

Getting Started with Hazelcast

Efficient Use of the Network



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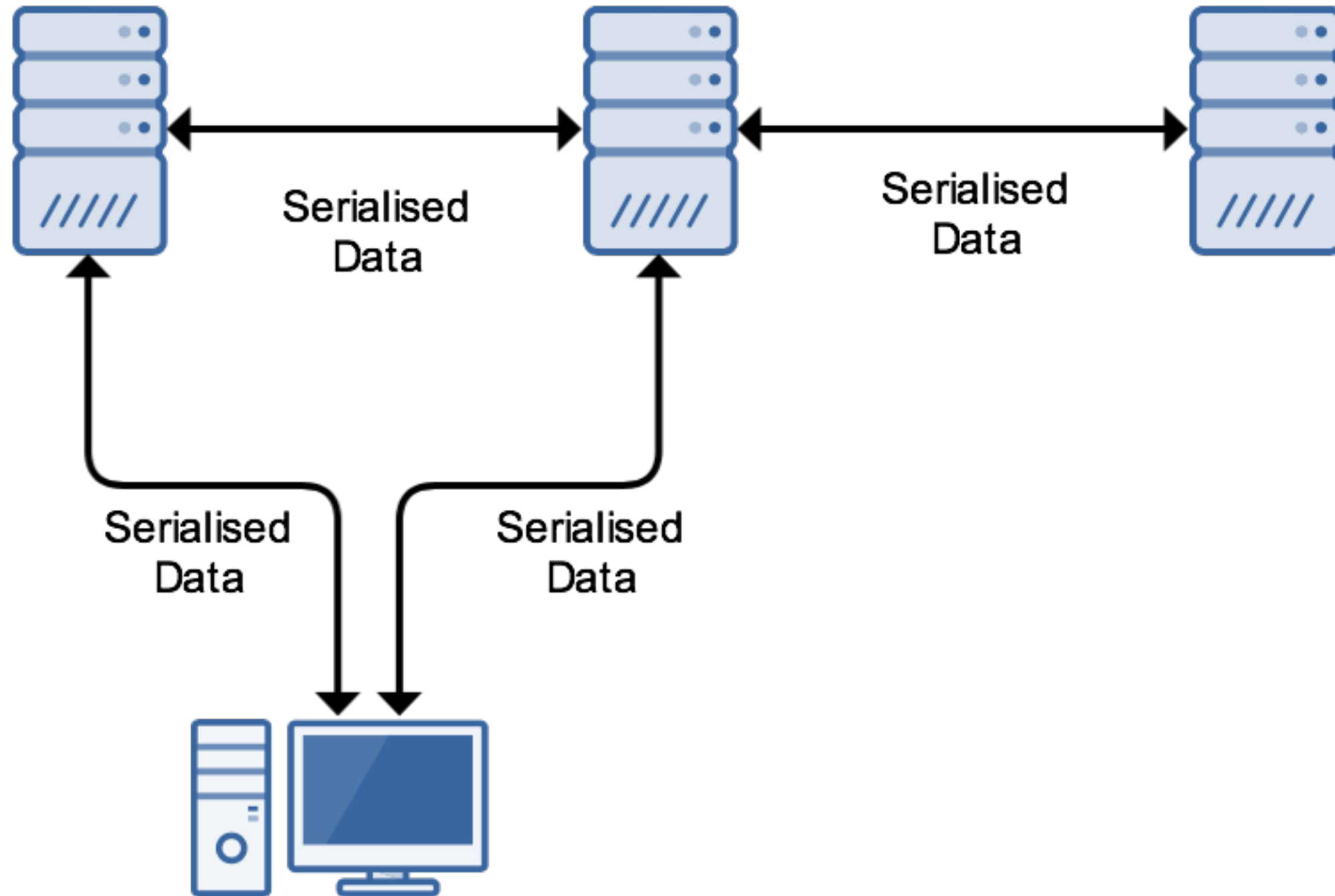
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Module Overview

