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OpenText Gupta SQLBase 12.2

#lowTCO #embeddable #database for #Windows and #Linux

November 2019, Martin Teetz

SQLBase 12.2 Agenda

- **Features & benefits of SQLBase 12.2**
 - Easy maintenance, SQL testing and data maintenance: Much enhanced SQLTalk Plus
 - SQL language enhancements
 - Cross platform .NET Core application support
 - New Server console
- **SQLBase 12.2 demo**
- **Q&A**

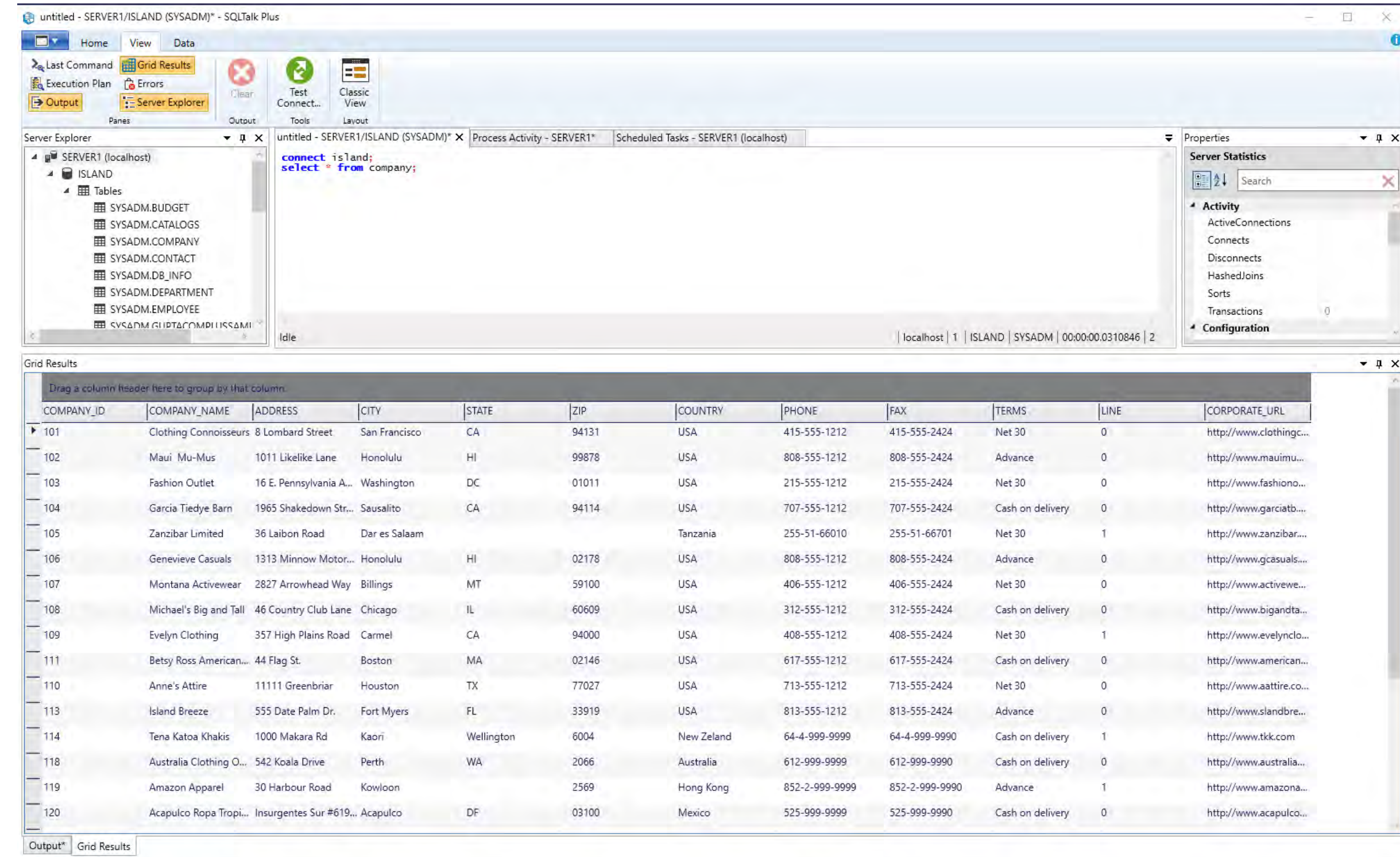
Easy server maintenance, SQL testing and data maintenance: Much enhanced SQLTalk Plus

