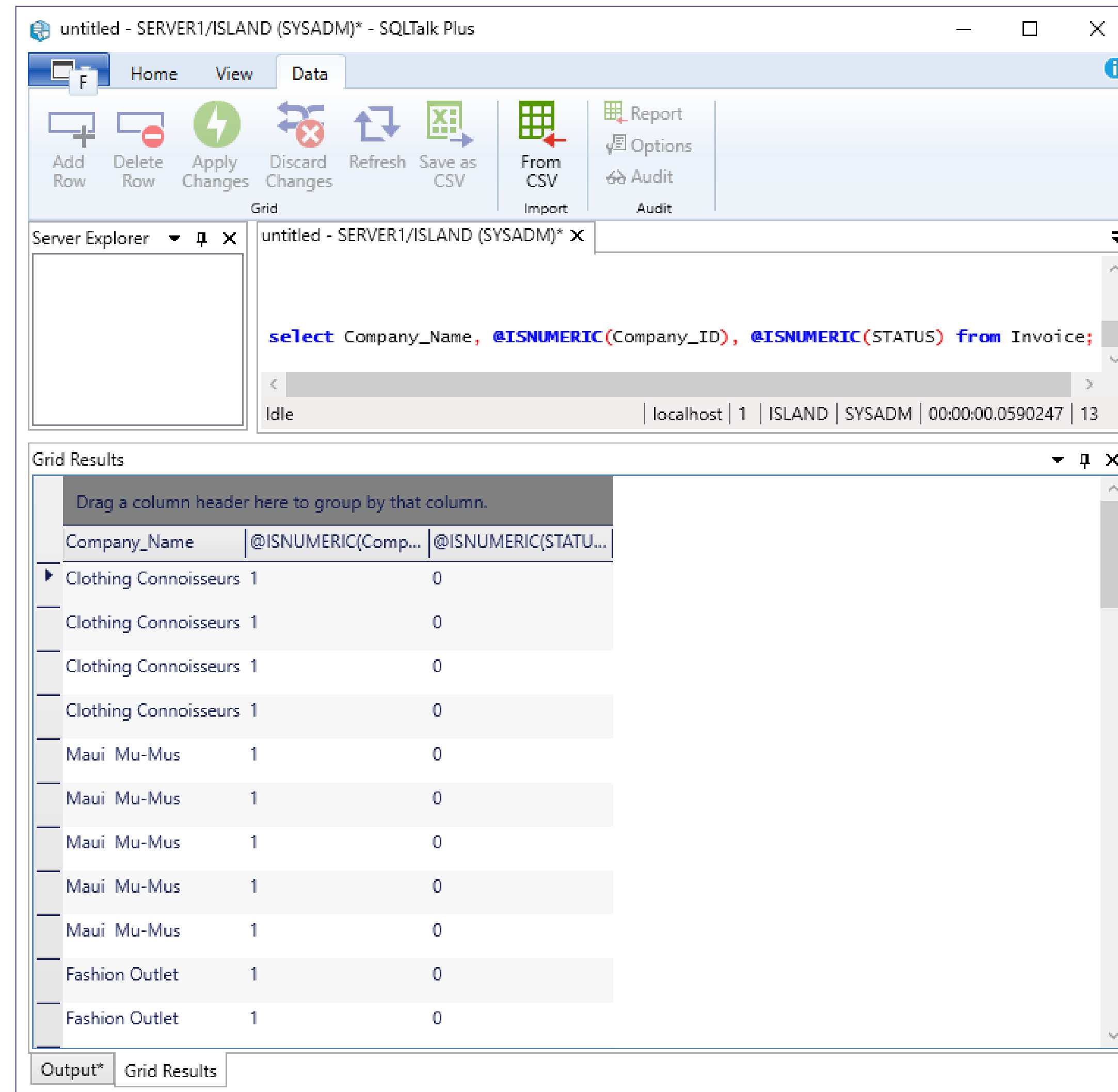
The results grid shows the following data:

company_Name	@IFBOOL(Company...
Clothing Connoisseurs	TRUE
Clothing Connoisseurs	TRUE
Clothing Connoisseurs	TRUE
Clothing Connoisseurs	TRUE
Maui Mu-Mus	FALSE
Maui Mu-Mus	FALSE
Maui Mu-Mus	FALSE
Maui Mu-Mus	FALSE
Maui Mu-Mus	FALSE
Maui Mu-Mus	FALSE
Fashion Outlet	FALSE
Fashion Outlet	FALSE



# Neue SQL Funktion

- @ISNUMERIC



The screenshot shows the SQLTalk Plus interface with the following components:

- Toolbar:** Includes buttons for Add Row, Delete Row, Apply Changes, Discard Changes, Refresh, Save as CSV, From CSV, Report, Options, and Audit.
- Server Explorer:** Shows the connection to SERVER1/ISLAND (SYSADM)\*.
- SQL Editor:** Contains the query: `select Company_Name, @ISNUMERIC(Company_ID), @ISNUMERIC(STATUS) from Invoice;`
- Grid Results:** Displays the following data:

Company_Name	@ISNUMERIC(Comp...	@ISNUMERIC(STATU...
Clothing Connoisseurs	1	0
Clothing Connoisseurs	1	0
Clothing Connoisseurs	1	0
Clothing Connoisseurs	1	0
Mauï Mu-Mus	1	0
Mauï Mu-Mus	1	0
Mauï Mu-Mus	1	0
Mauï Mu-Mus	1	0
Mauï Mu-Mus	1	0
Fashion Outlet	1	0
Fashion Outlet	1	0

# Sonstiges

- Windows Server 2019 Support
- .NET Core Database Driver
  - Interface zur SQLBase von Linux, MAC und Window mittels .NET Core Driver
- Verfügbar seit dem 31.July 2019

**opentext™**

**Danke!**



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