Cloud Developer Certification Preparation

Exercise 3.5:
Application monitoring

Exercise 3.5: Prerequisites

Sign up for a 30-day free trial IBM Bluemix account if you don't already have one.

You also need the following software:

- A web browser supported by Bluemix:
    - Chrome: the latest version for your operating system
    - Firefox: the latest version for your operating system and ESR 31 or ESR 38
    - Internet Explorer: version 10 or 11
    - Safari: the latest version for the Mac

Optionally, before you start this exercise, complete lab 3.2, Scaling Applications.

For this lab, you will need a Java application from one of these options. You can use the app from exercise 3.2 if you want.

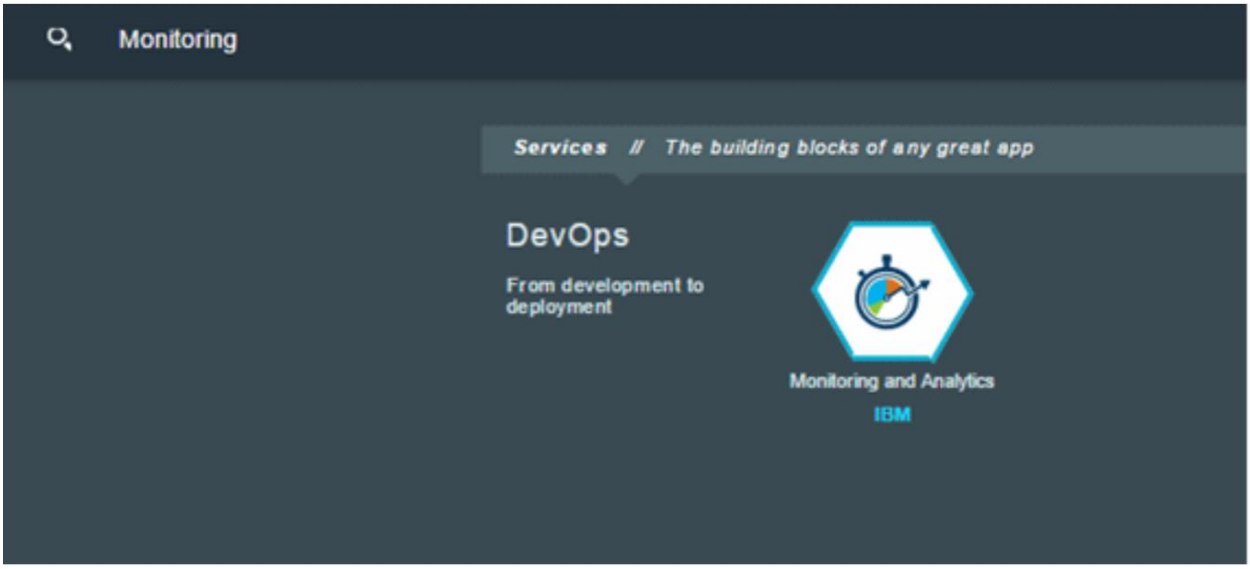
- Build a sample Java application for monitoring with the service.
- Use an existing Java application for monitoring with the service.
- Use the Java Cloudant Web Starter boilerplate for monitoring with the service. This exercise will show screen captures from this application. This sample application includes the Monitoring and Analytics service, so you can skip the first 3 steps of exercise 3.5.1.

Exercise 3.5.1: Adding a Monitoring and Analytics service to your application

Complete the following steps to add a Monitoring and Analytics service to your application if it does not already have this service already:

