Overview

PingCAP offers well-designed online courses and private training to help users get ramped quickly on TiDB and TiDB Cloud. Architects, backend developers, database administrators and operations professionals can benefit from the training program and demonstrate their expertise by earning a globally recognized certification.

Trainings & Workshops		Online learning & Private training available	Private training only
	Architect, App Developer and DBA	**Database Administrator**	**Application Developer**
Introductory	**Introduction to TiDB** Free online learning | 1.5 hours		**Learn SQL with TiDB** Free online learning | 1 day **Working with TiDB from Java** Free online learning | 3 hours **Working with TiDB from Python** Free online learning | 3 hours **Working with TiDB from PHP** Free online learning | 3 hours
Intermediate	**TiDB Workshop for MySQL Users** Free online learning | 5 hours	**TiDB Essentials** Free online learning & Private training | 1 day	
	TiDB Cloud Kickstart Workshop Hands-on labs | 3 hours	**TiDB Database Administration for Self-Hosted Deployments** Private training | 3 days	

TiDB Practitioner Certification

Online learning & Private training available

Certification Name		Prerequisite Training Course
PingCAP Certified TiDB Practitioner Exam	↔	**Introduction to TiDB** Free online learning | 1.5 hours

Database Operation Certification

		Online learning & Private training available	Private training only
Certification Name		Prerequisite Training Course	Certification Level
PingCAP Certified TiDB Associate	↔	**TiDB Essentials** Free online learning & Private training | 1 day	Associate
PingCAP Certified TiDB Professional Administrator	↔	**TiDB Database Administration for Self-Hosted Deployments** Private training | 3 days	Professional

Developer Certification

Online learning & Private training available

Certification Name		Recommended Training Course		
PingCAP Certified SQL Developer	↔	**Learn SQL with TiDB** Free online learning | 1 day		
		TiDB Workshop for MySQL Users Free online learning | 5 hours		
		Working with TiDB from Java Free online learning | 3 hours	**Working with TiDB from Python** Free online learning | 3 hours	**Working with TiDB from PHP** Free online learning | 3 hours

Note:
1. Private training can be delivered in person or remotely. To purchase private training, please contact your PingCAP representative or contact sales.
2. If you are looking for some lightweight, easy-to-understand videos about TiDB, PingCAP Learning Youtube channel is here for you.

Introduction to TiDB

This course introduces the core components and their concepts to build up the distributed TiDB cluster and TiDB Cloud.

Course Overview	
● **Audience:** Architects, Developers and DBAs ● **Level:** Introductory	● **Duration:** 1.5 hours ● **Prerequisites:** None
Free, on-demand videos and exercises available. *Start free learning*	
Course Outline	
● The Reasons for Choosing TiDB ● TiDB Overall Architecture ● The SQL Layer - A Distributed MySQL ● The Storage Layer - A Distributed Key-Value Store ● The Translytical Platform - TiDB HTAP ● TiDB Cloud Introduction ● Real-World User Cases	

TiDB Workshop for MySQL Users

This workshop describes TiDB unique features, such as resource control, database consolidation, flashback tables, cached tables, and TiFlash. It can also serve as a valuable shortcut for experienced MySQL users to understand the unique features of TiDB and TiDB Cloud, with a series of hands-on exercises.

Course Overview	
• **Audience:** Architects, Developers and DBAs • **Level:** Intermediate • **Duration:** 5 hours	• **Prerequisites:** Experienced with SQL queries and basic knowledge with DML and DDL on MySQL compatible RDBMS.

