How to enable DOS Support for Programs from ROSE SWE?

Deutsche Beschreibung ebenfalls enthalten!

Table of Contents

Some older programs (VirScan Plus, RHBVS, ViBa, CrCheck and AntiLink) from ROSE SWE are provided as DOS binaries, therefore they may need some setup to run on Windows, 32bit.

English Instructions

Important: Your Windows 10 64bit version doesn't support DOS applications anymore. Previous Windows 32-bit versions included NTVDM, facilitating DOS programs to run. NTVDM is a *"Feature on Demand"* and only supported on the x86 version of Windows. It is not supported on x64_64 and ARM versions of Windows, which do not support 16-bit x86 code of any kind, including DOS programs. More details can be found at https://learn.microsoft.com/en-us/windows/compatibility/ntvdm-and-16-bit-app-support

This guide describes how to install NTVDM under Windows **32bit** (7, 8.0, 8.1, 10 and 11). For 64bit environments you can use for example vDOS.

First Step – Install NTVDM

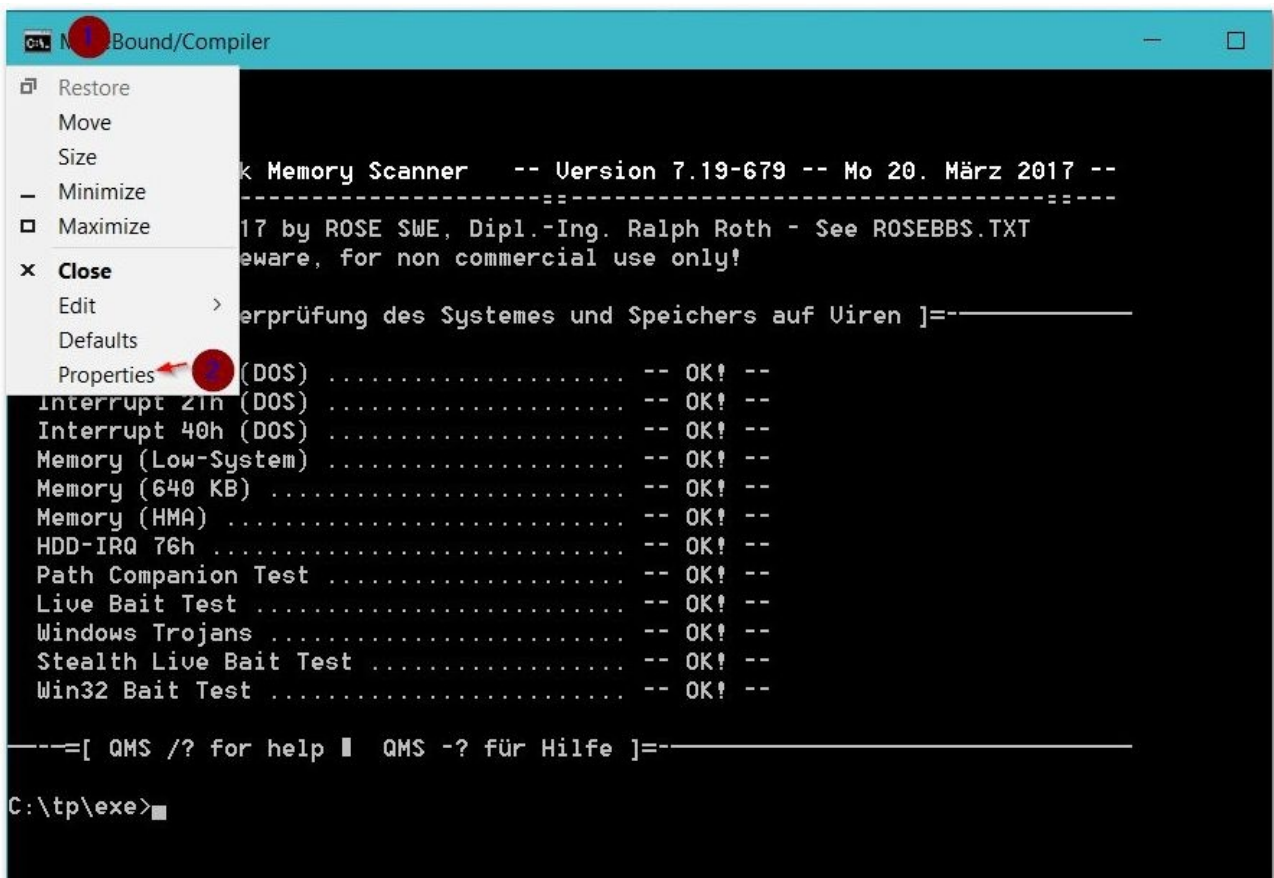Either start a DOS program by simply double clicking on it