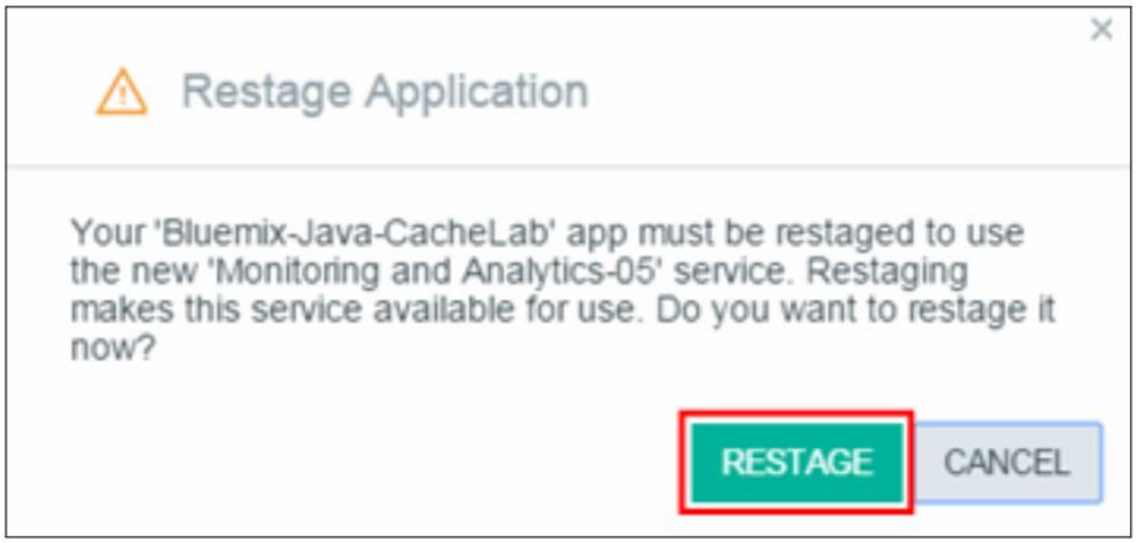
1. In the Bluemix Dashboard, click **ADD A SERVICE**.