SQLBase 12.2



SQLTalk Plus Overview

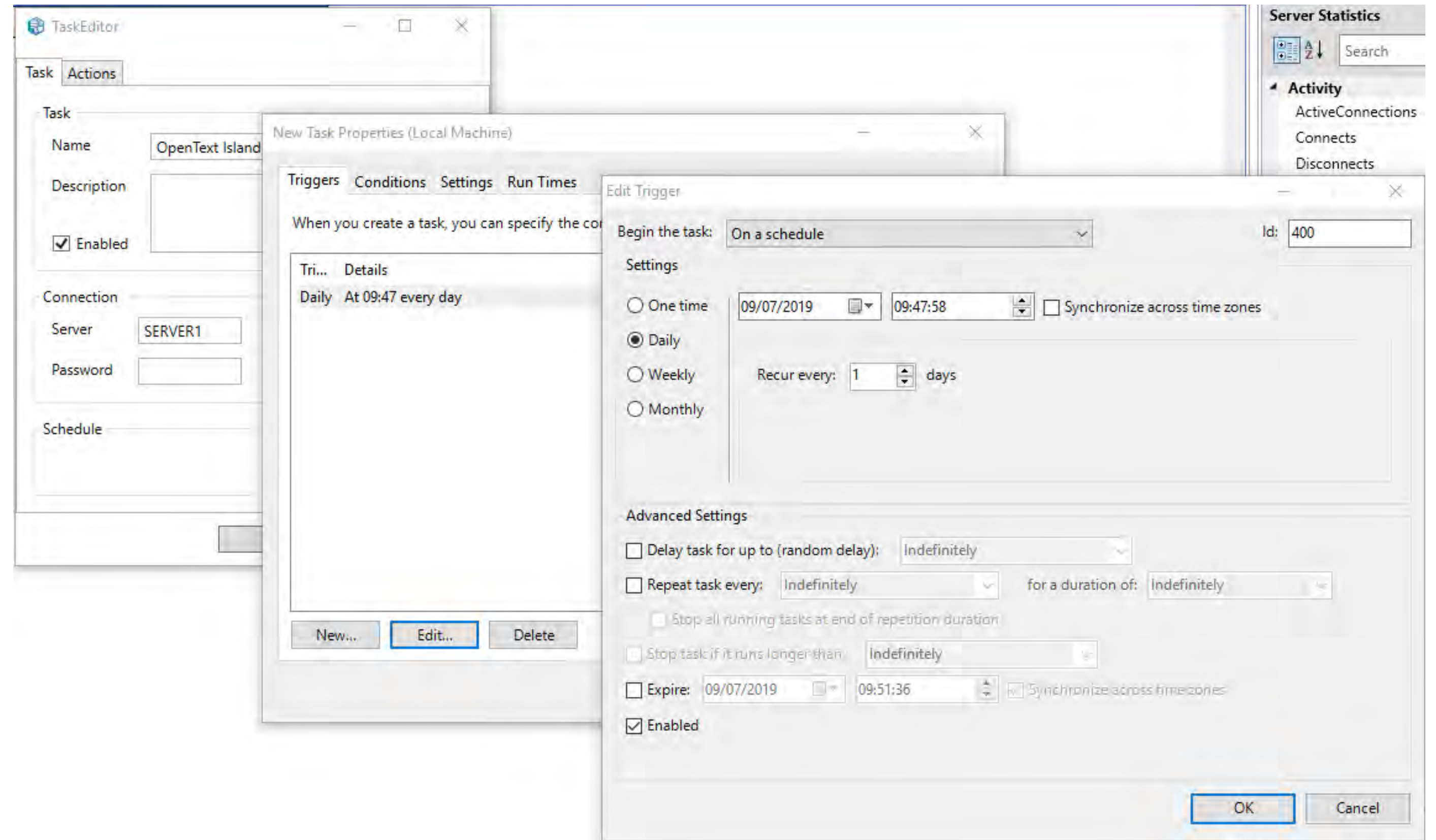
- **One place for all things SQLBase**
- Modern MDI interface, updated technology
- Server and database maintenance
 - Task scheduling
 - Database auditing
 - Server, database and user statistics
 - Server process activity log
- SQL testing and scripting
- Grid data editing





SQLTalk Plus Task Scheduling

- Schedule and maintain database maintenance tasks
- Based on Windows Task Scheduler
- No SQLBase task service or task database needed





Windows Task Execution Issue Notification

- Schedule a task in Windows Task Scheduler to get notified on errors

Begin the task: On an event

Settings

Basic

Log: Microsoft-Windows-TaskScheduler/Operational

Source: TaskScheduler

Event ID: 202

Advanced settings

Delay task for: 15 minutes

Repeat task every: 1 hour for a duration of: 1 day

Stop all running tasks at end of repetition duration

Stop task if it runs longer than: 3 days

Activate: 04/11/2019 14:45:23 Synchronize across time zones

Expire: 04/11/2020 14:45:23 Synchronize across time zones

Enabled

OK Cancel

You must specify what action this task will perform.