<div align="center">or</div>

Programs and Features -> Turn Windows Features on or off -> Legacy Components -> Enable NTVDM
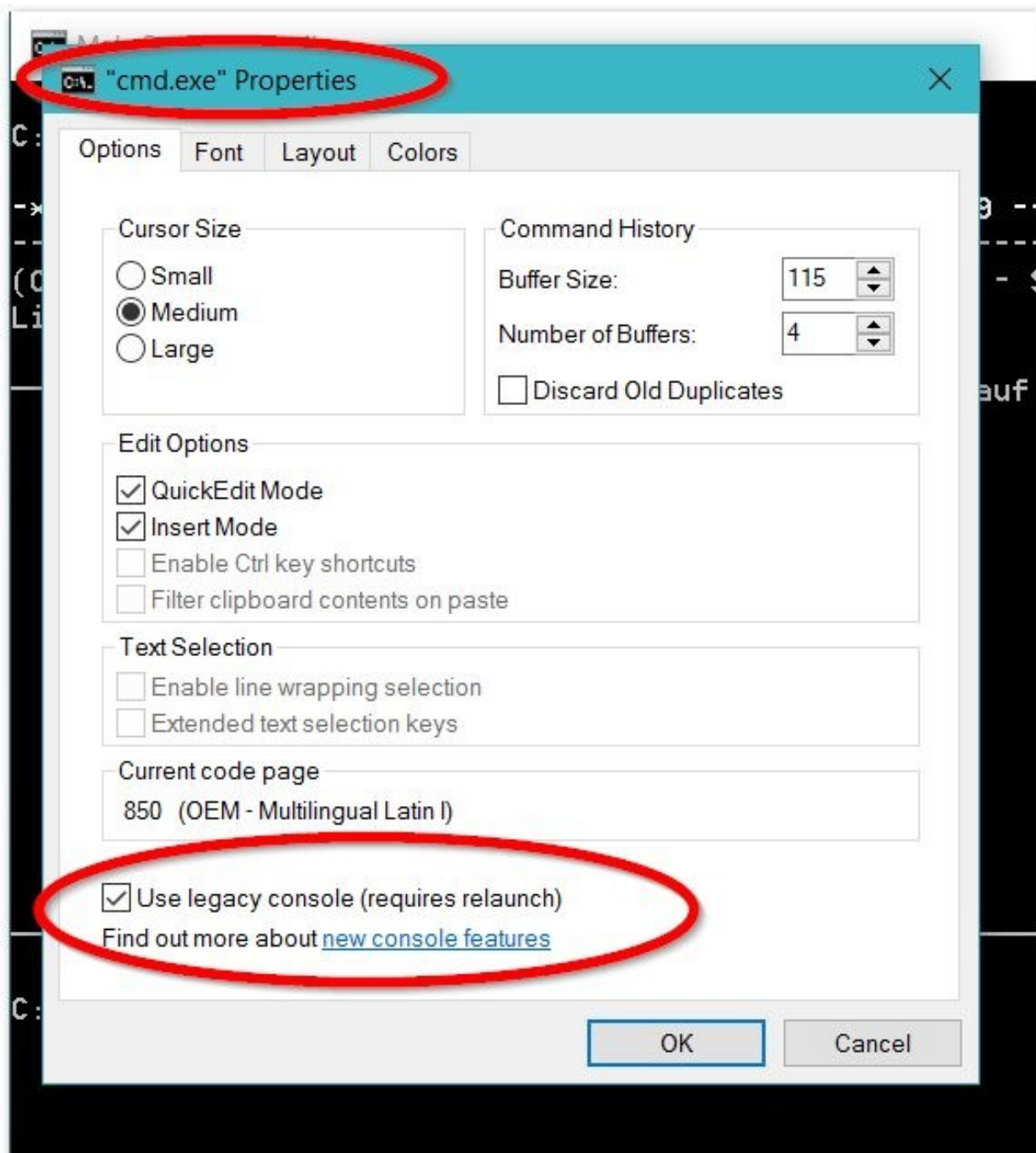
Second – Enable Legacy Console

