**Week 6 Assignment**

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[**DSC650**-T301: Big](https://cyberactive.bellevue.edu/webapps/blackboard/execute/courseMain?course_id=_512542_1) Data

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1. **Table Creation and Management**

*# Creating students table with ‘details’ column family*

create 'students', 'details'

list

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1. **Data Manipulation in HBase:**

*# Inserting records into the students table and running a scan on the table:*

put 'students', '1', 'details:firstName', 'John'  
put 'students', '1', 'details:lastName', 'Doe'

get 'students', '1'

scan 'students'

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1. **Advanced HBase Features: Composite Row Key**

*# Creating a table named ‘orders’ and inserting records into the table.*

create 'orders', 'orderDetails'

put 'orders', '101:20230806', 'orderDetails:item', 'Laptop'  
put 'orders', '102:20230806', 'orderDetails:item', 'Smartphone'

scan 'orders', {STARTROW => '101:', ENDROW => '101:~'}

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1. **Data Generation for HBase**

*# Using loop to insert records into the students table*

(2..100).each do |i|

first\_name = "Student#{i}"

last\_name = "LastName#{i}"

put 'students', "#{i}", 'details:firstName', first\_name

put 'students', "#{i}", 'details:lastName', last\_name

end

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scan 'students'

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1. **HBase Data Manipulation**
   1. **Update First Names:**

For students with IDs from 2 to 50, change the first name prefix from Student to Scholar. For instance, Student3 should become Scholar3.

**Solution:**

*# Using loop to update the firstName using the put method:*

(2..50).each do |j|

first\_name\_updated = "Scholar#{j}"

put 'students', "#{j}", 'details:firstName', first\_name\_updated

end

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* 1. **Add a Middle Name:**

For students with IDs from 51 to 75, add a middle name column under the details column family. The middle name should follow the pattern MidName#{i}.

**Solution:**

*# Using loop to add the Middle Name using the put method:*

(51..75).each do |k|

middle\_name = "MidName#{k}"

put 'students', "#{k}", 'details:middleName', middle\_name

end

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*# Another way of doing using “Append” command:*

(51..75).each do |k|

middle\_name = "MidName#{k}"

**append** 'students', "#{k}", 'details:middleName', middle\_name

end

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* 1. **Modify Last Names:**

For students with IDs from 76 to 100, append \_Modified to the last name. So, LastName76 should be updated to LastName76\_Modified.

**Solution:**

*# Using loop to modify the Last Name using the put method:*

(76..100).each do |l|

last\_name\_mod = "LastName#{l}\_Modified"

put 'students', "#{l}", 'details:lastName', last\_name\_mod

end

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* 1. **Bulk Delete:**

Delete all the details for students with IDs from 90 to 100.

**Solution:**

*# Using loop to delete the rows with rowed 90 through 100:*

(90..100).each do |m|

deleteall 'students', "#{m}"

end

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* 1. **Data Retrieval:**

After all modifications, retrieve and display the details for students with IDs 40, 60, 80, and 90 to verify changes.

**Solution:**

*# Using get method to print the contents of RowId 40,60,80 and 90:*

arr=[40,60,80,90]

for n in arr do

get 'students', "#{n}"

end

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**Final scan of the table ’students’:**

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