

# Oracle® Certification Program Candidate Guide

*Oracle9iAS™ Web Administrator Certified Associate*

*November 2005*

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*Oracle Candidate Certification Guide*

*Oracle9iAS™ Web Administrator Certified Associate*

*November 2005*



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Visit the Oracle Certification Program website at <http://www.oracle.com/education/certification/>

# 1

## *Benefits of Earning Oracle Certification*

By earning an Oracle Certified Associate (OCA) certification, you can have increased entry-level job opportunities. It is the stepping-stone to starting a successful career as an Oracle professional.

An Oracle Certification is in high demand in today's marketplace, and the level of demand is expected to grow with each new installation of Oracle technologies around the world. An Oracle Certification helps raise your visibility and increases your access to the industry's most challenging opportunities.

The true value of earning an Oracle Certification credential is increased job security as well as expanded access to greater job opportunities for both permanent and project-based assignments. With more opportunity come career growth and higher pay.

***"The most valued skills in 2002 are in e-commerce, Oracle, Application Development and Java."*<sup>1</sup>**

The Oracle Certification Program is also valuable to hiring managers who want to distinguish among candidates for critical information technology (IT) positions. For companies that send employees for annual IT training, certification helps ensure a return on the training investment by validating the knowledge and understanding gained during training sessions.

Companies can also combine certification with an employee development program to enhance employee loyalty and performance on the job. Hiring certified

professionals can have a direct impact on a company's success.

The demand for proven, well-skilled professionals in the IT industry is high, and the competition for jobs is intense. Individuals, experienced or new to the profession, need to know what skills make them attractive to employers. Employers look for ways to select prospective employees who have the solid foundation of skills needed for effective performance. An Oracle Certification helps make accurate hiring decisions. Not only do thousands of partners of Oracle require certifications within their ranks, but also an increasingly high number of customers worldwide. The Oracle Certification Program helps the IT industry establish a standard of competence in key entry-level and professional job roles.

An Oracle Certification is a valuable, industry-recognized credential that signifies a proven level of knowledge and ability. Each higher level of Oracle certification brings a higher standard of benchmarked skill and ability, which leads to greater opportunities and higher pay.

As IT organizations look to cut costs, those who can manage multiple tasks and job roles will have the highest level of job security.

***"Oracle Certified Professionals earn 28% more money than the average IT certified professionals."*<sup>2</sup>**

An **Oracle9iAS Web Administrator Certified Associate (OCA)** demonstrates a solid understanding of the foundation skills required of a Web Administrator when employed in support of Oracle9i Application Server solutions. Get on the shortlist for job opportunities; or if you are currently employed as a Database Administrator, take this chance to develop your abilities and take on a more advanced role by helping your organization build an integrated plan for supporting both Oracle9i Application Server and Oracle9i Database.

*1 Source: "Jumping Ship - Survey says IT worker retention remains a challenge," Metrics - CIO, May, 2002*

*2 Source: "Certification Salary Survey,, Certification Magazine, December, 2000*

# 2 *Oracle9iAS Web Administrator Certified Associate*

Oracle9i Application Server provides an integrated infrastructure to rapidly deliver applications over any network. The skills required to manage Oracle9iAS are essential to help companies succeed in the world of information management and automated e-business. Become an Oracle9iAS Web Administrator, and enter one of the career areas that is in very high demand in the IT industry.

## **Oracle9iAS Web Administrator Certified Associate (OCA)**

The OCA program begins at the Oracle Certified Associate level. Technical professionals at this certification level have the foundation of knowledge that enables them to act as a functional Oracle9iAS Web Administrator. Many

organizations require full-time Web Administrators, and the demand for skills in this area continues to grow.

Consequently, many Oracle DBAs have found the need to expand their skill sets to administer application servers, making the Oracle9iAS Web Administrator credential a valuable addition to their Oracle Certified Professional (OCP) credential!

Earning the Oracle Certified Associate credential as an IT professional will give you recognition for your foundation of knowledge in using Oracle9iAS technology. This recognition will distinguish you from those without a credential and can help you build your career by obtaining access to related job opportunities.

### **Required Exams for the Oracle9iAS Web Administrator Certification Path**

Pass the following exam to earn the Oracle9iAS Web Administrator Certified Associate credential.