Open "Command prompt"
Right click over title (1) "Command prompt" and select "Properties" (2)
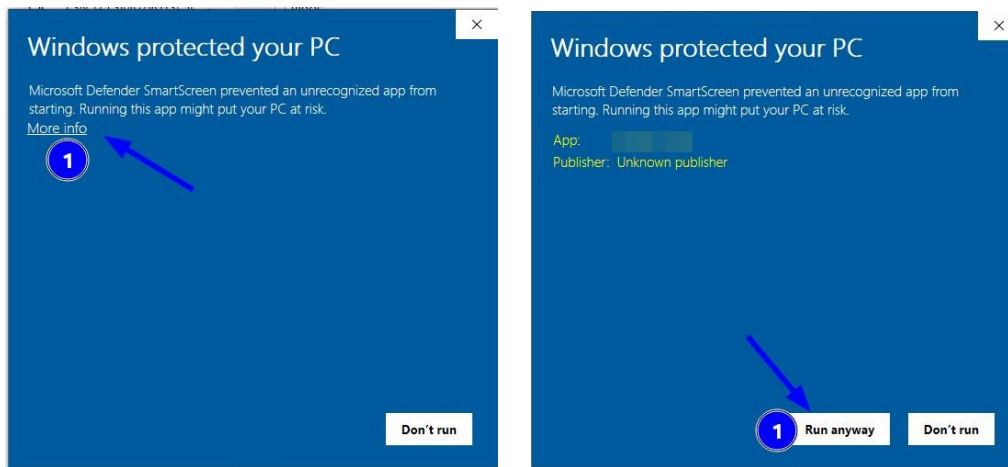

Select "Use legacy console (requires relaunch)", then "Accept"
Close and re-open "Command prompt" to test.

See also: https://answers.microsoft.com/en-us/insider/forum/insider_wintp-insider_update/16-bits-applications-not-working-at-all/a776a720-ff62-4848-96b1-81b4371cff2c?page=3 and
https://technet.microsoft.com/en-us/library/mt427362.aspx

