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ISM 647 Assignment 3: Knowledge Engineering Project

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Group 8

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Contents

Executive Summary 2
Introduction 2
Objective of Expert System 4
Experts from Travel & Tourism Industry 4
Responses from Experts 4
  Expert 1 4
  Expert 2 5
Expert System Rules 7
Relationship between Rules 8
Review Software from Expert and Scenarios 9
Modifications required in Expert System 12
Overall Experience in building system 12
Acknowledgement 15
Conclusion 15
References 16
Appendix 17
  Induction Table 17
  Expert System Rules 18
  Expert System Screenshots 22
    Variables 22
    Logical Blocks 23

Executive Summary

In this report, we will cover various aspects of our knowledge engineering project which is based on travel recommendations for the state of North Carolina. We briefly discuss how the system works in relation to the Travel and Tourism industry, as well as our knowledge extraction process of observing and interviewing our travel agents, which are experts in this industry. They were able to assist us in the development of criteria to use for our system in order to make accurate recommendations to end-users. We will also be covering the detailed development of our system in Exsys Corvid by explaining the specific rules of the system, review of our system by our industry expert, and our overall experience using the software, including the limitations we faced. We will explain the various scenarios given by our expert to test our system's accuracy and how the outcomes compare to the decisions and recommendations made by the travel agent expert. Thus, in this report we developed "NC Travel Recommendation Expert System" using Corvid software.

Introduction

To begin our project, we wanted to dive into the tourism and travel industry in our very own state, North Carolina, to determine who we would seek for expertise in this industry. With close to 50 million visitors, North Carolina was the 6th most visited state compared to the rest of the nation in 2017. This industry has also seen recent employment growth of 3% in the last year, creating 218,000 jobs for North Carolinians, making the tourism industry the fourth largest private employment sector in the state. Travel agencies are a booming business in this industry. The nationwide travel agency market is forecast to reach $127 billion by 2021, up from just $112.8 billion in 2017. This industry is growing significantly with an increasing need for experts in this field. Usually when people are planning to travel and decide to seek out the advice and guidance of a human expert, they turn to travel agents (TripAdvisor, 2019). Even though travel agencies offer a large amount of varying services that our system does not cover, our

system covers one of the most common questions people ask in the initial process – where should I go for vacation? For someone to become an expert travel agent, many skillsets are needed (Tourist, 2019). Travel agents must have active listening skills to give full attention to their clients in order to find out what they want and be able to guide and ask questions the client may not have thought about in their own vacation planning. They must have time management skills, since they plan appointments and meetings daily with various clients. Verbal skills are necessary to be able to communicate with the client and discover the client's vacation needs, critical thinking skills by using logic and research to determine the best vacation spots for their clients, among many others. Travel agents spend years gaining knowledge and learning different areas of expertise for varying vacation spots around the globe. The expert system we have created provides an alternative solution on a basic level. An expert system in this field would solve the limitations of a travel agent only being able to help one client at a time – with a system developed from a knowledge engineering interface like Corvid, multiple users would be able to access recommendations simultaneously from their own homes. The questions asked by travel agents to their clients are initially almost always the same, making it a very viable opportunity for an expert system. By working with experts in this field, we would be able to extract the knowledge by gathering the initial questions most travel agents ask their clients in order to provide vacation suggestions, as well as accurate vacation ideas that would correlate with the varying answers from end-users (Smitka, 2017). By building a system with the help of this expert, the system would successfully extract the knowledge from a travel agent and would be able to effectively use this knowledge to achieve a client's request for a vacation recommendation spot without the need for a human expert.

Objective of Expert System

The objective of NC Travel Recommendation application is to suggest places to visit in North Carolina during specific time such as Summer or Winter. This expert system recommends hotels or resorts to stay along with places to visit.

Experts from Travel & Tourism Industry

Identified Experts details: Below two experts are identified to construct rules for "NC Travel Recommendation Expert system" that provides recommendations to travel in North Carolina during Summer and Winter time (Nicole, 2018). Interviewed (via phone, email and gained information by reading blogs) two persons from Greensboro's Travel Agency Services (Thumbtack, 2018):

1. Travel Wildheart: **Nicole Bernier**

   https://travelwildheart.com/
2. Amore Travel Designs: **Cathy Rowland**

   https://www.facebook.com/amore.travel.designs

Responses from Experts

The response from travel experts is mentioned below.

Expert 1

Nicole Bernier is a travel agent from Travel Wildheart agency. He is an expert in suggesting the travel destinations to the clients based on their interests. He has an experience of 15 years in the travel agency field and he worked as a tourist guide for NC state. We went to his office and observed him while he is talking with a client. We noted down all the questions he asked the client (Research, 2018). The questions are as follows:

1. Which Season do you prefer to travel? Summer or winter?
2. Where would you like to travel? Tropical, mountains or cities?
3. What is your budget for this trip? 5-star, 4-star, 3-star?
4. What type of environment do you prefer? Relax, romantic, party?
5. How many people are accompanying you? Infant, Child, Adult, Senior, Pet
6. Where do you prefer to stay? Hotel, Resort, Cabin
7. Is there any Occasion for your travel? yes/no. If yes what type of occasion? Birthday, anniversary, honeymoon, destination wedding?
8. What is your preferred distance from the source to destination? <500mi, <350mi, <200mi, <100mi
9. Would be interested in any activities? yes/no. If yes what type of activities? Water sports, golf, adventurous
10. What is your preferred mode of transportation? Flight, Train, Car.

Expert 2

Cathy Rowland is a tour manager from Amore Travel Designs. She is an expert in managing the tourist services. We had a phone interview with her. We asked her the factors she would consider before suggesting a destination to a client. She described the factors and we are presenting them in questionnaire format (Cathy, 2019).

3. What type of weather do you prefer to travel? Hot, cold, moderate
4. What is your preferred type of destination? Nature, Romantic, Shopping, historical, beaches
5. What type of activities are you interested in? Skiing, hiking, tennis, camping
6. What type of accommodation do you prefer? Hotel, Resort, Cabin, Cottage
7. What is your budget? <$1000, $1000-$2000, >$3000

8. Do you have any food preferences? Yes/No? If yes what are the preferences? Vegan, Vegetarian, Sea food, Non vegetarian
9. What is your length of stay? <2days, 2-5 days, >7 days
10. Do you need a tour guide? Yes/No. If yes, what is your preference of guide? Male, Female
11. Which mode of transportation do you prefer? Flight, car, train, ship
12. Do you have a travel insurance? Yes/No.

Below rules are derived on the basis of the response that we received from above mentioned travel agents i.e. Nicole Bernier and Cathy Rowland.

Inconsistencies in the expert answers:

We have gathered information from two experts and we recorded the information. The two experts are from two different agencies. Each agency has its own qualifiers. Some of them are common between the two agencies while some are different. For example, the budget qualifier in the Travel Wildheart agency is defined as 5-star, 4-star and 3-star where the exact amount of budget is known. On the other hand, the budget qualifier for the Amore travel agency is <$1000, $1000-$2000, >$5000. It has specific amount of budget (Tammy, 2019).

The Travel Wildheart agency has seasonal travel plans like summer or winter. Whereas the Amore travel agency has travel plans related to hot or cold weather.

Related activities we did to verify the rules are comprehensive:

To check the rules whether they are comprehensive or not, we have referred few websites like https://www.visitnc.com/, https://trustholiday.com/. Also, we asked our experts to verify the rules.

Limitations of Expert System

We have developed an expert system which has 5 variables with two attributes each. The possible combinations of all the attributes, objectives, categories are more than 25. The total node we used in the system were 150. We couldn't add the combinations with the budget above $1000 because we have already reached the limit of 150 nodes. The Exsys Corvid software trial version accepts only 150 nodes.

Expert System Rules

The various rules will set the “confidence” that a particular action is the correct one based on the system user input. For, rules we need to add variables in the Corvid. Below is the one sample rule that is used in NC Travel Recommendation system all other rules are included in induction table.

Rule 1:

IF

Summer time is selected

AND

Tropical region is selected

AND

Quiet beaches are selected

AND

Occasion type is Birthday

AND

Stay is in Hotel

AND

Budget is <$1000

THEN

You can visit Kure beach Conf=100.0

You can visit Salvo beach Conf=100.0

You can stay in Marriott hotel Conf=100.0

The complete set of rules is available in the Appendix - Expert System Rules.

Relationship between Rules

There are somes relationships between the expert Travel system rules and some are documented below.

1. Only Summer Tropical locations show options for beaches.
    - Summer mountain locations do not show beaches
    - Winter Tropical locations do not show beaches
    - Winter Mountains locations do not show beaches
2. Kure Beach and Salvo Beach are more common with Summer Tropical beaches that are quiet
3. Wilmington Beach is more common with Summer Tropical that are not quiet
4. Summer Mountain and Winter Mountain selections return Mountain only locations such as Grandfather mountain or Blue Bear moumntain

Develop Expert System in Corvid

First step to develop expert system is to identify objective of expert system and to gather information of the system and derive rules from that information. In order to get information, we interviewed two experts from travel industry. To develop expert system in Corvid software is simple to build. During development process major attention should be paid on below blocks in software.

1. **Variable:** Define variables in this step that are used to develop expert system.
2. **Logic Block:** Logic block shows how to use them to build logic to solve a simple problem. It also shows how as a problem becomes more complex; a Logic Block can be expanded to cover it.

3. **Action Block:** Action Blocks are a very quick and easy way to build many types of systems like smart questionnaires, but they are not suitable for problems that call for more tree structured logic. For those, Logic Blocks are a better alternative.
4. **Command Block:** The Command action allows any Corvid command to be executed. The commands are the same as would be used in a Command Block. This is the most powerful and flexible action and allows an Action Block to do anything that could be done with a Command Block.

In order to develop expert system in Corvid Software below steps are followed:

1. Identify the objective of the expert system. Here, NC Travel Recommendation Expert system is developed.
2. Identify the experts in objective's domain. Here, we identified Nicole Bernier and Cathy Rowland as Travel industry subject matter experts (i.e. SME's).
3. Gather information from SME's.
4. Derive rules from the collected information,
5. Define variables in the Variable tab of Corvid software.
6. Write rules in the Logic block.
7. Add commands to the variables after the defining the logic part.
8. Testing the expert system.

Review Software from Expert and Scenarios

We have presented our system to these experts and they have reviewed the software. We initially included too many options. As a result, the software didn't produce the results accurately. Later as per the recommendation of the experts, we have included the options for the attributes which are most

relevant and again presented it to the experts. This time the system ran perfectly, and it gave the accurate results.

Once our expert system was complete, we worked with our travel agent to come up with the 10 scenarios that our expert system was equipped to be of assistance:

Scenario One

A couple wants to take an anniversary vacation to the mountains in the winter and stay at a resort

Travel Agent Answer: Grandfather Mountain, Hyatt Resorts

Expert System Answer: GrandFather Mountain, Hyatt Resorts

Scenario Two

A couple wants to take an anniversary vacation to the mountains in the summer and stay at a hotel

Travel Agent Answer: GrandFather Mountain, Marriot Hotel

Expert System Answer: GrandFather Mountain, Marriot Hotel

Scenario Three

A woman wants to take a summer trip to the mountains for her birthday and stay in a hotel

Travel Agent Answer: Blue Ridge Mountain, Marriot Hotel

Expert System Answer: Blue Ridge Mountain (100%), Grandfather Mountain (70%), Marriot Hotel

Scenario Four

A couple wants to take a quiet tropical anniversary vacation in the summer and stay at a resort

Travel Agent Answer: Salvo Beach, Hyatt Resorts

Expert System Answer: Kure Beach (100%) Salvo Beach (100%), Hyatt Resorts

Scenario Five

A couple wants to take an anniversary vacation to the mountains in the summer and stay at a resort

Travel Agent Answer: Blue Bear Mountain, Hyatt Resorts

Expert System Answer: Blue Bear Mountain; Hyatt Resorts

Scenario Six

A couple wishes to take an anniversary trip to the mountains in the winter and stay at a hotel

Travel Agent Answer: Blue Bear Mountain, Hyatt Resorts

Expert System Answer: Blue Bear Mountain, Marriot Hotel

Scenario Seven

A man wishes to take a birthday vacation to the mountains in the winter and stay at a resort

Travel Agent Answer: Grandfather Mountain, Hyatt Resorts

Expert System Answer: Grandfather Mountain, Hyatt Resorts

Scenario Eight

A couple wishes to take an anniversary vacation somewhere tropical and quiet in the winter and stay at a hotel

Travel Agent Answer: Kure Beach, Marriot Hotel

Expert System Answer: Dry Falls, Marriot Hotel

In the expert's opinion, Kure Beach is a better place to visit if the client is looking for somewhere tropical and quiet in the wintertime months.

Scenario Nine

A woman wishes to take a girls trip somewhere tropical in the winter and stay at a resort for her birthday

Travel Agent Answer: Wilmington Beach, Marriot Hotel

Expert System Answer: Wilmington Beach, Marriot Hotel

Scenario Ten

A man wishes to take a birthday trip to somewhere tropical in the winter and stay at a hotel

Travel Agent Answer: Kure Beach, Marriot Hotel

Expert System Answer: Dry Falls, Marriot Hotel

In the expert's opinion, Kure Beach is a better place to visit if the client is looking for somewhere tropical in the wintertime months.