Action: Start a program

Settings

Program/script: "C:\Program Files\Gupta\SQLBase 12.2\sqltalk.exe" Browse...

Add arguments (optional): "C:\Users\mteetz\Docu..."

Start in (optional):

OK Cancel

SQLBase scheduled Task Error Properties (Local Computer)

General Triggers Actions Conditions Settings History

Name: SQLBase scheduled Task Error

Location: \Gupta

Author: OPENTEXT\mteetz

Description:

Security options

When running the task, use the following user account:

mteetz Change User or Group...

Run only when user is logged on

Run whether user is logged on or not

Do not store password. The task will only have access to local computer resources.

Run with highest privileges

Hidden Configure for: Windows 10

OK Cancel

SQLBase scheduled Task Error Properties (Local Computer)

General Triggers Actions Conditions Settings History

When you create a task, you can specify the conditions that will trigger the task.

Trigger	Details	Status
On an event	On event - Log: Microsoft-Windows-TaskScheduler/Operational...	Enabled

New... Edit... Delete

OK Cancel

SQLBase scheduled Task Error Properties (Local Computer)

General Triggers Actions Conditions Settings History

When you create a task, you must specify the action that will occur when your task starts.

Action	Details
Start a program	"C:\Program Files\Gupta\SQLBase 12.2\sqltalk.exe" "C:\Users\mteetz\Docu..."

New... Edit... Delete

OK Cancel



SQLTalk Plus Database Auditing

- Detect performance bottlenecks, database issues and find solutions

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 statement
<input checked="" type="checkbox"/>	Database operations	Records CREATE DATABASE, DROP DATABASE, IF
<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 timed
<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: ...

Max Records: Max Old Logs:

Start OK Cancel



SQLTalk Plus Server, Database and User Statistics

- Server Information
 - Connections
 - Statistics
- Database Information
 - Cursors
 - Statistics
 - Processes
- Easy to switch between info windows
- Statistics are being displayed in the Properties sub-window

The screenshot displays the 'Properties' sub-window in SQLTalk Plus, showing various system statistics. It is divided into three main sections: Connections, Cursors, and Processes.

Connections - SERVER1 (localhost)

Database	User name	Client name	Process	Cursor	Isolation Level	Status	Command Type
SERVER1		MTEETZ-01	4	4	RR	0	0
ISLAND	SYSADM	MTEETZ-01	5	5	R3	0	0
ISLAND	SYSADM	MTEETZ-01	6	6	R3	0	0
ISLAND	SYSADM	MTEETZ-01	6	7	R3	6	1
ISLAND	SYSADM	MTEETZ-01	6	8	R3	0	0
ISLAND	SYSADM	MTEETZ-01	6	9	R3	0	0
ISLAND	SYSADM	MTEETZ-01	6	10	R3	0	0
SERVER1		MTEETZ-01	7	11	RR	0	0
ISLAND	SYSADM	MTEETZ-01	8	12	R3	0	0

Cursors - ISLAND

Client name	Process	Status	Prepare Time	Execute Time	Fetch Time	Output Message Size	Input Message Size	Last Active
MTEETZ-01	5	wait for	00:00:00	00:00:00	00:00:00	2000	1000	
MTEETZ-01	6	wait for	00:00:00	00:00:00	00:00:00	2000	1000	
MTEETZ-01	8	wait for	00:00:00	00:00:00	00:00:00	2000	1000	

UpdateLocks - ISLAND

Database	User name	Client name	Process	Cursor	Isolation Level	Status	Cost	Prepare Time	Execute Time	Fetch Time	Command Type	Row Count	Virtual Reads
ISLAND	SYSADM	MTEETZ-01	5	5	R3	0	0	00:00:00	00:00:00	00:00:00	0	0	0
ISLAND	SYSADM	MTEETZ-01	6	6	R3	0	0	00:00:00	00:00:00	00:00:00	0	0	0
ISLAND	SYSADM	MTEETZ-01	6	7	R3	6	50	00:00:00	00:00:00	00:00:00	1	0	0
ISLAND	SYSADM	MTEETZ-01	6	8	R3	0	0	00:00:00	00:00:00	00:00:00	0	0	0
ISLAND	SYSADM	MTEETZ-01	6	9	R3	0	0	00:00:00	00:00:00	00:00:00	0	0	0
ISLAND	SYSADM	MTEETZ-01	6	10	R3	0	0	00:00:00	00:00:00	00:00:00	0	0	0
ISLAND	SYSADM	MTEETZ-01	8	12	R3	0	0	00:00:00	00:00:00	00:00:00	0	0	0



