Working with Arrays and Collections in Java (Java SE 11 Developer Certification 1Z0-819)

Collection Fundamentals

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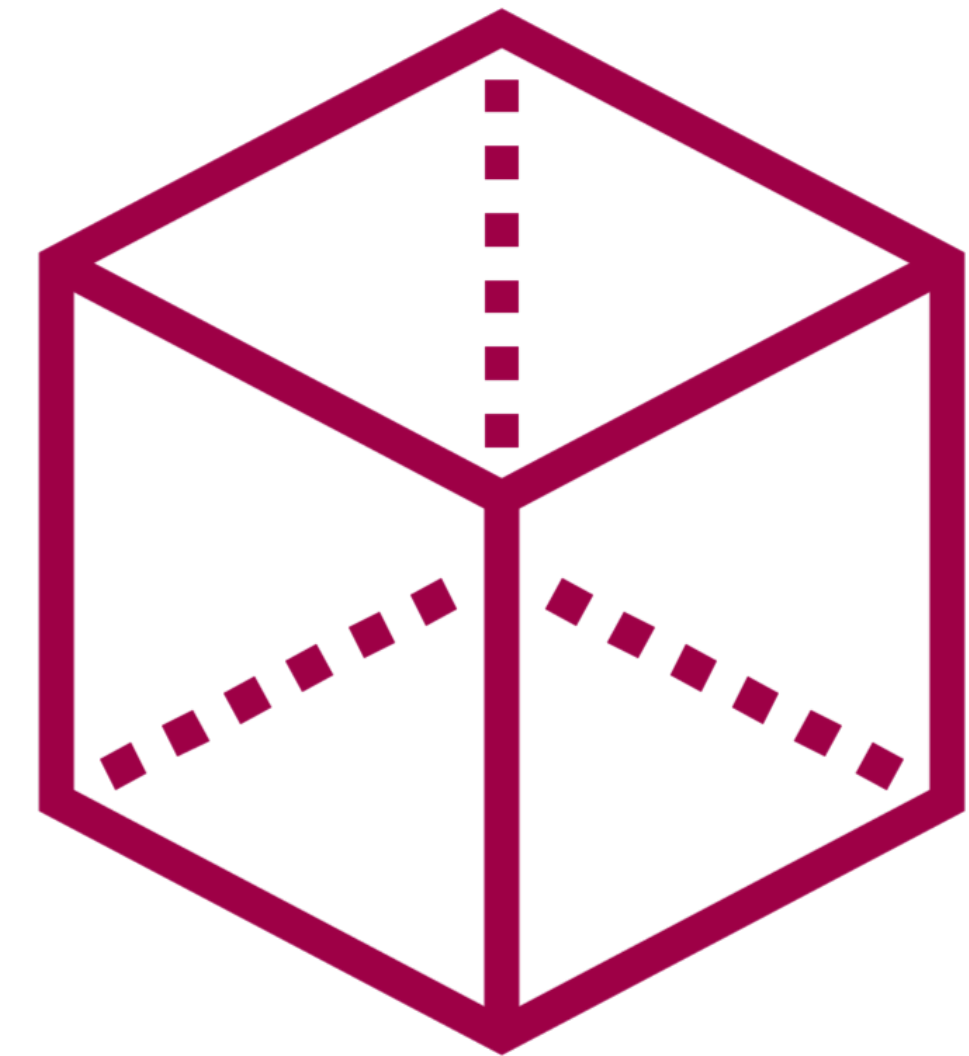linkedin.com/in/bunkerdan

Java Arrays and Collections Primer

Primitive Array

Core Java type
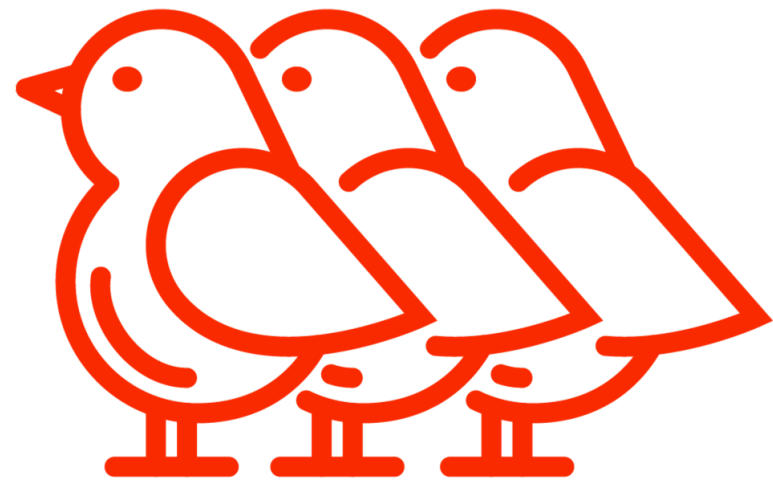
Collection API

Lists, Sets, Queues, Maps

Generics and Typing

Autoboxing, Typing, Interfaces

What Is a Collection?