Modifications required in Expert System

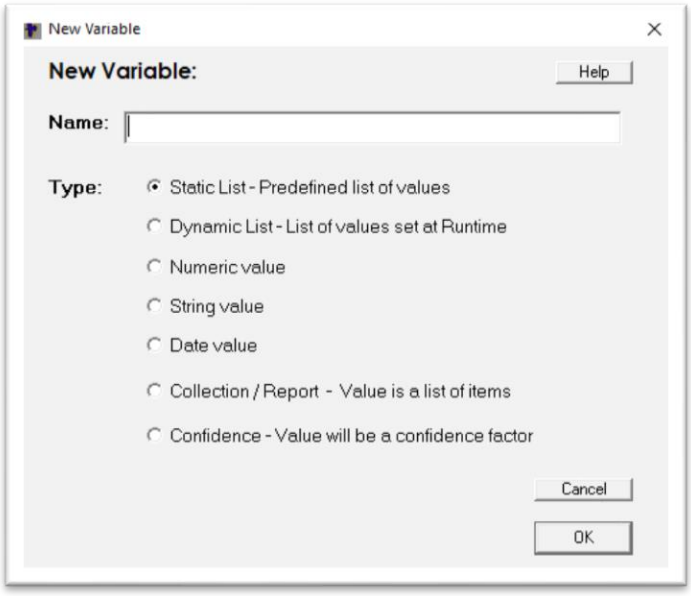
After reviewing the NC Travel Recommendation expert system from our experts, we did below modifications:

1. Instead of asking just yes/no questions we also included few descriptive questions in the expert system.
2. Along with simple text area in the output screen also added radio buttons and dropdown lists to make expert system more interactive.
3. Created simple rules using IF THEN and AND. WE tried to avoid complex rules while developing NC travel recommendation system.

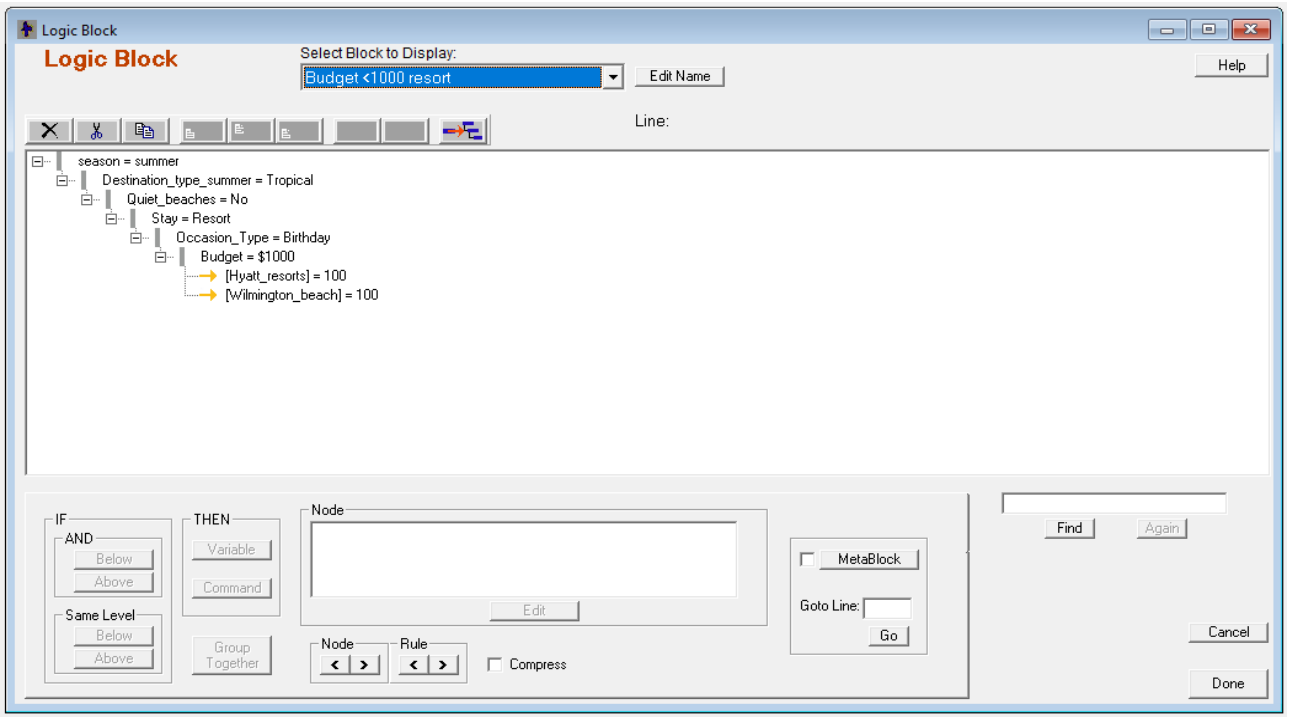
Overall Experience in building system

Exsys Corvid is a very powerful environment for developing knowledge automation systems. Below are 4 steps that we used to create Travel Recommendation expert system. Using below steps Travel Recommendation system can be created.

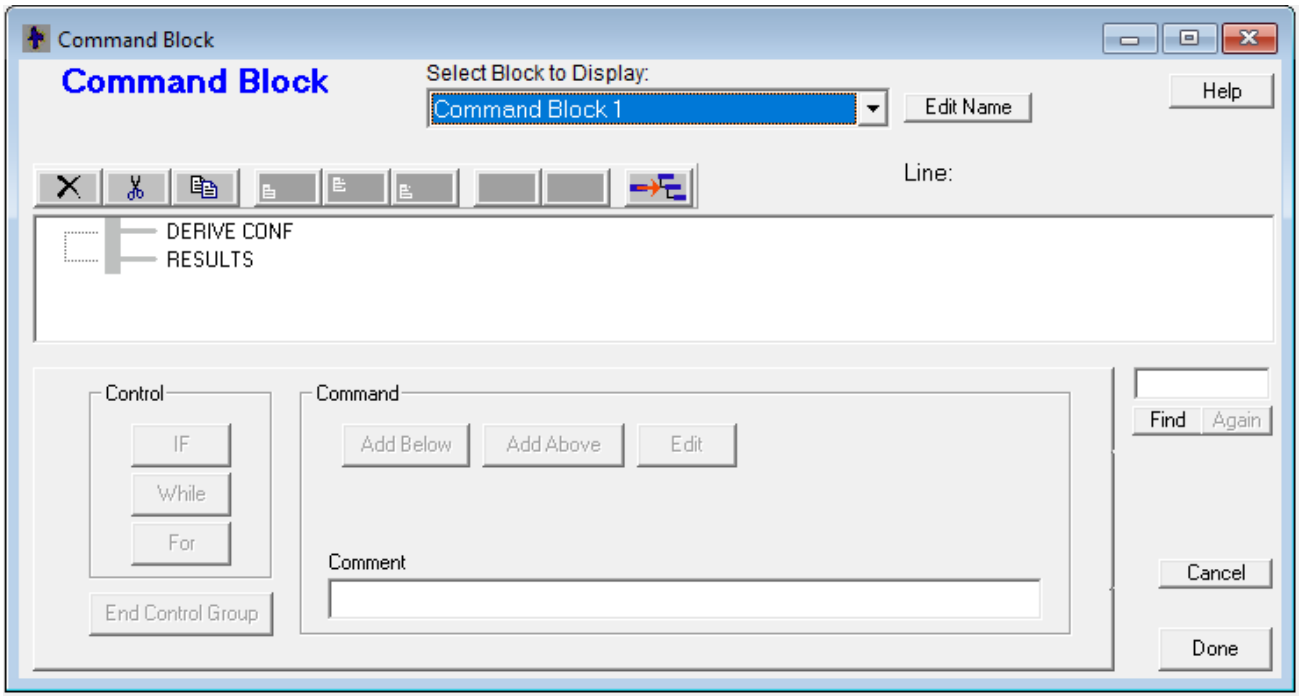
1. Collect sufficient knowledge of from Travel expert to create Travel recommendation using Corvid software. Gather information by means of interview, by reading blogs, internet search & watching YouTube videos.
2. **Add variables**: In this step add all types of variables that are required to build expert system. In variable window you can create 7 types of variables. All screenshots of Corvid software are present at the end of the report in **screenshot section**. Below screenshot shows all 7 types of variables.



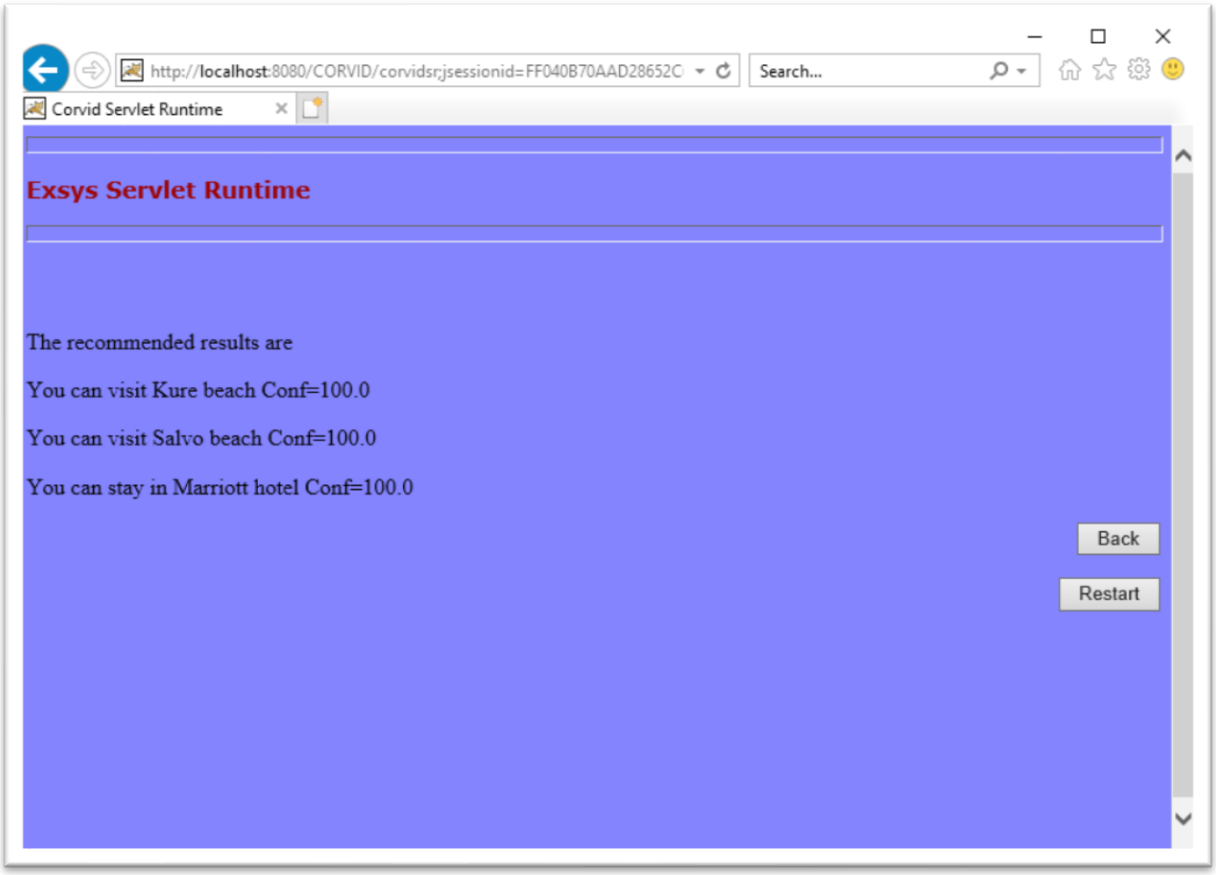
3. **Logic Block:** The system logic is specified using logic block. All rules such as If then are included in this block. This block plays significant role in providing travel recommendation matching to a expert.



4. **Command Block:** The overall procedural control of the system will come from a Command Block, which is often just a few commands, but can be more complex when needed. The system is run using the Corvid Runtime program.



5. **Testing application:** After executing the application the NC Travel Recommendation Expert system gives below as a final output.



Acknowledgement

We have taken efforts in this assignment. However, it would not have been possible without knowledge of experts Nicole Bernier and Cathy Rowland as our Expert system's SME. We would like to thank Professor Dr. Nemati fro provinding us all guidance and support to complete this assignmnet.

Conclusion

In conclusion, we believe the development of this expert system was a success. We were able to extract the knowledge from our experts and implement it into a system that makes generally successful travel recommendations to end-users. Our system supported the scenarios our expert gave us after working with our system, and there were only two where she disagreed with the output. This was a great experience, and we were able to see how much work goes into building even a simple expert system. It

sheds a whole new light on the complexity of larger systems used around the internet and in corporate settings.