Server Process Activity Log

- View server activity log from inside SQLTalk Plus
- No need to start Server Console to see what is going on at the server

The screenshot displays the SQLTalk Plus interface. The main window shows the 'Server Console' with a log of server activity. The log includes a SQL query and its execution details, such as compilation, execution, and fetching of data. The 'Server Explorer' on the left shows the database structure, including tables like SYSADM.BUDGET, SYSADM.CATALOGS, etc. The 'Properties' pane on the right shows connection and data settings. Below the console, the 'Grid Results' pane displays a table of employee data.

EMPLOYEE_ID	LAST_NAME	DEPT_ID	FIRST_NAME	MI	EXTENSION	OFFICE_NO	DATE_HIRED	CURRENT_SALARY	LAST_NAME_I	FIRST_NAME_I
HPG	Geraldo	CSS	Helen	P	4116	6	10/07/1995	58080	G	H
SDJ	Jones	MIS	Sam	D	4117	7	17/04/1995	65560	J	S
SRS	Smith	MFG	Simon	R	4118	8	08/05/1995	53000	S	S
WLS	Suzuki	MKTG	William	L	4119	9	27/02/1995	54300	S	W
BAL	Liebowitz	MFG	Benjamin	A	4110	10	15/05/1995	43000	L	B
AHT	Anak	CSS	Tortuga	H	4102	3	12/05/1996	59500	A	T
BYG	Gena	FIN	Bernard	Y	4103	5	01/01/1997	78000	G	B

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Gupta SQLBase
SQLTalk Plus



Demo SQLTalk Plus

Language enhancements and new functions

SQLBase 12.2



Ifbool Value Selector Function

- Return a value based on the evaluation of a boolean expression
- @ifbool(Boolean expression, true value, false value)

```
SELECT group_val, @ifbool(COUNT(*) > 2, 'big', 'small')
FROM testif2
GROUP BY group_val;
```

```
SELECT group_val, @ifbool(@ifbool(COUNT(*) > 2, 'big', 'small') = 'big', 'true', 'false')
FROM testif2
GROUP BY group_val;
```

```
SELECT num_val, @ifbool(EXISTS (SELECT * FROM testif WHERE testif.num_val = testif2.num_val), 'true', 'false') FROM testif2;
SELECT num_val, @ifbool(testif2.num_val = any (SELECT num_val FROM testif), 'true', 'false') FROM testif2;
SELECT num_val, @ifbool(testif2.num_val <> ALL (SELECT num_val FROM testif), 'true', 'false') FROM testif2;
```




Function to tell if a string is numeric

- @isnumeric(string)
- Returns 0 if not a number
- Returns 1 if a string is a number value

```
SELECT ch, @ISNUMERIC(ch), vch, @ISNUMERIC(vch), nch, @ISNUMERIC(nch),  
nvch, @ISNUMERIC(nvch), DEC, @ISNUMERIC(DEC), flt, @ISNUMERIC(flt),  
INT, @ISNUMERIC(INT), num, @ISNUMERIC(num), sint, @ISNUMERIC(sint),  
dt, @ISNUMERIC(dt), dttm, @ISNUMERIC(dttm), tm, @ISNUMERIC(tm),  
tstp, @ISNUMERIC(tstp), lvch, @ISNUMERIC(lvch)  
FROM sqlb2568_alltypes
```



Substring and mid for long datatype

- @substring and @mid functions now work with Long Varchar and Long Nvarchar data types





Limit and Offset

- Return a subset of the result set starting at <offset> for <limit> rows
- Limit <offset>, <limit>

```
SELECT * FROM COMPANY LIMIT 5,5
```

Demo SQL and SQL Functions

@ifbool()

@isnumeric()

