Teradata Certified Professional Program
Teradata 12 Certification –Quick Reference

The Teradata Certified Professional Program (TCPP) is pleased to introduce a new generation of certification exams and requirements designed to bring premium value to Teradata 12 Certification credentials. Six new Teradata 12 Certification exams are currently offered at Prometric Testing locations throughout the world. The Teradata 12 Comprehensive Mastery exam will be added in 2010.

The Quick Reference provides information about Teradata 12 Certifications, required exams, recommended course preparation and suggested experience. Comprehensive information is available on the TCPP website. Check frequently at: **www.Teradata.com/Certification**

Quick Reference Content:

- What's New about the Teradata 12 Certification Track
- Knowledge Building to Mastery – new path to Teradata 12 Certified Master
- Teradata 12 Certification Track –information matrices to help you identify:
  - Suggested experience & knowledge for baseline, job role, and mastery certifications
  - Recommended preparation courses to augment hands-on experience
  - Exams required for each certification
- Contact Information and Related Links

What's New about the Teradata 12 Certification Track

- Seven exams created with all new content based on Teradata Database 12.0
- More rigorous certification criteria including a combination of training, study, and practical experience.
- Five new certifications require passing a combination of exams in sequential order after first passing the Teradata 12 Basics exam.
- All five Teradata 12 Certifications must first be achieved to gain eligibility for Teradata 12 Certified Master status.
- A new Teradata 12 Comprehensive Mastery Exam, among other requirements, has been added to the Teradata 12 Master Certification track.
- New IP security measures are in place to protect the integrity of exams and certifications.
- Independent exam scoring procedure to provide electronic Results Reports outside of the testing center.
- Freshly designed certificates and logos to be available electronically.
- New state of the art Certification Tracking System to manage certification records, fulfillment, transcripts, and credentials validation.
- The Teradata Certified Professional Program is well established with an experienced team available to support your successful Teradata Certification journey.

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Knowledge Building to Mastery

The all new Teradata 12 Certification Track provides opportunities to update skills and expertise that demonstrate mastery of Teradata 12 technology. Six core exams are combined in sequences that lead to five distinctive certifications. Earning the ultimate Teradata 12 Certified Master designation will first require successful completion of the six core exams. In addition, a seventh exam, *Teradata 12 Comprehensive Mastery Exam*, must be successfully completed. The Teradata V2R5 Certified Masters upgrade path will be announced during the Teradata 12 Comprehensive Mastery exam beta testing process.

The following matrices are designed to help you identify practical experience, skills, and training recommended for augmenting your knowledge and expertise, so that you may successfully complete required exams in the Teradata 12 Certification Track. More information is available on the TCPP website. Check frequently at: **www.Teradata.com/Certification**

Teradata 12 Certifications – Suggested Experience

Certification Title	Suggested Experience
Baseline Certifications	• A range of 6 months to 2 years practical experience is suggested.
• **Teradata 12 Certified Professional** • **Teradata 12 Certified Technical Specialist**	Baseline certifications are the foundation of the Teradata 12 Certification Track. These certifications reflect a strong grasp on Teradata fundamentals in the areas of key concepts, distinguishing features and market discriminators, Teradata SQL, and physical design and implementation. Baseline certifications serve as prerequisites to the more advanced job role exams that lead to higher level certifications.
Job Role Certifications	• A range of 2 to 3 years practical experience is suggested.
• **Teradata 12 Certified Database Administrator** • **Teradata 12 Certified Solutions Developer** • **Teradata 12 Certified Enterprise Architect**	Teradata 12 job role certification levels are considered the premier Teradata certifications. Individuals certified at job role levels are equipped to demonstrate proficiency that extends beyond baseline certification levels into job role functionality critical to the operation of a Teradata Database.
Mastery Certification	• A minimum 3 years of practical experience is suggested.
• **Teradata 12 Certified Master ***	The elite Teradata 12 Certified Master credential may be earned by Teradata Certified individuals who have previously met the criteria for successfully completing baseline and job role certifications. These individuals are expected to demonstrate the highest level of proficiency in multiple areas of Teradata technology.

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Teradata 12 Certifications - Preparation and Exams

In addition to the Teradata 12 Certification Curriculum, a free one hour presentation: "Teradata 12.0 Certification Exams – What's New & How to Prepare" is available from the Teradata Education Network.

