

Detailed breakdown of **SQL Server Management Studio (SSMS) 22** — what it is, what's new in the latest 22.0.0 release, and what improvements/changes have been made. The information is largely based on the official release notes.

Source: <https://learn.microsoft.com/en-us/ssms/release-notes-22>

### What is SSMS 22

- SSMS is Microsoft's integrated environment for managing SQL Server, Azure SQL Database/Managed Instance, Azure Synapse Analytics, and related data-platform services. The "22" denotes the current major release.
- Version 22.0.0 was released on **November 11, 2025**.
- SSMS 22 is the current "General Availability (GA)" release, meaning it is fully supported and intended for production use.

SSMS 22 continues to build on prior SSMS releases, but adds **new functionality, improved UX (user experience), modern support for new data types and platforms, and bug fixes**.

### Key New Features & Enhancements in SSMS 22.0.0

Here are some of the most notable additions and improvements in SSMS 22.

| Area / Feature   | What's New / Improved  |
|--|--|
| Platform & Architecture  | <ul style="list-style-type: none"> <li>• <b>Windows Arm64 support</b> — core SSMS features (connecting, querying) now work natively on ARM64 Windows devices.</li> </ul>   |
| Connection Experience  | <ul style="list-style-type: none"> <li>• The <i>modern connection dialog</i> is now the default.</li> <li>• Added <i>Fabric browsing</i> in the connection dialog's Browse tab — allowing browsing of supported data resources.</li> <li>• New "Reset" button to clear fields in Connection Properties.</li> </ul>   |
| New Data Type & DB Features Support (e.g. for next-gen SQL/AI servers) | <ul style="list-style-type: none"> <li>• Support for <b>Vector</b> data types — you can now use Vector columns in table designer, Edit Data, scripts, table designer etc. (</li> <li>• Ability to create <b>Vector indexes</b> and <b>JSON indexes</b>.</li> <li>• IntelliSense support has been expanded to new syntax relevant to vector/AI/data-warehouse style operations:<br/>e.g. VECTOR_SEARCH, AI_GENERATE_EMBEDDINGS, REGEXP_MATCHES, REGEXP_SPLIT_TO_TABLE, CURRENT_TIMEZONE_ID, ANSI concatenation operator ('</li> </ul> |
| Query / Script / Editor Enhancements                                   | <ul style="list-style-type: none"> <li>• Ability to open execution plans in a <b>new tab</b>, making plan review easier.</li> <li>• Zoom support in the results grid — useful when working with large results sets or high-resolution monitors.</li> <li>• Numerous <b>code snippets</b> added (e.g. for index creation, AI embedding-related operations, security/schema scripts).</li> <li>• Improved scripting support including for tables with Vector columns.</li> </ul>   |
| Tooling & Integration  | <ul style="list-style-type: none"> <li>• <b>Database Tuning Advisor (DTA)</b> improved — better handling of temp tables, triggers, table variables; improved index tuning quality, scalability, concurrency.</li> <li>• <b>Linked Server Wizard</b> improved — a streamlined wizard including new encryption model options.</li> <li>• <b>Reinstated support for Integration Services (SSIS)</b>: SSISDB catalog management, automated SSIS package execution, import/export wizard.</li> </ul>                                      |
| UI / Theming / Usability   | <ul style="list-style-type: none"> <li>• New themes introduced; the older "Blue (SSMS)" theme removed.</li> <li>• Dark-theme expansion — more dialogs now support dark mode (e.g. Connect to Azure Storage, Registered Servers dialogs).</li> <li>• Under-the-hood library updates: SMO updated to version 17.100.73, DacFx to version 170.0.97.</li> </ul>  |

Also, SSMS 22 brings **compatibility with newer / future SQL Server / database engine capabilities** (e.g. vector data, JSON, data-warehouse / AI-oriented features), making it more future-proof if you work with modern or upcoming SQL Server versions.

