Objectives

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This session will help you to understand the following,

- What are collections?
- Types of Collections.
- Usages of collections.

What is a collection?

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A “collection” is a data structure that is used for grouping and storing multiple elements as one unit.

Collection Framework

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Collection framework holds a group of interfaces and their implementation.

Few salient points:

- The data stored in collection is called elements.
- Collections can store only reference types.
- Element in collections can be ordered or non ordered.
- The collections are available in ***java.util*** package**.**
- Collection can store duplicate (or) non duplicate elements.
- Collection framework contains,
  - Set of collection ***Interfaces and their implementations.***

Advantages of Collection framework

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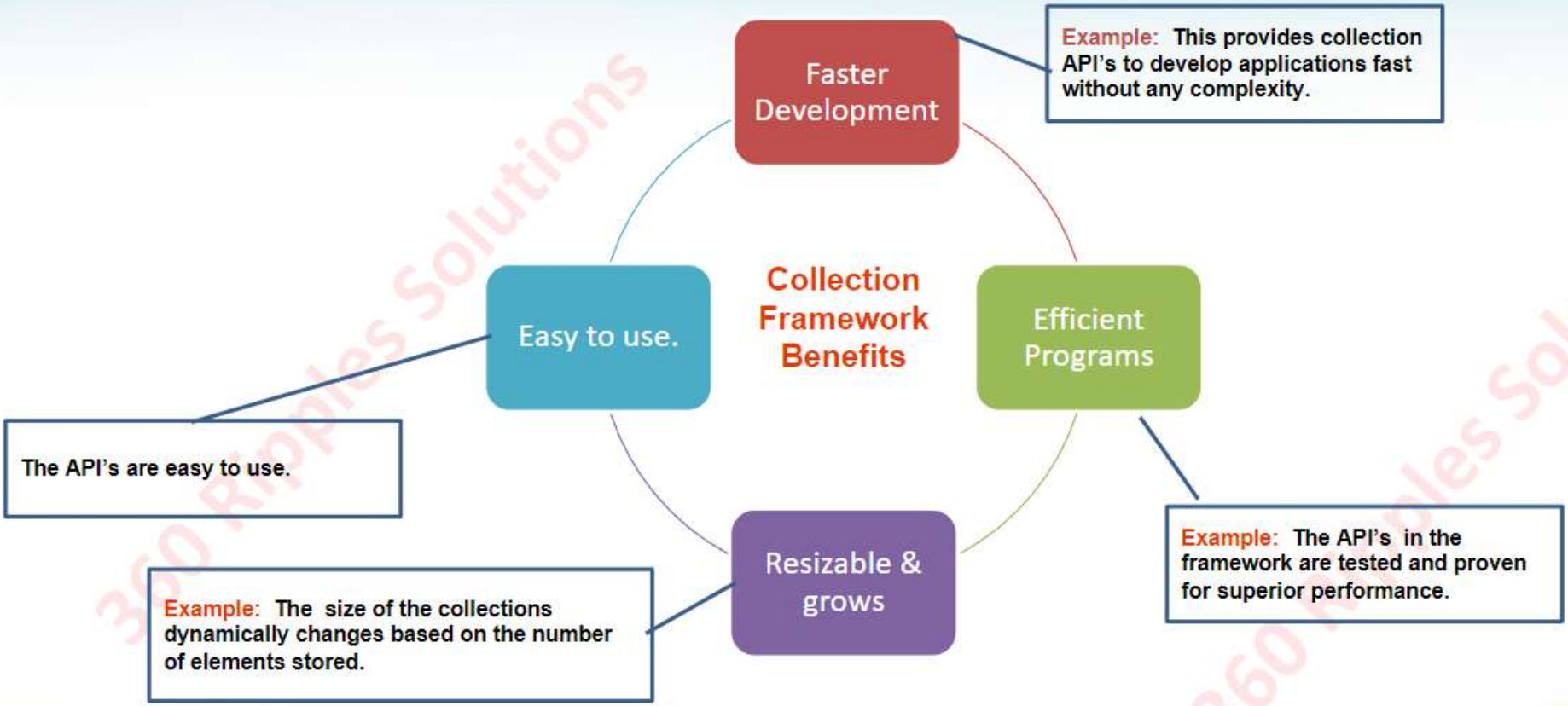

Collection Interfaces

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A set of predefined java interfaces defined in ***java.util*** package which can be used to manage a collection of objects.

Example: Set, List, Map

These are classes which implements one of the collection interfaces. The programmer uses these for processing a collection of objects.

Example: ArrayList (implements List), HashMap (Implements Map)

Sorted & Ordered Collection

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Assume the there is a list of currencies.

1. Rupees
2. Yen
3. Dollar
4. Pound
5. Dirham

Sorted Collection are used to sort the elements in ascending/descending order.

We will look into this in the coming slides.

Scenario 1 : What will you do to create a collection of currency which should follow the same order as mentioned above.

Solution : Ordered collection can be used. **Example: *List***.

Scenario 2: How would you store the above currencies in a collection and sort them alphabetically.

Solution : Sorted collection like ***SortedSet*** can be used to automatically sort, the list will be sorted every time elements is added.