Certification Title	Recommended Teradata Courses	Required Exams
Teradata 12 Certified Professional	• Introduction to the Teradata Database	• TE0-121 - Teradata 12 Basics *1 Exam must be passed first*
Teradata 12 Certified Technical Specialist	• Introduction to the Teradata Database • Teradata SQL • Advanced Teradata SQL • Physical Database Design • Physical Database Tuning	• TE0-121 - Teradata 12 Basics • TE0-122 - Teradata 12 SQL • TE0-123 - Teradata 12 Physical Design and Implementation *3 Exams must be passed in sequential order*
Teradata 12 Certified Database Administrator	• Introduction to the Teradata Database • Teradata SQL • Advanced Teradata SQL • Physical Database Design • Physical Database Tuning • Teradata Application Utilities • Teradata Warehouse Management • Teradata Warehouse Administration	• TE0-121 - Teradata 12 Basics • TE0-122 - Teradata 12 SQL • TE0-123 - Teradata 12 Physical Design and Implementation • TE0-124 - Teradata 12 Database Administration *4 Exams must be passed in sequential order*
Teradata 12 Certified Solutions Developer	• Introduction to the Teradata Database • Teradata SQL • Advanced Teradata SQL • Physical Database Design • Physical Database Tuning • Teradata Application Utilities • Teradata Application Design and Development	• TE0-121 - Teradata 12 Basics • TE0-122 - Teradata 12 SQL • TE0-123 - Teradata 12 Physical Design and Implementation • TE0-125 - Teradata 12 Solutions Development *4 Exams must be passed in sequential order*
Teradata 12 Certified Enterprise Architect	• Introduction to the Teradata Database • Teradata SQL • Advanced Teradata SQL • Physical Database Design • Physical Database Tuning • Teradata Application Utilities • Teradata Warehouse Management • Teradata Warehouse Administration • Teradata Application Design and Development	• TE0-121 - Teradata 12 Basics • TE0-122 - Teradata 12 SQL • TE0-123 - Teradata 12 Physical Design and Implementation • TE0-125 - Teradata 12 Solutions Development • TE0-126 - Teradata 12 Enterprise Architecture *5 Exams must be passed in sequential order*
Teradata 12 Certified Master *	• Curriculum to be announced during the Teradata 12 Comprehensive Mastery exam beta testing process (2010)	• TE0-121 through TE0-126: Successful completion of all exams and certifications **Plus:** • TE0-127 Teradata 12 Comprehensive Mastery (release date TBD) *7 Exams must be passed in sequential order** * **V2R5 Certified Masters** will have a defined upgrade path to become a Teradata 12 Master – upgrade path to be announced during the Teradata 12 Comprehensive Mastery exam beta testing process (2010).

Contact Information and Related Links

	Contact Information and Links
Teradata Corporation	Learn more about Teradata products and services and get information about Teradata Database 12.0 software. Refer to: • Teradata's web site: www.Teradata.com
Teradata Certified Professional Program (TCPP) *Information and Support*	Find comprehensive information and related links at the official Teradata Certification site. Direct your inquiries about the certification program as follows: • The TCPP web site: www.teradata.com/certification • Email: certification.teradata@teradata.com • Phone: 1-800-845-2273 and select option 3
Prometric Testing Centers *Register and Schedule Exams*	All Teradata certification exams are proctored and delivered at Prometric Testing Centers worldwide. Register and schedule through Prometric on-line or by telephone. Refer to: • The "Prometric-Exam Appointments" link at TCPP web site: www.teradata.com/certification • Prometric on-line registration web site: www.Prometric.com/teradata
Teradata Certification Tracking System *View Certification Progress*	Teradata Certification Tracks are maintained on a secure system designed for exam and certification records. Individuals may login to view Teradata exam results and verify certification progress at the Teradata Certification Tracking System. • Select the "Tracking System" link at the TCPP web site: www.teradata.com/certification • Follow login instructions
Teradata Education Network (TEN) *Course Catalog and Enrollment*	Direct inquiries about Teradata Education and training materials to: • The TEN web site: www.teradataeducationnetwork.com • Email TEN at: TEN.support@teradata.com • Americas telephone: 1-800-845-2273 Worldwide telephone: +1-937-445-2467
Teradata Training *for Teradata Employees Only*	Teradata employees and associates (only) with a valid QuickLook ID should refer to the Teradata Training web site for training and voucher information: • Select "Certification Programs" on the Teradata Training web site. This web site is available from the Employee Portal or from inside the Teradata firewall.

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The Teradata 12 exams include the following topics:

TE0-121 Teradata 12 Basics Exam

Topics include:

- Teradata Product Overview
- Processing Types and Characteristics
- Data Warehouse Architectures
- Relational Database Concepts
- Teradata RDBMS Components and Architecture
- Database Managed Storage
- Data Access Mechanics
- Data Availability Features
- Teradata Tools and Utilities
- Workload Management
- Security and Privacy

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TE0-122 Teradata 12 SQL Exam

Topics include:

- Teradata Extensions
- Data Definition Language (DDL)
- Data Manipulation Language (DML)
- Data Control Language (DCL)
- Views and Macros
- Logical and Conditional Expressions
- Data Conversions and Computations
- CASE Expressions
- Subqueries and Correlated Subqueries
- Joins
- Attribute and String Functions
- Set Operations
- Analytical Functions
- Time/Date/Timestamp/Intervals (ANSI vs. TERADATA)
- Stored Procedures Concepts
- Aggregations
- SQL Optimization Concepts
- Advanced SQL Concepts

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TE0-123 Teradata 12 Physical Design and Implementation Exam

Topics include:

- Physical Database Design Overview
- Table Attributes
- Column Attributes
- Statistics
- Primary Indexes
- Secondary Indexes
- Other Index Considerations
- Transaction Isolation
- Physical Database Operations
- Teradata Query Analysis
- Database Space Management

