Introduction

The PingCAP Certified TiDB Associate exam is designed to validate candidates' proficiency in the architecture, core principles, and design principles of the TiDB database.

Prepare for the Exam

- Free self-paced online course: TiDB Essentials for DBA

Response Types

- There are four types of questions on the exam:
- Multiple choice: Has one correct response and one or more incorrect responses.
- Multiple response: Has two or more correct responses out of all choices.
- Filling in the blanks: There is a phrase, sentence, or paragraph with a blank that needs to be filled in the missing word(s).
- Ordering: Organize possible answers in the correct order.

Exam Results

PingCAP Certified TiDB Associate exam has 50 questions. Each question is worth 2 points. You need 60 points to pass the exam. You have 80 minutes to complete the exam.

Outline

Knowledge Area	% of Exam
Domain 1: TiDB Database Architecture	50%
Domain 2: TiDB HTAP	20%
Domain 3: TiDB 6.1 New Features	20%
Domain 4: TiDB Cloud	10%

Domain Details

- Domain 1: TiDB Database Architecture
- Describe the TiDB database architecture overview
  - Describe the overall architecture of TiDB database
  - Identify the key features of TiDB Server, TiKV, and PD
    - Understand the TiDB Server features
    - Understand the PD features
    - Understand the TiKV features
- TiDB Server
  - Describe the TiDB Server architecture
  - Understand the following features 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
  - Describe the architecture and features of TiKV
  - 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
- Domain 2: TiDB HTAP
- TiDB HTAP
  - Describe the DML process
    - The writes execution
    - The reads execution
  - Describe the DDL process
    - Online DDL
- 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
- TiFlash
  - Describe the architecture and features of TiFlash
  - Understand the core functions of TiFlash
- Domain 3: TiDB 6.1 New Features
- Recognize the TiDB 6.1 new features
  - Understand the placement rules in SQL
  - Cached Tables
  - In-memory pessimistic lock
  - Top SQL
- Domain 4: TiDB Cloud
- TiDB Cloud
  - Describe the architecture of TiDB Cloud
  - Understand the features of TiDB Cloud