- Possible serialisation implementations in Hazelcast
- Focus on VersionedPortable
 - Demonstration
 - Utilities
 - Versioning & rolling releases

Data Serialisation



java.io.Serializable

- Slow
- Serialised data size is large
- Difficulty upgrading serialised data - issues with rolling releases

Standard Types

All data gets serialised into a `com.hazelcast.nio.serialization.Data` object

<i>Byte</i>	<i>Boolean</i>	<i>Character</i>	<i>Short</i>
<i>Integer</i>	<i>Long</i>	<i>Float</i>	<i>Double</i>
<i>byte[]</i>	<i>char[]</i>	<i>short[]</i>	<i>int[]</i>
<i>long[]</i>	<i>float[]</i>	<i>double[]</i>	<i>String</i>

Serialisation Mechanisms

- `java.io.Serializable`
- `java.io.Externalizable`
- `com.hazelcast.nio.serialization.DataSerializable`
 - `com.hazelcast.nio.serialization.IdentifiedDataSerializable`
- `com.hazelcast.nio.serialization.Portable`
 - `com.hazelcast.nio.serialization.VersionedPortable`
- Custom Serialisation

Serialisation Priority Ordering

1. Implements `DataSerializable` or `IdentifiedDataSerializable`
2. `Portable` & `VersionedPortable`
3. Well known type or user specified type
4. Java serialisation
5. If none of the above the serialisation will fail

Advantages of VersionedPortable

- Multiple versions of the same object
 - Allows for rolling releases of your application
- Hazelcast maintains data in its serialised form
 - When querying data, specific fields can be deserialised

Serialisation Utilities

Versioning

Storage
Node
v1

Storage
Node
v1

Storage
Node
v1

Storage
Node
v1

Versioning in VersionedPortable

```
public class MyClass implements VersionedPortable {  
    public static final String VERSION = 2;  
    public int getClassVersion() {  
        return VERSION;  
    }  
    //Implement class here  
}
```

Versioning - Release Window

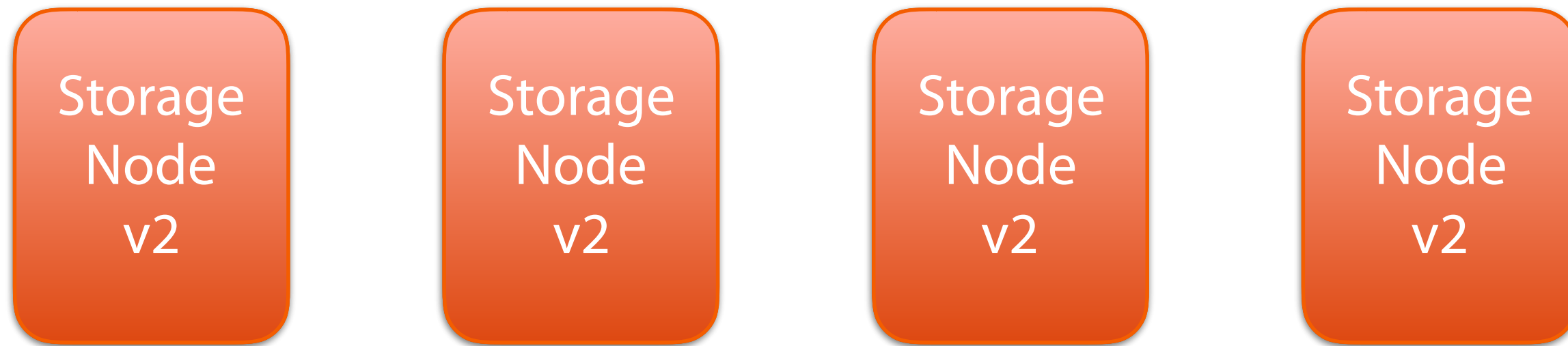
Storage
Node
v2

Storage
Node
v2

Storage
Node
v2

Storage
Node
v2

Versioning & Rolling Releases



Module Review

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Next module - Monitoring & Debugging your Applications