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Appendix

Induction Table

High Level Summery

	Qualifiers					
	Season	**Destination**	**Quiet beaches**	**Occasion Type**	**Stay**	**Budget**
Variables	Summer	Tropical	Yes	Birthday	Hotel	< $1000
Choices	Winter	Mountains	No	Anniversary	Resort	> $1000

Detailed Induction table

	Name	**Category 1**	**Category 2**	**Category 3**
Qualifier 1	Season Preference	Summer	Winter	
Qualifier 2	Destination Type	Tropical	Mountains	
Qualifier 3	Occasion _Type	Anniversary	Birthday	
Qualifier 4	Beach Type	Quiet	Not Quiet	
Qualifier 5	Stay	Hotel	Resort	
Qualifier 6	Budget	Low	High	
	Name	**Associated Qualifier**	**Value1**	**Value1**
Variable 1	Season	Season Preference	Summer	Winter
Variable 2	Destination	Destination Type	Tropical	Mountains
Variable 3	Occasion	Occasion Type	Anniversary	Birthday
Variable 4	Stay	Stay	Hotel	Resort
Variable 5	Budget	Budget	> $1000	< $1000
Variable	Quiet Beach Type	Beach Type	Yes	No

Expert System Rules

Summer Tropical

IF	AND	AND	AND	AND	AND	THEN
Season	**Destination**	**Quiet Beaches**	**Occasion Type**	**Stay**	**Budget**	**RESULTS**
Summer	Tropical	Yes	Birthday	Hotel	< $1000	You can visit Kure beach Conf=100.0 You can visit Salvo beach Conf=100.0 You can stay in Marriott hotel Conf=100.0
Summer	Tropical	Yes	Birthday	Resort	< $1000	You can visit Kure beach Conf=100.0 You can stay in Hyatt resorts Conf=100.0
Summer	Tropical	Yes	Anniversary	Hotel	< $1000	You can visit Salvo beach Conf=100.0 You can stay in Marriott hotel Conf=100.0
Summer	Tropical	Yes	Anniversary	Resort	< $1000	You can visit Kure beach Conf=100.0 You can visit Salvo beach Conf=200.0 You can stay in Hyatt resorts Conf=100.0 You can stay in Marriott hotel Conf=100.0
Summer	Tropical	No	Birthday	Hotel	< $1000	You can visit Wilmington beach if you don't prefer quiet beaches Conf=100.0 You can stay in Marriott hotel Conf=100.0
Summer	Tropical	No	Birthday	Resort	< $1000	You can visit Wilmington beach if you don't prefer quiet beaches

						Conf=100.0 You can stay in Hyatt resorts Conf=100.0
Summer	Tropical	No	Anniversary	Hotel	< $1000	You can visit Wilmington beach if you don't prefer quiet beaches Conf=100.0 You can stay in Marriott hotel Conf=100.0
Summer	Tropical	No	Anniversary	Resort	< $1000	You can visit Kure beach Conf=100.0 You can visit Salvo beach Conf=100.0 You can stay in Hyatt resorts Conf=100.0

Summer Mountains

IF	**AND**	**AND**	**AND**	**AND**	**AND**	**THEN**
Season	**Destination**	**Quiet Beaches**	**Occasion Type**	**Stay**	**Budget**	**RESULTS**
Summer	Mountains	NA	Birthday	Hotel	< $1000	You can visit Blueridge mountain Conf=200.0

						Grandfather mountain Conf=140.0 You can stay in Marriott hotel Conf=200.0
Summer	Mountains	NA	Birthday	Resort	< $1000	Grandfather mountain Conf=100.0 You can stay in Hyatt resorts Conf=100.0
Summer	Mountains	NA	Anniversary	Hotel	< $1000	Grandfather mountain Conf=100.0 You can stay in Marriott hotel Conf=100.0
Summer	Mountains	NA	Anniversary	Resort	< $1000	You can visit Blue bear mountain cap Conf=100.0 You can stay in Hyatt resorts Conf=100.0

Winter Tropical

IF	**AND**	**AND**	**AND**	**AND**	**AND**	**THEN**
Season	**Destination**	**Quiet Beaches**	**Occasion Type**	**Stay**	**Budget**	**RESULTS**
Winter	Tropical	NA	Birthday	Hotel	< $1000	You can visit Dry falls Conf=100.0 You can stay in Marriott hotel Conf=100.0
Winter	Tropical	NA	Birthday	Resort	< $1000	You can visit Dry falls Conf=100.0 You can stay in Hyatt resorts Conf=100.0

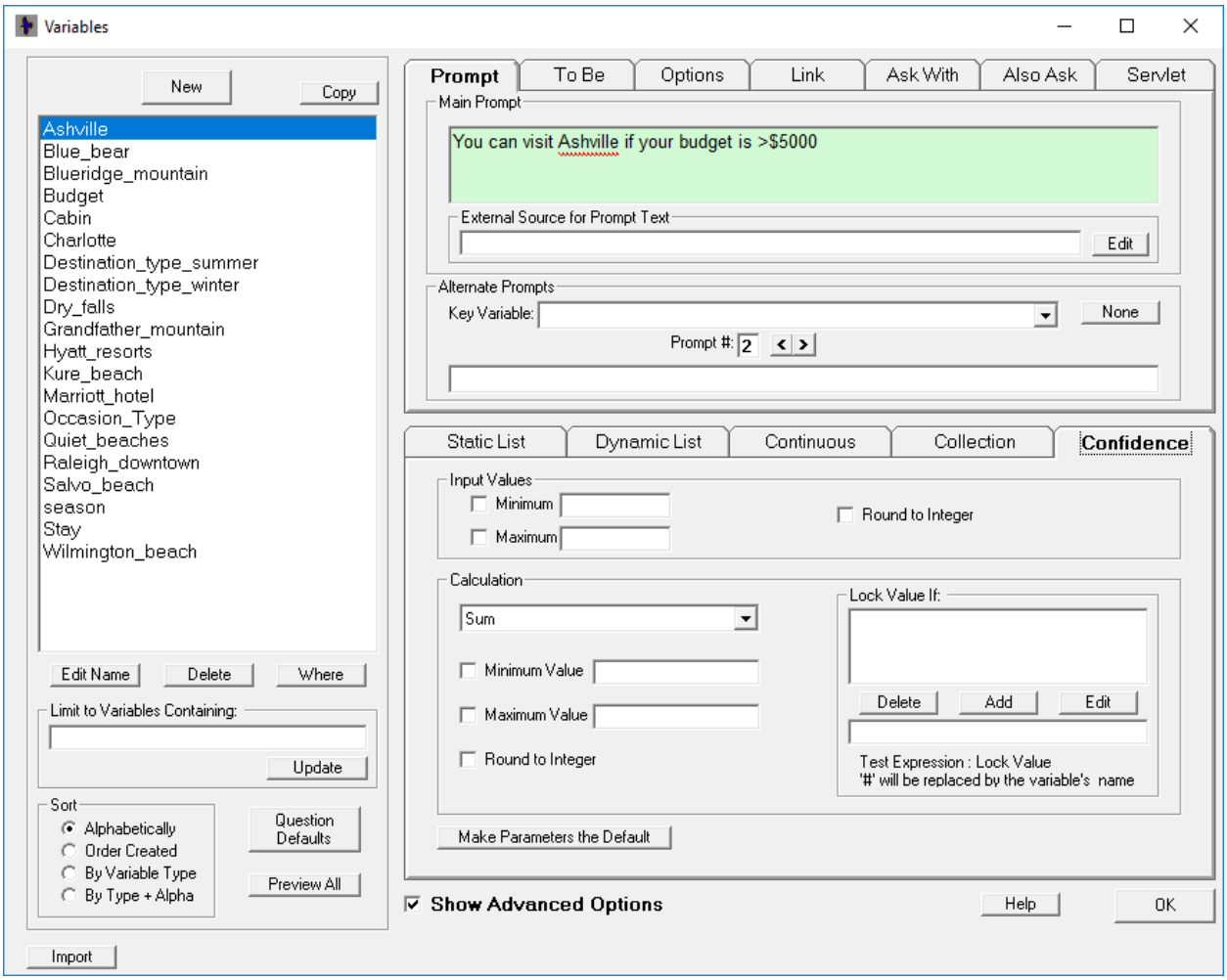
Winter	Tropical	NA	Anniversary	Hotel	< $1000	You can visit Dry falls Conf=100.0 You can stay in Marriott hotel Conf=100.0
Winter	Tropical	Yes	Anniversary	Resort	< $1000	You can visit Dry falls Conf=100.0 You can stay in Hyatt resorts Conf=100.0

Winter Mountains

IF	**AND**	**AND**	**AND**	**AND**	**AND**	**THEN**
Season	**Destination**	**Quiet Beaches**	**Occasion Type**	**Stay**	**Budget**	**RESULTS**
Winter	Mountains	NA	Birthday	Hotel	< $1000	Grandfather mountain Conf=100.0 You can stay in Marriott hotel Conf=100.0
Winter	Mountains	NA	Birthday	Resort	< $1000	Grandfather mountain Conf=100.0 You can stay in Hyatt resorts Conf=100.0
Winter	Mountains	NA	Anniversary	Hotel	< $1000	You can visit Blue bear mountain cap Conf=100.0 You can stay in Marriott hotel Conf=100.0
Winter	Mountains	NA	Anniversary	Resort	< $1000	Grandfather mountain Conf=100.0 You can stay in Hyatt resorts Conf=100.0

