



INFORMIX DATABASE ADMINISTRATION

An on-site training experience customized for your needs

Based on *Informix Handbook*™ and provided by One Point Solutions,
the Informix Specialists

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BASED ON: *Informix Handbook*, a book by Ron Flannery: www.informixhandbook.com

OVERVIEW

This document outlines the structure of the class. Each bullet summarizes the information covered along with the page number in *Informix Handbook*. As the class evolves, this outline may be updated; to receive the latest copy, please send an email to the instructor.

CLASS OBJECTIVES AND BENEFITS

- Provide customized Informix training based on your company's specific expertise level and desired areas of focus.
- Provide an on-site training experience that provides convenience and cost-savings.
- Develop exercises using *your* data and examples (optional).
- Provide details of Informix architecture necessary to run Informix.
- Apply your company's knowledge of Unix and Informix to create a customized learning experience.
- Explain fundamentals of Informix DBA: disk management, memory, installation, system monitoring/maintenance.
- Apply real world examples from your environment.
- Understand how to locate information quickly in *Informix Handbook*, become familiar its table of contents, know where to find things, and understand specific chapters.
- Learn how to use other resources (Web, tech support, documentation, etc.) to get answers.

ESSENTIAL PRE-READING

- Details of IDS and Dynamic Scalable Architecture: pp. 47-50 READ
- Informix instances, environment variables, and onconfig file: 51-56 READ
- Manage operating modes: 62-63 READ
- Shared memory: 63-73 SKIM
- Checkpoints: 71 READ
- Disk overview: 73-74 READ
- More details on disk: 74-76 SKIM
- Physical and logical disk: 76-86 SKIM
- Disk process overview: 86-88 READ
- Virtual processors and sessions: 89-94 SKIM
- Fault tolerance overview: 94-95 READ
- Physical and logical logging: 96-100 READ
- Physical and logical log details, long txn: 100-104 SKIM
- Fast recovery: 104-106 READ
- Backups: 715-717, 731-734 READ

OPTIONAL PRE-READING (chapter numbers provided)

- Setting up Unix Servers: 21
- The on* commands: 26
- Networking: 20
- Backups: 27
- Troubleshooting: 28
- Getting at your data: interfaces: 6
- Setting up test and production: 17
- Installing: 18
- SMI: 32
- System Tuning: 33

Chapters 1 & 2: Informix Past, Present and Future; History of Informix, Summarize Product Lines, History and Strategy

- Timeline of Informix: Page 5
- OnLine Dynamic Server / DSA: 6, 8 (figure 1.2)
- Application development tools & operating systems: 8-9
- ORDBMS & Foundation.2000: 10-12
- Server summary: 13
- Application development tools: 15
- Birth of Informix: 21
- Product lists (INFORMIX-SQL, INFORMIX-4GL, etc.): 23-24
- In the 90's (Dynamic-4GL, 4Js, etc.): 27-28
- 2000: Departure of Jean-Yves Dexmier, entry of Peter Gyenes, re-organization, 2 new companies
- 2001: The beginning of a new era: Informix is purchased by IBM
- Future support and enhancement plans

Chapter 4: Understanding Informix Architecture

Complete overview of all aspects of Informix shared memory, disk usage, and process management.

A) Basics: background, DSA, instances, environment variables, and onconfig

- Family of Informix Servers (C-ISAM, SE, Turbo, OnLine): 45-48
- Details of IDS and Dynamic Scalable Architecture: 47-50
- Informix instances: 51-52
- Environment variables: 52-53
- Shell scripts: 53
- The onconfig file: Define the Informix instance: 54-56, 539-555
- Minimum onconfig changes between instances: 1284-1285
- Quick overview of how to access a database with dbaccess
 - *EXERCISE 1: SET UP AND REVIEW THE ENVIRONMENT AND ONCONFIG* ◀

B) sqlhosts file, multiple residency, and operating modes

- The sqlhosts file: Define all instances, shared memory, and network connections: 56-58, 505-511, 512-525
- Multiple residency and operating modes (multiple instances on same server): 58-63
 - *EXERCISE 2: MANAGE OPERATING MODES* ◀

C) Shared memory and checkpoints

- Shared memory: 63
- Resident segment: 64
- Buffer pool, LRUs: 65-71
- Checkpoints: 71
- Virtual & resident segments: 72-73

➤ *EXERCISE 3: SHARED MEMORY AND CHECKPOINTS* ◀

D) Disk usage

- Raw devices and cooked files: 74-76
- Physical units of storage: pages, chunks, extents, blobpages: 76-79
- Logical units: dbspaces, blobspaces, tblspaces, databases, tables, indexes: 79-88
- The root dbspace and disk initialization: 81
- Creating other dbspaces and chunks: 82-83
- Temp dbspaces: 83-84
- Creating databases, tables, and indexes: 85-86
- Summary of whole process: logical & physical: 86-88

➤ *EXERCISE 4: Create and allocate your own chunks and dbspaces* ◀

E) Virtual processors (VPs) and threads

- VPs and multi-threading: 89++
- VP commands and configuration variables: 90
- VP classes: 91
- Monitoring sessions: 93-94

➤ *EXERCISE 5: Monitor sessions* ◀

F) Fault tolerance: backups and the logs

- Physical logging: 96-97
- Logical logging: 97-102, 707-714, 717
- Long transactions: 102-104
- Fast recovery: 104-106
- Backups: 94-95, 717-736

➤ *EXERCISE 6: Review logical and physical logging, perform basic backup and restore, monitor fast recovery* ◀

Chapter 26: The on* Commands

- onstat: Monitor various aspects of your instances: 656-675
- oncheck: Checking the condition of your instances: 675-682
- onmode: Manage the state of your instances: 683-689
- oninit: Start instances, initialize disk: 691-692
- onspaces: Manage disk: 693
- onparams: Modify parameters: 694
- onunload/load: Backup databases and tables: 704-705

➤ *EXERCISE 8: Work with the on commands* ◀

Chapter 28: Troubleshooting and Maintaining Your Servers

- Review of various ways to monitor and troubleshoot your servers
- *EXERCISE 9: Check message logs, use the methods you've learned* ◀

OPTIONAL MATERIAL

Chapter 12: Understand transactions and locking

Chapters 3, 8, 9, 10, 11, 13-15:

- Create databases, understand Informix-SQL, perform basic operations (covered in detail in SQL class)
- *EXERCISE 7: Create the stores database, review SQL, perform some operations, test backup / restore* ◀

Finding answers: Web sites, documentation, technical support, etc.

➤ *EXERCISE 10: Use Informix resources* ◀

Informix Handbook Appendices

General follow-up, Q&A, etc.