

# Toad 101 Series

## Episode 1

Exploring Toad's New Generation:  
Which One Is Right for You?

Mathew Phan

Solutions Consultant

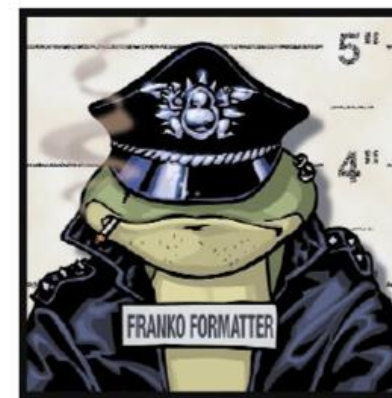
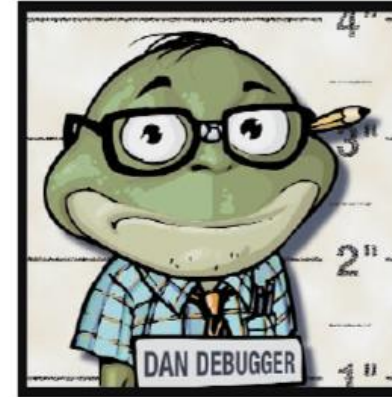
 [mathew.phan@quest.com](mailto:mathew.phan@quest.com)



# Agenda

Quest

1. Common Toad users
2. How people use Toad
3. The next generation of Toad
4. The right Toad for the right job
5. New features in your Toad



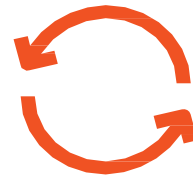
# Traditional Toad Users

# Who uses Toad

Toad is a critical component in many people's job role



Database  
Administrators



Database  
Developers



Data  
Analysts



# Toad for Oracle – The Original T.O.A.D.

---

Quest

- Toad for Oracle was designed originally for developers
- DBA features added over the years
- Leader in Oracle database management and development
- Bundles
  - Developers focused - Code review, SQL Optimization, code testing, load testing
  - DBA focused - Diagnostics, load testing, modeling
- Toad for Oracle on Mac just released
- Subscription models
- Sensitive Data Awareness
- AI Enabled Toad



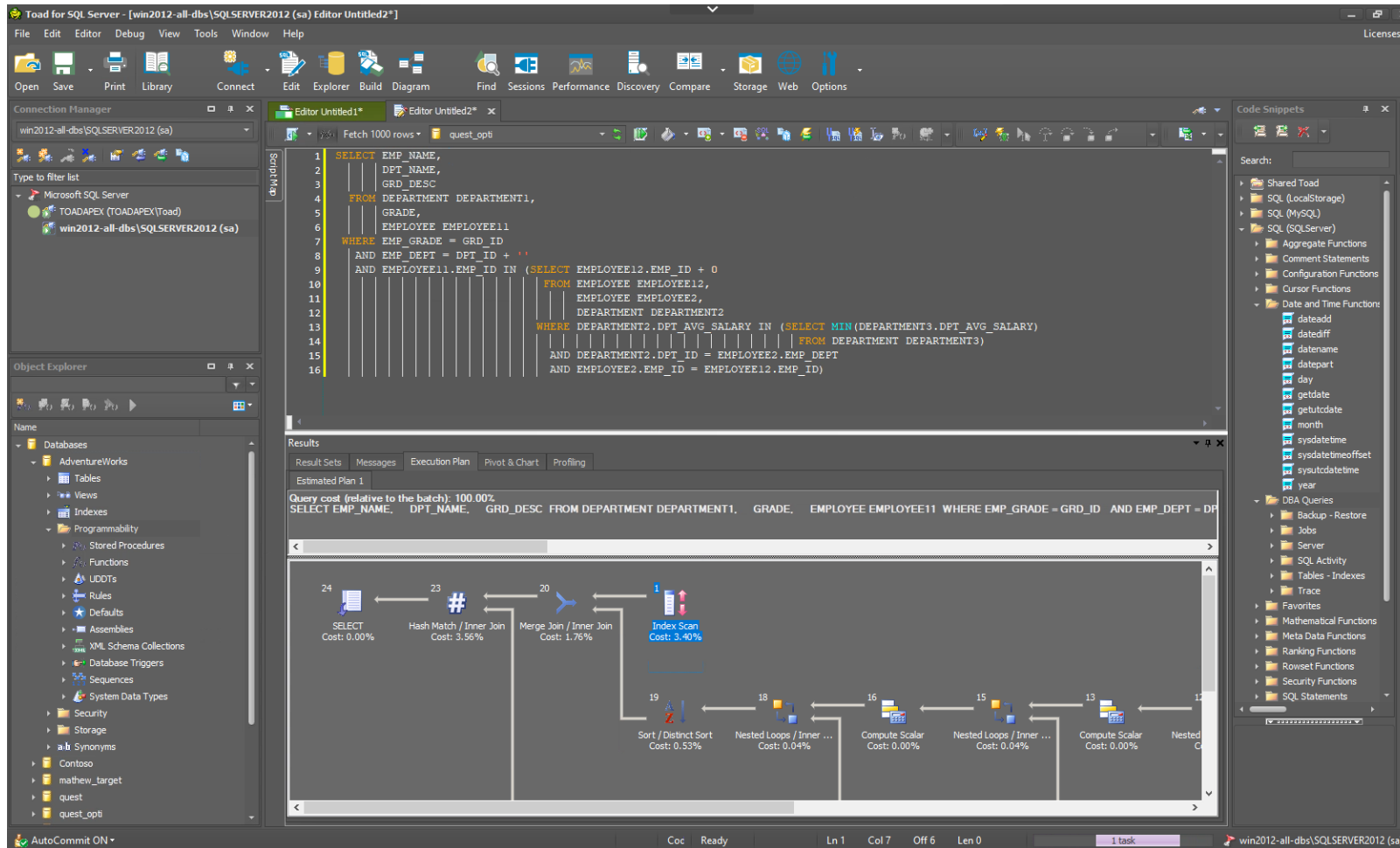
# Which Toad for Oracle

	Base	Pro	Xpert	Developer	DBA
Sensitive Data Awareness		X	X	X	X
Sensitive Data Protection*		X	X	X	X
utPLSQL unit testing (supports DevOps)	X	X	X	X	X
SQL editor	X	X	X	X	X
Query builder	X	X	X	X	X
Schema/data compare	X	X	X	X	X
Automation	X	X	X	X	X
Debugger/profiler	X	X	X	X	X
Data generation		X	X	X	X
Code quality analysis and reporting		X	X	X	X
SQL optimization (SQL Optimizer)			X	X	X
PL/SQL unit testing (Code Tester)				X	
Performance/benchmark testing (Benchmark Factory)				X	X
Data modeling					X
Database health checks and many other advanced functions (DB Admin Module)					X
Predictive diagnostics (Spotlight)					X

\* Sensitive Data Protection is available for a separate license fee.

