

# Developing Drivers With The Windows Driver Foundation Developer Reference

reload /f

Windows

The Device Tree

Setup for Windows

Creating a file entry in /proc

analyze -v

How Drivers Work

F10 step

Debugger interactions recap

SEH try/catch block

Driver service reg key

device number

PF stack, CR2, IDT, example

Windows Internals - Windows Internals 1 hour, 23 minutes

driver verifier, use-after-free revisited

Sandbox environment for experimentation

proc file system, system calls

PF CR2, stack, error code

Wireshark packets

Intro

What is a Driver

Intro

Windows Driver Fundamentals - Part 1

Examine callstack 2 (Pnp, Fx)

VO Manager

audio sync

Writing the driver

Passing data from the kernel space to user space

Keyboard shortcuts

PnP and Power Manager

reboot/crash cycle experiment

DriverEntry intro pt2

repeating \"boot loop\" bug check

USB Describing

[stream] USB: Reverse Engineering and Writing Drivers -  
[stream] USB: Reverse Engineering and Writing Drivers 2 hours,  
39 minutes - Links ]= Book: USB Complete by Jan Axelson  
Marcan reverse engineering a MIDI controller: ...

Pool tag in memory

WIOB

Callbacks

Outro

Goal

Obtain Driver Context instance

Start

'rrip' skip bad code

Observe frozen target

load driver

Introduction and layout of the course

driver deploy fail

AV PF #2 with 0x1234

Linux Kernel, System and Bootup

Introduction

no use-after-free with verifier

Who we are and our mission

enable 'verifier'

debug view

all-in-one buggy driver

bulk endpoint

rmmod w.r.t module and the kernel

Linux Device Drivers Development Course for Beginners - Linux

Device Drivers Development Course for Beginners 5 hours -

Learn how to **develop**, Linux device **drivers**,. They are the essential software that bridges the gap between your operating system ...

Methodology

Protection ring

Initialize the attrib variable.

Spherical Videos

'rrip' to skip, 'ln' symbolic addr

Windows crashes

USB Crash Course

'Im' list modules

Declare attrib variable

How to Fix Windows Driver Foundation Using High CPU on Windows 11 - How to Fix Windows Driver Foundation Using High CPU on Windows 11 2 minutes, 19 seconds - Support Our Work Here: <https://ko-fi.com/yorkermedia> Recommended: **Driver**, Updater - Update **Drivers**, Automatically: ...

NTFS Driver

The WDF DRIVER CONFIG structure is defined as follows

Create the Baud Rate

Tutorial 9 - How to compile a Windows Sample Driver in Visual Studio 2022 - Tutorial 9 - How to compile a Windows Sample Driver in Visual Studio 2022 5 minutes, 39 seconds - In this tutorial, I will show you how to compile a **Windows**, Sample **Driver**, in Visual Studio 2022. We will follow these steps: ...

All powerful pt2

Enable the Debug Preview

Intro

Deploy to Break

Wireshark

Doorway to ring 0 pt1

WHQL Testing

Driver Data Structures

disable critical loc BPs

Break in DriverEntry

01 Windows Device Driver Development using WDF --  
Introduction - 01 Windows Device Driver Development using  
WDF --Introduction 14 minutes, 12 seconds - src:  
[https://github.com/shankar-ray/\*\*Windows\*\*, -device-\*\*driver\*\*, -  
\*\*development\*\*](https://github.com/shankar-ray/Windows-device-driver-development), vm, windbg setup: ...

reboot

Some Clueless Person will Succeed Linux.. #linux #pc #tech -  
Some Clueless Person will Succeed Linux.. #linux #pc #tech by  
SavvyNik 461,021 views 1 year ago 23 seconds - play Short -  
Linus Torvalds talks about how some clueless **dev**, or person will  
eventually supersede the Linux kernel. Which is exactly how  
he ...

Deploy driver

Dispatch routines

Memory management

sxe ld

Windows: Under the Covers - From Hello World to Kernel Mode by a Windows Developer - Windows: Under the Covers - From Hello World to Kernel Mode by a Windows Developer 13 minutes, 51 seconds - Retired **Windows developer**, Dave takes you the journey of how a simple printf() ultimately puts pixels on the screen. See **Windows**, ...

Subtitles and closed captions

Background

Provision target

Tutorial 8 - Windows Driver Framework - WDF Driver Config - Tutorial 8 - Windows Driver Framework - WDF Driver Config 5 minutes, 2 seconds - In this tutorial, I will discuss the following points: - What is WDF **Driver**, Config ? - How the WDF\_DRIVER\_CONFIG structure is ...

interface

What is a driver?

This video's goals

What is a Driver

Windows Driver Development demonstrating IOCTL Calls - Windows Driver Development demonstrating IOCTL Calls 11 minutes, 18 seconds - The video demonstrate IOCTL in **Windows Driver Development**,. Source: Programming LOL Channel. Source code: ...

