# Getting Started with Amazon DynamoDB

## Model a DynamoDB Database for a Gaming Application

Seayoung Rhee and Pete Naylor

March 27, 2020

aws

# Introducing the Presenters

Seayoung Rhee

Sr Technical Education Manager
for AWS Databases

Pete Naylor

@nosql_here

Sr Specialist Solutions Architect
for Amazon DynamoDB

aws

# Episode Plan

Create Your First Table Using
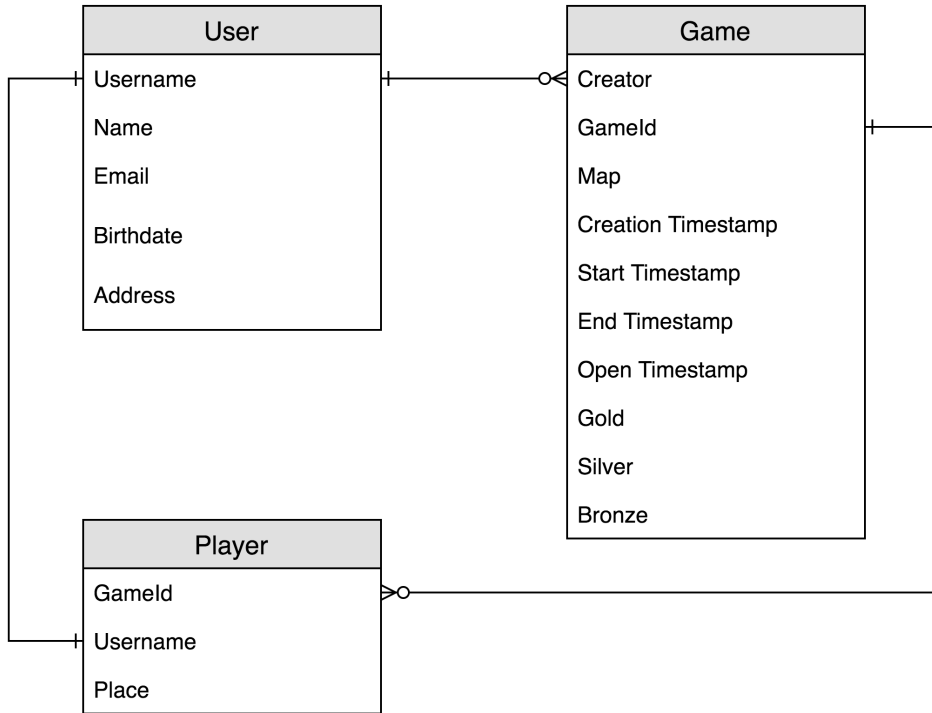the DynamoDB Console

Query and Manage DynamoDB
Tables Using Python

Model a DynamoDB Database
for a Gaming Application

Model a DynamoDB Database
for a Mobile App

Build a Modern, Serverless Application

aws

# Game Scenario



Online multi-player game in "battle royale" style.

- Entities
- Relationships
- Attributes
- Collections?

aws

# Access Patterns: User Profiles

- Create User Profile

- Update User Profile

- Get User Profile

aws

# Access Patterns:  Game Setup

- Create Game

- Find Open Games

- Find Open Games by Map

- View Game

- View Players for Game

- Join Game

aws

# Access Patterns:  Game Start, Play, End

- Start Game

- Update Game Player

- Update Game

- Find Past Games by Player

aws

# Data Modeling Guidelines and Tools

1. Denormalize

2. Build Collections

3. Primary Patterns in Tables

4. Secondary Patterns in GSIs

5. Iterate



NoSQL Workbench
for DynamoDB

aws

# Our Working Design – Visualized in Workbench

| Primary key | | Attributes | | | | | |
|---|---|---|---|---|---|---|---|
| **Partition key: PK** | **Sort key: SK** | | | | | | |
| USER#seayoung | #METADATA#seayoung | username | name | email | birthdate | address | |
| | | seayoung | Seayoung Rhee | me@seayoung.rhee | 1999-03-27 | 1 Picturesque Place, Seattle | |
| USER#pete | #METADATA#pete | username | name | email | birthdate | address | |
| | | pete | Pete Naylor | myself@pete.naylor | 1999-03-28 | 5 Altitude Acres, Seattle | |
| GAME#123abc | #METADATA#123abc | game_id | map | people | create_time | open_time | creator |
| | | 123abc | Soggy Springs | 1 | 2020-03-27 13:30:03 | 2020-03-27 13:30:03 | seayoung |
| | USER#pete | username | game_id | | | | |
| | | pete | 123abc | | | | |

aws

# Create the Workshop Environment

aws

# Create Table, Load Bulk Data

# Primary Index Patterns

# Adding Secondary Indexes

# Cleanup and Questions

# Tune in next time…

Model a DynamoDB Database
for a Mobile App

aws