# Toad's Evolution

# Toad for Other Database Platforms



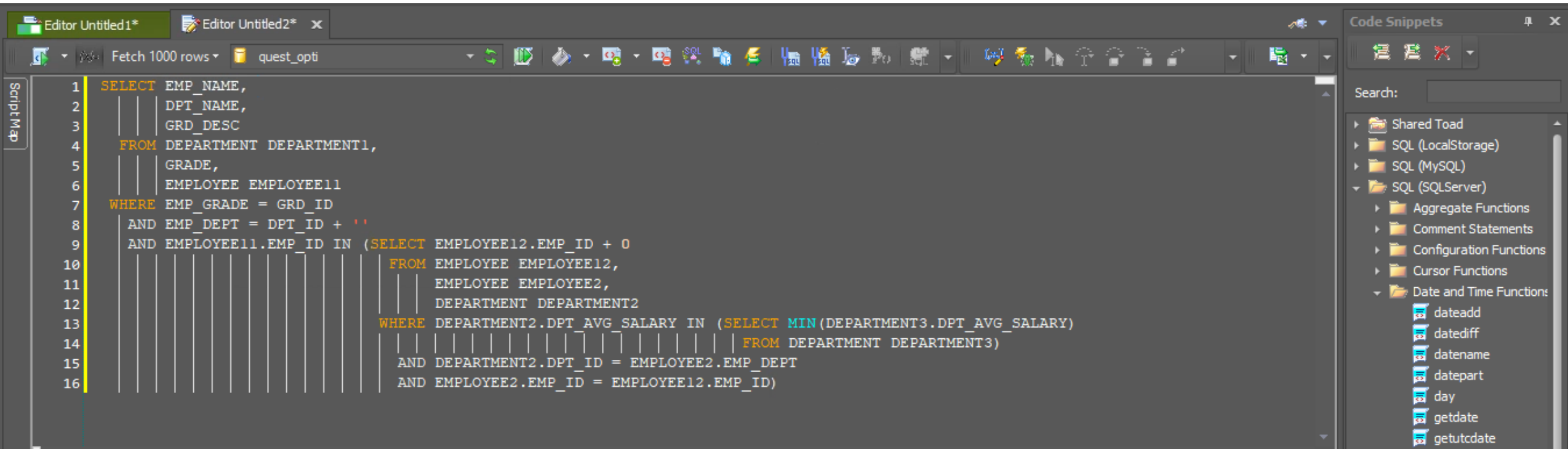
For Developers and DBAs:

Many of the same features of Toad for Oracle

- SQL Server
- DB2
- SAP Databases
  - ASE
- SQL IQ
- SQL Anywhere
- HANA



# Powerful Editors and Browsers



The image shows a screenshot of a code editor interface. The main window displays a complex SQL query with line numbers 1 through 16. The query is a SELECT statement with multiple joins and subqueries. The sidebar on the right shows a 'Code Snippets' panel with a search bar and a list of categories and functions.

```
1 SELECT EMP_NAME,  
2         DPT_NAME,  
3         GRD_DESC  
4 FROM DEPARTMENT DEPARTMENT1,  
5         GRADE,  
6         EMPLOYEE EMPLOYEE11  
7 WHERE EMP_GRADE = GRD_ID  
8        AND EMP_DEPT = DPT_ID + ''  
9        AND EMPLOYEE11.EMP_ID IN (SELECT EMPLOYEE12.EMP_ID + 0  
10                                   FROM EMPLOYEE EMPLOYEE12,  
11                                   EMPLOYEE EMPLOYEE2,  
12                                   DEPARTMENT DEPARTMENT2  
13                                   WHERE DEPARTMENT2.DPT_AVG_SALARY IN (SELECT MIN(DEPARTMENT3.DPT_AVG_SALARY)  
14                                   FROM DEPARTMENT DEPARTMENT3)  
15                                   AND DEPARTMENT2.DPT_ID = EMPLOYEE2.EMP_DEPT  
16                                   AND EMPLOYEE2.EMP_ID = EMPLOYEE12.EMP_ID)
```

**Code Snippets**

Search:

- Shared Toad
- SQL (LocalStorage)
- SQL (MySQL)
- SQL (SQLServer)
  - Aggregate Functions
  - Comment Statements
  - Configuration Functions
  - Cursor Functions
  - Date and Time Functions
    - dateadd
    - datediff
    - datetime
    - datepart
    - day
    - getdate
    - getutcdate

# Data, Schema, Server Compare Tools

The screenshot displays the SQL Server Enterprise Manager interface. On the left, the 'Compare' menu is open, showing options for 'Data Compare', 'Schema Compare', and 'Server Compare'. The main window shows a comparison of the [dbo].[CustomerData2] table. The 'Script' pane is split into two columns, showing the SQL definitions for the table. The left pane shows the original schema, and the right pane shows a modified version. The differences are highlighted in blue and green.