## Bug Fixes & Reliability Improvements

Along with features, SSMS 22 addresses many bugs and usability issues that plagued earlier versions. Key fixes include:

- Fixed context-menu issues in Activity Monitor (e.g. Recent Expensive Queries / Active Expensive Queries).
- Resolved errors when browsing OLAP cubes in Analysis Services.
- Fixed authentication issues: newly added users to an Entra ID group can now log in properly after clearing token cache.
- Fixed issues switching between different database types (e.g. between SQL database and Data Warehouse) on same server — no more “Incorrect syntax near ‘NOEXEC’” errors.
- UI reliability fixes (dialogs appearing behind main window, clipboard/copy issues, scroll-bar navigation, result-grid header-copying, status-bar information, etc.) to improve everyday use.
- Fixes to scripting and wizards — e.g. resolved errors thrown by “Generate Scripts” wizard, corrected behavior when scripting tables with vector columns, fixed issues in Query Editor (e.g. copy-paste, header inclusion, scroll behavior).

Overall stability and usability in a variety of scenarios (querying, managing database objects, integrating with other services) has been improved.

## Why This Release Matters / Who Benefits

- **For organizations adopting newer SQL Server / data-warehouse / AI-enabled database engines** — SSMS 22’s support for Vector data types, JSON indexing, improved IntelliSense and scripting ensures you can work with next-gen database features smoothly.
- **For developers/DBAs working across different platforms** — support for ARM64 means you’re not tied to x86/x64 Windows machines; SSMS is more portable.
- **For those using cloud or hybrid data services** — integration with “Fabric browsing”, improved linked-server wizards, SSIS support, and better authentication align with modern cloud-enabled workflows.
- **For daily productivity and user experience** — UI improvements (themes, zoom, execution plan tabs), bug fixes, improved reliability — all make the tool feel more polished and stable in real-world use.

## What's the Context & Important Notes

- SSMS 22 can run side-by-side with earlier versions of SSMS. This means you don’t have to uninstall your older SSMS to try version 22.
- The release notes mention that while basic ARM64 support is included, **some scenarios remain unsupported** on ARM64 (users should check “Known Issues” if using ARM-based Windows).
- Some features (like the AI-powered integration via GitHub Copilot) are still labeled “Preview,” which means they are subject to change and may have limitations.

Summarizing the **major changes** going from SQL Server Management Studio (SSMS) 21 → SSMS 22.

It highlights new features, enhancements, and changed behavior introduced in version 22 compared to version 21.

| Category / Feature Area   | What was in SSMS 21   | What changed / Added in SSMS 22   |
|---|---|---|
| Platform / Architecture   | SSMS 21 was 64-bit and based on Visual Studio 2022.   | SSMS 22 adds <b>initial Windows ARM64 support</b> (core scenarios: connecting, querying) enabling use on ARM-based Windows devices.   |
| Connection Dialog & Experience                                      | SSMS 21 introduced the Modern Connection Dialog (Preview), Azure tenant selection for Azure resources, ability to browse registered servers in connection UI.   | In SSMS 22, the <b>Modern Connection Dialog becomes the default</b> . Added “Fabric browsing” in the Browse tab, and a “Reset” button to clear connection-properties fields.  |
| Data Type / DB-Engine Features Support (Vector & JSON, AI/ML-ready) | SSMS 21 already added support for Vector data types, JSON functions, REGEXP_functions, scripting objects with Vector columns, updated SMO/DacFx libs.   | SSMS 22 expands that support: Now you can create <b>Vector indexes and JSON indexes</b> .<br>Query Editor / IntelliSense extended to new syntax: e.g. VECTOR_SEARCH, AI_GENERATE_EMBEDDINGS, CURRENT_TIMEZONE_ID, `   |
| Indexing & Query-Tuning Tools                                       | SSMS 21 supported core index creation, JSON/VECTOR scripting, and Query Store improvements.   | In SSMS 22, the <b>option to create Vector and JSON indexes via UI</b> (right-click > New Index) is added.<br>Also, <b>Database Tuning Advisor (DTA)</b> was improved — better coverage (temp tables, triggers, table variables), better index tuning quality, and improved scalability/concurrency.  |
| AI / Assistant Integration  | SSMS 21 included a “Copilot in SSMS (Preview)” Microsoft’s AI-assistant integration via Azure OpenAI model.   | SSMS 22 replaces that with <b>integration of GitHub Copilot (Preview)</b> — available through the Visual Studio Installer’s AI Assistance workload. Improvements include model selection and better support for features of newer SQL Server versions (2025 / 17.x).  |
| UI / Theming / Usability / Editor & Grid                            | SSMS 21 added dark-mode support for many dialogs, improved theming supporting high-DPI, customizations (tab coloring, results-grid cell border color, result grid theming), Visual Studio based UI refresh.   | SSMS 22 updates further: new themes added and the old “Blue (SSMS)” theme removed.<br>Dark-theme support expanded to more dialogs (e.g. “Connect to Azure Storage”, Registered Servers import/export/move dialogs).<br>Results grid gets <b>zoom support</b> (useful for large result sets or high-DPI screens).  |
| Scripting / Code/ Snippets / Automation                             | SSMS 21 introduced scripting support for Vector/JSON data types and objects, updated SMO/DacFx libraries, re-added Git integration (CI/CD via Git), terminal integration, improved wizard-based features (Always Encrypted, migration, maintenance plans, etc.) | SSMS 22 adds: new snippet files for index creation (Vector/JSON/AI-model external indexes), security/schema scripts, AI-embedding related operations.<br>Table Designer and Edit Data support Vector columns/data.<br>Scripting now better handles tables with Vector columns.  |
| Tooling & Integration (SSIS, Linked Servers, Wizards, etc.)         | SSMS 21 reinstated support for SSIS (import/export wizard, SSISDB management), migrations, Visual Studio-based installation, hybrid & migration workload.   | In SSMS 22: Improved <b>Linked Server Wizard</b> — streamlined creation with new encryption-model options.<br>Authentication control in <b>Managed Instance Link</b> updated to align with rest of SSMS.<br>SSIS support continues (SSISDB catalog, import/export wizard, package automation) in SSMS 22.   |
| Stability, Bug-Fixes, Reliability                                   | SSMS 21 resolved many legacy bugs (connection dialog issues, query-store rendering, results grid copy behavior, view-designer bugs, profiler issues, etc.).   | SSMS 22 further addresses a range of bugs: fixes in Activity Monitor context-menus, Analysis Services browsing errors (OLAP cubes), authentication issues (token cache / new users in Entra ID), Object Explorer errors, results-grid scrolling/navigation, status-bar readability/contrast, scripting and T-SQL language settings persistence, and more. |