# 3

## *Preparing for Oracle9iAS Web Administrator Test*

Oracle recommends that you prepare for Oracle9iAS Basic Administration exam by combining learning and hands-on-practice offerings from Oracle University with your own experience. Start by reviewing the topics covered on the exam in the Test Content Checklist in this guide.

### **Learn Oracle from Oracle**

The Oracle University courses described in the candidate guide are designed to set the foundation of knowledge that you need to pass the Oracle Certification tests and provide a venue for hands-on practice.

For the one comprehensive exam required for candidates to achieve the Oracle9iAS Web Administrator Certified Associate (OCA) credential, Oracle University offers the following courses that map to the contents of the exam. Completion of all three offerings will give certification candidates the entire curriculum that maps to the Test Content Checklist (see section 8 of this guide) for the Oracle9iAS: Basic Administration exam (1Z0-301).

### **Oracle9iAS: Basic Administration** *(Release 2, Instructor-Led Hands-On Classroom Training)*

Students in this course learn the job tasks that enables them to effectively administer, monitor, and secure an Oracle9iAS environment. After an introduction to Oracle9iAS installation and architecture, students gain hands-on experience in configuring its components and modules, such as Oracle HTTP Server, Oracle9iAS Web Cache, and Oracle9iAS Containers for J2EE. Students

also learn how to deploy PL/SQL applications as well as J2EE applications such as servlets, JSPs, Web applications, and Web services. Oracle9iAS Single Sign-On (SSO) and Oracle Internet Directory (OID) are introduced as part of the security concept of Oracle9iAS. In interactive hands-on lab practices students apply what they have learned and gain valuable, job-applicable skills.

### **Oracle9i: Security Concepts in an Internet Environment** *(Self-Paced Online Course available with Oracle University Online Professional Subscription)*

This eClass, available through Oracle University Professional Subscription, covers how to implement a security policy. Students learn about security concepts, security risks and solutions, and the security features of Oracle products.

**Introduction to LDAP and Oracle Internet Directory**  
*(Self-Paced Online Course available with Oracle University Online Professional Subscription)*

This eStudy, available through Oracle University Online Learning Free Trial, provides an introduction to the concepts and usage of the Oracle Internet Directory (OID) component of Oracle9i Application Server and an overview of Lightweight Directory Access Protocol (LDAP).

Your local Oracle University representative can advise you on the best option. For more information, visit the Oracle9iAS Web Administrator Learning Path on the Oracle University global Web site at <http://www.oracle.com/education/>.

**Practice Tests**

Currently, practice tests are not available for Oracle9iAS Basic Administration Exam.

**Test Content Checklist (Exam Objectives)**

Use the Test Content Checklist in this guide to identify all the test topics for which you must prepare. Oracle may make modifications to the Test Content Checklist. Visit the OCP Website, to view the [Exam Details List](#) to download the latest version of this guide or print out the exam objectives from the website before attending your exam appointments.

# 4 *Registering for Your Test*

Oracle Certification Program exams are offered at Oracle University Testing Centers and through Prometric, the world's largest provider of testing to the information technology industry. Many Oracle University Locations now also offer these exams, and can serve as a convenient alternative for both preparation and exam writing at one facility. Follow the registration directions shown below for scheduling exams at an Oracle University Center or at an Authorized Prometric Testing Center (APTC).

All exams are delivered electronically by means of computer. A brief tutorial precedes each test to familiarize you with the test delivery system. You should attempt to answer every question on the exam because incomplete answers are scored as incorrect. Using a summary screen you can navigate throughout the exam, proceeding forward and back among questions.

## **Reviewing the Candidate Agreement**

Candidates pursuing Oracle certification must accept the terms of the Oracle Certified Associate - Professional Candidate Agreement before taking the tests. You will be presented with the agreement on the screen before the test starts. You can also review the agreement before your appointment by visiting the Oracle Certification Program Web site at <http://www.oracle.com/global/us/education/certification/canagreemt.html>.