Column	Original Definition	Modified Definition
7	[LastName] nvarchar(50) COLLATE SQL_Latin1_General_CI_AS_KS_WS	[LastName] nvarchar(50) COLLATE SQL_Latin1_General_CI_AS_KS_WS
8	[Education] nvarchar(50) COLLATE SQL_Latin1_General_CI_AS_KS_WS	[Education] nvarchar(50) COLLATE SQL_Latin1_General_CI_AS_KS_WS
9	[YearlyIncome] int	[YearlyIncome] int
10	[StateProvinceName] nvarchar(50) COLLATE SQL_Latin1_General_CI_AS_KS_WS	[StateProvinceName] nvarchar(50) COLLATE SQL_Latin1_General_CI_AS_KS_WS
11	[ContinentName] nvarchar(50) COLLATE SQL_Latin1_General_CI_AS_KS_WS	[ContinentName] nvarchar(50) COLLATE SQL_Latin1_General_CI_AS_KS_WS
12	[BirthDate] datetime	[BirthDate] datetime
13	[CityName] nvarchar(50) COLLATE SQL_Latin1_General_CI_AS_KS_WS	[CityName] nvarchar(50) COLLATE SQL_Latin1_General_CI_AS_KS_WS
14	[RegionCountryName] nvarchar(60) COLLATE SQL_Latin1_General_CI_AS_KS_WS	[RegionCountryName] nvarchar(50) COLLATE SQL_Latin1_General_CI_AS_KS_WS
15	) ON [PRIMARY]	[Column_12] int,
16	CREATE INDEX [idx_Nonclustered_CustomerData2_BirthDate] ON [dbo].[CustomerData2] ([BirthDate])	[Column_13] int,
17	WITH (FILLFACTOR=100)	[test] int,
18	ON [PRIMARY]	[demo] int,
19		[Git_test] int,

# SQL Optimizers for Other Databases

## USAGE AND SYMPTOM

Provide the following information and SQL Optimizer will determine the best test run settings and optimization goals. To customize the settings yourself, click the link at the bottom.

Test Run Label: [3:23:08 PM](#)



### How this SQL is used:

- This SQL is used in my report or batch where all records will be retrieved from the SQL.
- This SQL is used in my online query program, normally less than 100 records are retrieved for review but all records may also be retrieved in the end.
- This SQL is used in my online query program and normally only the first 50 records will be retrieved.
- Undefined or all of the above apply.



### The execution frequency for this SQL:

- Low – A few times in a day.
- Medium – A few times in a minute or hour.
- High – Hundreds of times or more in a minute.
- Unknown or frequency varies.



### Symptoms:

- This SQL consumes a lot of CPU in my system and I want to save CPU time.
- This SQL consumes a lot of IO in my system and I want to save IO time.
- This SQL runs longer than expected and I want to improve its run time.
- This SQL significantly affects the performance of other SQL statements in my system.

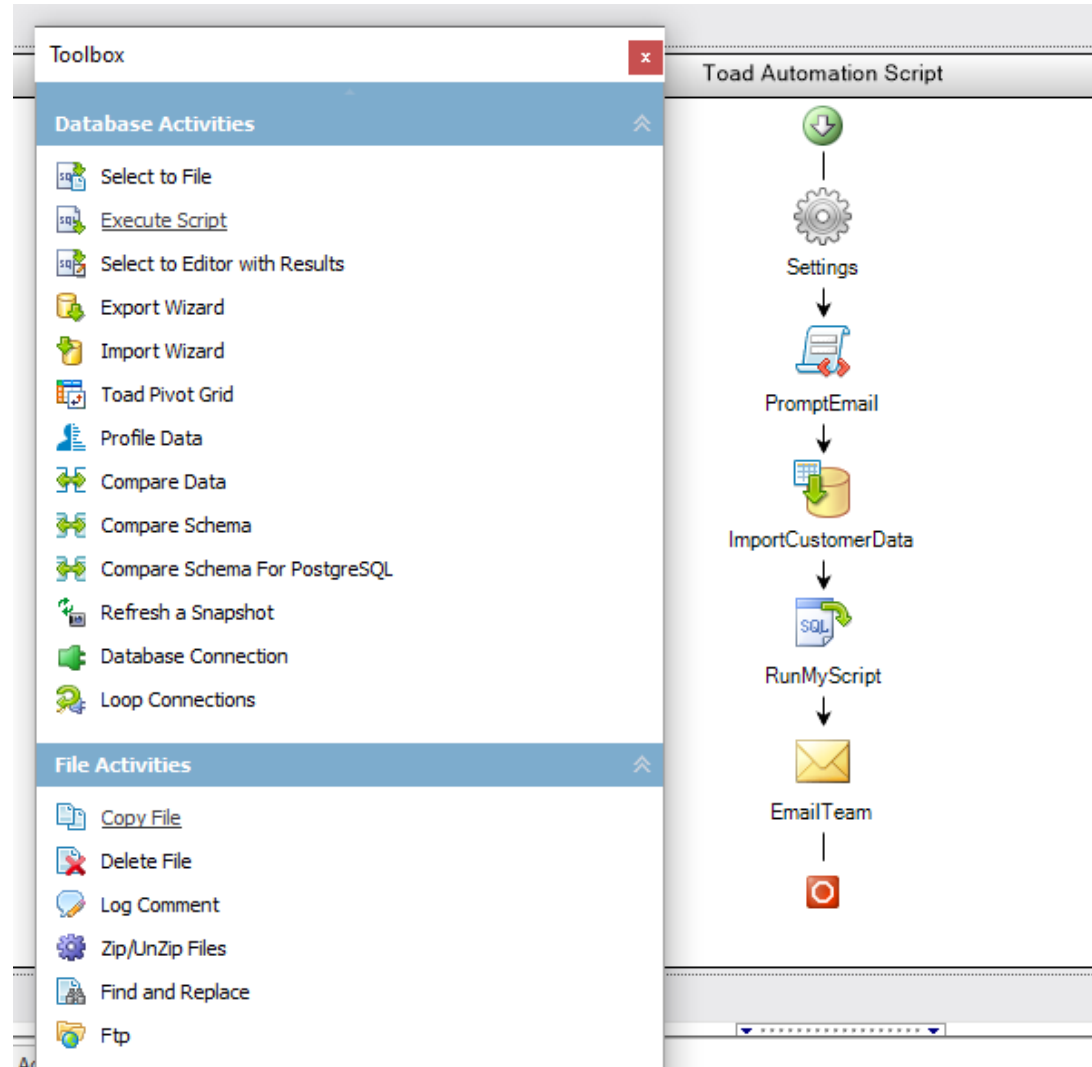
Alternatives

4 faster found (23 not tested) Alt17 Index L

[Show faster alternatives only](#) >>

General						
	Scenario Name	Plan Cost	Executions	Record Count	Execution Elapsed Time	
<input checked="" type="checkbox"/>	Original	0.7781230	2	9,389	00:00:00.028	
<input checked="" type="checkbox"/>	Alt21	0.7900050	2	9,389	00:00:00.028	
<input checked="" type="checkbox"/>	Alt22	0.7918920	2	9,389	00:00:00.029	
<input checked="" type="checkbox"/>	Alt11	0.8283470	2	9,389	00:00:00.027	
<input checked="" type="checkbox"/>	Alt20	0.8292670	2	9,389	00:00:00.029	
<input checked="" type="checkbox"/>	Alt17	0.8336820	2	9,389	00:00:00.024	

