

```
1 using System;
2 using System.Collections.Generic;
3 using System.Linq;
4 using System.Text;
5 using System.Threading;
6 using System.Threading.Tasks;
7 using Newtonsoft.Json;
8 using RabbitMQ.Client;
9 using RabbitMQ.Client.Framing;
10 using RabbitMQ.Client.MessagePatterns;
11 using RabbitRx.Advanced.Subscription;
12 using RabbitRx.Core.Message;
13 using RabbitRx.Core.Subscription;
14 using RabbitRx.Json.Subscription;
15
16 namespace Discovery
17 {
18     class Program
19     {
20         /// <summary>
21         /// Connecting to a Broker
22         /// </summary>
23         static readonly ConnectionFactory Factory = new ConnectionFactory
24             { HostName = "66.128.60.46", UserName = "dev", Password = "dev",
25             VirtualHost = "/" };
26         static readonly IConnection Connection = Factory.CreateConnection();
27
28         static string exchangeName = "deviceTopic";
29         static string discoveryQueue = "discovery";
30         static string discoveryResponseQueue = "discoveryResponse";
31
32         static void Main(string[] args)
33         {
34             Start();
35         }
36
37         private static CancellationTokenSource _tokenSource;
38
39         /// <summary>
40         /// Title: RabbitRx
41         /// Author: Ben Johnson
42         /// Date: Jan 27, 2015
43         /// Availability: https://github.com/bensmind/RabbitRx
44         /// </summary>
45         private static void Start()
46         {
47             _tokenSource = new CancellationTokenSource();
48
49             Console.WriteLine("Discovery Service: Press Enter to Start");
50             Console.ReadLine();
51             Task.Run(() => ConsumeThrottle());
```

```
51     Console.WriteLine("Press Any Key to Stop");
52     Console.ReadLine();
53     _tokenSource.Cancel();
54     Start();
55 }
56
57 static void ConsumeThrottle()
58 {
59     var channel = Connection.CreateModel();
60
61     channel.BasicQos(0, 50, false);
62     channel.ExchangeDeclare(exchangeName, "topic");
63
64     var settings = new BasicProperties()
65     {
66         ContentType = "application/json",
67         DeliveryMode = 1
68     };
69
70     var consumer = new JsonObservableSubscription<object>(channel, 7
        discoveryQueue, true);
71
72     var throttlingConsumer = new 7
        ThrottlingConsumer<RabbitMessage<object>>(consumer, 4);
73
74     throttlingConsumer.Subscribe(message =>
75     {
76         var device = JsonConvert.DeserializeObject<Model.Device> 7
            (message.Payload.ToString());
77
78         if (device.Type == Enum.DeviceType.Temperature)
79         {
80             var discoveryResponse = new Model.DiscoveryResponse()
81             {
82                 Id = device.Id,
83                 Salt = device.Salt
84             };
85             var bytes = Encoding.UTF8.GetBytes 7
                (JsonConvert.SerializeObject(discoveryResponse));
86             channel.BasicPublish(exchangeName, discoveryResponseQueue, 7
                settings, bytes);
87             Console.WriteLine("Received:\n");
88             Console.WriteLine("Device: {0}\n", device.Id);
89             Console.WriteLine("Thread: {0}\n\n", 7
                Thread.CurrentThread.GetHashCode());
90         }
91     }, _tokenSource.Token);
92
93     var start = throttlingConsumer.Start(_tokenSource.Token, 7
        TimeSpan.FromSeconds(10));
94
95 }
```

```
96         start.ContinueWith(t =>
97             {
98                 consumer.Close();
99                 channel.Dispose();
100             });
101     }
102 }
103 }
104
```