## **Scheduling Your Exam**

1. There are three convenient ways to register for exam:
  - a. **Prepare and appear for test at an Oracle University Center**  
Many countries throughout Europe, India, and Asia offer exam preparation assistance as well as the exams themselves at one convenient location. Visit the OCP Website's [Exam Registration](#) page to schedule an exam at an Oracle University location.
  - b. **APTC Online Registration**  
Register online at <http://prometric.com/>.
  - c. **APTC Telephone Registration**  
Call the Prometric Regional Service Center (RSC) serving your country during normal business hours. (A list of RSCs is given on the last page of this guide.)
2. Make sure that you have both the number and title of the exam that you are registering for. Schedule your exam appointment Monday through Saturday during normal authorized Prometric testing center hours. Hours vary by location.

3. When you register, ask the Prometric customer service representative for a list of valid forms of identification that you will need to present when you take your exam. You will not be allowed to take the test without valid identification.

4. Regular exam fees are equivalent to US\$125, plus any local taxes.

The exam fee is payable to Prometric by any major credit card (VISA, MasterCard, American Express, and Switch Cards) at the time of registration. All discounts must be applied at the time of paying your exam fee.

5. You must schedule a test at least 24 hours in advance.

### **Changing or Canceling Your Appointment**

To cancel or reschedule your test appointment, you must call the Prometric Regional Service Center. The cancellation policy by region is:

- The Americas: One business day in advance
- Asia Pacific: By midday (Sydney time) the previous business day
- EMEA: Two business days in advance
- Japan: Three business days in advance

Candidates who do not appear for the test or who cancel less than one business day before the test do not receive a refund.

# 5 *Taking Your Test*

## **Taking a Test at an Authorized Prometric Testing Center**

1. Arrive at the testing center at least 15 minutes before your scheduled appointment.
2. Sign the test log and present two forms of identification. One must be a government-issued photo identification. Both forms of identification must contain your signature.
3. The test administrator will give you a brief orientation and escort you to a computer terminal where you will take the test. You are not allowed to bring papers, books, bags, or calculators into the room.
4. Remember to adhere to the requirements set forth in the Oracle Certification Candidate Agreement. You must agree to the terms and conditions in the agreement before completing any Oracle Certification exam. Any attempt to cheat, assist others, or remove exam content from the testing room will not be tolerated and may result in a zero score, disallowance of OCP credential, and even prosecution by law.

## **Obtaining Your Test Results**

You will receive your score report immediately after the test. Beta exam score reports are sent to candidates following analysis and scoring of the beta exam. Candidates completing a beta version of a test can expect their score reports 10–12 weeks following the beta period. Your results are automatically forwarded to Oracle following testing. Please keep a copy of all test reports for your records.

## **Retaking a Test**

Candidates must wait 14 days before retaking a failed exam. There are no exceptions to this policy.

If you do not pass an Oracle Certification exam on the first attempt, Oracle encourages you to use the diagnostic feedback supplied with the score report to review the areas that need further study.

If you receive a low score, an Oracle University training course may be appropriate for you to gain more knowledge. Otherwise, if you require skillset review only in a few areas, we recommend that you consult Oracle University Online Learning, where you will find each topic area available as a short course module. Most modules require only 45 minutes for completion. Visit Online Learning at <http://www.oracle.com/education/oln/>.

# 6 *After You Are Certified*

## **Receiving Your Oracle Certification Welcome Kit**

You will receive your Oracle Certified Associate or Oracle Certified Professional certificate by mail from Prometric within 30 days after successfully completing all the required exams and course requirements as applicable. You should use your certificate as verification of your Oracle Certification credential.

If you do not receive your Welcome Kit, send an e-mail to [fulfillment@prometric.com](mailto:fulfillment@prometric.com), providing your name, Prometric ID number, current mailing address, and daytime phone number.

## **Oracle Certified Associate Members Web Site**

Upon completion of your Oracle Certified Associate credential, you will receive information about how to obtain a copy of the OCA logo in your Welcome Kit. The logo may be used on business cards and resumes.

You will also receive a letter of congratulations from Oracle, which will indicate how you can begin to access the wealth of OCA benefits that await you. This will include the access log in and password that you will need to enter the OCA member online community.

The OCA Members site is available only to Oracle Certified Associate, and not to Oracle Certified Associates.

## **Keeping Current with New Oracle Technology Releases**

Oracle is committed to keeping the Oracle Certification Program abreast with the latest technology. To take full benefit of your Oracle Certified Professional credential, you may find it advantageous to upgrade your certification to the latest release.