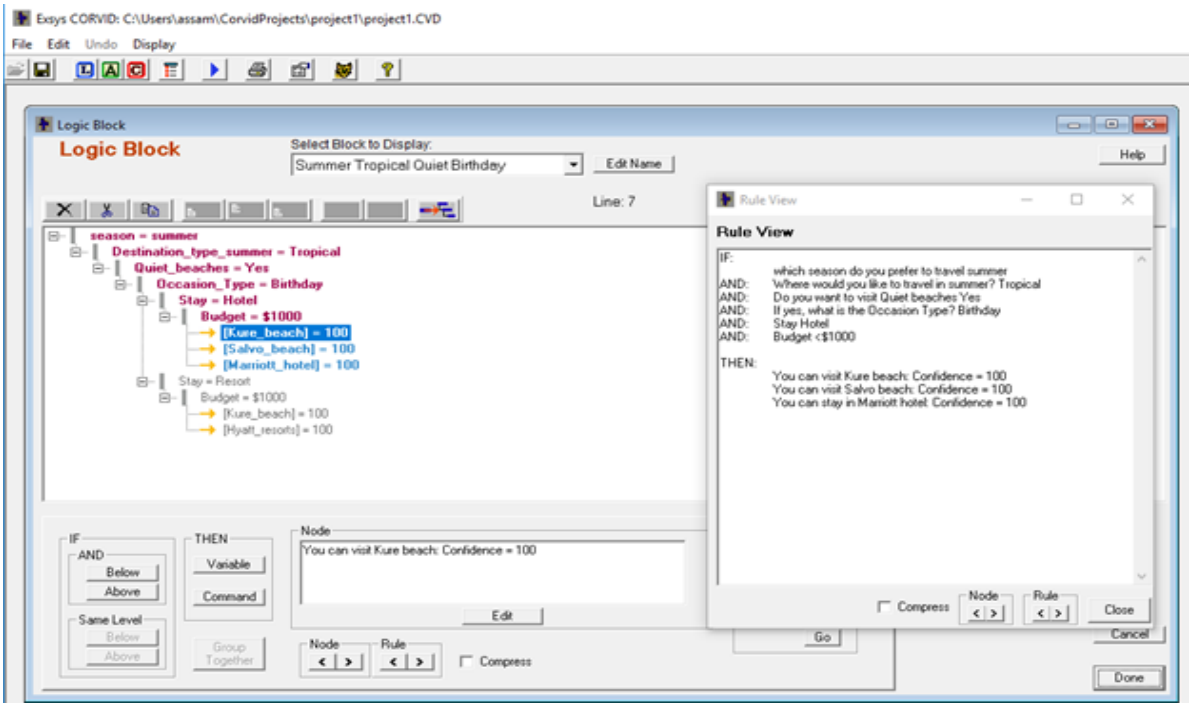
Expert System Screenshots

Variables

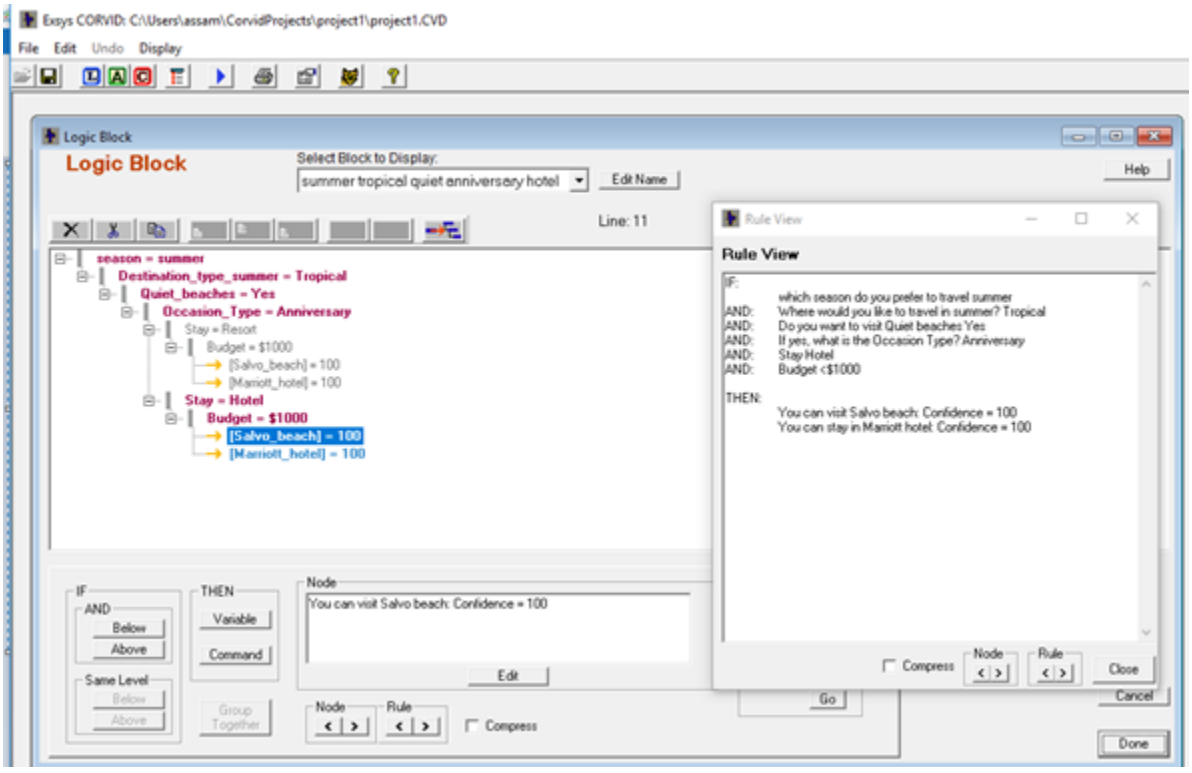


Logical Blocks

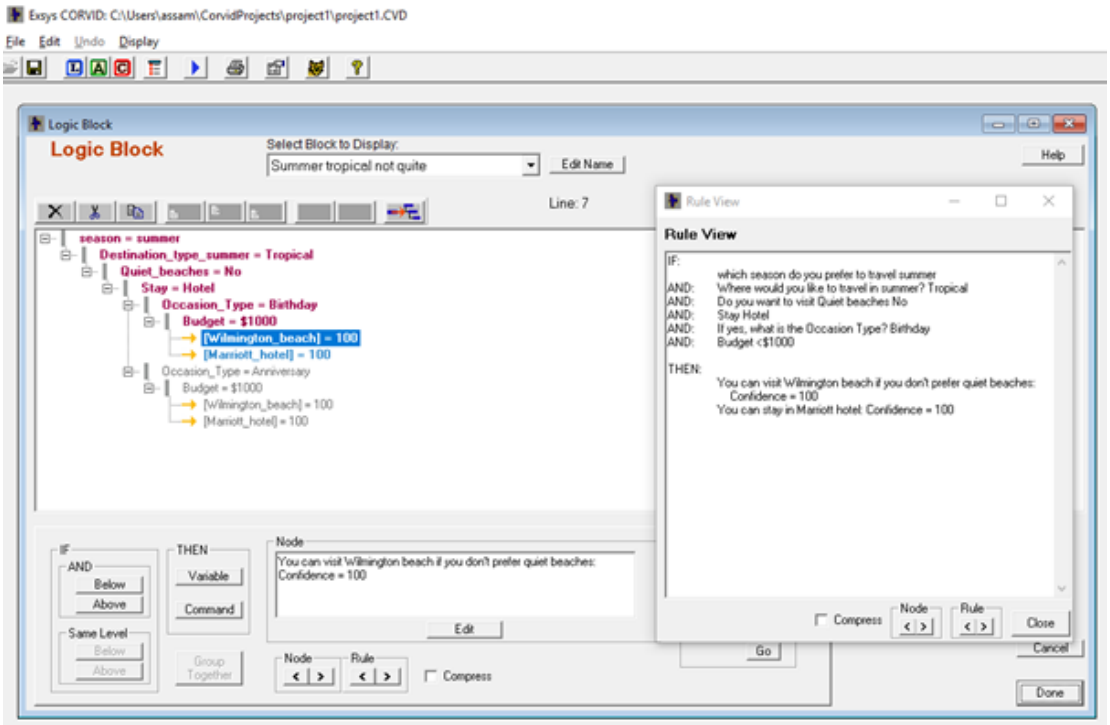
Summer -> Tropical -> Quiet Beach (Yes) -> Birthday



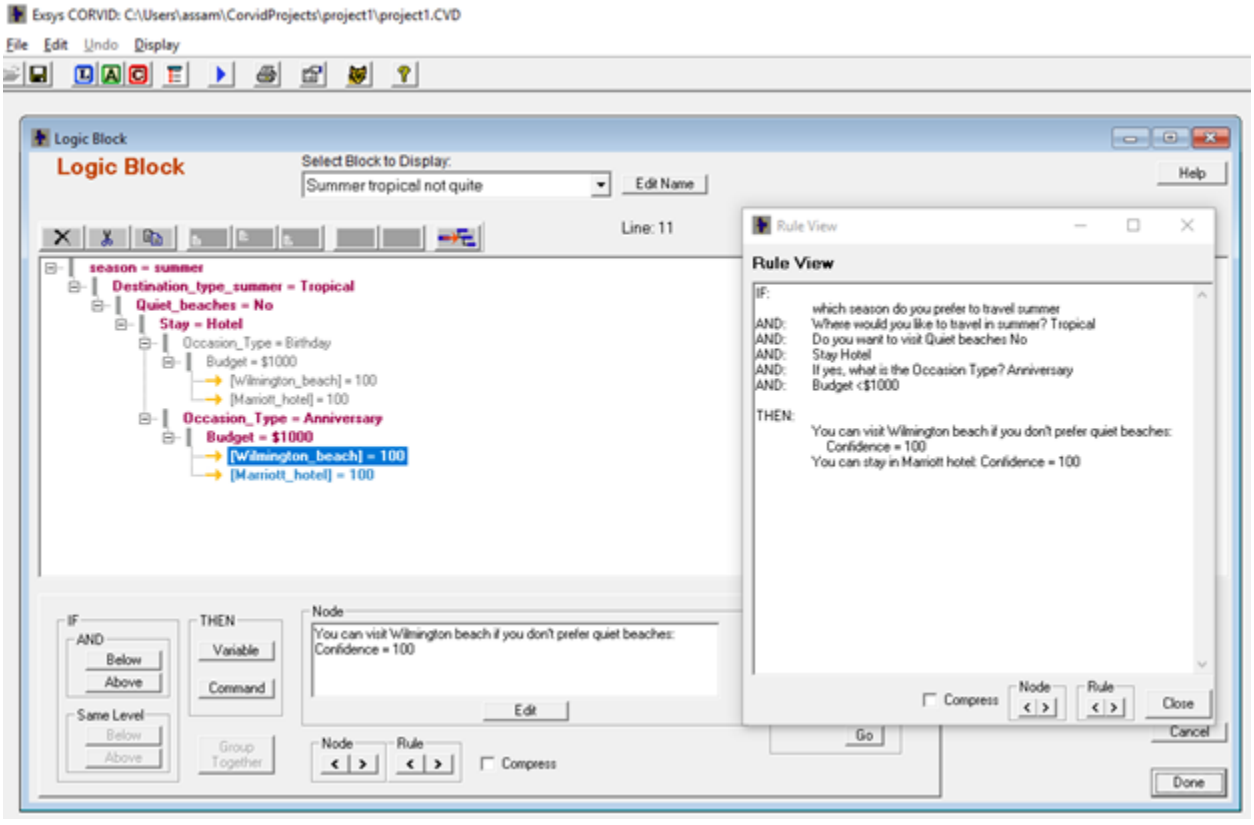
Summer -> Tropical -> Quiet Beach (Yes) -> Anniversary



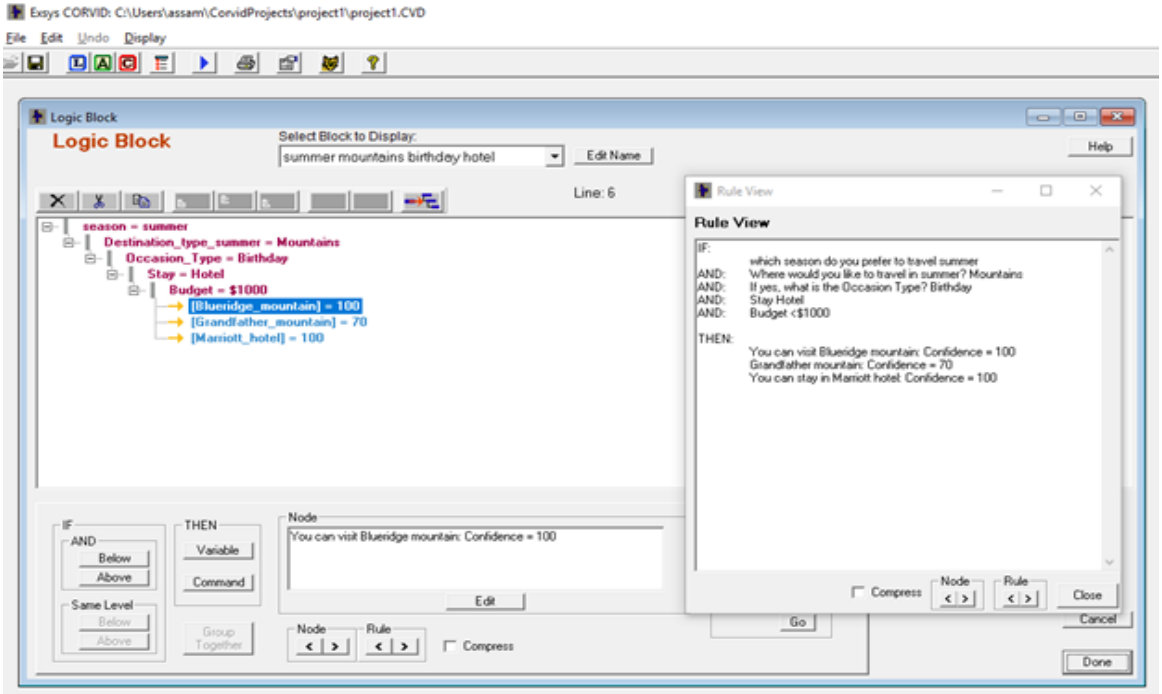
Summer -> Tropical -> Quiet Beach (No) -> Birthday



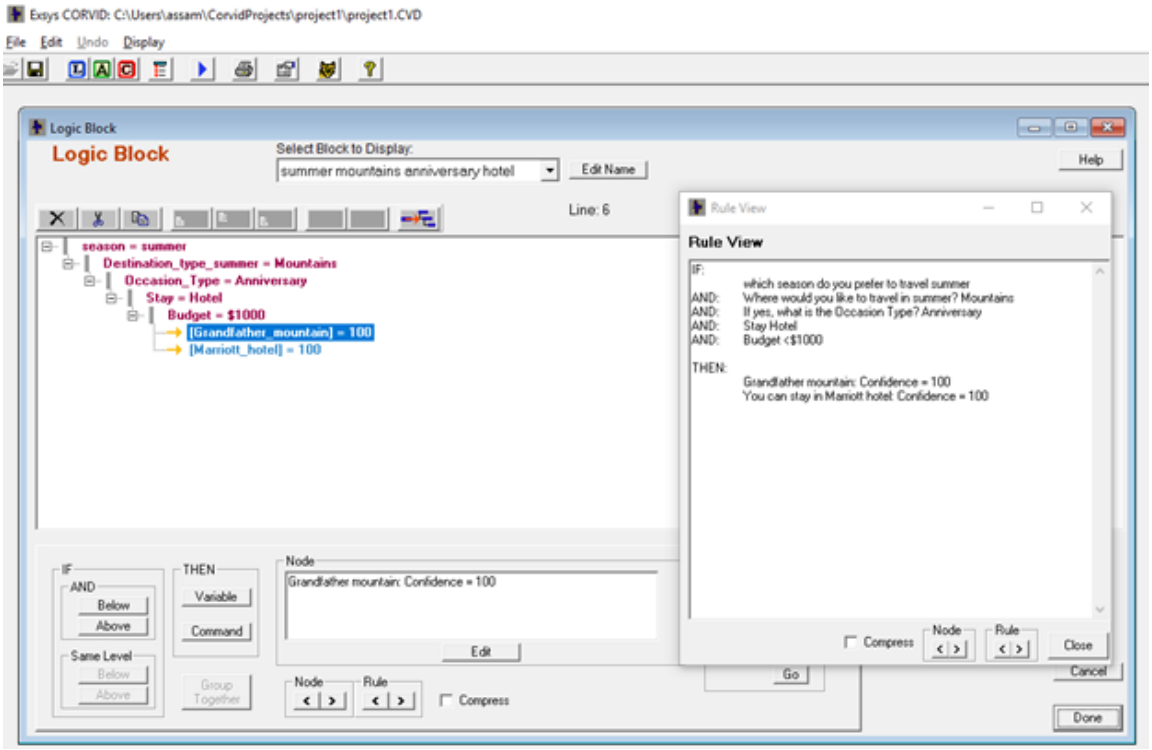
Summer -> Tropical -> Quiet Beach (No) -> Anniversary



