







## Diploma in Unix (189) – Solaris Administration

<b>Prerequisites:</b> Knowledge in Unix operating system.	<b>Corequisites:</b> A pass or higher in Certificate in Unix Networking or equivalence.
<p><b>Aim:</b> Solaris has always been the premier commercial operating system, and this remains the case today. Most Oracle Database Systems sit on top of Solaris, hence Solaris System Administration training course give candidates advantages when looking for work, especially that 90% of major companies use Oracle database. Administering Solaris systems involves many standard tasks including; starting and shutting down a system, managing printers and performing regular backups. Candidates taking this course will gain the necessary knowledge and skills in perform the following tasks: Accessing the Solaris operating system; Boot procedures; Startup and shutdown procedures; Service management facility; Installing the Solaris operating system; Software package administration; Maintenance of patches; Connection services; Disk management; File system management; Zfs; File security and access control lists; User management; Backup and recovery; Managing the print environment; Managing processes.</p>	
<b>Required Materials:</b> Recommended Learning Resources.	<b>Supplementary Materials:</b> Lecture notes and tutor extra reading recommendations.
<b>Special Requirements:</b> The course requires a combination of lectures, demonstrations, discussions, and hands-on labs.	
<p><b>Major Learning Outcomes:</b></p> <ol style="list-style-type: none"> <li>Describe the Solaris Administration tools and the functions of an Administrator.</li> <li>Describe Solaris hardware platforms, characteristics and features.</li> <li>Demonstrate how to install and configure Solaris, system configuration files and configuration of users and utilities.</li> <li>Demonstrate the step-by-step of automatic start up and shutdown process. Explore System services and daemons.</li> <li>Demonstrate how to use the command line useradd command and using the admintool application in graphical mode.</li> <li>Demonstrate Solaris security-related, maintenance and troubleshooting tools</li> </ol>	<p><b>Assessment Criteria:</b></p> <ol style="list-style-type: none"> <li>Discuss Solaris hardware classification</li> <li>Describe system administration functions</li> <li>Outline Solaris system administration procedures               <ol style="list-style-type: none"> <li>Explore Solaris operating system releases</li> <li>Explore Solaris disk geometry</li> <li>Outline Solaris installation process</li> </ol> </li> <li>Explore the Administration tool               <ol style="list-style-type: none"> <li>Explore how to add printers and terminals</li> <li>Analyse how to add user accounts</li> <li>Describe user groups</li> <li>Be able to set <b>crontab</b></li> <li>Explore system security</li> </ol> </li> <li>Outline Solaris booting process               <ol style="list-style-type: none"> <li>Describe scripts used to start services</li> <li>Outline terminal login command</li> <li>Explore system shutdown process</li> <li>Describe the power management utility</li> </ol> </li> <li>Describe ownership of files and directories               <ol style="list-style-type: none"> <li>Define process ownership</li> <li>Explore process management utility</li> <li>Discuss classes of users</li> <li>Describe the steps in creating a users</li> <li>Explore login monitoring commands</li> <li>Outline different tools used to create/add users</li> </ol> </li> <li>Describe commands for managing file system</li> </ol>

	6.2 Define symbolic and hard links
	6.3 Explore files system protection mechanisms
	6.4 Be able to use file and directory access modes
	6.5 Define Access Control List (ACL)
	6.6 Outline Solaris file system structure
7. Describe Solaris several standard groups and demonstrate how created groups and assign rights and privileges.	7.1 Discuss the concept of groups and group ID
	7.2 Describe file/directory group identification
	7.3 Explore <b>chgrp</b> command
	7.4 Be able to use <b>Adminsuite</b> and <b>Admintool</b> utilities
8. Demonstrate how perform full system backup and data and system restore.	8.1 Outline the concepts and utility tools used to backup data
	8.2 Contrast complete vs incremental backup
	8.3 Be able to perform backups over the network
	8.4 Outline data and system file restoration
	8.5 Describe differences between archive and backup
9. Demonstrate how to create and administer print servers and client and troubleshooting printing problems.	9.1 Outline printer physical connection process
	9.2 Describe Solaris spooling
	9.3 Compare user and administrator printer commands
	9.4 Be able to add a local and remote printer
10. Demonstrate the process of formatting and dividing the disk into slices. Explore disk addressing conventions, partitions and slices under Solaris.	10.1 Define slicing
	10.2 Be able to create a Solaris file system
	10.3 Describe mount command
11. Demonstrate how to configure network and setup Solaris server to receive an IP Address from a DHCP server.	11.1 Describe Ethernet LAN operations
	11.2 Explore LAN network hardware requirements
	11.3 Discuss network communication media
	11.4 Describe WAN equipment and requirements
	11.5 Describe the <b>/etc/hosts</b> file
	11.6 Describe the <b>DHCP</b> mechanism
	11.7 Define routing
	11.8 Explore network security commands
	11.9 Explore network services
	11.10 Be able to use network monitoring commands
12. Describe how NFS protocol provides transparent remote access to shared file systems across networks.	12.1 Outline benefits and uses of NFS
	12.2 Outline NFS server configuration
	12.3 Describe the <b>share</b> command
	12.4 Define the <b>mount</b> command
13. Describe Solaris naming services, how the Solaris operating environment provides the name services, how to Setup DNS Client configuration and Domain name services resolves names to the ip addresses.	13.1 Describe naming services
	13.2 Describe DNS
	13.3 Describe Network Information System (NIS)
	13.4 Explore NIS+ terminology
14. Describe how Solaris for Intranets	14.1 Be able to setup email

features an e-mail server and SKIP encryption software.	14.2 Outline mail system configuration process 14.3 Be able to configure browser 14.4 Outline Web Server configuration process
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**Recommended Learning Resources:**  
**Solaris Administration**

<b>Text Books</b> 	<ul style="list-style-type: none"> <li>• Solaris (Operating System): Operating System UNIX, Microsystems, SPARC, DTrace, ZFS by Lambert M. Surhone, Miriam T. Timplendon and Susan F. Marseken ISBN-10: 6130511116</li> <li>• Solaris Administration: A Beginner's Guide by Paul Watters ISBN-10: 0072131551</li> <li>• Configuration and Capacity Planning for Solaris Servers by Brian L. Wong ISBN-10: 0133499529</li> </ul>
<b>Study Manuals</b> 	BCE produced study packs
<b>CD ROM</b> 	Power-point slides
<b>Software</b> 	Solaris