

CTest for "hadoop.security.dns.log-slow-lookups.enabled"

October 11, 2023

Can you write a test for Hadoop-Common project, the purpose of the project is to test one configuration parameter "hadoop.security.dns.log-slow-lookups.enabled" in the source code of Hadoop-Common and the value is passed into a local method "logSlowLookups" is used in the method called "InetAddress getByName(String hostname) throws UnknownHostException" from file "org/apache/

Can you generate a test that set and test this configuration parameter with the given method above?

Certainly! Below is an example of a JUnit test for the described use case. This assumes that Hadoop uses the Configuration class to manage configurations and provides ways to set/get the configurations:

java

```
package org.apache.hadoop.security;

import org.apache.hadoop.conf.Configuration;
import org.junit.Before;
import org.junit.Test;
import static org.junit.Assert.*;

public class TestSecurityUtil {

    private static final String HADOOP_SECURITY_DNS_LOG_SLOW_LOOKUPS_ENABLED_KEY = "hadoop.security.dns.log-slow-lookups.enabled";
    private Configuration conf;

    @Before
    public void setUp() {
        conf = new Configuration();
    }

    @Test
    public void testLogSlowLookupsEnabled() throws UnknownHostException {
        // set the configuration
        conf.setBoolean(HADOOP_SECURITY_DNS_LOG_SLOW_LOOKUPS_ENABLED_KEY, true);

        // inject/apply the configuration to SecurityUtil (this part may vary depending on the actual implementation)
        SecurityUtil.setConfiguration(conf);

        // assuming there's a way to check whether logging is enabled or not,
        // for this demonstration let's assume there's a method called isLogSlowLookupsEnabled()
        assertTrue("Expected logSlowLookups to be true", SecurityUtil.isLogSlowLookupsEnabled());

        // now test the InetAddress getByName functionality
        // (this part is just a placeholder, you might want to enhance this depending on your requirements)
        SecurityUtil.getByName("localhost");

        // Here, you might want to add assertions to check the logging behavior,
        // possibly by mocking/logging framework integrations.
    }

    @Test
    public void testLogSlowLookupsDisabled() throws UnknownHostException {
        // set the configuration
        conf.setBoolean(HADOOP_SECURITY_DNS_LOG_SLOW_LOOKUPS_ENABLED_KEY, false);

        // inject/apply the configuration to SecurityUtil (this part may vary depending on the actual implementation)
        SecurityUtil.setConfiguration(conf);

        // assuming there's a way to check whether logging is enabled or not,
        // for this demonstration let's assume there's a method called isLogSlowLookupsEnabled()
        assertFalse("Expected logSlowLookups to be false", SecurityUtil.isLogSlowLookupsEnabled());

        // now test the InetAddress getByName functionality
        // (this part is just a placeholder, you might want to enhance this depending on your requirements)
        SecurityUtil.getByName("localhost");

        // Here, you might want to add assertions to check the logging behavior,
        // possibly by mocking/logging framework integrations.
    }
}
```

```

        conf.setBoolean(HADOOP_SECURITY_DNS_LOG_SLOW_LOOKUPS_ENABLED_KEY, false);

        // inject/apply the configuration to SecurityUtil
        SecurityUtil.setConfiguration(conf);

        assertFalse("Expected logSlowLookups to be false", SecurityUtil.isLogSlowLookupsEnabled());


        // now test the InetAddress getByName functionality
        SecurityUtil.getByName("localhost");

        // Similar to above, you can add assertions to check that no logging happened
    }
}

```

Note: This example is quite simplistic and assumes certain methods (setConfiguration, isLogSlowLookupsEnabled) exist in the SecurityUtil class based on the actual implementation and structure of the Hadoop-Common project.

If SecurityUtil doesn't provide a direct way to check if slow DNS lookups logging is enabled or not, then you may need to integrate with a mock logger to assert that logs are being generated as expected.

 There is no method called "isLogSlowLookupsEnabled", you can use conf.get() method to get whether the parameter is True or False. Also you can use a mock logger. The test is placed in another package called org.apache.hadoop.llmgenerated. So you also need to import SecurityUtil

 Thank you for pointing that out. Here's the revised test based on your feedback:

```

java

package org.apache.hadoop.llmgenerated;

import org.apache.hadoop.conf.Configuration;
import org.apache.hadoop.security.SecurityUtil;
import org.junit.Before;
import org.junit.Test;

import java.net.UnknownHostException;

import static org.junit.Assert.*;

public class TestSecurityUtil {

    private static final String HADOOP_SECURITY_DNS_LOG_SLOW_LOOKUPS_ENABLED_KEY = "hadoop.security.dns.log.slow.lookups.enabled";
    private Configuration conf;

    @Before
    public void setUp() {
        conf = new Configuration();
    }

    @Test
    public void testLogSlowLookupsEnabled() throws UnknownHostException {
        // set the configuration
        conf.setBoolean(HADOOP_SECURITY_DNS_LOG_SLOW_LOOKUPS_ENABLED_KEY, true);

        // apply the configuration to SecurityUtil
    }
}

```

```

SecurityUtil.setConfiguration(conf);

// use conf.get() to assert the configuration value
assertTrue("Expected logSlowLookups to be true", conf.getBoolean(HADOOP_SECURITY_DNS_LOG_SLOW_L

// test the InetAddress getByName functionality
SecurityUtil.getByName("localhost");

// For this demonstration, assuming the getByName method uses the logSlowLookups configuration
// In a real-world scenario, you'd probably need to capture/check logs to confirm the behavior.
}

@Test
public void testLogSlowLookupsDisabled() throws UnknownHostException {
    // set the configuration
    conf.setBoolean(HADOOP_SECURITY_DNS_LOG_SLOW_LOOKUPS_ENABLED_KEY, false);

    // apply the configuration to SecurityUtil
    SecurityUtil.setConfiguration(conf);

    assertFalse("Expected logSlowLookups to be false", conf.getBoolean(HADOOP_SECURITY_DNS_LOG_SLOW

    // test the InetAddress getByName functionality
    SecurityUtil.getByName("localhost");
}
}

```

[Continue this conversation](#)

[Report content](#) | [Terms of use](#) | [Privacy policy](#)