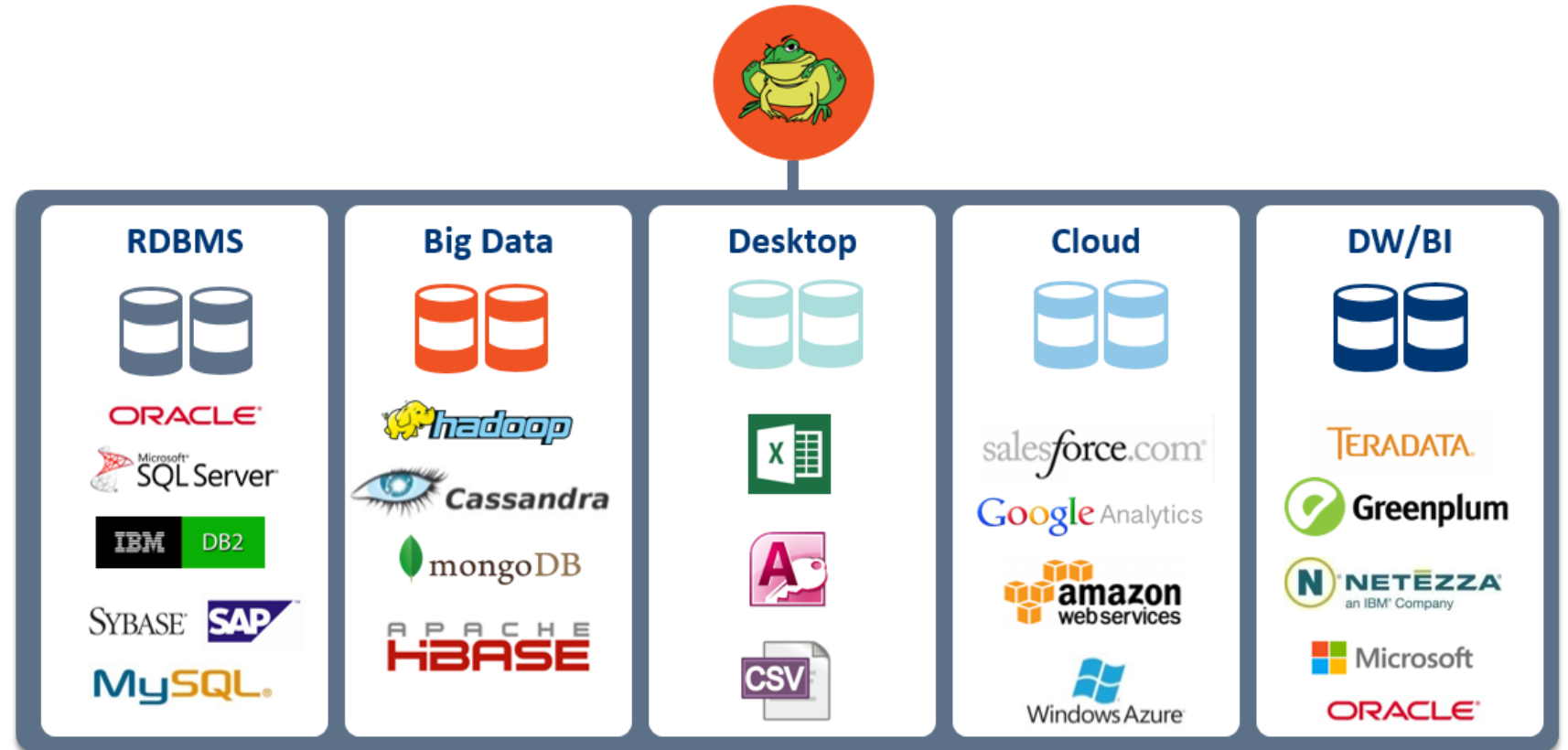
# Automation Workflows





# The Next Generation of Toad

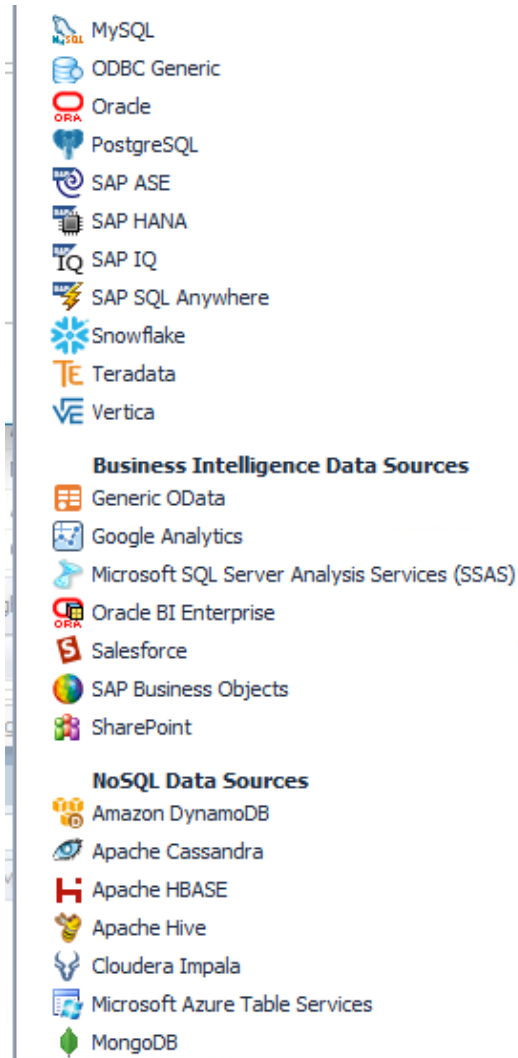
- Toad Data Point and Toad Data Studio
- For the Data Analyst or Hybrid Data Engineer
- Database Platform agnostic
- Cross platform capabilities
- Cloud and NoSQL ready



# Toad Data Point



# Toad Data Point – Multiplatform Support Quest



Single User Interface connects to...