2. In the search field, enter *Monitoring*. Then, click **Monitoring and Analytics.**

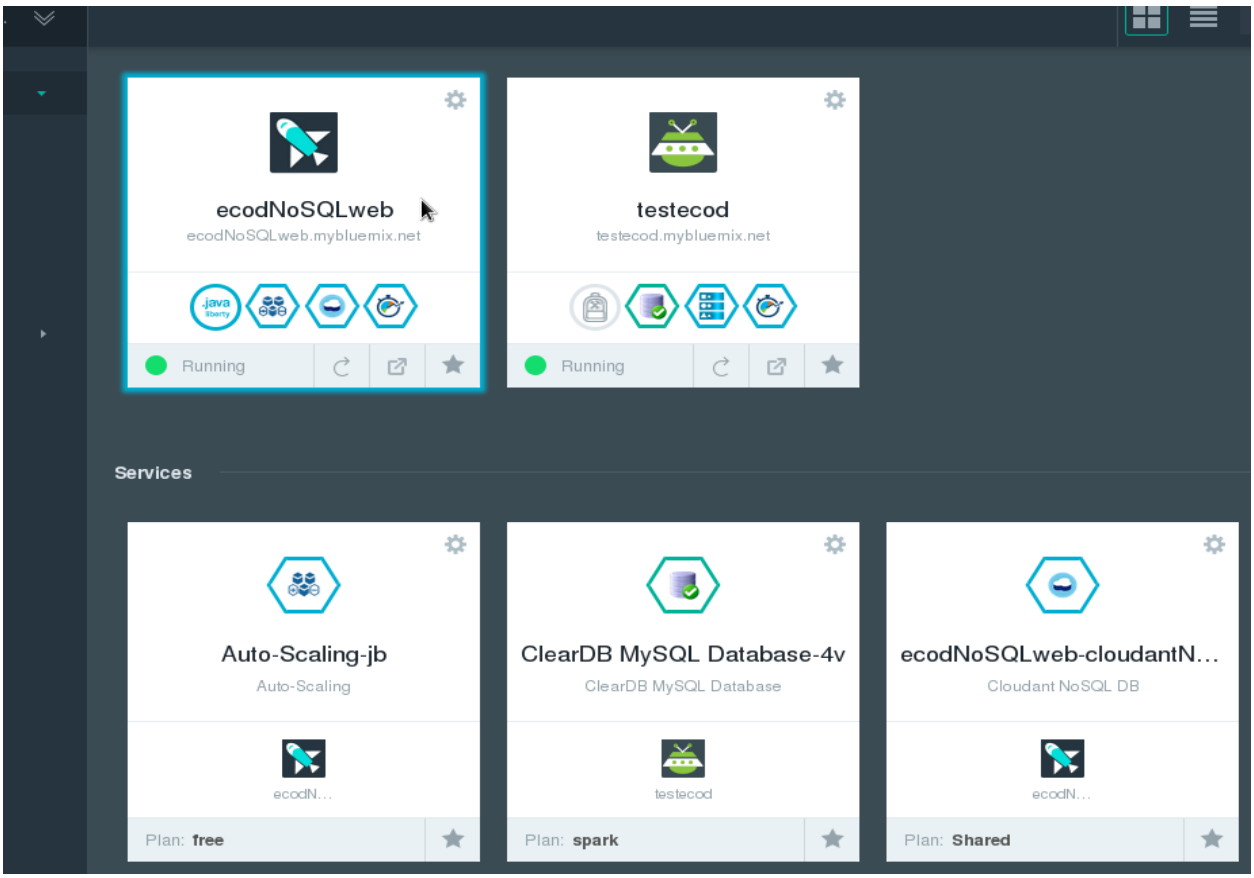


3. Select your application in the **App** field and then click **CREATE**.

3. On the Restage Application dialog, click **RESTAGE.**



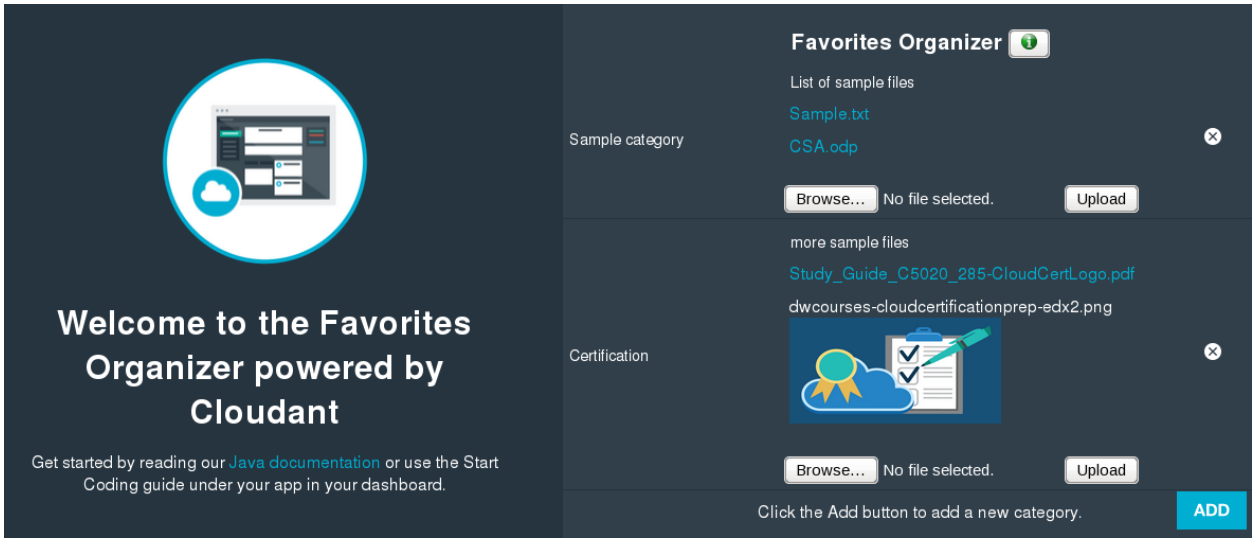
4. Click **Bluemix Dashboard** and then select the application that you have configured with the Monitoring and Analytics service to see the application overview:



5. Wait until the application is restaged by looking at the Bluemix dashboard to see that the APP HEALTH status indicates that the app is running .

