

```

package io.scalecube.examples;

import io.scalecube.cluster.Cluster;
import io.scalecube.cluster.ClusterConfig;
import io.scalecube.cluster.ClusterMath;
import java.text.SimpleDateFormat;
import java.util.Collections;
import java.util.Date;

/**
 * Example of subscribing and listening for cluster membership events which is
 * emitted when new
 * member joins or leave cluster.
 *
 * @author Anton Kharenko
 */
public class MembershipEventsExample {

    private static final SimpleDateFormat sdf = new SimpleDateFormat("HH:mm:ss.SSS");

    /** Main method. */
    public static void main(String[] args) throws Exception {
        // Alice init cluster
        Cluster alice = Cluster.joinAwait(Collections.singletonMap("name", "Alice"));
        System.out.println(now() + " Alice join members: " + alice.members());
        alice
            .listenMembership()
            .subscribe(event -> System.out.println(now() + " Alice received: " +
event));

        // Bob join cluster
        Cluster bob = Cluster.joinAwait(Collections.singletonMap("name", "Bob"),
alice.address());
        System.out.println(now() + " Bob join members: " + bob.members());
        bob.listenMembership()
            .subscribe(event -> System.out.println(now() + " Bob received: " + event));

        // Carol join cluster
        Cluster carol =
            Cluster.joinAwait(
                Collections.singletonMap("name", "Carol"), alice.address(),
bob.address());
        System.out.println(now() + " Carol join members: " + carol.members());
        carol
            .listenMembership()
            .subscribe(event -> System.out.println(now() + " Carol received: " +
event));

        // Bob leave cluster
        bob.shutdown().block();

        // Avoid exit main thread immediately ]:->
        long pingInterval = ClusterConfig.DEFAULT_PING_INTERVAL;
        long suspicionTimeout =
            ClusterMath.suspicionTimeout(ClusterConfig.DEFAULT_SUSPICION_MULT, 4,
pingInterval);
        long maxRemoveTimeout = suspicionTimeout + 3 * pingInterval;
        Thread.sleep(maxRemoveTimeout);
    }
}

```

```
private static String now() {  
    return sdf.format(new Date());  
}  
}
```