April 23, 2025
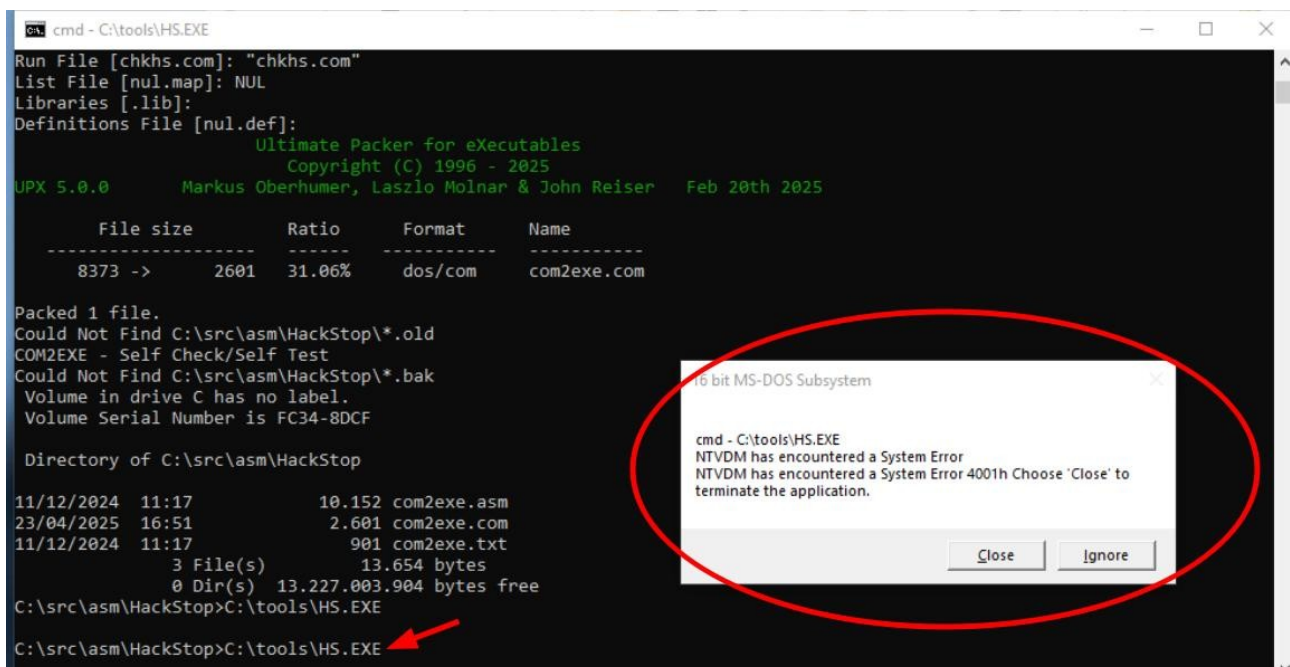
Still not running due to SmartScreen?

If you see the message Windows Defender SmartScreen prevented an unrecognized program from starting when you run an installer or double-click an executable, you can resolve this by clicking the "**More Info**" link in the dialogue box, and then clicking "**Run anyway**".

NTVDM Error 4001h?

It is possible to run into a NTVDM runtime error "4001h"

Summary of Findings

The "*NTVDM has encountered a system error 4001h*" on Windows 10 32-bit systems represents a critical failure within the NT Virtual DOS Machine subsystem. While a precise definition for the 4001h code is not publicly documented by Microsoft, analysis strongly indicates that the error typically arises from incompatibility issues between the legacy NTVDM component and elements of the modern Windows 10 environment, most notably the console subsystem. The error frequently occurs during the initialization phase when attempting to launch 16-bit or DOS applications, particularly from standard command prompts or modern terminal applications.

Most Probable Causes

The investigation points to several primary causes for the 4001h error:
- **Console Host Incompatibility:** Conflicts between NTVDM and the updated Windows 10 V2 console host (`conhost.exe`) appear to be the most common trigger. This is often related to the `ForceV2` registry setting or simply the default behavior of the modern console.
- **Execution Context:** The method used to launch the legacy application (e.g., `cmd.exe` versus the legacy `command.com`) significantly impacts success, suggesting initialization differences.
- **NTVDM Configuration:** Missing or improperly configured `CONFIG.NT` and `AUTOEXEC.NT` files can prevent the NTVDM environment from being set up correctly for specific applications.
- **Windows Updates:** System updates can introduce changes that break NTVDM compatibility.

Recommended Actions

Based on the analysis, the most effective troubleshooting steps focus on mitigating the identified incompatibilities:
- **Enable the "Use legacy console"** option for application shortcuts or the command prompt environment.
- If necessary, **directly modify the `ForceV2` registry key** under `HKEY_CURRENT_USER\Console` to ensure it is set to `0`.
- Attempt to **launch the application via the `command.com`** interpreter instead of `cmd.exe`.
- **Verify the presence and correctness of `CONFIG.NT` and `AUTOEXEC.NT`** files in the `System32` directory.
- As secondary steps, consider reinstalling the NTVDM feature or investigating recent Windows updates.