- Traditional relational databases
- Data Warehouses
- Cloud and on premises
- Business intelligence platforms
- NoSQL platforms

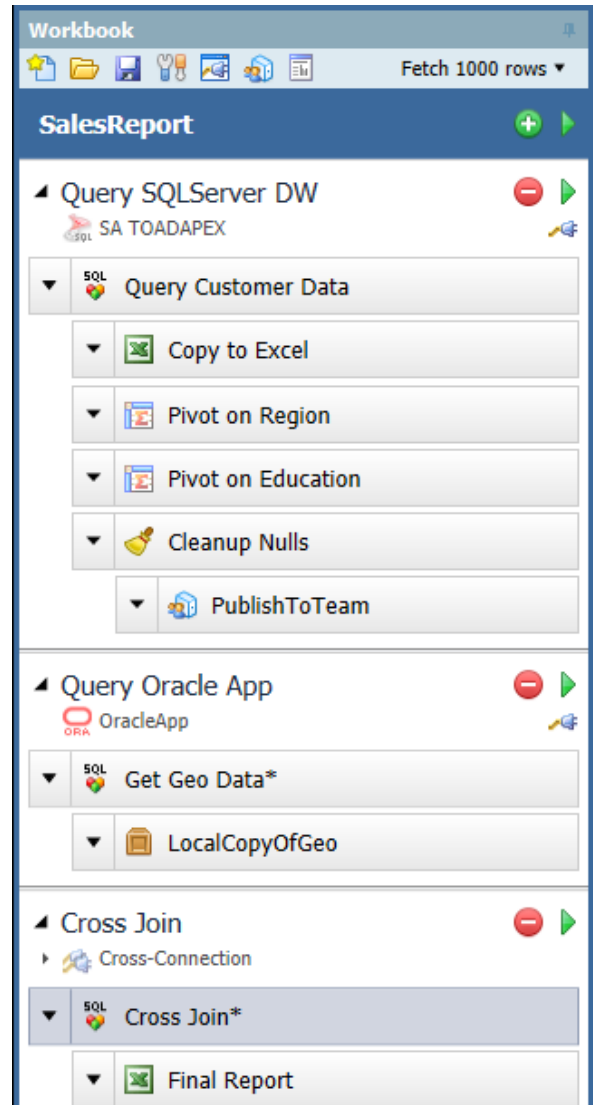


# Toad Data Point – Cross Platform Queries Quest

GeographyKey = GeographyKey

	FirstName	MiddleName	LastName	YearlyIncome	Education	ContinentName	CityName	StateProvinceName	RegionCountryName
♀	Ⓜ	Ⓜ	Ⓜ	=	Ⓜ	Ⓜ	Ⓜ	Ⓜ	Ⓜ
▶	Lauren	M	Walker	100000.0000	Bachelors	North America	Bremerton	Washington	United States
	Ian	M	Jenkins	100000.0000	Bachelors	North America	Lebanon	Oregon	United States
	Sydney	{null}	Bennett	100000.0000	Bachelors	North America	Redmond	Washington	United States
	Chloe	{null}	Young	30000.0000	Partial College	North America	Burbank	California	United States
	Wyatt	L	Hill	30000.0000	Partial College	North America	Imperial Beach	California	United States
	Luke	L	Lal	40000.0000	High School	North America	Langley	British Columbia	Canada
	Jordan	C	King	40000.0000	High School	North America	Metchosin	British Columbia	Canada
	Destiny	{null}	Wilson	40000.0000	Partial College	North America	Beaverton	Oregon	United States
	Ethan	G	Zhang	40000.0000	Partial College	North America	Bellingham	Washington	United States

# Toad Data Point – Streamlined Workflow Quest



# Toad Data Point – Transform and Cleanse Quest

The screenshot displays the Toad Data Point interface. The top section shows a data table with columns: FirstName, MiddleName, LastName, BirthDate, YearlyIncome, and Education. Each column has a corresponding histogram above it. The BirthDate column is selected, and the Format Data Step configuration is shown below.

FirstName	MiddleName	LastName	BirthDate	YearlyIncome	Education
Lauren	M	Walker	1/18/1968 12:00:00 AM	100000.0000	Bachelors
Ian	M	Jenkins	8/6/1968 12:00:00 AM	100000.0000	Bachelors
Sydney	{null}	Bennett	5/9/1968 12:00:00 AM	100000.0000	Bachelors
Chloe	{null}	Young	2/27/1979 12:00:00 AM	30000.0000	Partial College
Wyatt	L	Hill	4/28/1979 12:00:00 AM	30000.0000	Partial College
Luke	L	Lal	3/7/1978 12:00:00 AM	40000.0000	High School
Jordan	C	King	9/20/1978 12:00:00 AM	40000.0000	High School
Destiny	{null}	Wilson	8/3/1978 12:00:00 AM	40000.0000	Partial College