6. Click the **Routes** link.

7. If you are monitoring an application created by using the Java Cloudant Web Starter boilerplate, the browser displays a **Favorites Organizer** where you can add and upload files to be stored into a Cloudant database. Use the interface to add some content of any type and size to the **Sample Category** or add your own content.



If you are monitoring a different application, spend 10-15 minutes in the user interface for the application to generate traffic that will be logged by the Monitoring and Analytics service before you proceed.

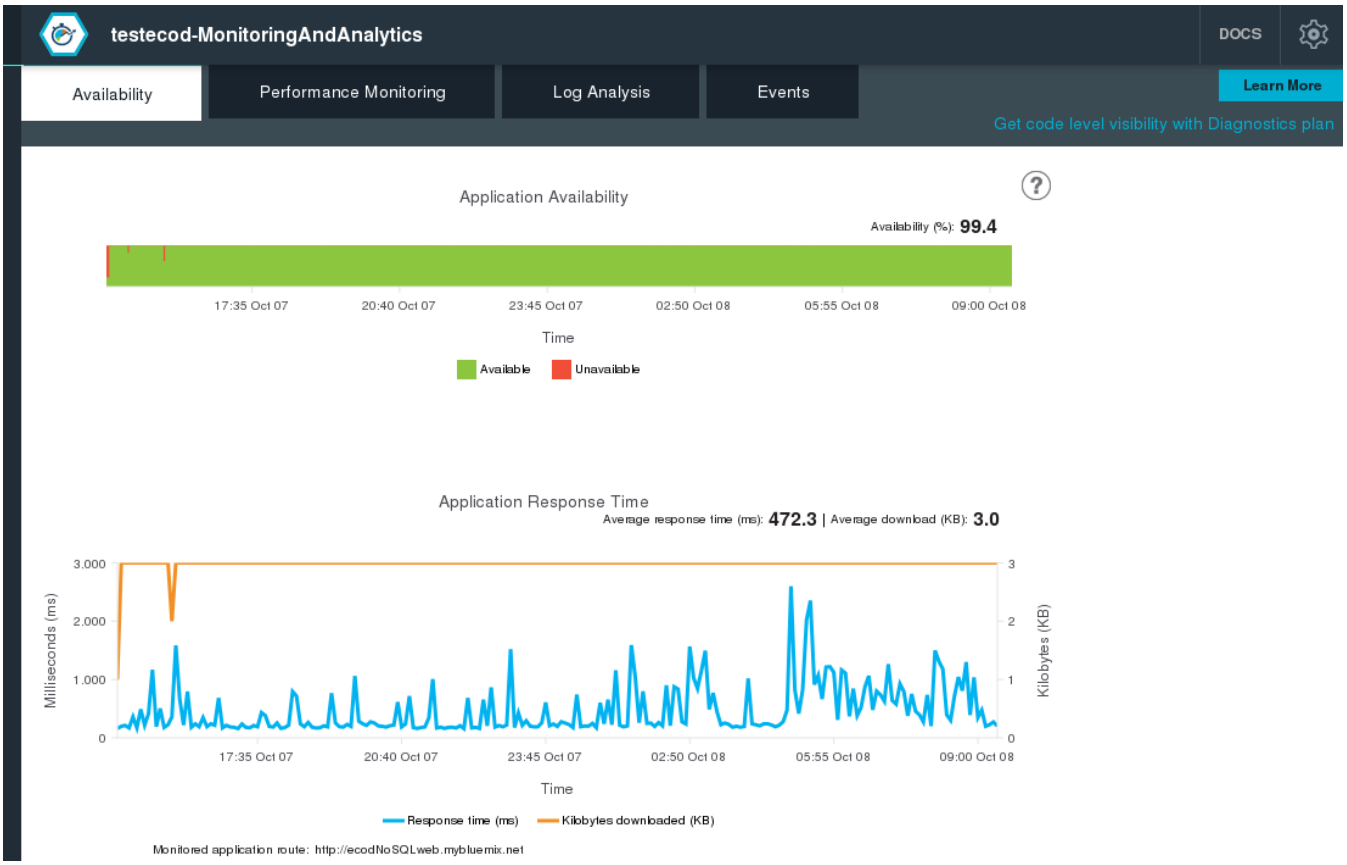
Exercise 3.5.1: Viewing runtime statistics about the application

Because you added the Monitoring and Analytics service in the previous step, you now can see how your application is behaving at runtime.