Relaunching multipass and installing utilities

What is a Software Driver as Fast As Possible - What is a Software Driver as Fast As Possible 4 minutes, 55 seconds - Ever wondered what a **driver**, is? Now you can understand software **drivers**, in just a few minutes! Dollar Shave Club delivers high ...

logical vs physical validity

Run as administrator

Bug check intro pt2

Examine callstack

DriverEntry intro

Unloading the Driver

Question: How WDF Driver Config is useful?

Driver Explanation

Break not working?

'g' command

Bug check intro

Page Fault in non-paged area

Windows Driver Fundamentals - Part 2

User Space, Kernel Space, System calls and device drivers



Device vs Driver

Provision target prep

Outro

Setup for Linux

Cautionary words pt1

Declare status variable

USB Protocol

invalid nonpaged PF handling

Intro

Initialize the config variable

Intro

'x' examine symbols

Search filters

Debug driver preface

Implementing the read operation

Windows Driver Development Introduction Part 2-Build and Run  
Driver - Windows Driver Development Introduction Part 2-Build  
and Run Driver 3 minutes, 23 seconds

BPs in workspace

PAGE\_FAULT\_IN\_NONPAGED\_AREA, !analyze -v pt2

Im back

Tutorial 10 - Windows Driver Framework - Components of a PCI Driver - DriverEntry routine - Tutorial 10 - Windows Driver Framework - Components of a PCI Driver - DriverEntry routine 7 minutes, 26 seconds - In this tutorial, I will discuss with you the components of a PCI **Driver**, (**Windows Driver**, Framework). I will discuss the code of the ...

Software and Driver Development - Software and Driver Development 3 minutes, 9 seconds - When adding hardware to a primarily software project, **drivers**, are required to expose the hardware to the applications and ...

Computer Hardware Drivers Explained - Computer Hardware Drivers Explained 2 minutes, 33 seconds - What are these little things called **drivers**, in your computer that you constantly see updates or prompts for?

Access Violation Page Fault (#PF)

Declare driver variable

Fill attrib with desired callbacks

use-after-free

endpoint

USB Overview

process 0 0 explorer.exe

boot Break

GMMK

dbgprint function

disable verifier

Build the driver

The WDF Driver Config can be used by: Initializing it via using the function WDF\_DRIVER\_CONFIG\_INIT, and optionally specifying a pointer to the driver's EvtDriverDeviceAdd callback function.

vm 0x20

Driver Entry

insmod w.r.t module and the kernel

The WDF Driver Config is useful in that it can allow us to register important callbacks, like the EvtDriverDeviceAdd.

Cautionary words pt3

How to talk to devices

02 Windows Device Driver Development using WDF --Windows Driver Fundamentals - Part 2 - 02 Windows Device Driver Development using WDF --Windows Driver Fundamentals - Part 2  
6 minutes, 23 seconds - I/O Manager.

Intro

Check that WDFDRIVER object was created successfully

Device Driver Development Tutorial - Device Driver  
Development Tutorial 23 minutes - Device **driver development**  
, tutorials how to **develop**, a basic hello world device **driver**,  
and call its functions from a c-sharp dotnet ...

driver service reg key 2

Symbol path setup

Scan system

data endpoint

verifier invalidates

Deep Dive - make and makefile

Legacy Nt

Interrupt command

invalid NP PF details: dps @rsp, CR2

another interface

Windows Driver Development Introduction Part 1-Setup -  
Windows Driver Development Introduction Part 1-Setup 5  
minutes, 45 seconds - <http://virtualkd.sysprogs.org/download/>  
<https://www.osronline.com/article.cfm?article=157> ...

Windows Driver Kit setup

Windows Driver Foundation wudfhost.exe Using High CPU  
[Solution] - Windows Driver Foundation wudfhost.exe Using High

CPU [Solution] 5 minutes, 19 seconds - Windows Driver Foundation, wudfhost.exe Using High CPU [Solution] Commands Used: msdt.exe -id MaintenanceDiagnostic ...

All seeing, all powerful

02 Windows Device Driver Development using WDF --Windows Driver Fundamentals - Part 1 - 02 Windows Device Driver Development using WDF --Windows Driver Fundamentals - Part 1 9 minutes, 15 seconds - Windows Driver, Fundamentals.

Update drivers

Create a device driver

pool tag pt2

DriverEntry breakpoint

What Is a Device Driver

Our first loadable module

Provision target intro

Playback

Intro

USB Device Overview

Ismod utility

User space app and a small challenge

Deploy driver 2

induce bug check 0x50

Interrupt Dispatch Table (IDT)

Create a WDFDRIVER object that will be saved in the driver variable

F9, bp current line

pte

Update Driver

null ptr deref, PF stack. IDT

modinfo and the .mod.c file

Driver Code Writing

non-paged pool

How Have Windows Driver Models Evolved? - All About Operating Systems - How Have Windows Driver Models Evolved? - All About Operating Systems 3 minutes, 39 seconds - How Have **Windows Driver**, Models Evolved? Are you curious about how **Windows**, manages hardware devices and how its **driver**, ...