 **Key takeaways: What SSMS 22 adds on top of what SSMS 21 already provided**

- SSMS 22 builds significantly on SSMS 21's foundation — especially around **Vector/JSON/AI-ready database support**, making it much more friendly for modern data-warehouse, AI/ML, and vector-search workloads.
- It improves user experience: more polished UI/theming, better dialog behavior, results-grid zooming, tightened reliability.
- It modernizes environment support: now works (natively) on ARM64 Windows.
- It upgrades tooling: better index and tuning support (Vector/JSON indexes + improved DTA), enhanced linked-server wizard, and continued SSIS support.
- It shifts AI integration to GitHub Copilot — which may better align with users already using GitHub ecosystem compared to earlier Azure-OpenAI-based preview in SSMS 21.

<https://www.sqlbachamps.com/>

**Comparison between SSMS 21 → SSMS 22:** exactly what changed, what was added, and what was removed.

## Complete Diff-Style Change List

### SSMS 21 → SSMS 22

Below is a comprehensive “what’s new / changed / added / improved” list.

#### 1. Platform & Architecture Changes

##### Added in SSMS 22

- **Native Windows ARM64 support** for core SSMS features (connect, query, object explorer).
- Updated internal components (SMO, DacFx, Visual Studio shell).
- Better performance on hybrid machines (ARM64 → x64 emulation fallback when needed).

##### Unchanged / same as SSMS 21

- Still a 64-bit app.
- Still built on Visual Studio 2022 shell.

#### 2. Connection Dialog & Authentication

##### Added / changed in SSMS 22

- The **Modern Connection Dialog** is now the **default** (previously optional in SSMS 21).
- New “**Fabric Browser**” support inside the connection dialog (for Fabric Warehouses & Lakehouses).
- New **Reset Button** on the Connection Properties tab.
- Improved handling of tenant selection for Azure SQL.
- Fixes for Entra ID authentication token caching issues.

##### SSMS 21 capabilities

- Older modern connection dialog (Preview).
- Basic Azure tenant & subscription dropdown.
- Occasional connection-dialog reliability bugs (now fixed in SSMS 22).

#### 3. Data Type, AI, Vector & JSON Features

##### Major new features in SSMS 22

- **Full support for Vector Indexes** (create, alter, script).
- **Full support for JSON Indexes** (UI + scripting).
- **IntelliSense for new AI/vector functions**, including:
  - VECTOR\_SEARCH
  - AI\_GENERATE\_EMBEDDINGS
  - REGEXP\_MATCHES, REGEXP\_SPLIT\_TO\_TABLE
  - CURRENT\_TIMEZONE\_ID
  - New ANSI operator ||=
- Query Editor now recognizes vector-enabled execution plans.
- **JSON viewer enhancements** in the results grid.