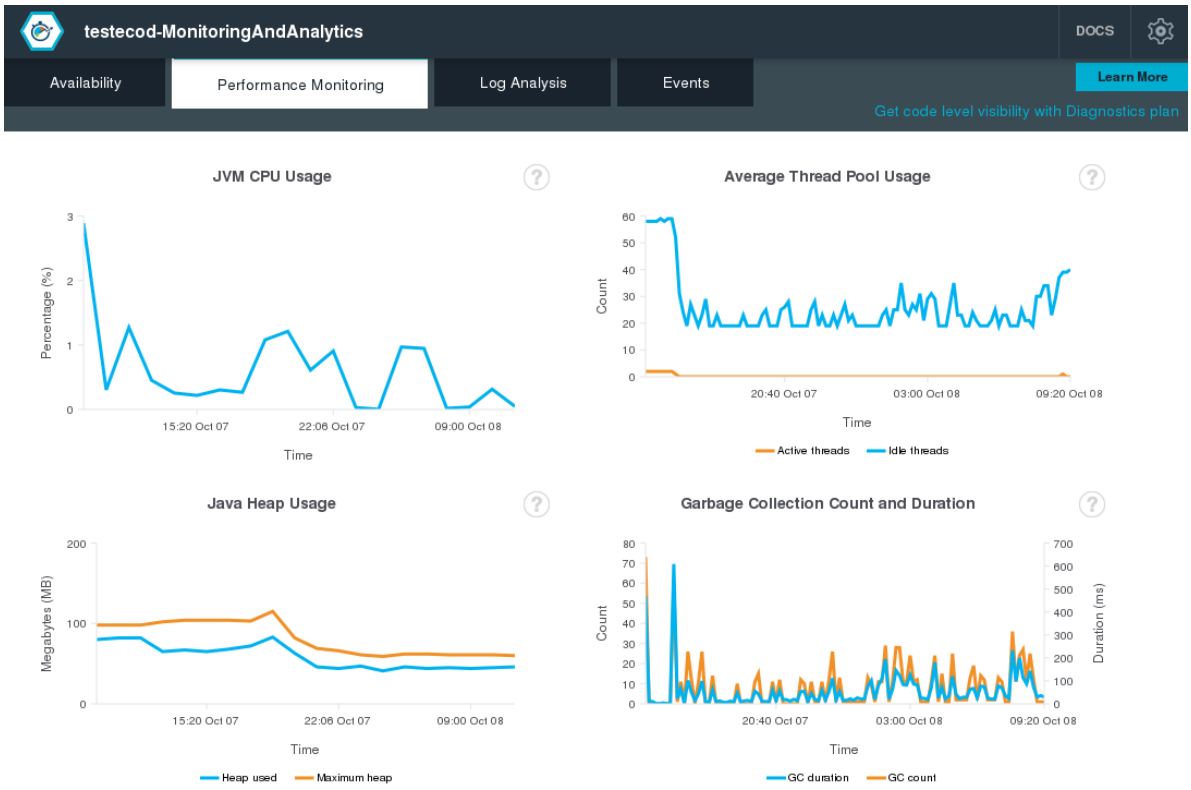
1. Return to your Bluemix Dashboard and overview of the application. Click the **Monitoring and Analytics** Service link on the left side. Four tabs are displayed:

   - Availability: Shows information about the availability of the application.
   - Performance and Monitoring: Shows information about the performance of the application.
   - Log Analysis: Shows information about the application logs.
   - Events: A configurable set of critical events that can be displayed for the runtime.

