



# 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:

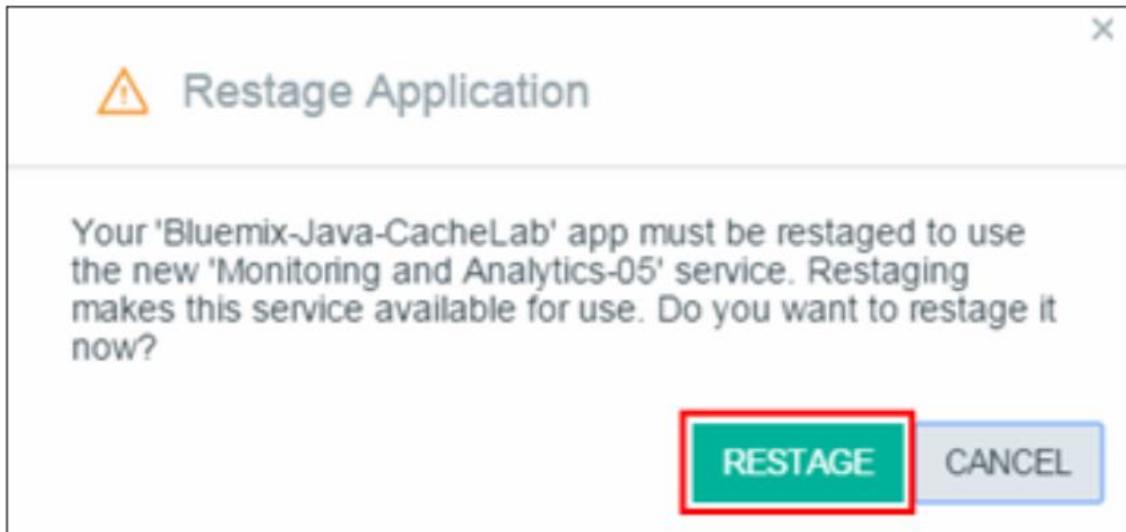
1. In the Bluemix Dashboard, click **ADD A SERVICE**.
2. In the search field, enter *Monitoring*. Then, click **Monitoring and Analytics**.

The screenshot shows the Bluemix Dashboard with a search bar at the top containing the word "Monitoring". Below the search bar, a banner reads "Services // The building blocks of any great app". The main content area displays the "Monitoring and Analytics" service from IBM. It features a blue hexagonal icon with a compass-like symbol inside, labeled "Monitoring and Analytics" and "IBM". Above the icon, the text "DevOps" and "From development to deployment" is visible. The entire service card has a dark grey background.

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

The screenshot shows the "Add Service" dialog box. On the left, there is a summary of the service: "Monitoring and Analytics" by IBM, published on 11/15/2014, categorized as a "Service", located in US South, and a "VIEW DOCS" button. The main body of the dialog box contains descriptive text and four bullet points: "Effortless visibility", "Diagnose problems 90% faster", "Keep your app running", and "Innovate faster", "Resolve problems with embedded analytics". At the bottom, there is a preview of several monitoring dashboards showing various metrics and logs. On the right, the "Add Service" form is filled out: "Space" is set to "dev", "App" is set to "Bluemix-Java-CacheLab bluem...", and "Selected Plan" is set to "Free". A large green "CREATE" button is prominently displayed at the bottom right.

3. On the Restage Application dialog, click RESTAGE.

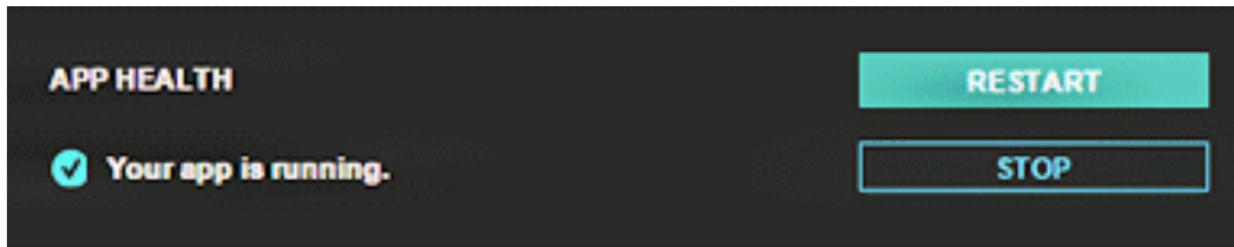


4. Click **Bluemix Dashboard** and then select the application that you have configured with the Monitoring and Analytics service to see the application overview:

A screenshot of the Bluemix Dashboard. The top section displays two application cards: 'ecodNoSQLweb' and 'testecod'. Both applications are shown as 'Running' with various service icons below them. The bottom section shows three service cards: 'Auto-Scaling-jb', 'ClearDB MySQL Database-4v', and 'ecodNoSQLweb-cloudantN...'. Each service card includes its name, type, plan, and a star icon.

### Exercise 3.5: Application monitoring

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.

A screenshot of the Bluemix Routes interface for the application "ecodNoSQLweb". It shows a blue icon of a web browser with three dots, the application name "ecodNoSQLweb", and the route URL "ecodNoSQLweb.mybluemix.net". There is also a pencil icon for editing.

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.

A screenshot of the Bluemix Favorites Organizer interface. On the left, there's a circular icon with a cloud and a screen. Below it, text reads "Welcome to the Favorites Organizer powered by Cloudant". A note at the bottom says "Get started by reading our [Java documentation](#) or use the Start Coding guide under your app in your dashboard." On the right, there are two sections: "Sample category" and "Certification". Each section has a list of files, a "Browse..." button, an "Upload" button, and a delete "X" button. The "Sample category" section contains "Sample.txt" and "CSA.odp". The "Certification" section contains "Study\_Guide\_C5020\_285-CloudCertLogo.pdf" and "dwcourses-cloudcertificationprep-edx2.png". At the bottom right is a blue "ADD" button.

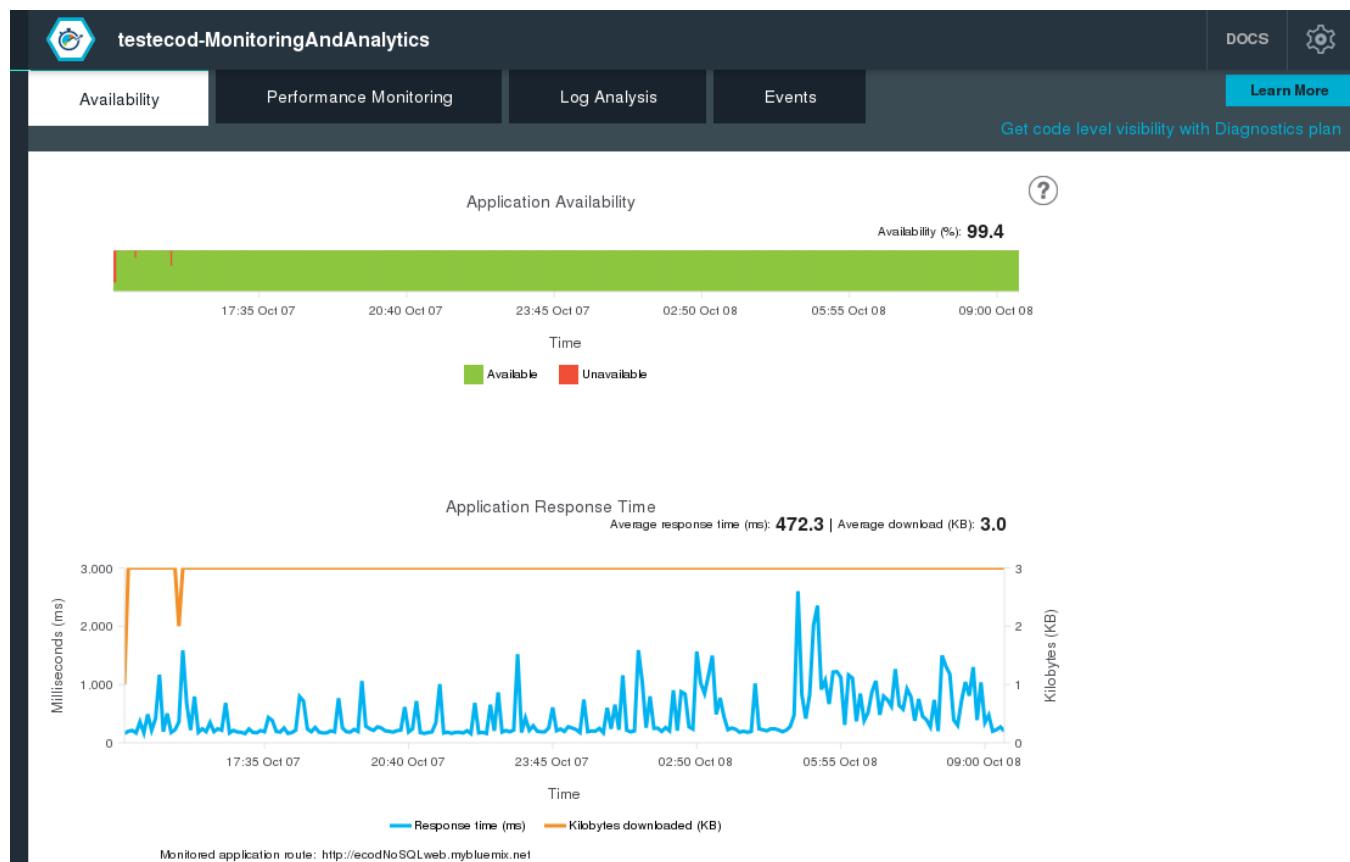
If you are monitoring a different application, spend 10-15 minutes in the user interface for the application to generate traffic that will be logged by the Monitoring and Analytics service before you proceed.