**Format Data Step**

In Columns: BirthDate

Format Options: 1/20/2025

Customize: M/d/yyyy

Sample: 1/20/2025

# Toad Data Point – Server Collaboration

Quest



Toad Intelligence Central

## Home

### ▼ Reports

Data Objects

User Activity

### ▼ Administration

Users

Groups

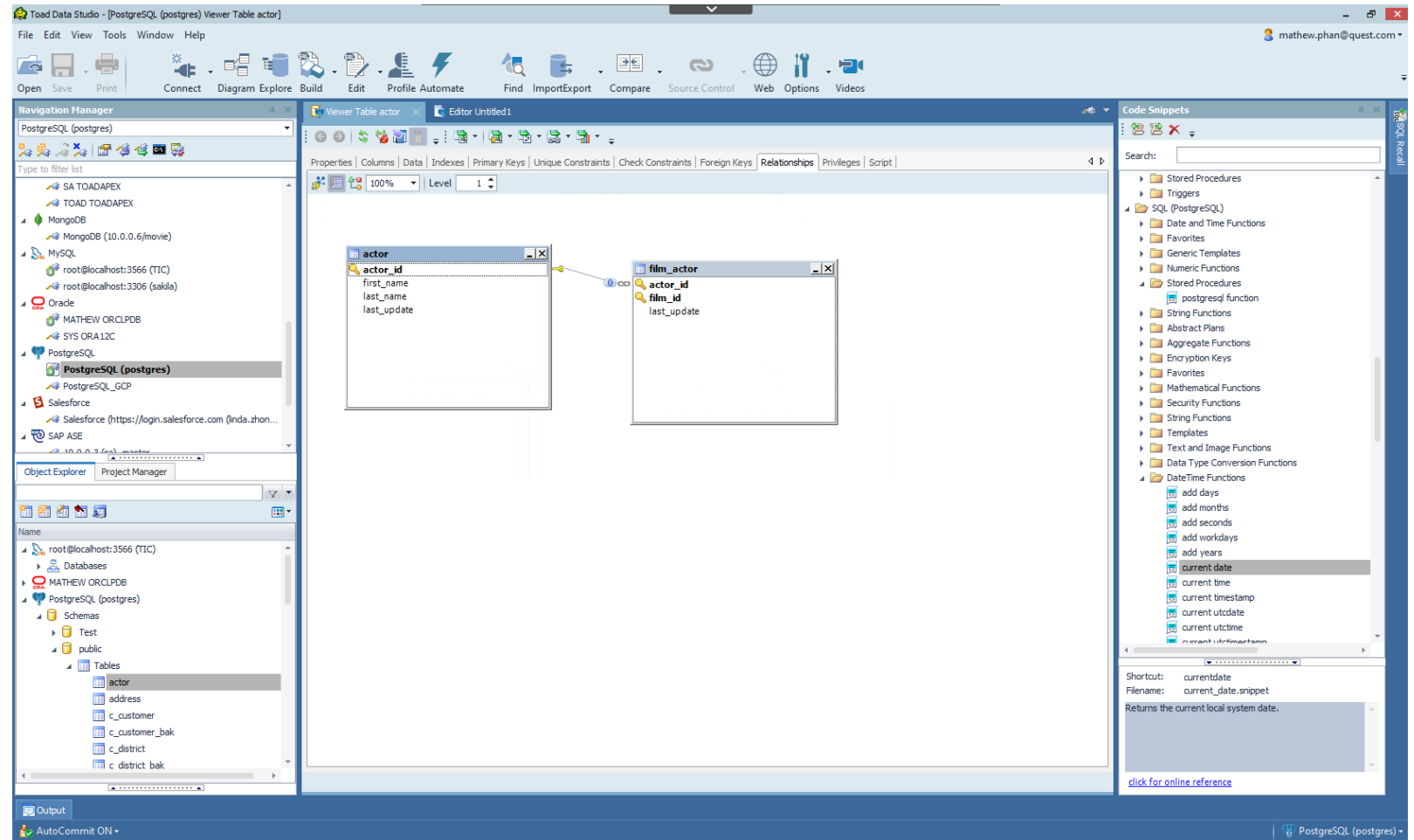
Name	Publisher	Updated	Object Type
📁 No folder assigned			
📁 Aces			
📁 Demo			
📁 NewFolder			
📄 Demo	mathew (Mathew)	10/31/2024	Workbook
📄 PivotTable	mathew (Mathew)	10/31/2024	Dataset
📄 QueryLocations	mathew (Mathew)	10/31/2024	Dataset
📄 QuerySQLServer	mathew (Mathew)	10/31/2024	Dataset
📄 CustomerData	mathew (Mathew)	10/31/2024	Dataset
📄 CustomerDataSet	mathew (Mathew)	10/28/2024	Snapshot
📄 Locations	mathew (Mathew)	10/31/2024	Dataset
📄 Script_1	mathew (Mathew)	10/31/2024	Automation Script
📁 AFSC			
📁 Ahold			
📁 Alec			
📄 Customerreport	mathew (Mathew)	1/7/2025	Snapshot
📁 Alston			



# Toad Data Studio

# Toad Data Studio – For Technical Users

- Hybrid data professional, the accidental DBA, multi-platform data engineer
- Cross platform querying support
- Multiplatform Data Compare, Schema compare
- Integration with version control
- JSON support
- Automation and scheduling



# Toad Data Studio – Data Compare

The screenshot displays the Toad Data Studio Data Compare tool. The top window shows a comparison of two tables: **dbo DimCustomer** and **dbo DimGeography**. The summary table below indicates that 2 pairs of columns have differences in their data.

Sync	Type	Source Name	Target Name	Source Only	Different	Target Only	Equal
<input checked="" type="checkbox"/>		dbo DimCustomer	DIMCUSTOMER	392	2	0	18,475
<input checked="" type="checkbox"/>		dbo DimGeography	GEO_CODE	0	3	4	671

The main data grid shows a comparison of columns between the source and target tables. The columns are: GeographyKey, GeographyType, ContinentName, CityName, StateProvinceName, and RegionCountryName. The data is displayed in a grid format with columns for Source and Target values. The first row (GeographyKey 879) shows a difference in the CityName column, where the source is 'Minden' and the target is null.

GeographyKey	GeographyType	ContinentName	CityName	StateProvinceName	RegionCountryName
879	City	North America	Minden	Texas	United States
906	City	North America	Pasadena	Texas	United States
915	City	North America	Queen Ann...	Maryland	United States
953	City	North America	Huntington ...	California	United States
954	City	North America	Huntington...	California	United States
955	City	North America	{null}	California	United States
999	City	North America	Las Vegas	Nevada	United States

The Row Viewer at the bottom provides a detailed comparison of the first row (GeographyKey 879). It shows the Source Data and Target Data for each column, highlighting differences. The CityName column shows a difference between 'Minden' (Source) and '{null}' (Target).

Source Column	Source Data	Target Data	Target Column
GeographyKey	879	879	GeographyKey
GeographyType	City	City	GeographyType
ContinentName	North America	North America	ContinentName
CityName	Minden	{null}	CityName
StateProvinceName	Texas	Texas	StateProvinceName
RegionCountryName	United States	United States	RegionCountryName
ETLLoadID	1	1	ETLLoadID
LoadDate	9/28/2009 8:19:34.76 PM	9/28/2009 8:19:34.76 PM	LoadDate
UpdateDate	9/28/2009 8:19:34.76 PM	9/28/2009 8:19:34.76 PM	UpdateDate

The interface also includes a 'Row Viewer' section at the bottom, which can be toggled between 'Cell Viewer' and 'Row Viewer'. The 'Row Viewer' is currently selected, showing the detailed comparison of the first row.