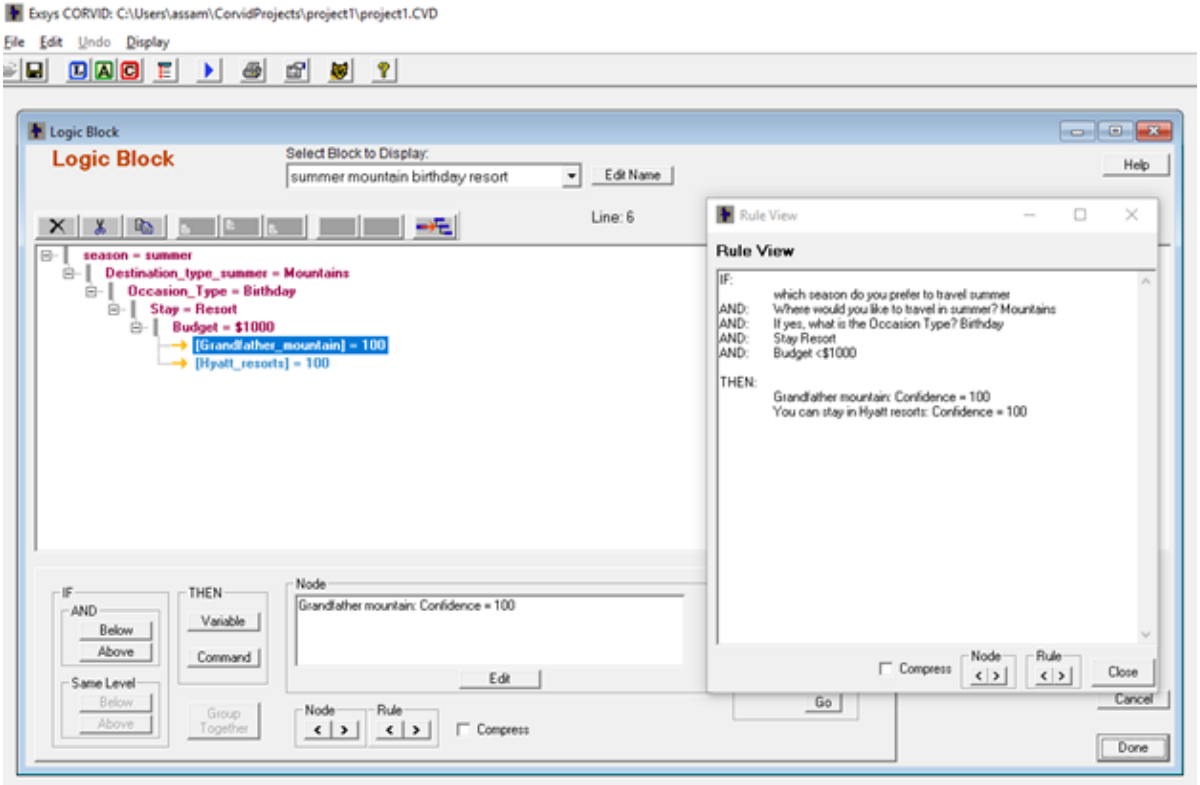
Summer -> Mountains -> Birthday -> Hotel



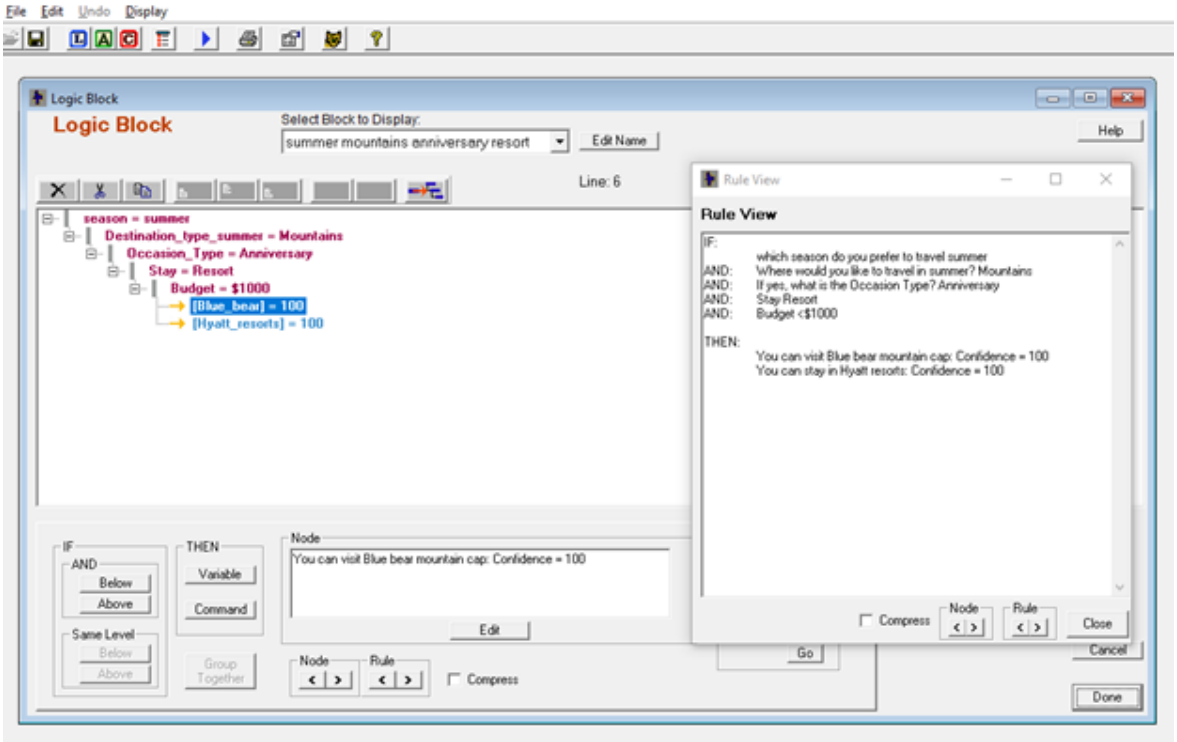
Summer -> Mountains -> Anniversary -> Hotel



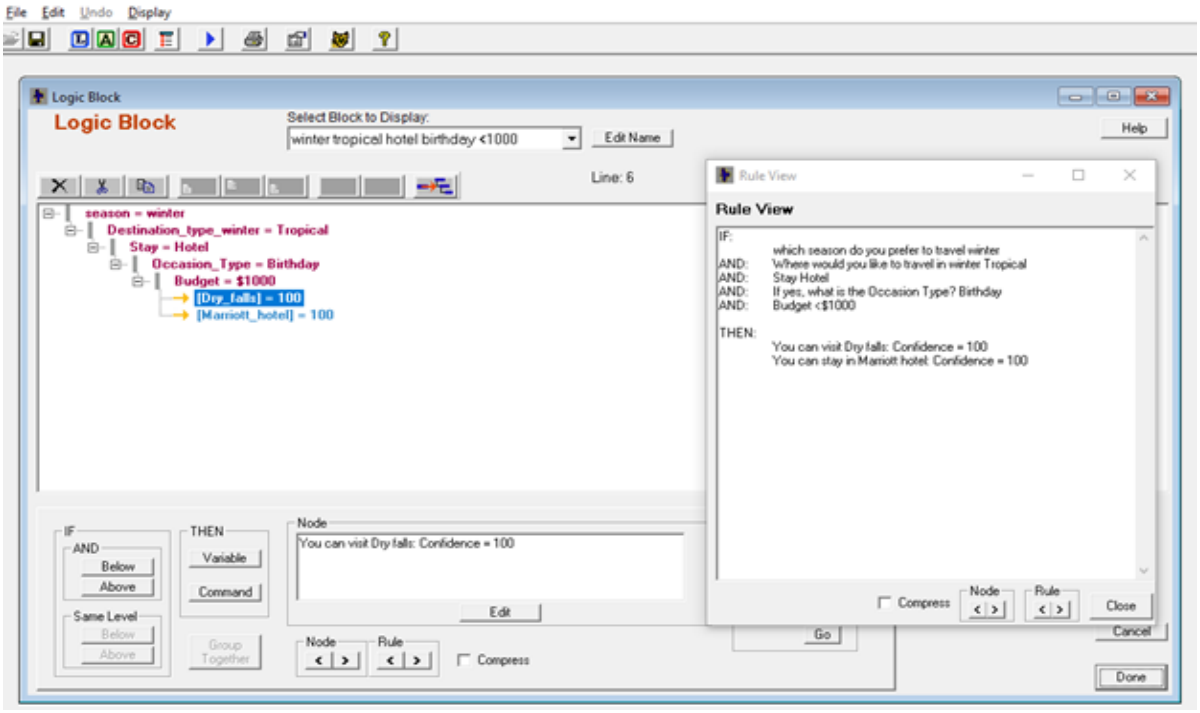
Summer -> Mountains -> Birthday -> Resort



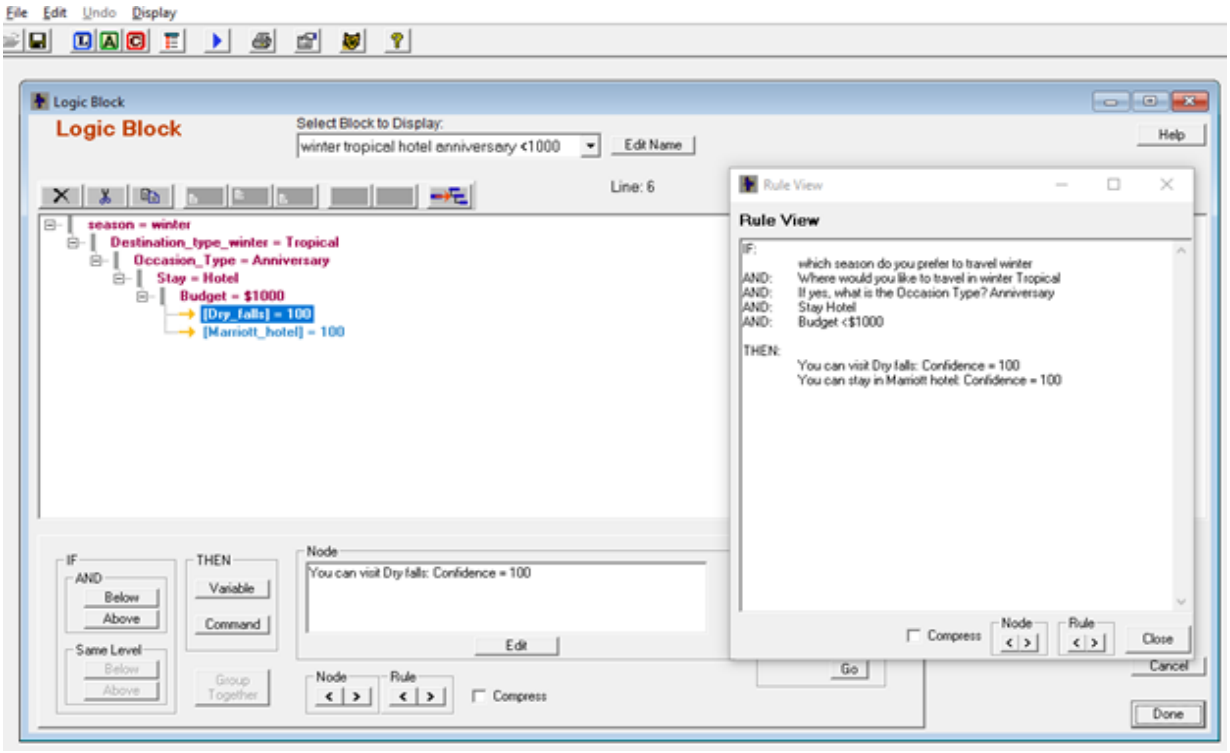
Summer -> Mountains -> Anniversary -> Resort