## 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.

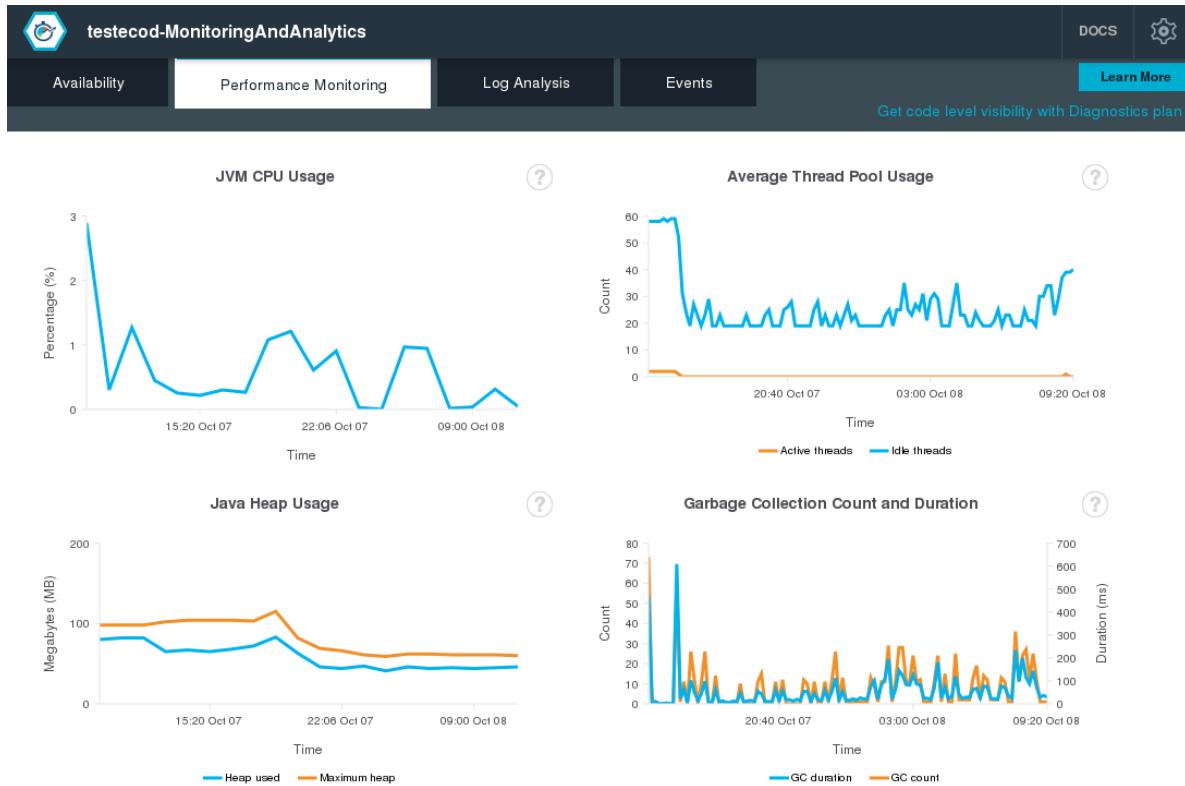
1. Return to your Bluemix Dashboard and overview of the application. Click the **Monitoring and Analytics** Service link on the left side. Four tabs are displayed:
  - Availability: Shows information about the availability of the application.
  - Performance and Monitoring: Shows information about the 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:

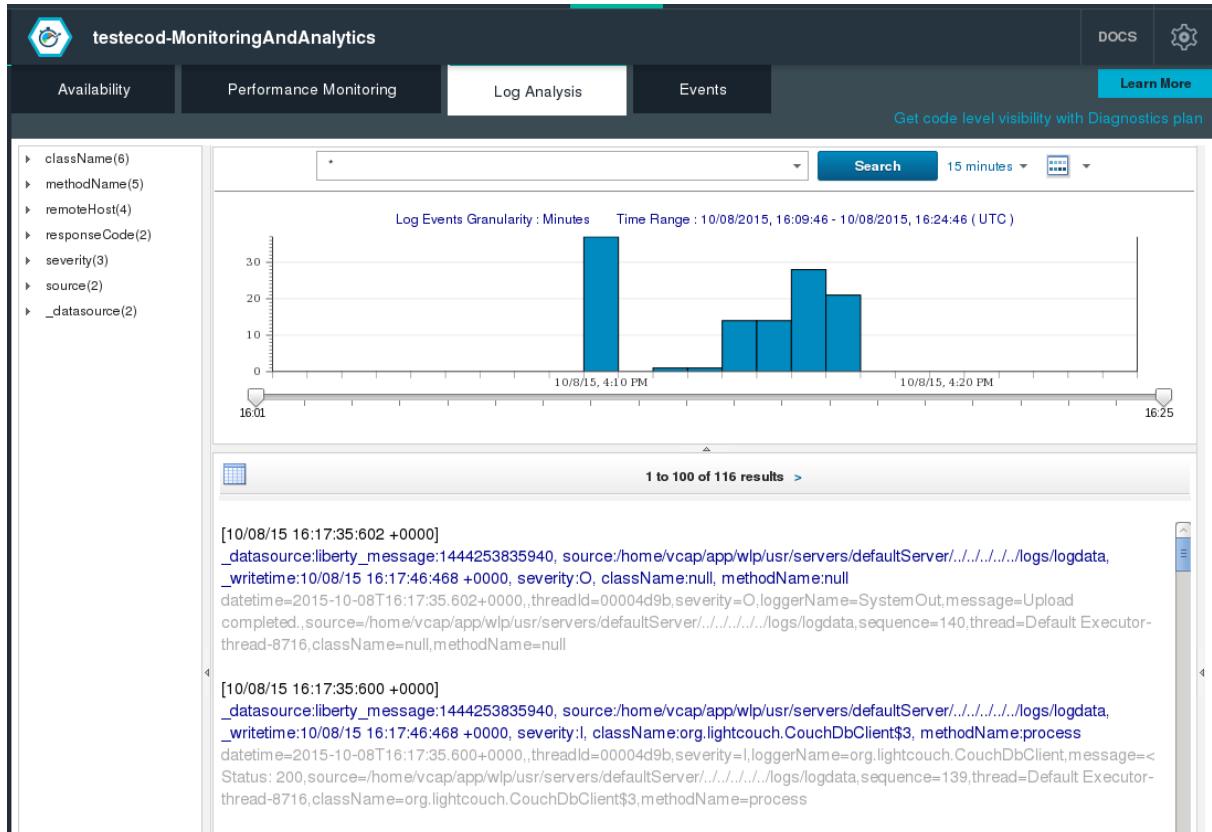


## Exercise 3.5: Application monitoring

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!