Long-Term Perspective

It is crucial to recognize that NTVDM is deprecated technology. Microsoft no longer actively develops it and considers its use a potential security risk. While the troubleshooting steps outlined may resolve the 4001h error and allow legacy applications to function, reliance on NTVDM within Windows 10 is inherently fragile. Future Windows updates may reintroduce compatibility issues without warning. Therefore, for long-term stability and security, organizations and individuals still relying on 16-bit or DOS applications should strongly consider

migrating these applications to modern platforms, rewriting them, or utilizing more robust and actively maintained alternative solutions such as dedicated DOS emulators (e.g., DOSBox) or virtualization.

vDosPlus

Home page = http://vdosplus.org/

vDosPlus (formerly vDos-lfn) is a general purpose non-gaming DOS emulator for Windows, based on vDos and DOSBox. vDosPlus is designed to run non-gaming DOS applications on all current versions of Windows. NTVDM (NT Virtual DOS Machine) is included in 32-bit Windows, but NOT in 64-bit Windows. However, most of today's Windows is now 64-bit, and to run DOS programs you need a DOS emulator. vDosPlus is for this purpose, and like the original vDos, it provides advanced features such as support for file locking (needed by multi-user applications) and printing to Windows-only (GDI) printers, but it also has many unique features such as tighter integration with Windows and improved keyboard, mouse and display support. Formerly known as vDos-lfn because of its initial focus on adding support for Windows-style long file names, or LFNs, in addition to the traditional DOS 8.3 file names, it is now much more with a wide range of additional features. It is based on mature projects and also well tested by the XyWrite community and many normal or power users of various DOS applications, so it should be considered quite stable.
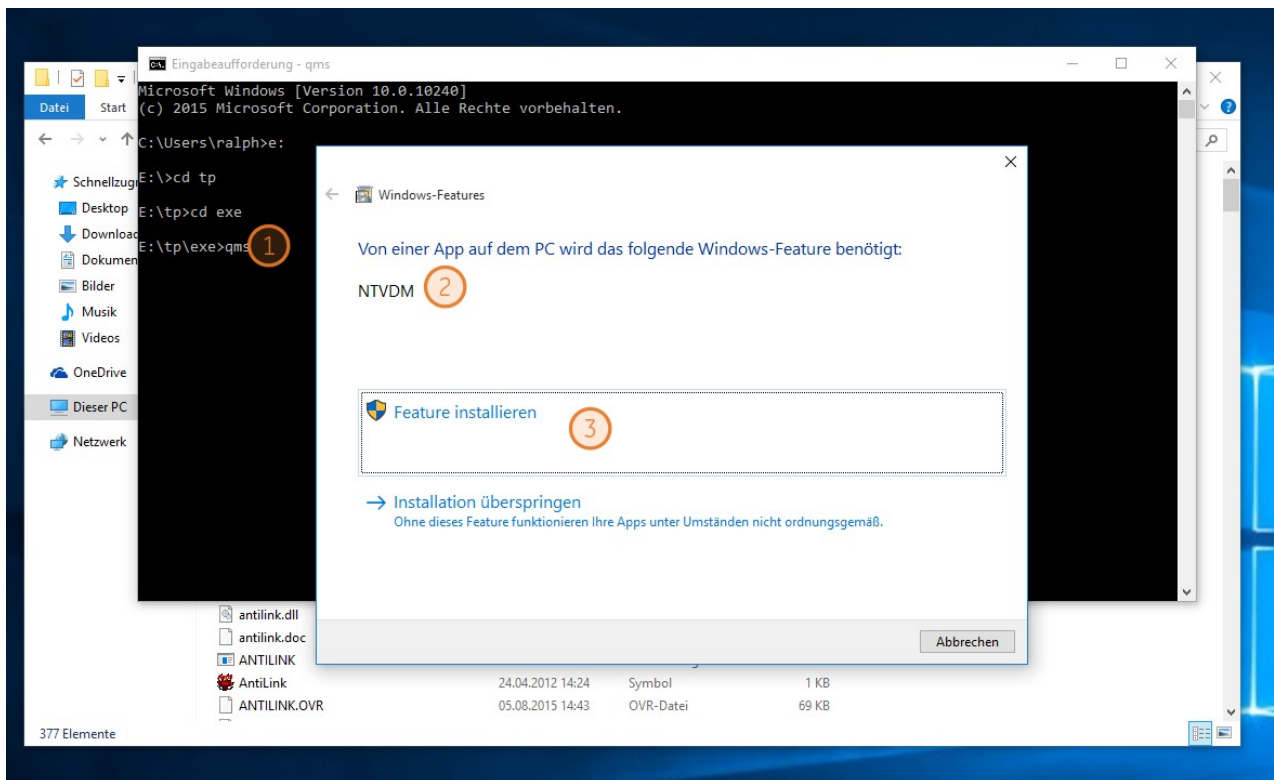
Deutsch