'g' for blue screen

Windows kernel debugging intro

NTSTATUS 0xC0000005 Access Violation

Cautionary words pt2

Bug check intro pt3

Designing great devices and drivers - Designing great devices  
and drivers 55 minutes

Start debugger

What Are Windows Driver Models From DOS To  
WDM/KMDF/UMDF? - All About Operating Systems - What Are  
Windows Driver Models From DOS To WDM/KMDF/UMDF? - All  
About Operating Systems 3 minutes, 53 seconds - What Are  
**Windows Driver**, Models From DOS To WDM/KMDF/UMDF?  
Have you ever wondered how your computer communicates ...

Windows Driver Foundation wudfhost.exe Using High CPU  
Solution - Windows Driver Foundation wudfhost.exe Using High  
CPU Solution 3 minutes, 40 seconds - Do you have a Windows  
system that uses a lot of CPU power because of the **Windows  
Driver Foundation**, process ...

Setup for Mac

Doorway to ring 0 pt2

processor manuals

The WDF Driver Config is a data structure provided by the  
Windows Driver Framework. The data structure is called WDF  
DRIVER CONFIG.

CREATE and DEBUG a Windows KERNEL device driver! - CREATE and DEBUG a Windows KERNEL device driver! 3 hours, 13 minutes - Peer into the **Windows**, kernel (\\"ring 0\\") using **Windows**, Kernel Debugger as you are introduced to **Windows**, Device **Driver**, ...

Host debugger setup

Return status

'bm' to set breakpoint

Deploy prep

invalid non-paged memory

Old Windows NT Architecture

Initialize members of Driver Context (optional)

'dps' raw PF stack, CR2==0x1234, PF error code

Using the Windows Driver Framework to build better drivers - Using the Windows Driver Framework to build better drivers 57 minutes

bitmap fields

Making Simple Windows Driver in C - Making Simple Windows Driver in C 7 minutes, 26 seconds - In this video I will demonstrate how you can write a simple \\"Hello, World\\" **driver**, for **Microsoft Windows**, 10 using the C ...

\_\_debugbreak() intrinsic



## General

use-after-free (undetected)

File and file ops w.r.t device drivers

Initial source window

What Is The Secret History Of Device Driver Development? - All About Operating Systems - What Is The Secret History Of Device Driver Development? - All About Operating Systems 4 minutes, 31 seconds - What Is The Secret History Of Device **Driver Development**,? Have you ever wondered how your computer communicates with ...

Exploring the /proc FS

Declare config variable

Windows Device Drivers Internals and some Reversing - Windows Device Drivers Internals and some Reversing 1 hour, 53 minutes - In this session we'll look at how **drivers**, and devices work in **Windows**,, examine data structures and I/O requests. We'll use kernel ...

What Drivers Do

Developing drivers in Visual Studio - Developing drivers in Visual Studio 1 hour

db poi(ptr)

USB Device Structure

Quick recap and where to next?

pool tag intro

Driver hardware id

[https://unidesktesting.motion.ac.in/fspucifyy/X78M084/cbuastz/X30M899452/ecotoxicology-edition-the\\_study-of\\_pollutants\\_in\\_ecosystems\\_3rd\\_edition-by\\_moriarty\\_frank\\_1999\\_paperback.pdf](https://unidesktesting.motion.ac.in/fspucifyy/X78M084/cbuastz/X30M899452/ecotoxicology-edition-the_study-of_pollutants_in_ecosystems_3rd_edition-by_moriarty_frank_1999_paperback.pdf)  
[https://unidesktesting.motion.ac.in/rrusumblui/609CD23/oistablishy/561CD10900/ism-cummins\\_repair\\_manual.pdf](https://unidesktesting.motion.ac.in/rrusumblui/609CD23/oistablishy/561CD10900/ism-cummins_repair_manual.pdf)  
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[https://unidesktesting.motion.ac.in/gpramptf/38V9W66/tclassufys/54V2W60291/raymond\\_chang\\_chemistry\\_11th\\_edition.pdf](https://unidesktesting.motion.ac.in/gpramptf/38V9W66/tclassufys/54V2W60291/raymond_chang_chemistry_11th_edition.pdf)  
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[https://unidesktesting.motion.ac.in/gpucks/46N483G/fnasdp/78N038G559/manual\\_volkswagen\\_vw\\_cabrio-service\\_repair\\_manual.pdf](https://unidesktesting.motion.ac.in/gpucks/46N483G/fnasdp/78N038G559/manual_volkswagen_vw_cabrio-service_repair_manual.pdf)