# Toad Data Studio – Schema Compare

The screenshot displays the Schema Compare tool in Toad Data Studio. The top pane shows a list of tables in the [dbo] schema, with [dbo].[CustomerData2] selected. The bottom pane shows the SQL script for the table comparison, split into two panes: the left pane shows the source schema, and the right pane shows the target schema. A comparison window is open, highlighting differences between the two schemas.

Source Schema	Target Schema
<pre>CREATE TABLE [dbo].[CustomerData2] (     [FirstName] nvarchar(50) COLLATE SQL_Latin1_General_CP1_CI_AS,     [MiddleName] nvarchar(50) COLLATE SQL_Latin1_General_CP1_CI_AS,     [LastName] nvarchar(50) COLLATE SQL_Latin1_General_CP1_CI_AS,     [Education] nvarchar(50) COLLATE SQL_Latin1_General_CP1_CI_AS,     [YearlyIncome] int,     [StateProvinceName] nvarchar(50) COLLATE SQL_Latin1_General_CP1_CI_AS,     [ContinentName] nvarchar(50) COLLATE SQL_Latin1_General_CP1_CI_AS,     [BirthDate] datetime,     [CityName] nvarchar(50) COLLATE SQL_Latin1_General_CP1_CI_AS,     [RegionCountryName] nvarchar(60) COLLATE SQL_Latin1_General_CP1_CI_AS ) ON [PRIMARY] CREATE INDEX [idx_Nonclustered_CustomerData2_BirthDate] ON [dbo].[CustomerData2] ([BirthDate]) WITH (FILLFACTOR=100) ON [PRIMARY]</pre>	<pre>CREATE TABLE [dbo].[CustomerData2] (     [FirstName] nvarchar(50) COLLATE SQL_Latin1_General_CP1_CI_AS,     [MiddleName] nvarchar(50) COLLATE SQL_Latin1_General_CP1_CI_AS,     [LastName] nvarchar(50) COLLATE SQL_Latin1_General_CP1_CI_AS,     [Education] nvarchar(50) COLLATE SQL_Latin1_General_CP1_CI_AS,     [YearlyIncome] int,     [StateProvinceName] nvarchar(50) COLLATE SQL_Latin1_General_CP1_CI_AS,     [ContinentName] nvarchar(50) COLLATE SQL_Latin1_General_CP1_CI_AS,     [BirthDate] datetime,     [CityName] nvarchar(50) COLLATE SQL_Latin1_General_CP1_CI_AS,     [RegionCountryName] nvarchar(50) COLLATE SQL_Latin1_General_CP1_CI_AS,     [Column_12] int,     [Column_13] int,     [test] int,     [demo] int,     [Git_test] int, )</pre>

# Toad Data Studio – Version Control

Changes: 22 pending (22 checked) | Active branch: main | Apply | Refresh

Type	Database	Action	Repository	Schema
Table	C_New_Order	→	C_New_Order	dbo
Table	C_New_Order_BAK	→		dbo
Table	C_Order	→	C_Order	dbo
Table	C_Order_BAK	→		dbo
Table	C_Order_Line	→	C_Order_Line	dbo
Table	C_Order_Line_BAK	→		dbo
Table	C_Stock	→	C_Stock	dbo
Table	C_Stock_BAK	→		dbo
Table	C_Warehouse_BAK	→		dbo
Table	CustomerData2	→	CustomerData2	dbo
Table	marvel	→		dbo
Table	Test3	→		dbo
Table	test5	→		dbo
Table	test6	→		dbo
Table	uhg	→		dbo
f() Function	ApexSQL_SourceControl_FrameworkVersion	→		dbo

Database | Repository

```
11 [ContinentName] nvarchar(50) COLLATE SQL_Latin1_General_CP1_CI_AS,
12 [BirthDate] datetime,
13 [CityName] nvarchar(50) COLLATE SQL_Latin1_General_CP1_CI_AS,
14 [RegionCountryName] nvarchar(50) COLLATE SQL_Latin1_General_CP1_CI_AS,
15 [Column_12] int,
16 [Column_13] int,
17 [test] int,
18 [demo] int,
19 [Git_test] int,
20 [Test17] int,
21 [Column_18] int
22 ) ON [PRIMARY]
23 CREATE INDEX [idx Nonclustered CustomerData2 FirstName LastName] ON [CustomerData2] ([Git_test])
```

SA TOADAPEX\mathew\_test | Git | [http://github.com/xSlothx/mathew\\_test/database](http://github.com/xSlothx/mathew_test/database)

# Toad Data Studio – JSON Support

The screenshot displays the Toad Data Studio interface. The main window shows a table with columns: last\_name, birthdate, address, and email. The address column contains JSON objects. The Document Outline on the right lists the JSON structure: zip (String), city (String), state (String), and street (String). The bottom pane shows the selected JSON object: {"zip": "54321", "city": "Townville", "state": "Countyville", "street": "101 Pine St"}.

last_name	birthdate	address	email
Johnson	3/10/1995 12:00:00 AM	{"zip": "67890", "city": "Village", "state": "Count..."}	jane.johnson@em
Brown	12/25/1980 12:00:00 AM	{"zip": "54321", "city": "Townville", "state": "Cou..."}	michael.brown@e
Johnson	3/10/1995 12:00:00 AM	{"zip": "67890", "city": "Village", "state": "Count..."}	jane.johnson@em
Brown	12/25/1980 12:00:00 AM	{"zip": "54321", "city": "Townville", "state": "Cou..."}	michael.brown@e

Document Outline

Type to filter list

Name

- zip : String
- city : String
- state : String
- street : String

```
1 {
2   "zip": "54321",
3   "city": "Townville",
4   "state": "Countyville",
5   "street": "101 Pine St"
6 }
```



# Which Toad is for you?

---

Quest

Traditional DBAs  
Database Developers



Toad for Oracle  
Toad for SQL Server  
Toad for DB2  
Toad for SAP Databases

Data Engineer  
Technical Data Professional  
Hybrid DBA



Toad Data Studio

Data Analysts  
Business Users



Toad Data Point

But Wait.... There's More!

