



Software Development Tools & Environments

Software Development Tools & Environments

- A tool is a program or application that software developers use to create, debug, or maintain other programs and applications.
- The term usually refers to relatively simple programs that can be combined together to accomplish a task.

Software Development Tools & Environments

- The history of software tools began with the first computers in the early 1950s that used linkers, loaders, and control programs.
- Tools became famous with Unix in the early 1970s with tools like grep, awk and make that were meant to be combined flexibly with pipes.

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Software Development Tools & Environments

- In computing, an environment is the overall system, software, or interface
 - in which a program runs, such as a runtime environment or environment variable, or
 - through which a user operates the system, such as an integrated development environment in which the user develops software or a desktop environment.

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Types of Tools & Environments

- **Integrated development environments (IDEs)**
 - combine the features of many tools into one complete package;
 - often used for development of enterprise-level applications.
 - e.g.
 - Delphi
 - C++ Builder
 - Microsoft Visual Studio
 - Xcode
 - Eclipse

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Types of Tools & Environments

- **Revision control**
 - Software configuration management
 - e.g.
 - SCM, SCCS
 - RCS, CVS
 - SVN, Git
 - Monotone, GNU arch
 - SourceSafe, PVCS
 - ClearCase, Bonsai
- **Testing**
 - used to help identify the correctness, completeness, security, and quality of developed computer software

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Types of Tools & Environments

- **Compilation and linking tools**
 - e.g.
 - GNU toolchain (Make, automake, gcc)
 - Microsoft Visual Studio
 - CodeWarrior
 - Xcode
- **Editors**
 - e.g.
 - emacs

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Types of Tools & Environments

- **Scripting**
 - e.g.
 - Shell
 - Perl
 - REXX
- **Bug Databases**
 - e.g.
 - gnats
 - Bugzilla
 - Trac

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Types of Tools & Environments

- Debuggers
 - e.g.
 - gdb
 - GNU Binutils
- Online Code Sharing Tools
 - e.g.
 - Sourceforge
 - Krugle
 - ByteMyCode

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Types of Tools & Environments

- A software development kit (SDK or "devkit")
 - typically a set of development tools that allows a software engineer to create applications for
 - certain software package, software framework,
 - hardware platform, computer system,
 - video game console, operating system or similar.
 - e.g.
 - The DirectX SDK from Microsoft
 - The Java SDK from Sun Microsystems
 - The Net Yaroze from Sony

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Types of Tools & Environments

■ CASE Tools

- Computer-aided software engineering (CASE) is the use of software tools to assist in the development and maintenance of software.
- Tools used to assist in this way are known as CASE Tools.
- All aspects of the software development lifecycle can be supported by CASE tools.

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Types of Tools & Environments

- Sometimes CASE tools are separated in two groups:
 - Upper CASE: Tools for the analysis and design phase of the software development lifecycle
 - Lower CASE: Tools to support data base schema generation, program generation, implementation, testing, configuration management
- e.g.
 - ClearCase
 - EasyCase

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What we have at the Department

- You may apply to your Assistants, Mr. İsmail Öztürk, Admins:
 - .Net Framework 1.1 SDK 1306.4
 - .Net Framework 1.1 SDK SP3
 - Access 2003
 - Exchange server 2003 Enterprise Edition
 - InfoPath 2003
 - InfoPath 2003 Toolkit for Visual Studio Tools for Office 2005
 - MapPoint 2004

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- MELL Developer Edition for MSDNAA
- MSDN Library (Visual Studio .NET)
- MSDN library for Visual Studio 2005
- OneNote 2003
- Project professional 2002
- Project professional 2003
- Project Server 2003

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- SQL Server 2000 Enterprise edition
- SQL Server 2005 32 bit ve 64 bit Developer edition
- SQL Server 2005 Express edition
- Virtual Pc 2004
- Visio for Enterprise Architects
- Visio Professional 2003

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- Visual Basic 2005 express Edition
- Visual C# 2005 express Edition
- Visual C++ 2005 express Edition
- Visual J# 2005 express Edition
- Visual SourceSafe 2005
- Visual SurceSafe 6.0d

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- Visual Studio .NET 2003 Pro
- Visual Studio .NET Academic Student Tools 2003
- Visual Studio .NET Pro 2002
- Visual Studio 2005 Pro
- Visual Studio 2005 Team Foundation Server
- Visual Studio 2005 Team Test Load agent
- Visual Studio 2005 Tools for the Microsoft Office System
- Visual Web Developer Express Edition

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- Windows 2000 Advanced server with SP4
- Windows Server 2003 Enterprise Edition
- Windows Server 2003 Standard Edition
- Windows Server 2003 Web Edition
- Windows services for UNIX 3.0

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+ Linux tools:

- IDE & RAD
 - Eclipse, Netbeans (5.0 / 5.5 beta), Jbuilder, Anjuta, Kdevelop, Monodevelop, Code::Blocks, Boa-constructor
- UML
 - Umbrello, DIA(dia2code, autodia), Tcm, also UML support in Netbeans 5.5 beta
- Unit
 - junit, kunittest, nunit, gnunit2, dejagnu

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- You may apply to your Assistant Oral Delay:
 - Rational Rose

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What we have at the University (licensed)

- You may apply to your Assistants
 - Visual_SourceSafe_6.0c
 - Visual_Studio_.NET_2002
 - Visual_Studio_.NET_2003
 - Visual_Studio_.NET_Component_Update
 - Visual_Studio_.NET_Visio_2002
 - Visual_Studio_6.0

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Examples

- UML Products by Company
 - "http://www.objectsbydesign.com/tools/umltools_byCompany.html"
- Software tools
 - <http://www.rsqa.com/spi/CASE.html>
- CASE Tools
 - <http://www.cs.queensu.ca/Software-Engineering/tools.html>
- List of UML tools
 - http://en.wikipedia.org/wiki/List_of_UML_tools

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