Mit **64-bit-Versionen** von Windows können MS-DOS-Programme nicht mehr von Haus aus verwendet werden. Also beispielsweise unter Vista, Windows 7, Windows 8.x, Windows 10 in **64bit**-Version funktionieren keine MS-DOS-Programme - generell keine 16-bit-Programme, also auch nicht die meisten Windows-Programme, die bis Windows 3.1 eingesetzt wurden. Beispielsweise unter Windows 7, Windows 8 oder Windows 10, **32-bit**-Version funktionieren MS-DOS-Programme mit Einschränkungen; also beispielsweise nicht im Vollbild-Modus, aber ansonsten meistens problemlos.

Zusammen mit Windows 10 wurde auch die Eingabeaufforderung / CMD leicht überarbeitet und diese bekam, die von vielen gewünschte Copy und Paste Funktionalität über Tastatur-Befehle.
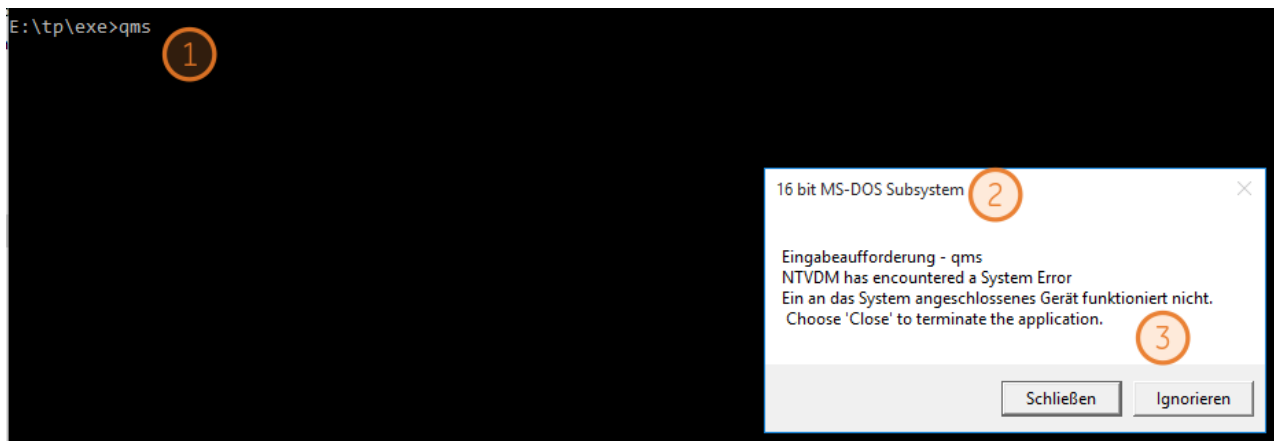
Schritt Eins – Installation der NTVDM