## Retirement of an OCP Track

When Oracle announces the retirement of a track, you will have at least six months to pass the remaining exams in the retiring track. If you do not upgrade your certification by the deadline, you will be required to complete all tests within the new track to obtain the latest credential. Consult the OCP Web site for current testing requirements.

## Updating Your Demographic Information

Visit the Prometric Web site at <http://prometric.com/> to update your demographic information.

Follow the steps below:

1. Log in to the site with your e-mail address and password. If you have never registered online before, click the link to set up your online account.
2. In the left navigation bar under Exam Services, click Update Profile.
3. You may update your mailing address, telephone numbers, and your e-mail address.
4. Click Next. Your OCP Candidate information is now updated.

# 7 *Special Testing Opportunities*

## **Special Opportunities: Beta and Tryout Tests**

Oracle may offer beta or tryout versions of OCP tests as new and updated questions are developed. Beta and tryout tests are generally offered free or at a discount from the regular test price. Participating in beta and tryout tests is a good way to economize on your certification and to be among the first professionals to be certified on a new track or product release.

Beta score reports are sent to candidates following analysis and scoring of the beta test.

Visit the Oracle Certification Program Web site at

<http://www.oracle.com/education/certification/> to find beta and tryout opportunities. Oracle provides detailed descriptions of each beta and tryout offer to help you decide whether the tests are right for you.

**Visit the OCP Web site at <http://www.oracle.com/education/certification/>**



## Test Content Checklist

*The following test content checklist shows the objectives covered in the Oracle Certification exam.*



# Test Content Checklist

## *Oracle9iAS Basic Administration* *Exam# 1Z0-301*

### **Oracle9iAS Installation Options**

- Describe the architecture and main components of the middle-tier Oracle9i Application Server
- Explain the installation options for Oracle9iAS and how the various installation options enable different features
- Explain the installation dependencies
- Identify the recommended deployment strategies

### **Installing Oracle9i Application Server**

- Install J2EE and Web Cache
- Describe the difference between the first installation on a machine and subsequent installation
- Describe when you need to assign a J2EE and Web Cache instance to an Infrastructure
- Install Oracle9iAS Infrastructure, and explain the first installation of this type
- Describe the installation when components already exist

### **Managing Oracle9iAS Using Oracle Enterprise Manager**

- Use the Oracle9iAS Web-based management tools, and explain the use of symbols and icons to start, stop, and restart instances or components
- Start and stop an Oracle9iAS instance or a component
- Explain the structure of the Farm page

- Use the navigation bar to access different component home pages and to get back to your starting point

### **Managing Oracle HTTP Server**

- Specify the directory structure and location of configuration files
- Configure and manage Oracle HTTP Server by using Oracle Enterprise Manager and by using dcmctl command-line utility
- Locate the main httpd.conf configuration file
- Use directives to:
  - ⇒ Specify server and administrator functions
  - ⇒ Specify file location
  - ⇒ Limit the number of processes and connections
  - ⇒ Manage the network connection
  - ⇒ Configure and use server log

### **Configuring Oracle HTTP Server: Advanced Features**

- Describe the allowed locations and context merging of directives
- Explain the configuration context of directives
- Use container directives such as <Directory>, <Files> and <Location>, <Virtual Host>
- Create and configure virtual hosts

## Exam #1Z0-301—Oracle9iAS Basic Administration (continued)

### Managing PL/SQL, CGI, and Perl Applications

- Configure mod\_plsql
- Use the mod\_plsql configuration files such as plsql.conf, dads.conf, and cache.conf
- Create a database access descriptor (DAD) by using dads.conf and by using OEM
- Define authentication for PL/SQL applications
- Prevent the execution of specific procedures and packages from a browser

### Introducing Oracle9iAS Containers for J2EE (OC4J)

- Describe the deployment and management features of OC4J
- Explain the OC4J architecture
- Describe the Oracle Process Management and Notification System (OPMN)
- Locate the mod\_oc4j configuration files, and configure mod\_oc4j by using directives such as Oc4jMount, Oc4jMountCopy, and Oc4jCacheSize
- Monitor the OC4J instances

### Configuring OC4J

- Describe the OC4J configuration and deployment process
- Explain OC4J configuration basics
- Locate the configuration directory, and describe the structure
- Describe the server configuration files such as server.xml, defaultweb-site.xml, and application.xml
- Describe the relationships among the configuration files