## AI Enabled Toads

```
CREATE OR REPLACE PROCEDURE show_bizdays (  
  date_in  IN DATE    DEFAULTT SYSDATE,  
  day_in   IN NUMBER  DEFAULT 30)  
AS  
  v_day_type CHAR(1);  
  v_start DATE := date_in;  
  v_count NUMBER := 1;  
BEGIN  
  WHILE v_countr < day_in + 1  
  LOOP  
    SELECT SUBSTR(TO_CHAR(v_start, 'DAY'), 0, 1)  
    INTO v_day_type  
    FROM dual;  
    IF v_day_type = "s" THEN  
      v_start := v_start + 2;  
    ELSE  
      DBMS_OUTPUT.PUT_LINE ('The index is : ' || v_count ||  
        ' and the table value is: ' || v_start);  
      v_count := v_count + 1;  
      v_start := v_start -1;  
    END IF;  
  END LOOP;  
END
```



This SQL query creates a procedure to Show the number of business days Within a given period.

# What's Next...

---

Quest

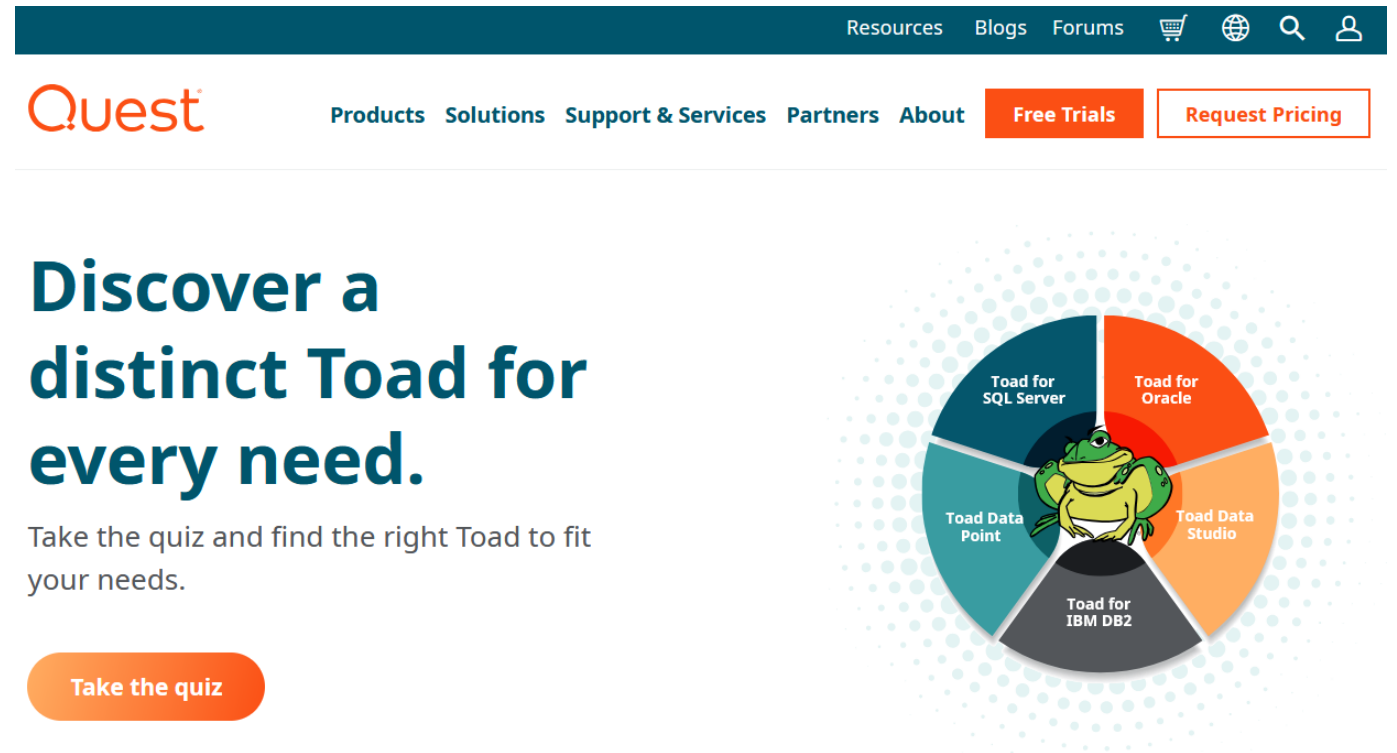
- AI Explain and more to come
- Support for more platforms
- Integration points to Erwin Data Intelligence and Data Modeling



BigQuery

# Where to Learn More

- [www.quest.com/toad](http://www.quest.com/toad)
- [www.toadworld.com](http://www.toadworld.com)
- [www.sqlshack.com](http://www.sqlshack.com)



The screenshot shows the Quest website's landing page for Toad. At the top, there is a dark teal navigation bar with links for Resources, Blogs, Forums, a shopping cart icon, a globe icon, a search icon, and a user profile icon. Below this is the Quest logo in orange, followed by navigation links for Products, Solutions, Support & Services, Partners, and About. Two prominent buttons are visible: a solid orange 'Free Trials' button and a white 'Request Pricing' button with an orange border. The main content area features the headline 'Discover a distinct Toad for every need.' in a large, bold, dark teal font. Below the headline is a sub-headline: 'Take the quiz and find the right Toad to fit your needs.' An orange rounded rectangular button labeled 'Take the quiz' is positioned below the sub-headline. To the right of the text is a circular graphic with a green frog in the center. The circle is divided into five colored segments, each representing a different Toad product: 'Toad for SQL Server' (dark teal), 'Toad for Oracle' (orange), 'Toad Data Studio' (light orange), 'Toad for IBM DB2' (dark grey), and 'Toad Data Point' (teal). The background of the circular graphic consists of a pattern of light blue dots.



**Looking Forward to Seeing You There!**

**Skills 101 – Toad**  
Episode 2

**Top 5 Features You'll Wish You  
Knew Sooner**

**April 16<sup>th</sup>, 2025**  
Dennis O'Sullivan  
Solutions Consultantz



[www.quest.com/data-management-skills-training](http://www.quest.com/data-management-skills-training)