Free, on-demand videos and exercises available. *Start free learning*

Course Outline	

01: TiDB Data Definition Language (DDL)

- Create and drop database
- Describe database character sets
- Create, modify, delete, flashback tables
- Use table and index related DDL
- Describe and set column properties, table options
- Use global temporary table
- Create indexes, primary keys (clustered and non-clustered), unique keys, and constraints
- Use cached tables
- Use partitioned table
- Use placement policy
- Optimize Analytical Queries with TiFlash
- Understand online DDL
- Understand hot and cold storage tiering
- Understand resource control and database consolidation

02: TiDB Data Manipulation Language (DML) and Transaction Control

- Use AUTO_INCREMENT and AUTO_RANDOM
- Import data into TiDB using TiDV Lightning
- Add new data to a table using INSERT and REPLACE
- Use UPDATE to modify data
- Avoid duplicate records
- Delete rows using DELETE
- Control transactions
- Use pessimistic and optimistic locking
- Describe SQL injections and prepared statements

TiDB Cloud Kickstart Workshop

This workshop contains a collection of hands-on labs and tasks to help you gain an understanding of TiDB Cloud features.

Overview	
• **Audience:** Architects, Developers and DBAs • **Level:** Intermediate • **Duration:** 3 hours	• **Prerequisites:** Basic computer, operating system, network and database knowledge
Free, on-demand exercises available. *Start Free Learning*	
Summary	

In this workshop you will learn how to:
- Create TiDB Cloud account
- Create Serverless Tier cluster
- Create Dedicated Tier cluster
- Connect by Standard Connection
- Connect by VPC Peering
- Connect by Web SQL Shell
- Backup a TiDB Cloud cluster
- Restore a TiDB Cloud cluster
- Delete backup
- Scale out and scale in TiDB Cloud cluster
- Restore a TiDB Cloud cluster and change its nodes size
- Scale up TiKV and TiFlash nodes in TiDB Cloud cluster
- Import CSV Data from Amazon S3 bucket into TiDB Cloud cluster
- Import TiDB Dumpling Data from Amazon S3 bucket into TiDB Cloud cluster
- Import Parquet Data from Amazon S3 bucket into TiDB Cloud cluster

TiDB Essentials

This course focuses on the architecture and design principles of TiDB, which is the basis for administration, development, performance tuning and troubleshooting.

Course Overview

• **Audience:** Architects, Developers and DBAs • **Level:** Intermediate • **Duration:** 1 day	• **Prerequisites:** Basic computer, operating system, network and database knowledge; Ability to read simple SQL statements.

Free, on-demand videos and exercises available. *Start free learning*

Private training available. To purchase a private training, please speak to your PingCAP representative or *contact sales*.

Course Outline

01: TiDB Database Architecture Overview
- TiDB Database Architecture Overview
  - Understand the overall architecture of TiDB
  - Describe the key features of TiDB server, TiKV server, and Placement Driver (PD) server
- TiDB Server
  - Describe TiDB server's architecture
  - Describe TiDB server's role in TiDB cluster
  - Describe TiDB server's processes
  - Describe TiDB server's server cache
- TiKV Server
  - Understand TiKV server's architecture
  - Describe the data persistence and read operations in TiKV
  - Understand how TiKV cluster provides MVCC and distributed transaction support
  - Understand the distributed consistency based on the Raft algorithm
  - Understand TiKV server's Coprocessor
- Placement Driver Server
  - Understand PD server's architecture and features
  - Understand TSO (Timestamp Oracle) concept and its purpose
  - Understand scheduling process
  - Understand the relationship between labels and high availability

- TiDB SQL Execution Process
  - Describe the process of reading and writing data with DML
  - Describe the execution flow of DDL

02: TiDB HTAP
- HTAP Overview
  - Understand HTAP (Hybrid Transactional/Analytical Processing) technology
  - Understand the HTAP architecture of TiDB database
  - Understand the HTAP core functions of the TiDB database
- TiFlash Overview
  - Describe the architecture of TiFlash
  - Understand the main functions of TiFlash

03: New Features of TiDB v6.0
- Understand Placement Rules in SQL
- Describe small table cache
- Understand in-memory pessimistic lock
- Understand Top SQL
- Understand TiUniManager

04: TiDB Cloud
- Describe why you should consider the "The Cloud"
- Describe TiDB Cloud account types
- Compare and contrast TiDB and TiDB Cloud
- Get you to create a TiDB Cloud account and try it

TiDB Database Administration for Self-Hosted Deployments

This course guides you learn about managing TiDB Self-Hosted, backup and restore strategies, as well as the scenarios and common usage of some ecosystem tools.