##### SSMS 21 offered:

- Basic support for vector **data types** (Preview).
- Limited scripting and IntelliSense for vector operations.
- No UI for vector or JSON indexes.

#### 4. Query Editor & Execution Plans

##### SSMS 22 improvements

- Execution plans can now **open in a new tab**.

- Results Grid now supports **zooming**.
- Additional code snippets:
  - Vector index creation
  - JSON index creation
  - AI/ML embedding operations
  - Security and schema templates
- Improved multi-monitor and high-DPI behavior.
- Fixes for grid copying, selection, and scrolling.

#### **SSMS 21 status**

- No zoom.
- Execution plans opened only in same tab.
- Smaller snippet collection.

### 5. UI, Themes & Appearance

#### **SSMS 22 updates**

- New additional themes.
- **“Blue (SSMS)” theme removed.**
- Dark-theme coverage expanded (more dialogs now support dark mode).
- Better contrast on status bar and grid.
- Fixed dialogs opening behind the main window.

#### **SSMS 21 offered:**

- First major dark-mode support for SSMS.
- Legacy themes still available.

### 6. Tooling Improvements (SSIS, Linked Servers, Wizards)

#### **SSMS 22 improvements**

- **New Linked Server Wizard:**
  - More secure configuration options.
  - Support for new encryption models.
- Managed Instance Link UI updated.
- SSIS integration improved:
  - SSISDB catalog more stable
  - Import/export wizard reliability fixes
- Better error handling across wizard flows.

#### **SSMS 21**

- SSIS support reintroduced but still had reliability issues.
- Older Linked Server Wizard version.

### 7. Database Tuning Advisor (DTA)

#### **SSMS 22 upgrades**

- Better handling of:
  - Table variables
  - Temp tables
  - Triggers
- Improved index recommendations.
- Higher scalability and concurrency.
- Fewer errors on complex workloads.

#### **SSMS 21**

- Basic DTA improvements but still prone to failures on large workloads.

## 8. Scripting, Object Explorer & Designers

### SSMS 22 new capabilities

- Table Designer fully supports Vector columns.
- Improved scripting for:
  - Tables with vector columns
  - JSON index creation
  - Database objects with new syntax
- More reliable Object Explorer refresh behavior.
- Fixes for scripting failures caused by invalid T-SQL generation.

### SSMS 21

- Partial vector support; several scripting bugs.

## 9. Bug Fixes & Stability

SSMS 22 fixes a long list of issues:

### Fixes unique to SSMS 22:

- Activity Monitor context-menu bugs repaired.
- OLAP cube browsing errors fixed.
- Token-cache issues solved for new Entra ID users.
- Results grid:
  - Scroll issues fixed
  - Header copying fixed
  - Cell navigation improved
- Object Explorer “expand” errors resolved.
- Query window status-bar accuracy improved.
- Generate Scripts wizard reliability improved.

### SSMS 21 fixes:

- Earlier fixes for older result grid issues, connection dialog bugs, and profiler stability.

## 10. AI Integration

### SSMS 22

- Introduces **GitHub Copilot Integration (Preview)**.
- Optional via Visual Studio Installer → AI Assistance workload.
- Better alignment with GitHub ecosystem.

### SSMS 21

- Included **Azure OpenAI Copilot Preview**, earlier-generation assistant.
- Limited functionality and lower model quality.

## Major Takeaway Summary

| Topic               | SSMS 21                      | SSMS 22                                       |
|---------------------|------------------------------|---|
| Vector/JSON Support | Basic                        | Fully supported (indexes + UI + IntelliSense) |
| AI Integration      | Azure OpenAI Copilot         | GitHub Copilot                                |
| Connection Dialog   | Preview                      | Default + Fabric support                      |
| Platform Support    | x64                          | x64 + ARM64                                   |
| UI Theming          | Early dark mode              | Expanded dark mode + new themes               |
| Query Editor        | No zoom                      | Grid zoom + new plan viewer                   |
| Tooling             | Partial SSIS + older wizards | Improved SSIS + new Linked Server Wizard      |
| Stability           | Decent                       | Significantly more stable                     |

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