Einfach Eingabeaufforderung starten (CMD.EXE) und ein beliebiges DOS Programm starten (hier qms.exe)
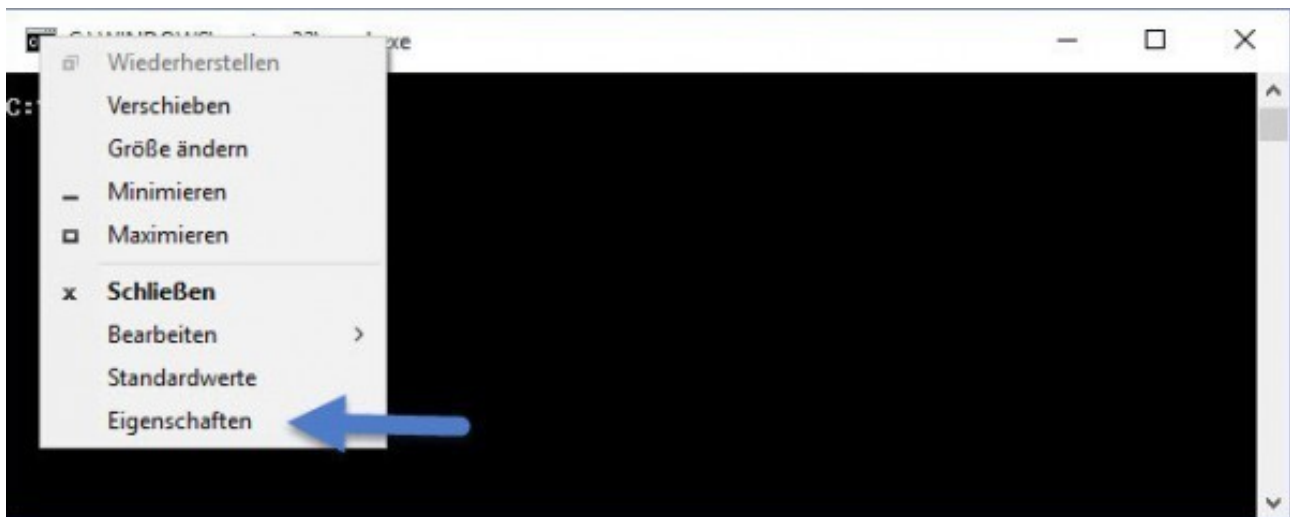
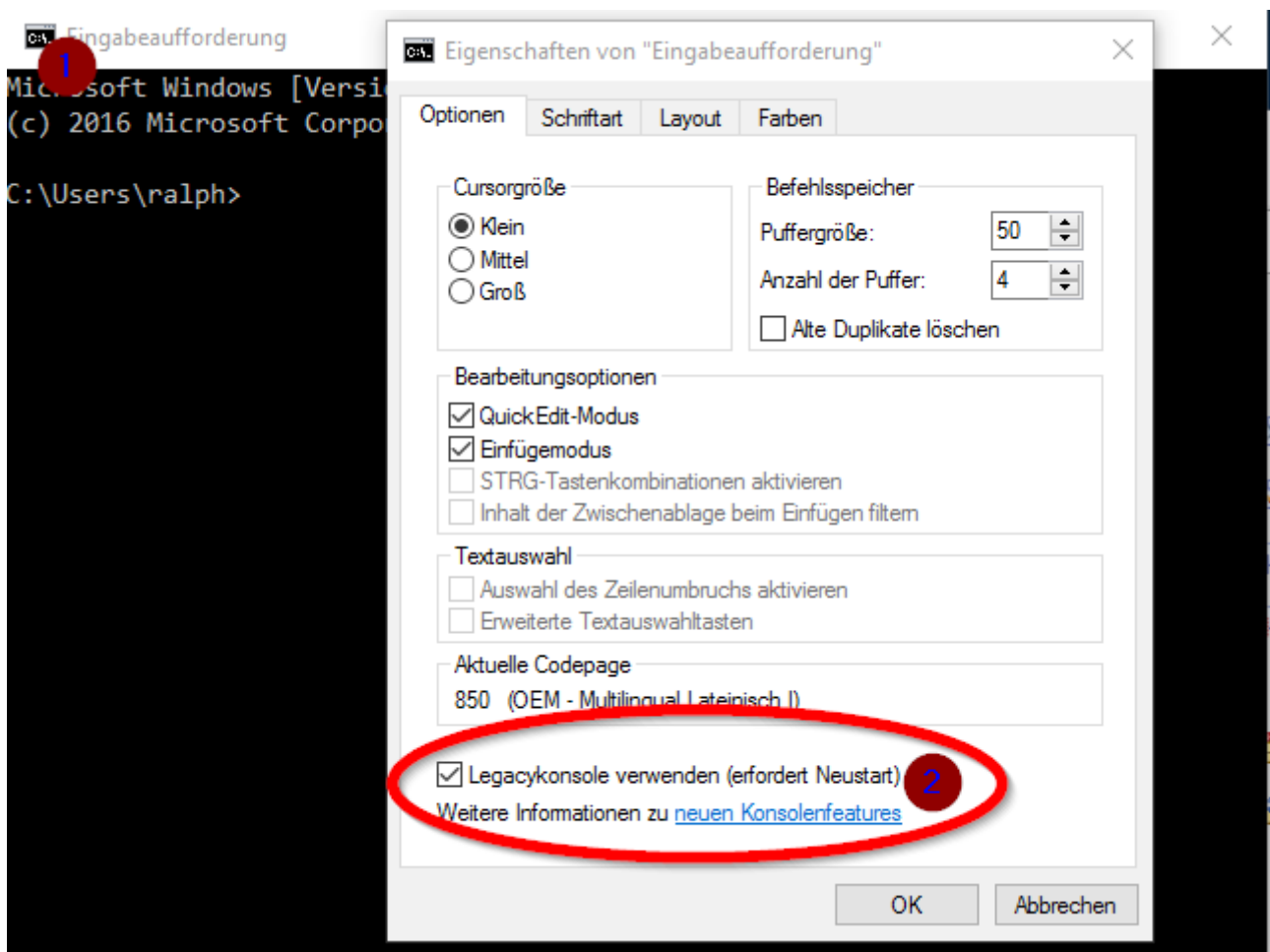## Schritt Zwei – Legacy Console aktivieren