Course Overview

● **Audience:** Database administrators ● **Level:** Intermediate ● **Duration:** 3 days	● **Prerequisites:** You have completed TiDB Essentials, or you should be familiar with distributed database operation and administer or equivalent work experience.

Public training available. *Check the public training schedule and purchase a seat.*

Private training available.   To purchase a private training, please speak to your PingCAP representative or *contact sales*.

Course Outline (1/2)

01: TiDB Cluster Deployment
- Use TiUP to deploy TiDB cluster
- Start and Stop TiDB cluster
- Describe the stages of TiDB cluster startup
- Describe TiDB cluster configuration and log files
- Create TiDB cluster in the TiDB Cloud

02: Connecting to TiDB
- Understand the TiDB compatibility with MySQL
- Describe how to connect to TiDB server

03: Configuring TiDB
- Understand TiDB system variables
- Understand the scope of TiDB system variables
- Understand TiDB configuration file parameters
- Describe how to modify TiDB system variables
- Describe how to modify TiDB configuration file parameters

04: Security and User Management
- Understand authentication and authorization
- Understand the levels of access privileges for users
- Manage TiDB user accounts
- Grant and revoke privileges
- Use SQL statements to manage accounts

05: TiDB Monitoring Tools
- Describe the monitoring and alerting framework
- Identify common monitoring metrics
- Monitor TiDB cluster status on Grafana panels
- Monitor TiDB cluster status on TiDB Dashboard

06: TiDB Cluster Operational Tasks
- Rename a TiDB cluster
- Scale out TiDB cluster components
- Scale in TiDB cluster components
- Tear down a TiDB cluster
- Change the timezone of TiDB

07: Upgrading TiDB Cluster (On-premises)
- Describe the TiDB versioning
- Patch the TiDB cluster
- Upgrade the TiDB cluster

Course Outline (2/2)

08: Backup Terminology and Strategies
- Describe TiDB backup types
- Describe TiDB backup techniques
- Compare the various backup techniques
- Perform backups on TiDB Cloud cluster

09: Exporting Data using Dumpling
- Explain when and how to use Dumpling
- Use Dumpling to perform logical backups

10: Importing Data using TiDB Lightning
- Describe what TiDB Lightning is
- Explain when and how to use TiDB Lightning
- Using TiDB Lightning to import data

11: Using BR for Backup and Restore
- Describe what BR is
- Explain when and how to use BR
- Using BR to backup and restore TiDB cluster data

12: Using sync-diff-inspector to Validate Data
- Describe the key features of sync-diff-inspector
- Explain when and how to use sync-diff-inspector
- Using sync-diff-inspector to compare schema and data

13: Migrating Data from MySQL-compatible Databases with TiDB Data Migration (DM)
- Describe the key features of TiDB Data Migration
- Explain when and how to use TiDB Data Migration
- Replicate data from MySQL-compatible upstream by using TiDB Data Migration cluster

14: Replicating TiDB Change Events Using TiCDC
- Describe the key features of TiCDC cluster
- Explain when and how to use TiCDC cluster
- Using TiCDC cluster to fan out database change events to downstreams

Learn SQL with TiDB

This course teaches you how to write SQL queries. More importantly, it takes performance into consideration at the very first place. For example, this course teaches you to use "KeySet Seeker" style in TiDB, instead of the "LIMIT offset" style for paginating. Most of the content in the course is also compatible with MySQL. Learners can understand the compatibility of TiDB and MySQL in the course by practice. With this course, SQL beginners can start their SQL journey from TiDB directly, instead of learning from MySQL.

Course Overview

● **Audience:** SQL developer beginners ● **Level:** Introductory ● **Duration:** 1 day	● **Prerequisites:** You know how to connect to TiDB with the MySQL Client.