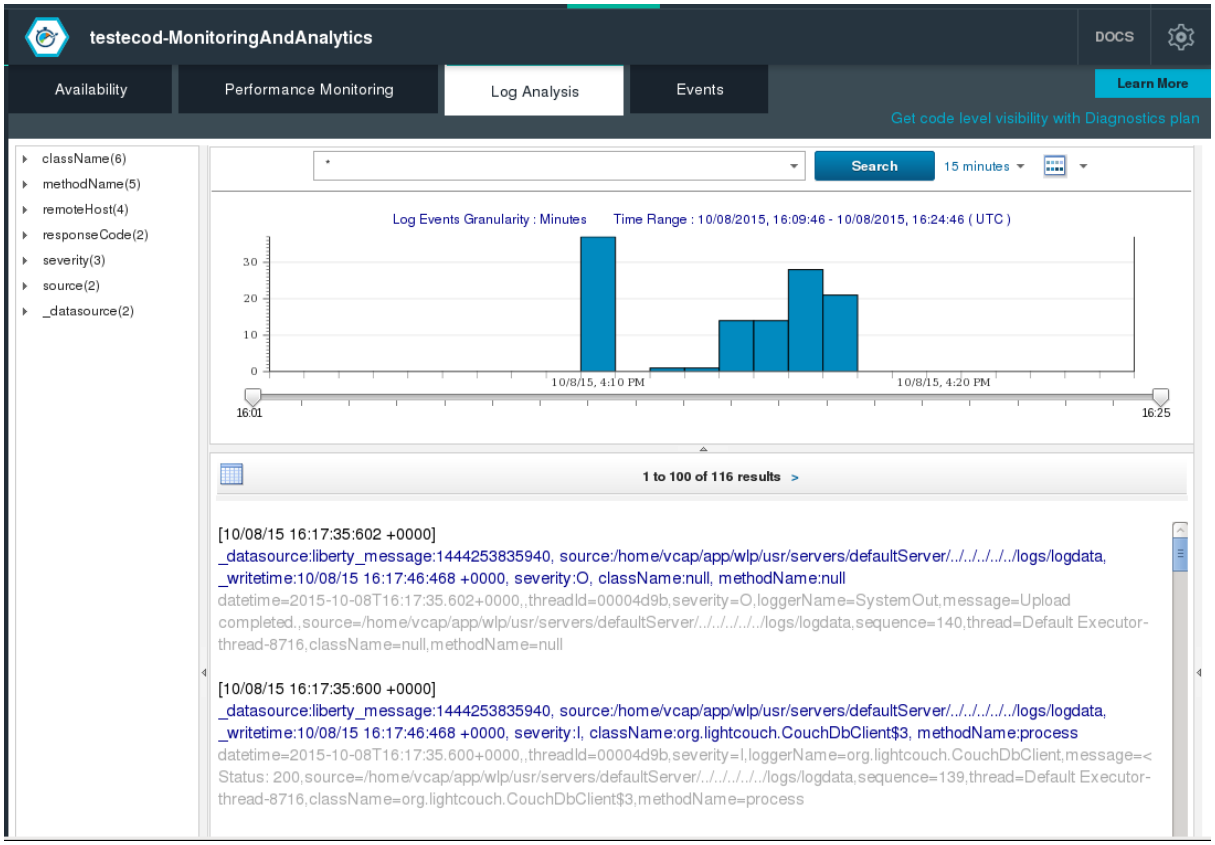
Example of the Availability view:



2. Click the **Performance Monitoring** tab to see details on the performance of the application:



3. Click the **Log Analysis** tab open a view of log data from from the application that can be filtered by severity and type:



Exercise 3.5.3: Monitoring your own web application

Now that you have seen how to monitor and analyze the behavior of a sample application, you are ready to use this service with your applications. You can combine this service with a load test (see Exercise 3.4: Load Testing) to understand the details of your application while it is under a simulated load.

With this information, you have all the experience to create a responsive and highly reliable web application that runs on the cloud, so go to Bluemix and create your own web app!