### Deploying Java Applications with OC4J

- Describe how J2EE applications connect to databases
- Create and configure data sources to be used with OC4J
- Describe the data-sources.xml file
- Obtain data sources information from OC4J home page
- Create a data source by using OEM
- Deploy Web application modules:
  - ⇒ Using Oracle Enterprise Manager
  - ⇒ Using dcmctl command-line utility
- Deploy J2EE applications:
  - ⇒ Using OEM
  - ⇒ Using the Deploy J2EE application wizard to deploy an EJB
  - ⇒ Using the dcmctl command-line utility

## Exam #1Z0-301–Oracle9iAS Basic Administration (continued)

### Introducing Oracle9iAS Web Cache

- Describe key concepts of Oracle9iAS Web Cache
- Explain the architecture of Oracle9iAS Web Cache
- Explain the communication flow with Oracle9iAS Web Cache
- Describe common deployment scenarios
- Administer and configure Oracle9iAS Web Cache
- Use Oracle Web Cache Manager
- Use the webcachet command-line utility
- Describe the directory structure of Oracle9iAS Web Cache
- Locate configuration and log files
- Start, stop, and restart Oracle9iAS Web Cache by using the Oracle Enterprise Manager Web site
- Obtain status, statistics, and metrics from the OEM Web Cache Home page
- Modify security settings, including:
  - ⇒ Change the passwords to Oracle9iAS Web Cache
  - ⇒ Use Web Cache Manager to change the administrator or invalidator password

### Using and Managing Oracle9iAS Web Cache

- Create and configure caching rules by using Web Cache Manager

- Set up invalidation mechanisms

### Managing Oracle9iAS Infrastructure

- Describe the key features of Oracle9iAS Infrastructure
- Describe the benefits of using Oracle9iAS Infrastructure
- Start or stop Oracle9iAS Infrastructure
- Manage the metadata repository, including starting, stopping, and restarting

### Introducing Oracle9iAS Clustering Concepts

- Explain the terms cluster, farm, instance, and component cluster
- Describe the architecture and components of Oracle9iAS instances and clusters
- Explain how different failure scenarios are managed by Oracle9iAS:
  - ⇒ A node within a cluster goes down
  - ⇒ OPMN goes down
  - ⇒ Oracle HTTP Server goes down
  - ⇒ An OC4J process goes down
- Describe how distributed configuration management works when you:
  - ⇒ Deploy a J2EE application to a cluster
  - ⇒ Create a new OC4J instance with which joins a cluster
- Deploy Oracle9iAS clusters

## Exam #1Z0-301—Oracle9iAS Basic Administration (continued)

### Managing Security

- Explain basic security concepts and common deployment topologies
- Describe the authentication and restriction schemes available with Oracle HTTP Server
- Define host-based access control:
  - ⇒ Use IP-based access control
  - ⇒ Specify domain-based access control
- Configure basic authentication, including:
  - ⇒ Define user authentication directives in the .httpd.conf configuration file.
  - ⇒ Use authentication directives in .htaccess
  - ⇒ Use the htpasswd command-line utility to generate a password file

### Securing Oracle HTTP Server with Secure Sockets Layer (SSL)

- Describe SSL-based communication
- Configure mod\_ossl by using appropriate directives, and use SSL with basic authentication

### Introducing Oracle9iAS Single Sign-On

- Describe the Oracle9iAS Single Sign-On (SSO) architecture
- Explain Single Sign-On authentication to partner applications
- Use Single Sign-On Administration page to:
  - ⇒ Edit SSO server credentials
  - ⇒ Configure the SSO server

- ⇒ Add a partner application
- ⇒ Add an external application
- Use the Delegated Administration Service (DAS) for SSO user administration, including:
  - ⇒ Create SSO user
  - ⇒ Change password
  - ⇒ Configure credentials
- Use the appropriate directives to configure single sign-on with Oracle HTTP Server

- Define SSO server to use SSL

- Configure applications to use SSO

### Introducing Oracle Internet Directory (OID)

- Describe the functions performed by the OID architectural components
- Start, stop, and restart by using the OEM Web site
- Use Oracle Directory Manager, including:
  - ⇒ Start Oracle Directory Manager
  - ⇒ Connect to a directory
  - ⇒ Navigate the Oracle Directory Manager GUI
  - ⇒ Obtain user information by using Oracle Directory Manager
- Connect to and disconnect from a directory server