Free, on-demand videos and exercises available. *Start free learning*

Course Outline

01: Querying Data in TiDB

- Use DESC
- Retrieve records using a SELECT statement
- SELECT capabilities: DISTINCT, WHERE, ORDER BY, LIMIT
- Query data from a MySQL client
- Get query execution plan
- Optimize pagination by KeySet seeker

02: Data Types and Expressions

- Describe data types
- Describe numeric, date, string, and NULL
- Describe boolean expression
- Choose the right data type

03: Functions and Expressions

- Use String functions
- Use Date and time functions
- Use Numeric functions
- Use aggregate functions
- Run a simple analysis using RANK window function
- Use control flow functions
- Understand TiKV expression push down

04: Joins

- JOIN concepts
- JOIN multiple tables
- UNION and other set operations on multiple queries

05: Subqueries

- Subquery concept
- Simple subqueries
- Correlated subqueries

Working with TiDB from Java

This course guides you through a series of concepts and hands-on best practices to implement the read and write operations using Java applications. It focuses on the JDBC driver and prepares the audience to use a wide variety of Java based ORM frameworks.

Course Overview	
Audience: SQL and Java developers **Level:** Introductory **Duration:** 3 hours	**Prerequisites:** Experience with Java programming and SQL
Free, on-demand videos and exercises available. *Start free learning*	
Course Outline	

01: Using Database Connector API
- Describe Database Connector
- Describe TiDB Connector
- Access TiDB via Java
- Describe the benefits of connection pooling
- Handle NULL values in the result set

02: Using Prepared Statements
- Describe the reasons for using prepared statements and their limitations
- Use mysql command line client to prepare, execute, and deallocate prepared statements
- Use prepared statements in your code via the Connector API
- Use batch processing API

03: Handling Exceptions
- Set SQL Mode to modify the behavior of error output
- Use SHOW WARNINGS and SHOW ERRORS
- Handle Exceptions in Java

Working with TiDB from Python

This course guides you through a series of concepts and hands-on best practices to implement read and write operations via Python applications. It focuses on the connector's perspective to get the audience ready to face any Python based ORM frameworks.

Course Overview	
● **Audience:** SQL and Python developers ● **Level:** Introductory ● **Duration:** 2 hours	● **Prerequisites:** Experience with Python programming and SQL

Free, on-demand videos and exercises available. *Start free learning*

Course Outline

01: Using Database Connector API
- Describe Database Connector
- Describe TiDB Connector
- Describe the benefits of connection pooling
- Handle special characters in SQL statements
- Handle NULL values in the result set
- Use TiDB with Python

02: Using Prepared Statements
- List reasons for using prepared statements
- Use the `mysql` command line client to `Prepare`, `Execute`, and `Deallocate` the prepared statements
- Describe the execution plan cache
- Use prepared statements by programming API

03: Handling Exceptions
- Set SQL Mode to modify the behavior of error output
- Use SHOW WARNINGS and SHOW ERRORS
- Interpreting Error Messages
- Handle Exceptions in Python

Working with TiDB from PHP

This course guides you through a series of concepts and hands-on best practices to implement read and write operations via PHP. Two APIs are introduced: mysqli and PDO_MySQL.

Course Overview	
Audience: SQL and PHP developers **Level:** Introductory **Duration:** 3 hours	**Prerequisites:** Experience with PHP programming and SQL
Free, on-demand videos and exercises available. *Start free learning*	

Course Outline

01: Using Database Connector

- Explain what a database connector is
- Describe TiDB Connector
- Access TiDB via PHP
- Describe the benefits of connection pooling
- Handle NULL values in the result set

02: Using Prepared Statements

- Describe the reasons for using prepared statement and its limitations
- Use MySQL Client to execute PREPARE, EXECUTE, and DEALLOCATE on prepared statement
- Describe the execution plan cache
- Use prepared statement in your program

03: Exception Handling

- Set SQL mode to modify the behavior of error output
- Use SHOW WARNINGS and SHOW ERRORS
- Interpret error messages
- Handle exceptions in PHP

PingCAP Certified TiDB Practitioner Exam

The PingCAP Certified TiDB Practitioner demonstrates your understanding of the TiDB's basic concepts, terminology, and use cases. It is an **entry-level** certification designed for anyone who is interested in TiDB, even if you have little experience with TiDB or database technologies. This **beginner-friendly, absolutely free** certification can be retaken as many times as necessary until you succeed. It is a good starting point to pursue advanced PingCAP Certifications on TiDB.