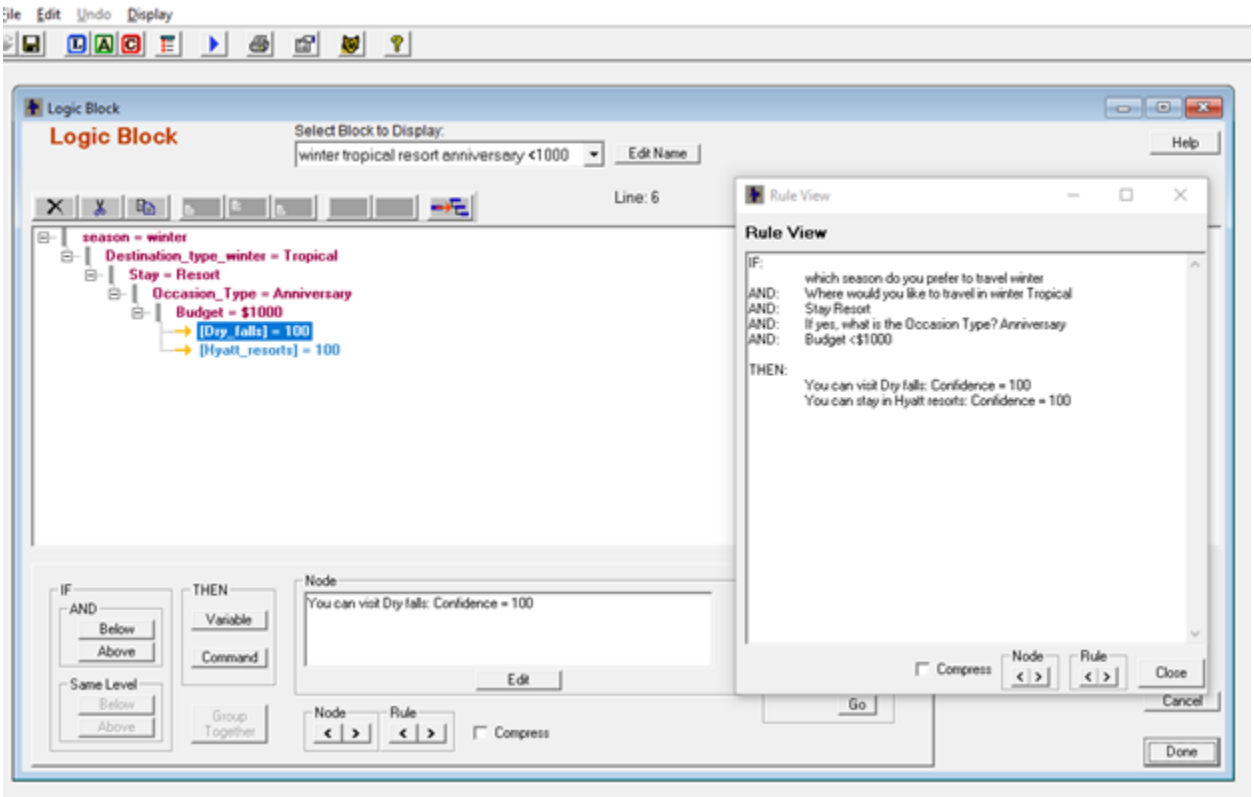
Winter -> Tropical -> Hotel -> Birthday



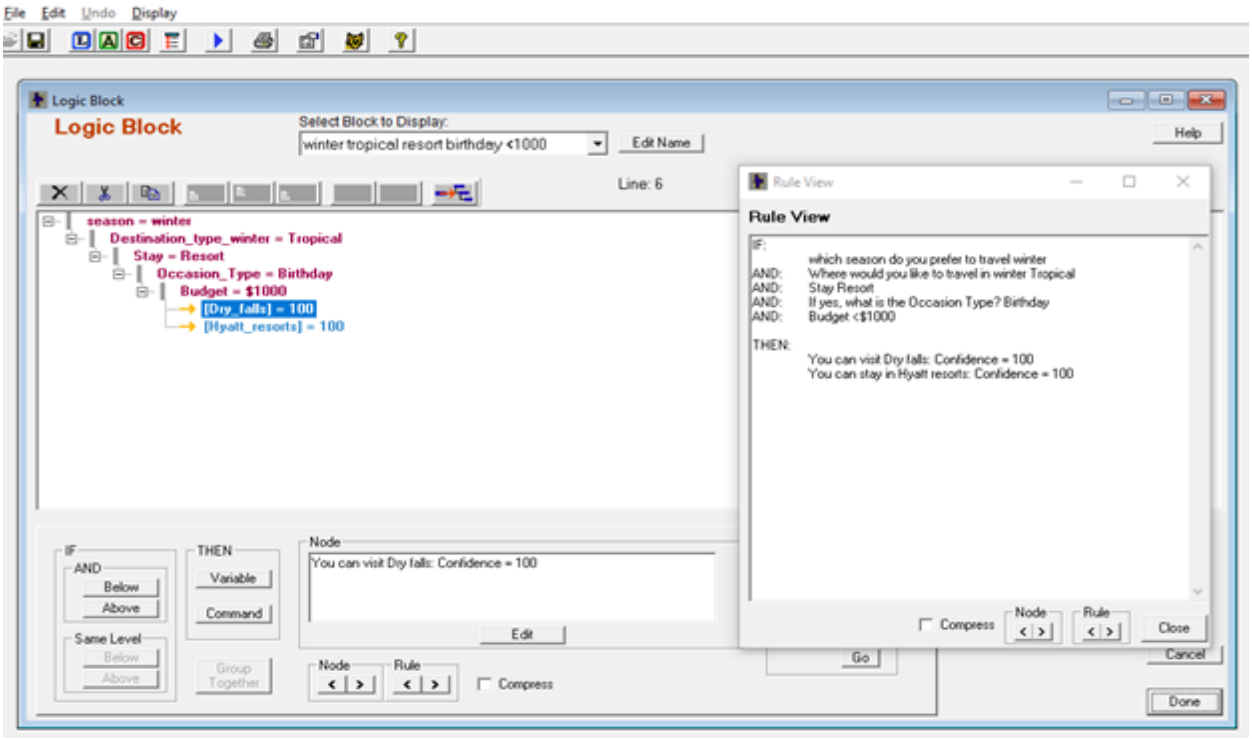
Winter -> Tropical -> Hotel -> Anniversary



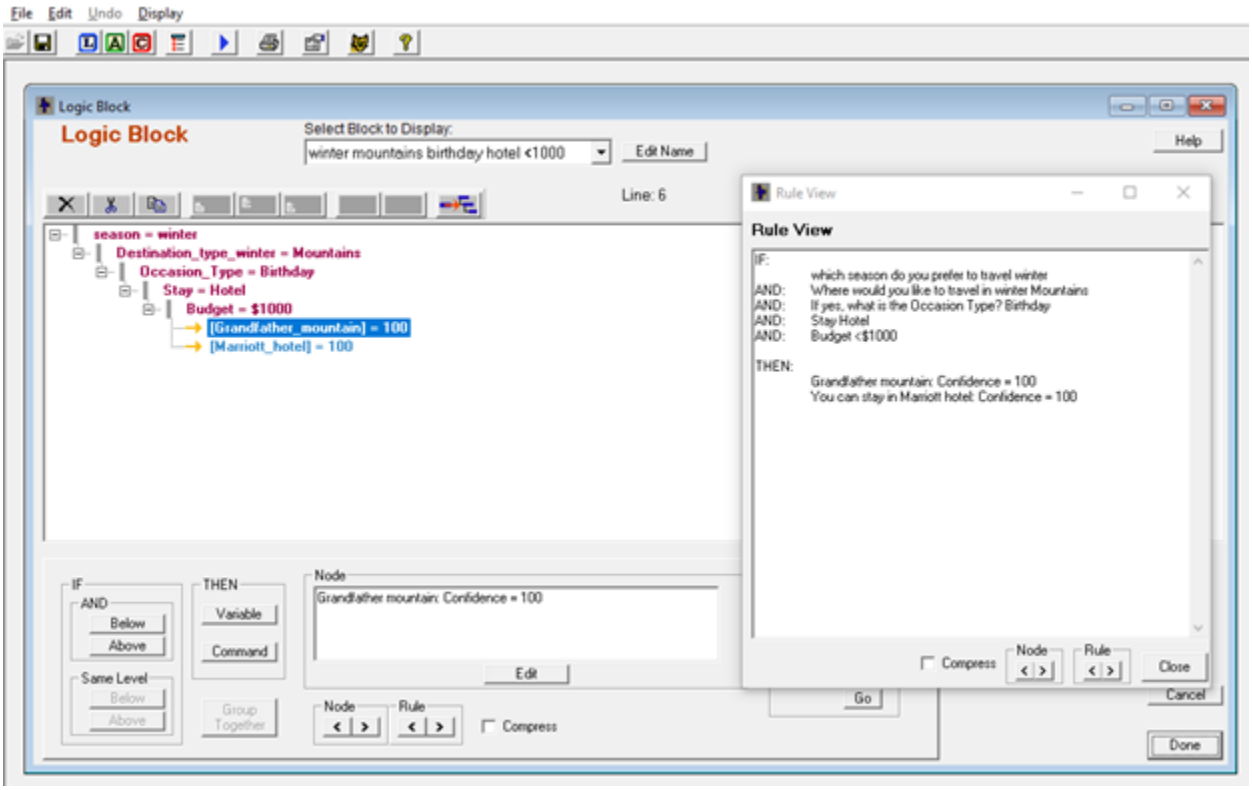
Winter -> Tropical -> Resort -> Anniversary



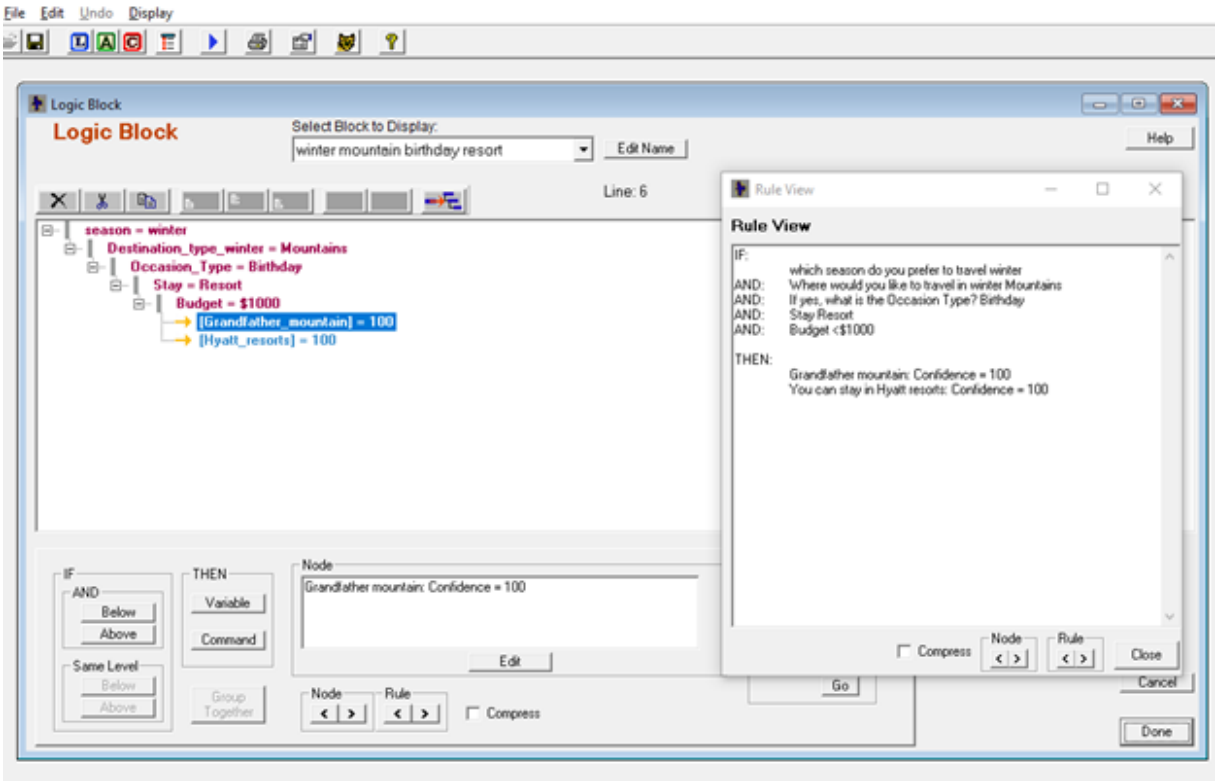
Winter -> Tropical -> Resort -> Birthday



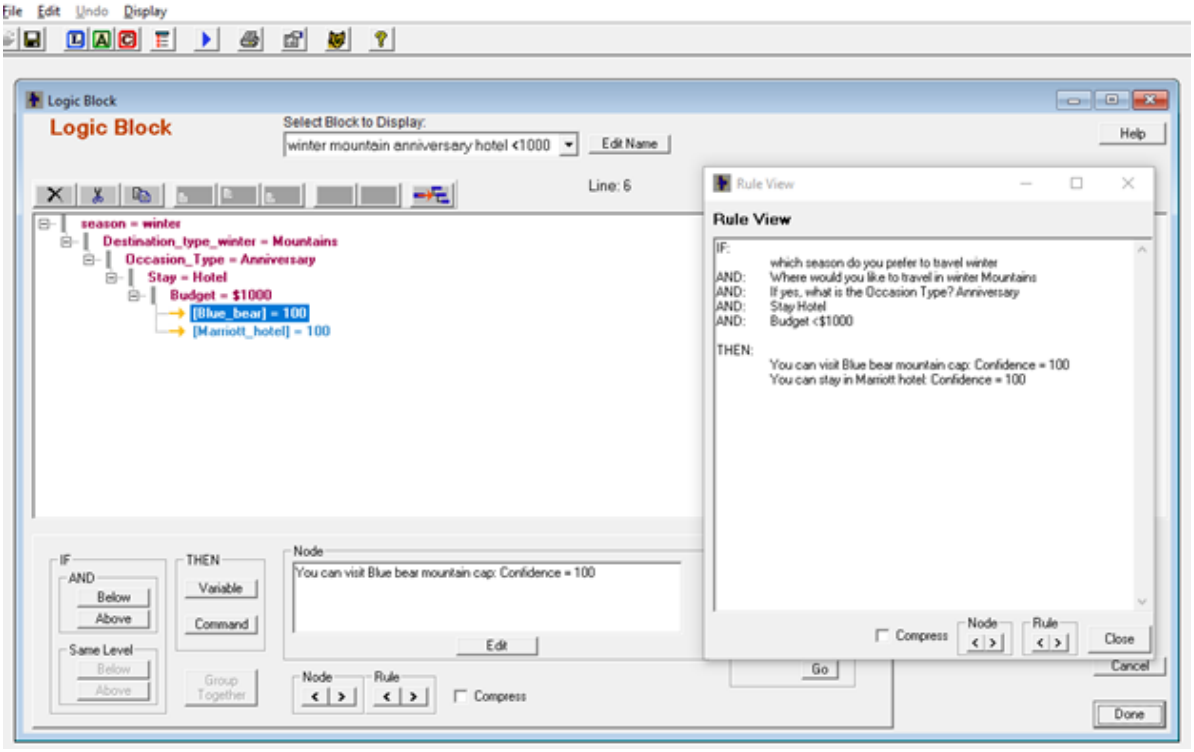
Winter -> Mountains -> Birthday -> Hotel