@substring and @mid with long
columns

Select offset and limit

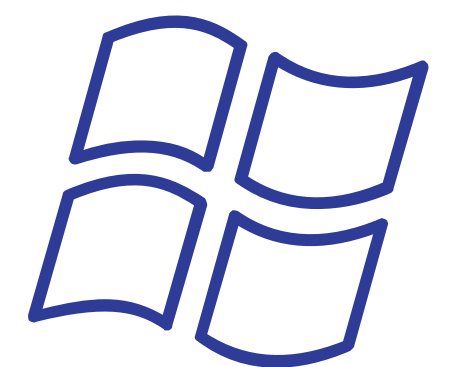
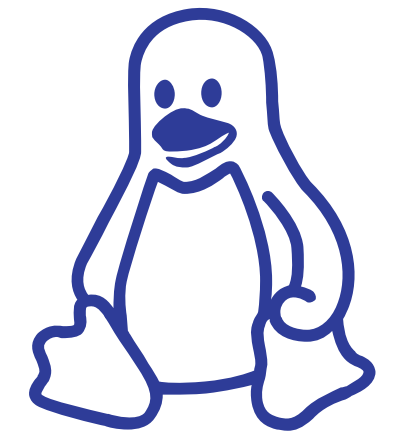
.NET Standard Data Provider

SQLBase 12.2



New .NET Standard Driver

- Works with all .NET implementations
 - .NET framework
 - .NET Core
- Access SQLBase from .NET Core applications
- .NET Core applications can run on Linux, macOS, and Windows
- For example ASP.NET Core Web applications



Demo .NET Core

- Visual Studio Code on Linux (CentOS)
- MVC web app to access SQLBase

```
EXPLORER
OPEN EDITORS
  HomeController.cs Controllers
  Teacher.cs Models
CRUDADO
  .vs
  .vscode
  launch.json
  tasks.json
  bin
  Controllers
    HomeController.cs
  CustomValidation
  SkillsValidation
  Models
    Teacher.cs
  obj
  Properties
  launchSettings.json
  Views
    Home
      Create.cshtml
      Index.cshtml
      Update.cshtml
  Shared
  ViewImports.cshtml
  wwwroot
  appsettings.json
  CRUDADO.csproj
  CRUDADO.csproj.user
  Program.cs
  Startup.cs

HomeController.cs x Teacher.cs
Controllers > HomeController.cs > {} CRUDADO.Controllers > CRUDADO.Controllers.HomeController > Index()
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0 references
public HomeController(IConfiguration configuration)
{
    Configuration = configuration;
}

0 references
public IActionResult Index()
{
    List<Teacher> teacherList = new List<Teacher>();

    string connectionString = Configuration["ConnectionStrings:DefaultConnection"];
    using (SQLBaseConnection connection = new SQLBaseConnection(connectionString))
    {
        //SqlDataReader
        connection.Open();

        string sql = "Select * From Teacher";
        SQLBaseCommand command = new SQLBaseCommand(sql, connection);

        using (SQLBaseDataReader dataReader = command.ExecuteReader())
        {
            while (dataReader.Read())
            {
                Teacher teacher = new Teacher();
                teacher.Id = Convert.ToInt32(dataReader["Id"]);
                teacher.Name = Convert.ToString(dataReader["Name"]);
                teacher.Skills = Convert.ToString(dataReader["Skills"]);
                teacher.TotalStudents = Convert.ToInt32(dataReader["TotalStudents"]);
                teacher.Salary = Convert.ToDecimal(dataReader["Salary"]);
                teacher.AddedOn = Convert.ToDateTime(dataReader["AddedOn"]);

                teacherList.Add(teacher);
            }
        }
    }
}
```

New Server Console

SQLBase 12.2



New Server Console

- Modern easy to use tab based interface
- Quickly switch between tabs to see what you are looking for
- Dock windows anywhere
- Free float windows

The screenshot displays the SQLBase Server Console interface with several docked windows. The main window shows the 'Process Activity' tab, which lists various server processes and their parameters. Below it, the 'Server Status' tab is visible, showing a table of active connections.

CLIENT NAME	USER NAME	DATABASE	STATUS	TRANSPORT	CLIENT PID
MTEETZ-01	SYSADM	SQLBASE12TWO	IDLE	tcpv4	5924
MTEETZ-01	SYSADM	SBTASK	IDLE	tcpv4	5924
MTEETZ-01	SYSADM	ISLAND	IDLE	tcpv4	5924
MTEETZ-01		(SERVE	IDLE	tcpv4	5924



Demo SQLBase Server Console

Live demo

Q&A

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Thank you



#agile #lowcode #softwaredevelopment
#TDMobile #TeamDeveloper #dotnet #WEB
#android #ios



Low #TCO embeddable #SQL #database
#SQLBase

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