Exam Overview	
Audience: Any roles **Prerequisites:** None **Level**: Foundational **Price:** Free **Time Allotted:** 50 minutes	**Format:** 20 questions that may be multiple choice, multiple response **Delivery Method:** Online proctored **Prerequisite training course**: Introduction to TiDB
Free, Online proctored exam available. *Register Now!*	
Exam Outline	
- TiDB Basic Concepts and Terminologies - TiDB Core Components - TiDB Features for Analytical Workloads - TiDB Use Cases	

PingCAP Certified TiDB Associate Exam

This credential helps organizations identify and develop talent with critical skills for deploying, managing, and operating workloads on TiDB and TiDB Cloud. **To earn this certification, you will need to [contact sales](#) to get access to the certification exam.**

Exam Overview	
Audience: Database administrator **Objective:** To validate candidates' proficiency in the architecture, core principles, and design principles of the TiDB database. **Prerequisites:** None **Level:** Associate **Price:** $180 USD	**Time Allotted:** 80 minutes **Format:** 50 questions that may be multiple choice, multiple response, fill-in-the-blanks or ordering. **Delivery Method:** Online proctored **Prerequisite training course**: [TiDB Essentials for DBA](#)

Exam guide available. *[Download the exam guide](#)*

Exam Outline (1/2)

01: TiDB Database Architecture - 50% of exam

Describe the TiDB database architecture overview
- Describe the overall architecture of TiDB database
- Identify the key features of TiDB Server, TiKV, and PD
    - Identify the TiDB Server features
    - Identify the PD features
    - Identify the TiKV features

TiDB Server
- Describe the TiDB Server architecture
- Identify the functions of TiDB Server
    - Compiling SQL statements
    - Parse of SQL statements
    - Understand the modules related to SQL reads and writes
    - Understand the relational data and KV transformation
    - Online DDL
    - TiDB Server GC
- Understand the process of TiDB Server
- Understand the cache of TiDB Server

TiKV (1/2)
- Describe the architecture and features of TiKV

TiKV (2/2)
- Understand the data persistence of TiKV
    - Identify RocksDB features
    - Understand RocksDB writing process
    - Understand RocksDB query
- Describe how TiKV provides MVCC and distributed transaction
- MVCC
- Distributed transactions
- Understand the consistency of TiKV based on raft
    - Understand the Raft log replication
    - Understand the write to TiKV
    - Understand the read to TiKV
- Coprocessor

PD（Placement Driver）
- Describe the architecture and functions of PD
- Understand the allocation of TSO
- Understand the scheduling process
    - Scheduling: general process
    - Scheduling: information gathering
    - Scheduling: generating schedules
- Understand the labels and high availability

Exam Outline (2/2)

02: TiDB HTAP - 20% of exam

Describe the TiDB database HTAP overview
• Understand the HTAP technology
• Describe the TiDB HTAP architecture
• Understand the core features of HTAP
  ○ MPP features
• Understand the hybrid workload scenario
• Understand the streaming scenario
	TiDB HTAP
	• Describe the DML process
	  ○ The writes execution
	  ○ The reads execution
	• Describe the DDL process
	  ○ online DDL
	TiFlash
	• Describe the architecture and features of TiFlash
	• Understand the core functions of TiFlash

03: TiDB 6.1 New Features - 20% of exam

• Understand the placement rules in SQL • Cached Tables • In-memory pessimistic lock	• Top SQL • TiUniManage