## Exam #1Z0-301—Oracle9iAS Basic Administration (continued)

### Oracle Internet Directory Concepts and Architecture

- What is a directory server?
  - ⇒ What is LDAP?
  - ⇒ Why should you use LDAP?
  - ⇒ What are LDAP components?
  - ⇒ Identify common directory applications
- OID architectural components
  - ⇒ OID node architecture
  - ⇒ OID server instance architecture
  - ⇒ How does OID work?

### Directory and Lightweight Directory Access Protocol (LDAP) Concepts

- List different LDAP models
- Describe entries
- Describe object classes
- Describe attributes

### Bulk tools and command-line tools used to manage data in Oracle Internet Directory

- List the functions of bulk tools
- List the functions of command-line tools

### Managing OID Processes

- Describe the OID server instance and node architecture

### Securing OID Data

- List the characteristics of access control policies (ACPs) and access control lists (ACLs)
  - ⇒ ACL evaluation
  - ⇒ Access control information
  - ⇒ Access level requirements for LDAP operations

### Security Requirements and Risks in an Internet Environment

- List and describe the fundamental security requirements

### Oracle Security Solutions

- Describe how industry solutions address Internet security risks

### Implementing a Security Policy

- List and describe the steps required to develop and implement a security policy
- Describe the principle of least privilege
- List and describe the items on the general security checklist



## Prometric Regional Service Centers

### Regional Service Centers

Sydney, Australia Regional Service Center (direct dial#)	+612.9414.3663
Lelystad, Netherlands Regional Service Center (direct dial#)	+31.320.23.9894
Tokyo, Japan Regional Service Center (direct dial#)	+ 813.3269.9620
Latin America Regional Service Center (direct dial#)	+1.410.843.4300
North America Regional Service Center (toll-free#)	+1.800.891.3626

### How to Use This Table

1. Locate your country in the table.
2. Call the Prometric Regional Service Center (RSC) listed for your country. The RSC numbers are shown in the box above. If there is a toll-free number for your country to the Regional Service Center, then it should be in the following table. For a list of testing sites in your country, refer to <http://www.prometric.com/>, Test Center Locator.

COUNTRY	RSC	TOLL-FREE #
Algeria	Lelystad	
Argentina	Latin America	
Australia	Australia	1.800.806.944
Austria	Lelystad	0660.8582
Bahamas	Latin America	
Bangladesh	Australia	
Barbados	Latin America	
Belgium	Lelystad	0800.1.7414
Bermuda	Latin America	
Bolivia	Latin America	
Botswana	Lelystad	
Brazil	Latin America	000.817.965.5340
Brunei	Australia	
Bulgaria	Lelystad	
Cameroon	Lelystad	
Canada	North America	
Cayman Islands	Latin America	
Chile	Latin America	
China	Australia	1.0800.610.0036
Colombia	Latin America	980.13.0932
Costa Rica	Latin America	
Croatia	Lelystad	

COUNTRY	RSC	TOLL-FREE #
Curacao, NA	Latin America	
Cyprus	Lelystad	
Czech Republic	Lelystad	
Denmark	Lelystad	
Dominican Republic	Latin America	
Ecuador	Latin America	
Egypt	Lelystad	
Estonia	Lelystad	
Fiji	Australia	
Finland	Lelystad	
France	Lelystad	01.428.93.122
Gabon	Lelystad	
Bahrain	Lelystad	
Georgian Republic	Lelystad	
Germany	Lelystad	0130.83.97.08
Ghana	Lelystad	
Great Britain	Lelystad	08.00.592.873
Greece	Lelystad	
Guam	Australia	1888.249.6392
Guatemala	Latin America	
Honduras	Latin America	
Hong Kong	Australia	800.96.8444





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<http://www.oracle.com>

<http://www.oracle.com/education>

<http://www.oracle.com/education/certification>

Oracle Certification Program Inquiries:

Contact your local Oracle University

Representative from

[http://www.oracle.com/education/contact\\_info.html](http://www.oracle.com/education/contact_info.html)

US telephone Inquiries:

1.800.633.0575

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