Collection Framework

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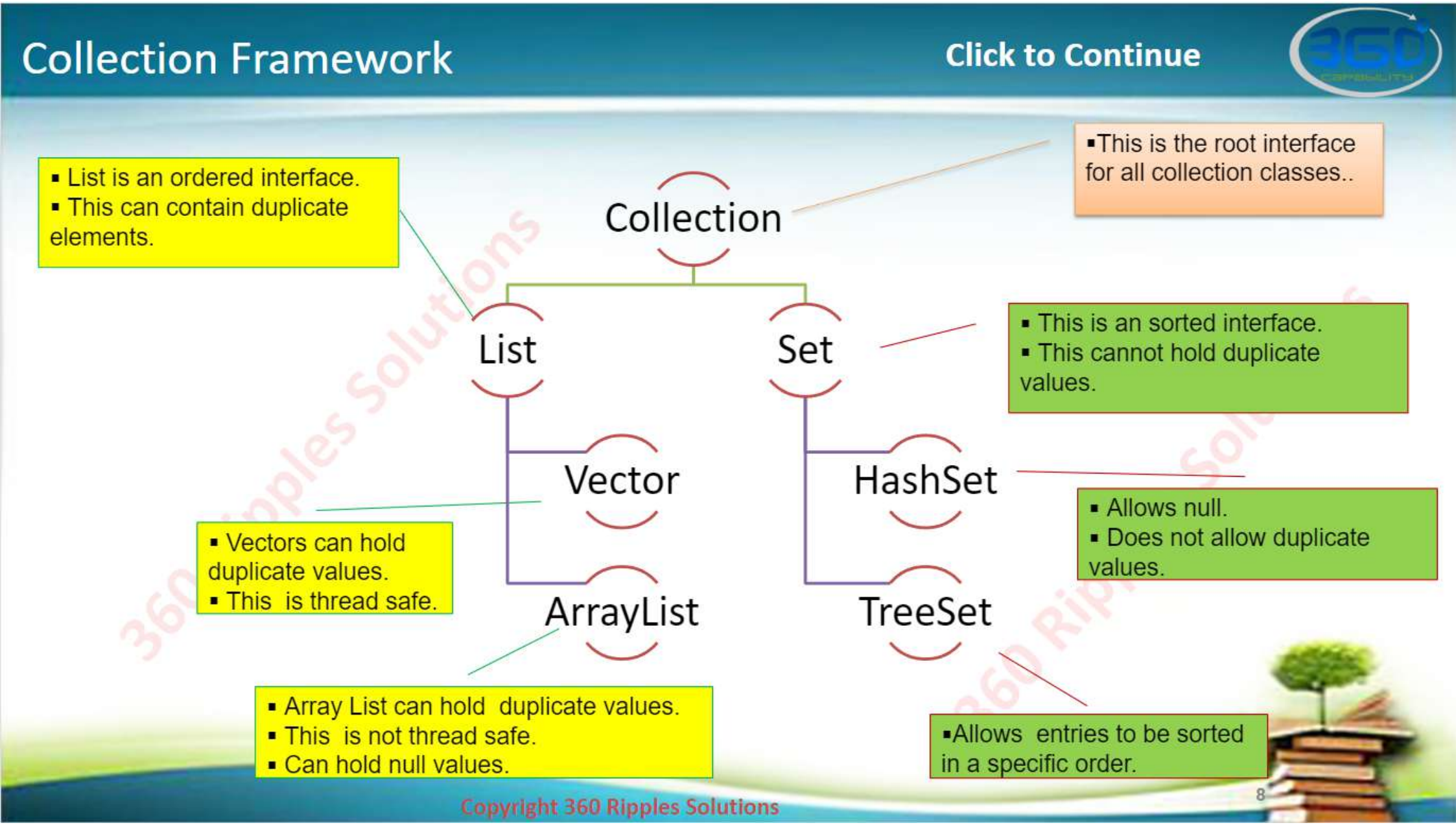

Set Vs List

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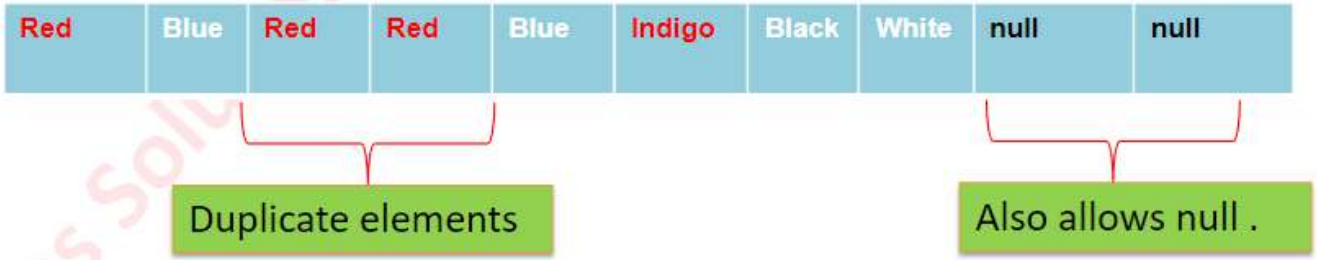
List :



Set:

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In the next sessions we will learn about how to implement List, Set and Map