Group of items

```
["A", "B", "C", "D", ...]
```

Items indexed by number, position or key

Lists by index, sets by uniqueness, queues by add/ position and maps by key

```
{
    "PI": 3.14,
    "PHI": 1.61,
    ...
}
```

Lists, Sets, Queues, and Maps

Lists
Position based by number, starting at 0
Allows for duplicates
Performance slows as list size grows

Sets
Position based by number, starting at 0
Items are unique, no duplicates
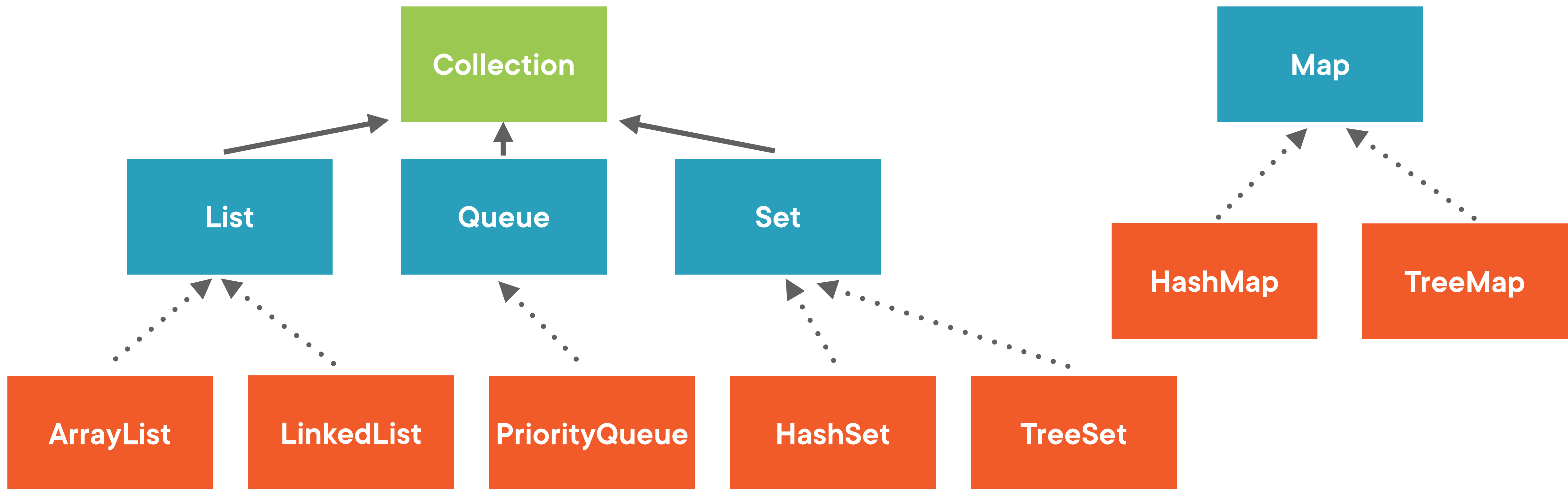**Performance slows as set size grows**

Queues
Position based by entry into the queue
Allows for duplicates
Performance slows as set size grows

Maps
Key based
Keys are unique, no duplicates
Performance doesn't change as map size grows

Java Collections API Overview

Collection Overview Cheat Sheets

Https://Github.Com/Dlbunker/Ps-Collections-1Z0-819

	Elements Ordered?	Allows Duplicates?	Elements Added/Removed in a Certain Order?	Allows Key/Values?
List	Yes - Numbered Index	Yes	No	No
Set	No	No	No	No
Queue	Yes - Placed Order	Yes	Yes	No
Map	No	Yes - Values only	No	Yes

Collection Overview Cheat Sheets

Https://Github.Com/Dlbunker/Ps-Collections-1Z0-819

Java Type	Parent Interface Type	Allows null?	Elements Sorted?	Uses hashCode?	Uses compareTo?
ArrayList	List	Yes	No	No	No
LinkedList	List and Queue	Yes	No	No	No
HashSet	Set	Yes	No	Yes	No
TreeSet	Set	No	Yes	No	Yes
HashMap	Map	Yes	No	Yes	No
TreeMap	Map	No	Yes	No	Yes

Summary

- **What Is a Collection?**

- **Lists, Sets, Queues, and Maps**

- **Java Collection API hierarchy and attributes**