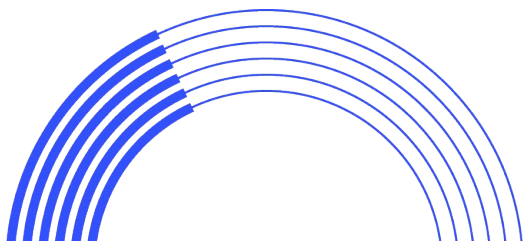


PingCAP Talent Plan

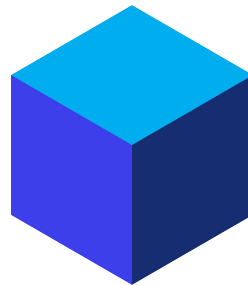
2021/06/17



About Me



- TiDB Maintainer, zz-jason on GitHub
- Engineering Manager at PingCAP
- Former Engineer@Alibaba, now in PingCAP
- Focused on:
 - SQL Optimization and Execution
 - Distributed Systems
 - Open-Source Community

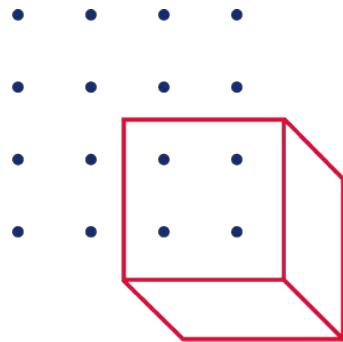


Agenda

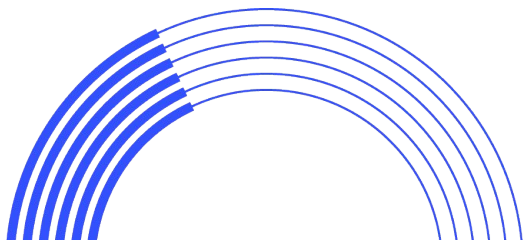


1. The Origin of Talent Plan
2. Talent Plan 1.0 -> 2.0
3. Talent Challenge Program
4. Q&A





The Origin of Talent Plan



Why Talen Plan

初衷: 在分布式系统和数据库领域让学术和工业结合产出世界级的成果

希望:

1. 越来越多的人投身到数据库、分布式系统等基础架构领域的研究和开发中
2. 越来越多的世界级成果诞生出来

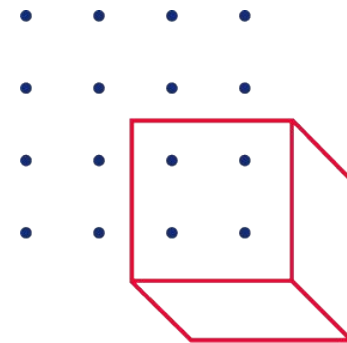
Talen Plan 1.0

计算(TiDB)方向

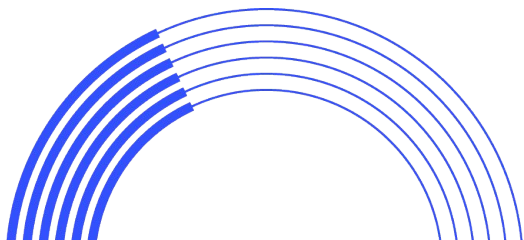
- Section 1 熟悉 Go 语言基础知识
- Section 2 分布式计算基础知识
- Section 3 数据库基础知识
- Section 4 SQL 优化器和执行引擎基本原理
- Section 5 阅读 TiDB 源码

存储(TiKV)方向

- Section 1 熟悉 Rust 语言基础知识
- Section 2 熟悉 Rust 语言基础知识
- Section 3 分布式存储基础知识
- Section 4 分布式系统基础知识
- Section 5 阅读 TiKV 源码



Talent Plan 1.0 -> 2.0



Why

1.0 的一些问题:

1. Talent Plan 线上课程和数据库关系不是很大
2. 一些题目不知道怎么做, 比如画 执行计划
3. Rust 部分学习曲线有点陡峭
4. 线上课程和线下课程关联不是那么紧密

希望 2.0 能够:

1. 降低学习曲线
2. 让大家上手数据库的开发细节

TinySQL



- Project 1: Relational Algebra
- Project 2: Parser
- Project 3: DDL
- Project 4: Query Optimization
- project 5: Query Execution

Key Challenges

- Parser and compiler concepts
- Optimizer internals
- Vectorized execution

Recommended reading list:

- [Readings in Database Systems](#)
- [Awesome Database Learning](#)

TinyKV



- Project 1: build a standalone key-value server
- Project 2: build a highly available key-value server with Raft
- Project 3: support multi Raft group and balance scheduling on top of Project2
- Project 4: support distributed transaction on top of Project3

Key Challenges

- Raft consensus algorithm
- Distributed transaction

Reading list:

- [In Search of an Understandable Consensus Algorithm](#)
- [Large-scale Incremental Processing Using Distributed Transactions and Notifications](#)

Any Other Challenges?

To be collected

Join Us



Talent Plan 课程报名表单

姓名 *

手机号 *

邮箱 *

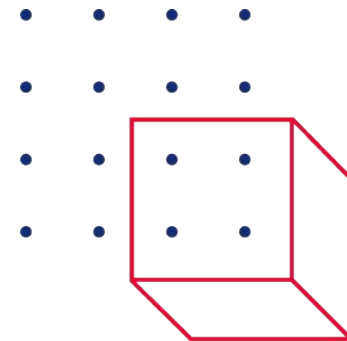
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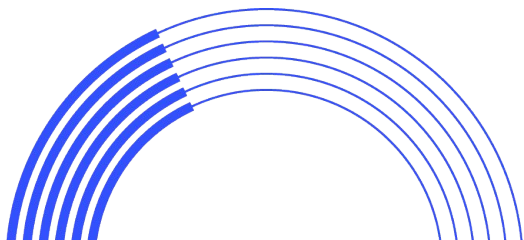
当前状态 *

所在城市 *

<https://forms.pingcap.com/f/talent-plan-application>



Talent Challenge Program

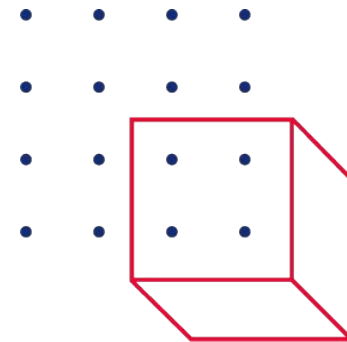


Talent Challenge Program 2021

Talent Challenge Program 2021: 3+ Seasons

Season 1:

- ¥ 10000 for very hard, ¥ 8000 for hard, ¥ 5000 for medium
- 7+ projects in SQL layer , 3+ projects in storage layer
- June 15 - July 15: mentees applications opened, projects are selecting mentees
- July 19 - mentees are selected by the mentors, coding starts



Q&A