04: TiDB Cloud - 10% of exam

• Describe the architecture of TiDB Cloud	• Identify the features of TiDB Cloud

PingCAP Certified TiDB Professional Database Administrator Exam

This credential is designed to validate candidates' proficiency in TiDB's principles, large-scale TiDB clusters management as well as TiDB tools, such as TiDB Lightning, TiDB Data Migration, TiCDC, sync-diff-inspector and troubleshooting skills. **To earn this certification, you will need to contact sales to get access to the certification exam.**

Exam Overview	
Audience: Database administrator **Objective:** To validate candidates' proficiency in TiDB's principles, large-scale TiDB clusters management as well as TiDB tools **Prerequisites:** You have to pass the PingCAP Certified TiDB Associate certification exam. **Level:** Professonal	**Price:** $240 USD **Time Allotted:** 80 minutes **Format:** 50 questions that may be multiple choice, multiple response or ordering **Delivery Method:** Online proctored **Prerequisite training course**: TiDB Administration
Exam guide available. *Download the exam guide*	
Exam Outline (1/2)	
01: TiDB Cluster Administration - 50% of exam	

TiDB Cluster Deployment
- Use TiUP to deploy TiDB cluster
- Start and Stop TiDB cluster
- Describe the stages of TiDB cluster startup
- Describe TiDB cluster configuration and log files
- Create TiDB cluster in the TiDB Cloud

Connecting to TiDB
- Understand the TiDB compatibility with MySQL
- Describe how to connect to TiDB server

Configuring TiDB
- Understand TiDB system variables
- Understand the scope of TiDB system variables
- Understand TiDB configuration file parameters
- Describe how to modify TiDB system variables
- Describe how to modify TiDB configuration file parameters

Security and User Management
- Understand authentication and authorization
- Understand the levels of access privileges for users
- Manage TiDB user accounts
- Grant and revoke privileges
- Use SQL statements to manage accounts

TiDB Monitoring Tools
- Describe the monitoring and alerting framework
- Identify common monitoring metrics
- Monitor TiDB cluster status on Grafana panels
- Monitor TiDB cluster status on TiDB Dashboard

TiDB Cluster Operational Tasks
- Rename a TiDB cluster
- Scale out TiDB cluster components
- Scale in TiDB cluster components
- Tear down a TiDB cluster
- Change the timezone of TiDB

Upgrading TiDB Cluster (On-premises)
- Describe the TiDB versioning
- Patch the TiDB cluster
- Upgrade the TiDB cluster

Exam Outline (2/2)

02: TiDB Cluster Backup and Recovery - 25% of exam

Backup Terminology and Strategies
- Describe TiDB backup types
- Describe TiDB backup techniques
- Compare the various backup techniques
- Perform backups on TiDB Cloud cluster

Exporting Data using Dumpling
- Explain when and how to use Dumpling
- Use Dumpling to perform logical backups

Importing Data using TiDB Lightning
- Describe what TiDB Lightning is
- Explain when and how to use TiDB Lightning

Using TiDB Lightning to import data
- Using BR for Backup and Restore
- Describe what BR is
- Explain when and how to use BR

Using BR to backup and restore TiDB cluster data
- Using sync-diff-inspector to Validate Data
- Describe the key features of sync-diff-inspector
- Explain when and how to use sync-diff-inspector
- Using sync-diff-inspector to compare schema and data

03: TiDB Cluster Synchronizing and Migrating Data - 25% of exam

Migrating Data from MySQL-compatible Databases with TiDB Data Migration (DM)
- Describe the key features of TiDB Data Migration
- Explain when and how to use TiDB Data Migration
- Replicate data from MySQL-compatible upstream by using TiDB Data Migration cluster

Replicating TiDB Change Events Using TiCDC
- Describe the key features of TiCDC cluster
- Explain when and how to use TiCDC cluster
- Using TiCDC cluster to fan out database change events to downstreams