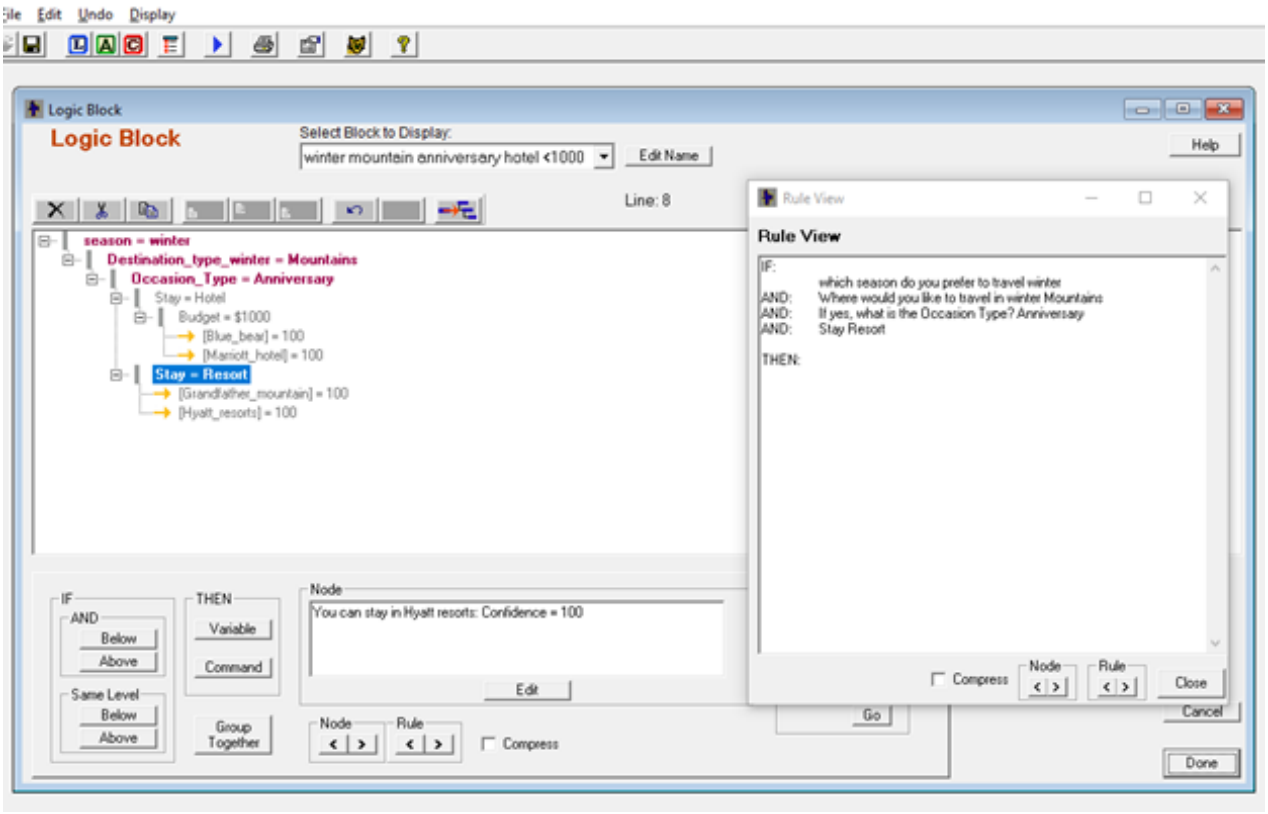
Winter -> Mountains -> Birthday -> Resort



Winter -> Mountains -> Anniversary -> Hotel

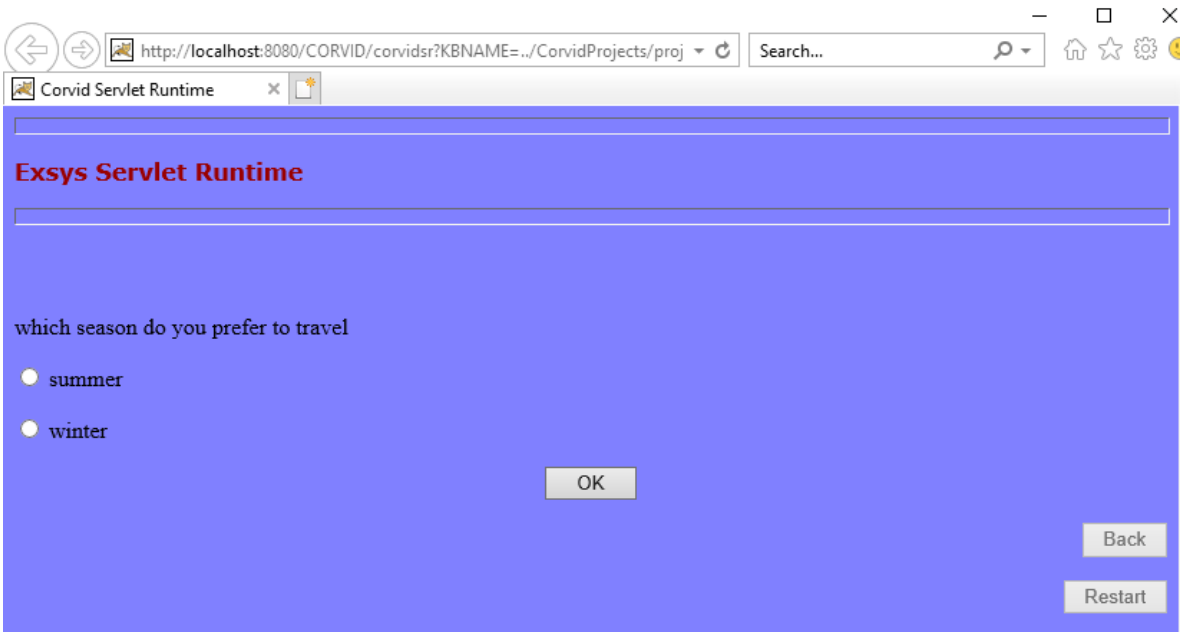


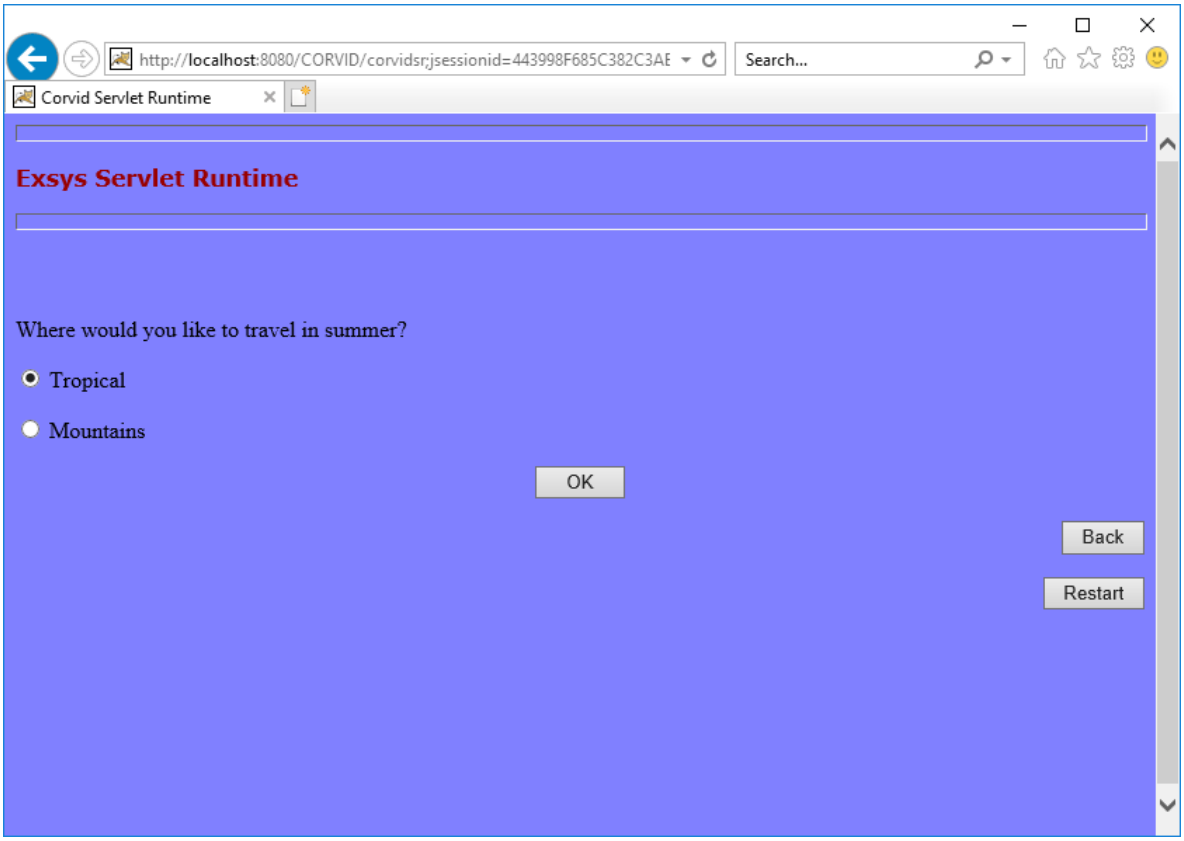
Winter -> Mountains -> Anniversary -> Resort

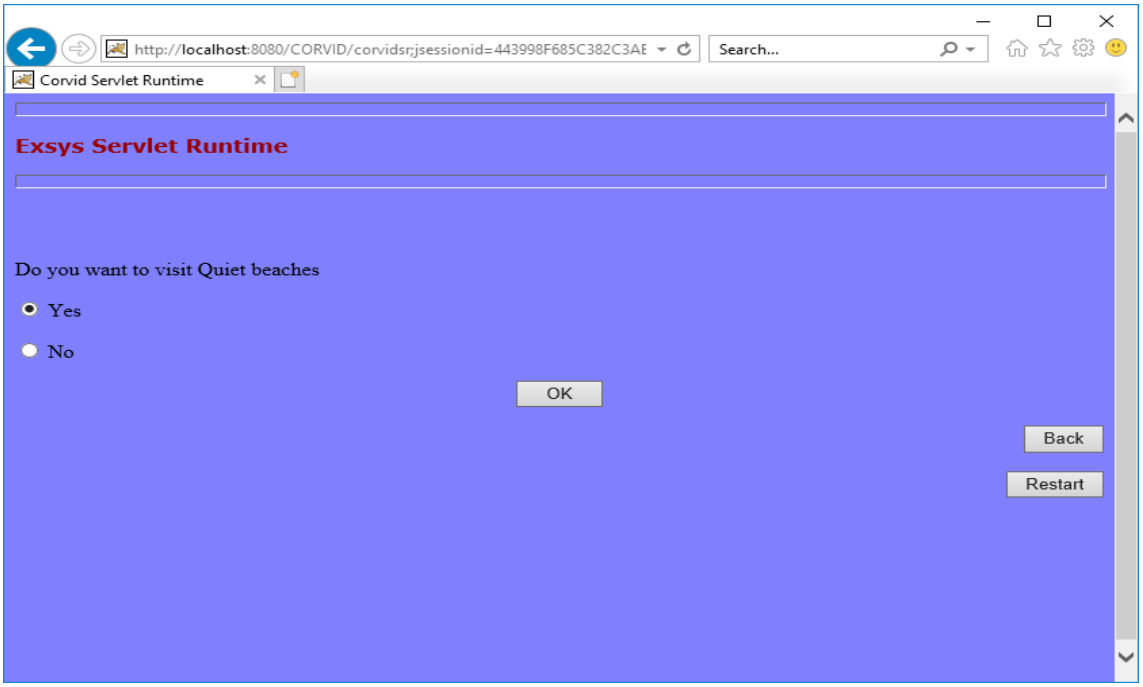

File Edit Undo Display
Logic Block
Logic Block
Select Block to Display:
winter mountain anniversary hotel <1000
Edit Name
Help
Line: 8
season = winter
Destination_type_winter = Mountains
Occasion_Type = Anniversary
Stay = Hotel
Budget = $1000
[Blue_bear] = 100
[Mariott_hotel] = 100
Stay = Resort
[Grandfather_mountain] = 100
[Hyatt_resorts] = 100
IF
AND
Below
Above
Same Level
Below
Above
THEN
Variable
Command
Group Together
Node
You can stay in Hyatt resorts: Confidence = 100
Edit
Node
Rule
Compress
Go
Rule View
Rule View
IF:
which season do you prefer to travel winter
AND: Where would you like to travel in winter Mountains
AND: If yes, what is the Occasion Type? Anniversary
AND: Stay Resort
THEN:
Compress
Node
Rule
Close
Cancel
Done