TE0-124 Teradata 12 Database Administration Exam

Topics include:

- System Software Setup and Parameters
- User and Security Management
- Session Management
- Load and Extract
- System Administration Tools
- System Workload Analysis and Management
- Performance Optimization
- Capacity Management and Planning
- Business Continuity
- Object Maintenance

TE0-125 Teradata 12 Solutions Development Exam

Topics include:

- The solutions development process: data integration and access, performance analysis tools, and data model characteristics
- Solutions development considerations: physical design, data integration, data access performance, partitioning, security, privacy, and APIs.
- The solutions development planning process: capacity, security, and data warehouse administration planning, and analyzing solution performance metrics
- Solutions development strategies: advanced SQL functions, table selection, transaction mode, coding constructs, transaction types, NULL processing, and recursive queries

- Data integration strategies: load utilities, export options, load strategies, referential integrity, and locking.
- Solutions optimization: performance improvement, statistics collection, secondary and join indexes, understanding EXPLAINs, and Load utility performance.

TE0-126 Teradata 12 Enterprise Architecture Exam

Topics include:

- General concepts
- System Planning and Space Management
- Optimization
- Data Integration (data source to database target)
- Data Protection
- Data Governance
- Information Delivery Strategies

TE0-12Q Teradata 12 Qualifying Exam for V2R5 Masters

Topics include:

- Teradata Basics
    - o Hardware Configuration
    - o Physical Data Placement
    - o Logical Data Organization
    - o 3NF Data Model
    - o Star Schema
    - o Data Tables
    - o CREATE TABLE AS
    - o Data Protection and Recovery

- Data Access
    - o Primary Index
    - o Secondary Indexes
    - o Join Indexes
    - o Considerations

- Creating Output
    - o [NOT] IN

- Correlated Subqueries
- UNION [ALL]
- Window Aggregate Functions
- GROUP BY
- TOP N vs. SAMPLE
- Joins
- Triggers
- Nulls
- Formatting

- ANSI vs. Teradata Mode
  - Transactions
  - Defaults
  - Data Conversions
  - Temporal Values
  - Changing Modes

- Locking
  - Locking Levels
  - Lock Types
  - Conflicting Locks
  - Locking Modifiers
  - The NOWAIT Option
  - Utility Locks
  - Showlocks
  - Release Lock Commands
  - ANSI vs. Teradata Mode
  - Multi-Statement Serialization Locks
  - Merge-Into Locks
  - Locking Logger

- Statistics
  - Full Statistics Collection
  - Random (Dynamic) AMP Sampling
  - Using the SAMPLE Option
  - Tools
  - COLLECT STATISTICS - Recommendations

- Performance and Optimization
  - Workload Characteristics
  - EXPLAIN
  - Referential Integrity
  - Teradata System Emulation Tool (TSET)

- DBQL
- Teradata Performance Monitor (PMON)
- AMPUsage
- ctl/xctl
- ResUsage
- SLA Statistics
- Compression
- Changing Indexes
- Object Use Count
- Determining Space Shortages
- Packdisk and Scope
- Shared Resources
- Heartbeat Queries
- SLA Statistics

- Data Integration
  - Partitioned DML
  - Standalone Load/Unload Utilities
  - TPT
  - INSERT/SELECT
  - ETL vs. ELT
  - Archive and Recovery Utility (ARC)
  - Surrogate Keys
  - Capacity Planning
  - Data Management

- Security
  - Users
  - Profiles
  - Logons
  - Identifying Users
  - Privileges/Access Rights
  - Roles
  - Macros
  - Views
  - Personally Identifiable Information
  - Encryption
  - Access Logging
  - Stored Procedures
  - UDFs

- Workload Management
  - TDWM
  - Priority Scheduler
  - Loader Slots

- o Teradata Manager
- o Teradata Workload Analyzer
- o Teradata Query Scheduler
- o Teradata Query Director

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TE0-127 Teradata 12 Comprehensive Mastery Exam

NOTE: 5+ years hands-on experience highly recommended
Topics include:

- Workload Management
  - o TASM system level events
  - o workloads, exception rules, throttles, Priority Scheduler
  - o CPU allocation and utilization
  - o AWT exhaustion

- Performance Management and Query Optimization

  evaluating query performance and implementing performance optimizations, including use of

  - o statistics collection
  - o DBQL
  - o indexing strategies

- Database Design
  - o converting logical model to physical model
  - o indexes (PI, SI, JI, AJI, etc.)
  - o partitioning (PPI and MLPPI)

- Configuration Management and Capacity Planning
  - o estimating resource requirements for an application
  - o evaluating system resource consumption
  - o Estimating the impact of system expansion

- Data Availability and Security

implement strategies for

- o data privacy
- o data protection, data availability

- Application Integration and Optimization
    - o data access methodology
    - o integrating new application into existing system
    - o evaluating semantic layer

- Data Management and Integration

    implement strategies for

    - o data load
    - o operational metadata capture
    - o data governance
    - o data integrity improvement

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