PingCAP Certified SQL Developer Exam

This credential is designed to assess the skills and knowledge of developers in using the unique features of TiDB, creating highly available and elastic applications with TiDB, and following best practices when working with the database. **To earn this certification, you will need to [contact sales](#) to get access to the certification exam.**

Exam Overview	
Audience: Developer **Objective:** To assess the skills and knowledge of developers in using the unique features of TiDB, creating highly available and elastic applications with TiDB, and following best practices when working with the database.	**Prerequisites:** None **Level:** Associate **Price:** $180 USD **Time Allotted:** 90 minutes **Format:** 60 questions that may be multiple choice, multiple response **Delivery Method:** Online proctored
Recommended Training Courses and Learning Path	

Experienced with backend application development?
↳ **Yes**
  [DEV Course 01 - Introduction to TiDB](#) ➜ [DEV Course 03 - TiDB Workshop for MySQL Users](#) ➜ [DEV Course 05 - Best Practices for Developing on TiDB](#)
↳ **No, but**
  ↳ ***Experienced with SQL?***
    ↳ **Yes, and**
      ↳ **Experienced with Java:**
        [DEV Course 01 - Introduction to TiDB](#) ➜ [DEV Course 03 - TiDB Workshop for MySQL Users](#) ➜ [DEV Course 04A - Working with TiDB from Java](#) ➜ [DEV Course 05 - Best Practices for Developing on TiDB](#)
      ↳ **Experienced with Python:**
        [DEV Course 01 - Introduction to TiDBr](#) ➜ [DEV Course 03 - TiDB Workshop for MySQL Users](#) ➜ [DEV Course 04B - Working with TiDB from Python](#) ➜ [DEV Course 05 - Best Practices for Developing on TiDB](#)
      ↳ **Experienced with PHP:**
        [DEV Course 01 - Introduction to TiDB](#) ➜ [DEV Course 03 - TiDB Workshop for MySQL Users](#) ➜ [DEV Course 04C - Working with TiDB from PHP](#) ➜ [DEV Course 05 - Best Practices for Developing on TiDB](#)

    ↳ **No, but**
      ↳ **Experienced with Java:**
        [DEV Course 01 - Introduction to TiDB](#) ➜ [DEV Course 02 - Learn SQL with TiDB](#) ➜ [DEV Course 03 - TiDB Workshop for MySQL Users](#) ➜ [DEV Course 04A - Working with TiDB from Java](#) ➜ [DEV Course 05 - Best Practices for Developing on TiDB](#)
      ↳ **Experienced with Python:**
        [DEV Course 01 - Introduction to TiDB](#) ➜ [DEV Course 02 - Learn SQL with TiDB](#) ➜ [DEV Course 03 - TiDB Workshop for MySQL Users](#) ➜ [DEV Course 04B - Working with TiDB from Python](#) ➜ [DEV Course 05 - Best Practices for Developing on TiDB](#)
      ↳ **Experienced with PHP:**

DEV Course 01 - Introduction to TiDB ➜ DEV Course 02 - Learn SQL with TiDB ➜ DEV Course 03 - TiDB Workshop for MySQL Users ➜ DEV Course 04C - Working with TiDB from PHP ➜ DEV Course 05 - Best Practices for Developing on TiDB

Exam Outline (Exam guide available. *Download the exam guide*)

01: TiDB Architecture - 15% of exam

- Describe the TiDB Cluster Architecture
- Identify the TiDB Server Features
- Identify the PD Features
- Identify the TiKV Features
- Identify the TiFlash Features
- Describe what HTAP is

02: TiDB SQL Application - 30% of exam

- Querying Data in TiDB
- Data Types and Expressions
- Functions and Expressions
- Joins
- Subqueries

03: TiDB Specific Features and Transaction Control - 30% of exam

- Use AUTO_RANDOM
- Use AUTO_INCREMENT
- Use Placement Policy
- Use Temporary Table
- Use Cached Table

04: Best Practices for Developing on TiDB - 25% of exam

- Understand Best Practices in Designing Tables
- Understand Best Practices in Writing SQL