Trotzdem können DOS Programme nicht gestartet werden und brechen mit folgender Fehlermeldung ab:

Auf Schließen drücken.

Rechtsklick auf das kleine Eingabeaufforderung Icon links oben und „Eigenschaften" auswählen.

Unter Optionen die Option „**Legacykonsole**" aktivieren. Bestätigen und die Eingabeaufforderung beenden und neu starten. Fertig!

Siehe auch: https://newyear2006.wordpress.com/2013/09/15/nochmal-zum-thema-16-bit-programme-unter-windows-8-1-32-bit-und-wie-verhlt-es-sich-mit-fondue-exe-und-den-legacykomponenten/

Pointers/Web Pages

Links to other DOS emulators etc.

- https://dosbox-x.com/ (extended DOS-Box) →
  https://github.com/joncampbell123/dosbox-x Downloads:
  https://github.com/joncampbell123/dosbox-x/blob/master/INSTALL.md
- https://www.dosbox.com/ (DosBox 0.74, Windows, Linux, MacOS etc.)
- http://vdosplus.org/ vDOS Plus (only for Windows)
- http://www.dosemu.org/ DOSEMU (only for Linux)

Minimum Requirements

To ensure optimal performance and compatibility, all programs must meet the following minimum system requirements:

Operating System

- MS-DOS 5.0: A widely used disk operating system that provides a command-line interface and basic operating system functions.
- FreeDOS: An open-source DOS-compatible operating system that enables the running of legacy DOS software and provides a platform for DOS-based applications.
- Novell DOS 7: A version of the DOS operating system developed by Novell, offering additional features and enhancements over earlier DOS versions.
- 32-bit Windows: Any 32-bit version of the Windows operating system, which includes Windows 3.1x, Windows 95, Windows 98, and Windows ME. These versions support a graphical user interface and can run both DOS and Windows applications.

Memory

- 1 MB of RAM: At least 1 megabyte of memory is required to run the programs, ensuring sufficient space for program execution and basic operations.

Processor

- 80486 CPU or Better: A minimum of an Intel 80486 processor is necessary. The 80486 series offers significant improvements over its predecessors, including enhanced processing power and support for more advanced software. More advanced processors, such as the Pentium series, are also compatible and will provide better performance.

Meeting these requirements ensures that the programs will run smoothly and efficiently on your system.

If the operating system does not meet the specified requirements, the following error message will be displayed, and the program will terminate:

```
C>qms
This program requires MS-DOS 5.00/NDOS 7.00/FreeDOS/WinNT 4.0/Win9x or above!
Found DOS/Win emulation version = 331

C>ver

MS-DOS Version 3.31

C>
```

/**Ende**/