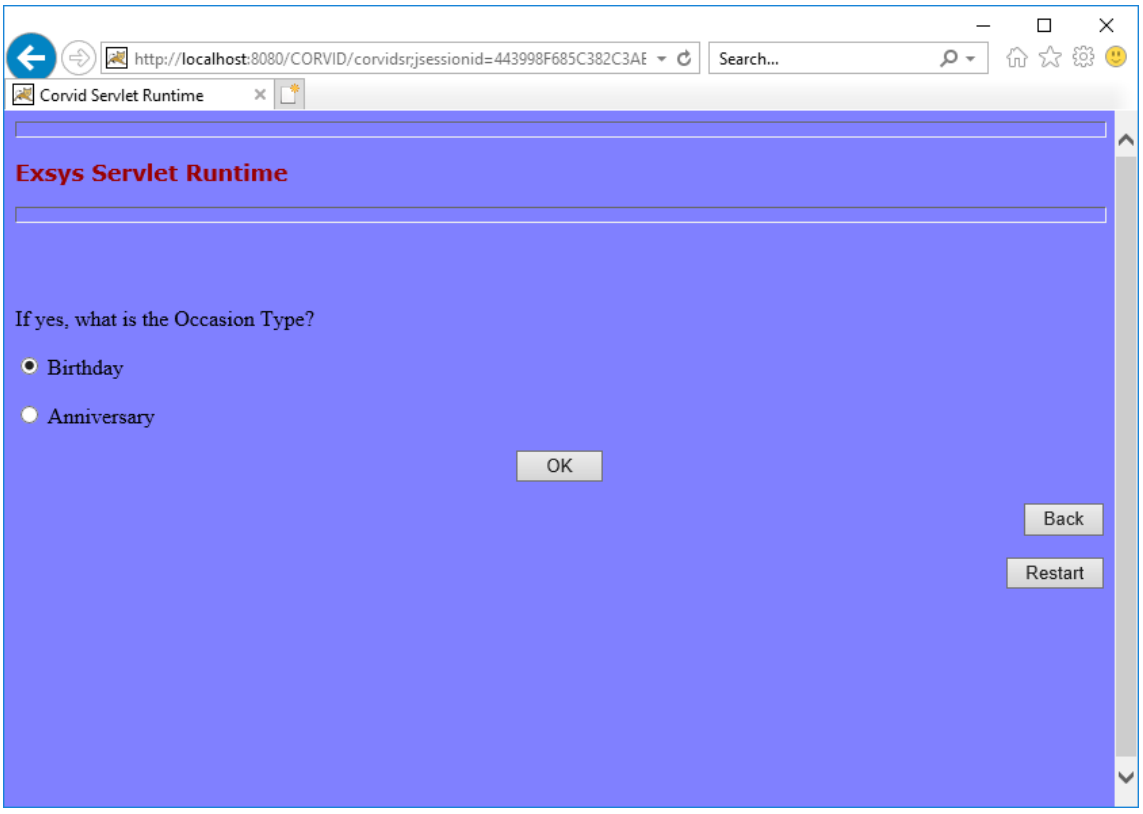
S

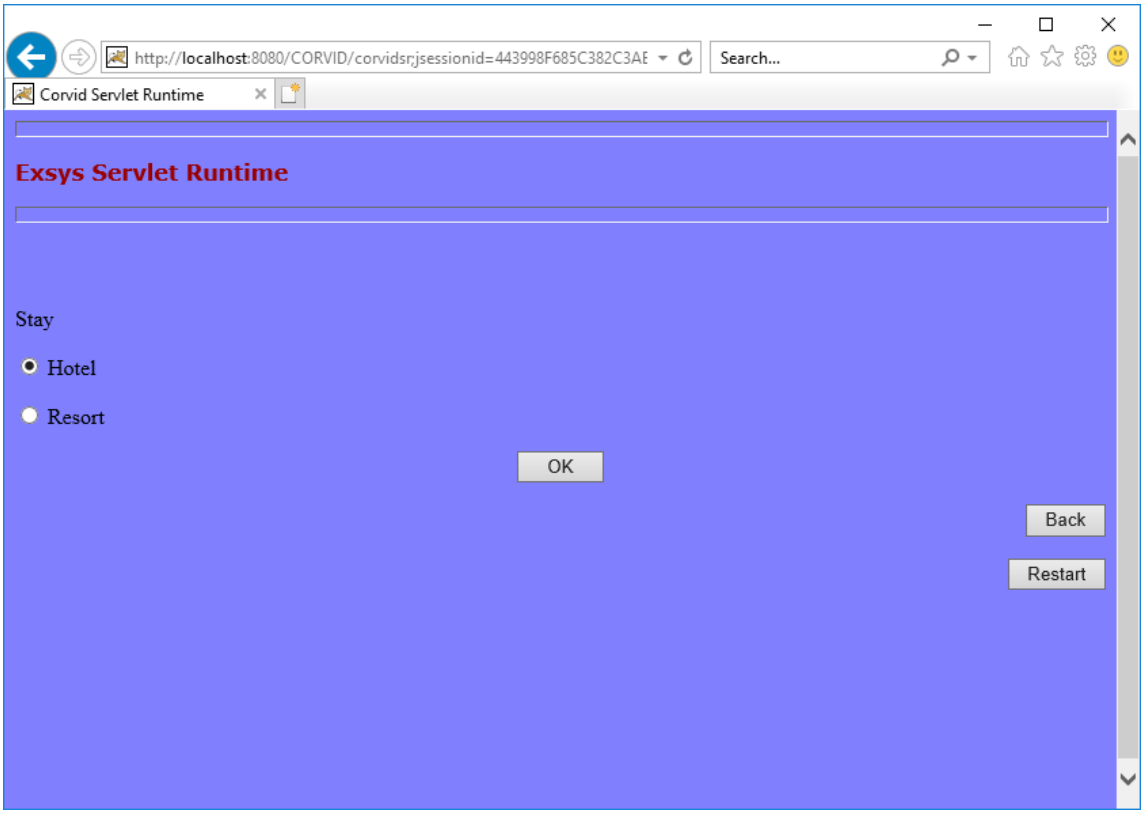
Summer -> Tropical -> Quiet Beach (Yes) -> Birthday > Hotel / Resort

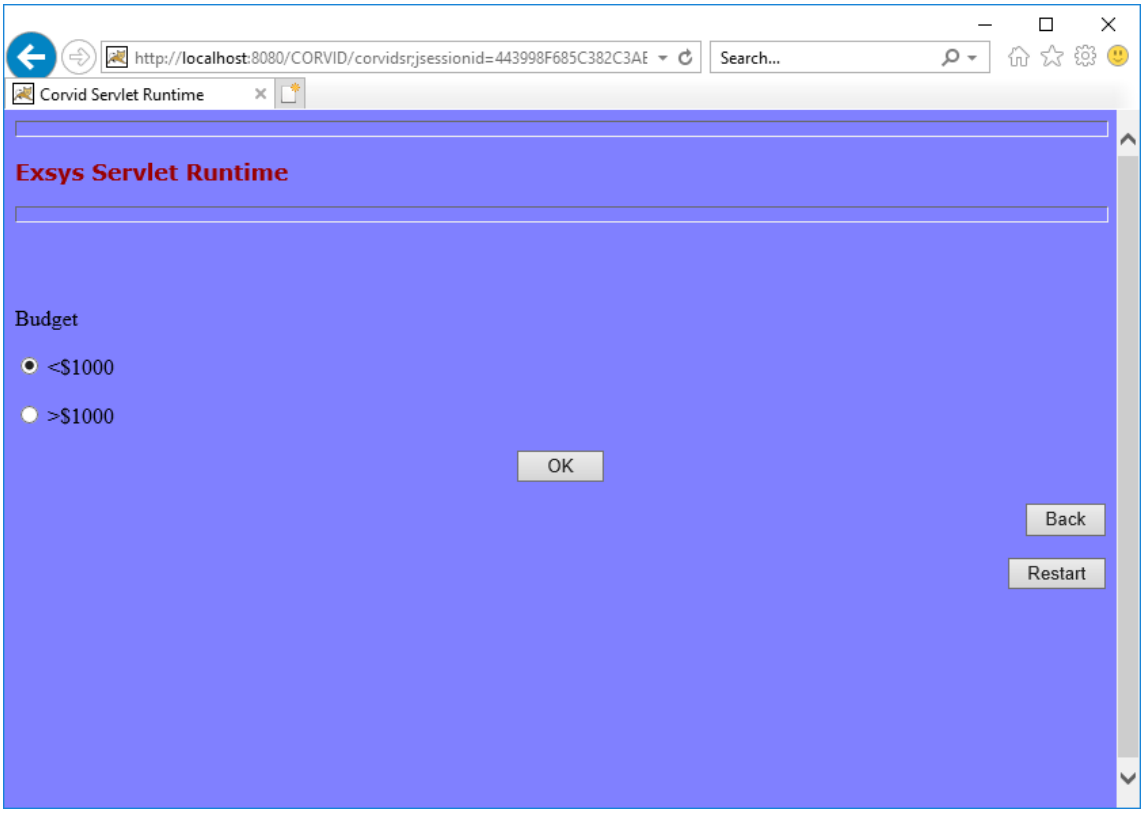




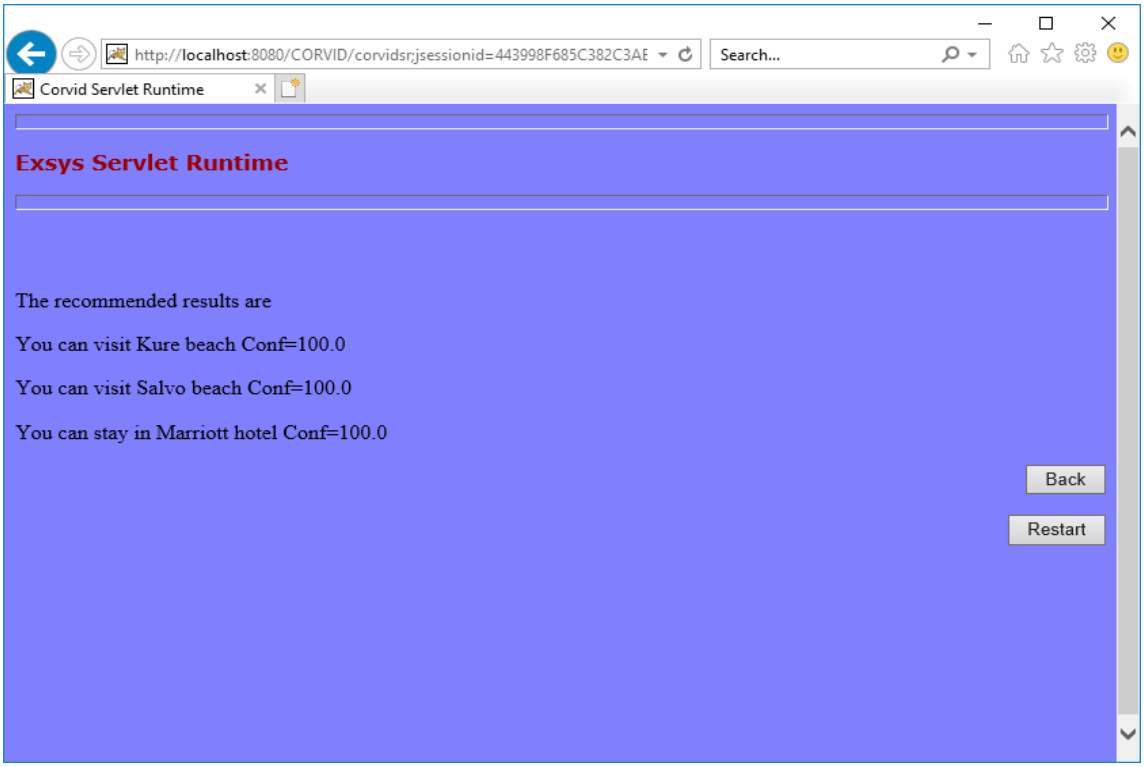

http://localhost:8080/CORVID/corvidsr;jsessionid=443998F685C382C3AE
Search...
Corvid Servlet Runtime
Exsys Servlet Runtime
Do you want to visit Quiet beaches
Yes
No
OK
Back
Restart


http://localhost:8080/CORVID/corvidsr;jsessionid=443998F685C382C3AE
Search...
Corvid Servlet Runtime
Exsys Servlet Runtime
If yes, what is the Occasion Type?
Birthday
Anniversary
OK
Back
Restart

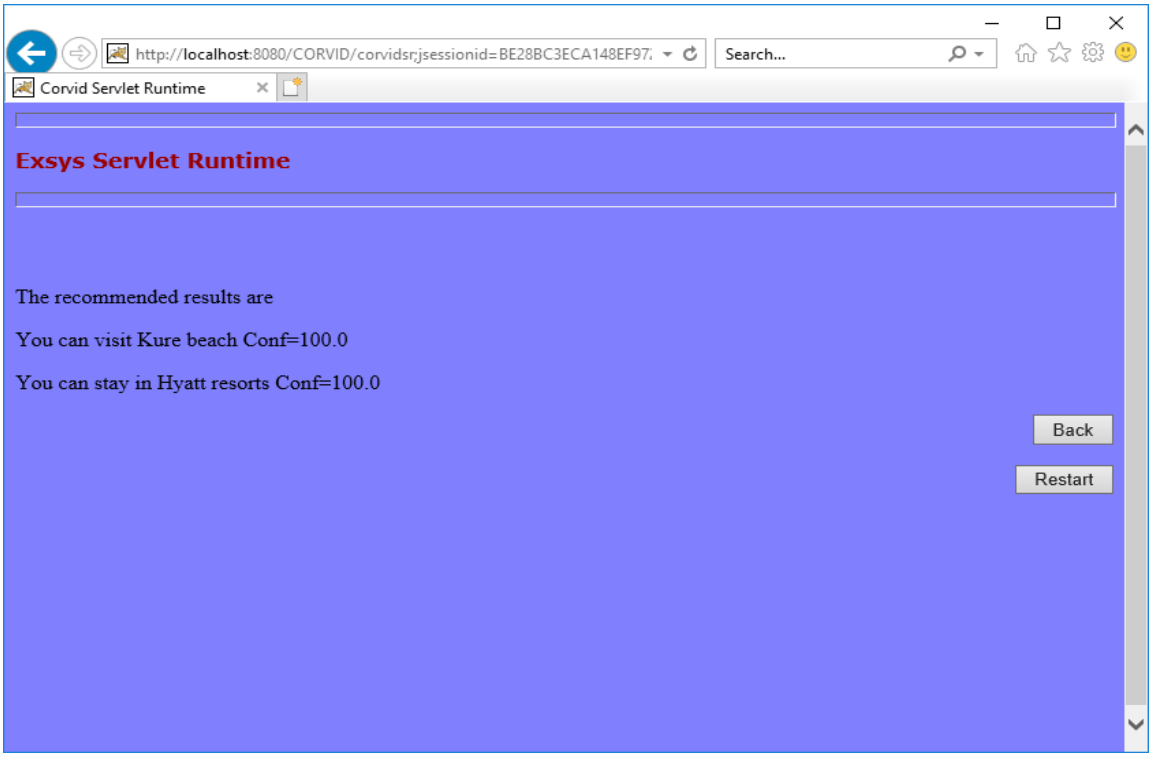

http://localhost:8080/CORVID/corvidsr;jsessionid=443998F685C382C3AE
Search...
Corvid Servlet Runtime
Exsys Servlet Runtime
Stay
Hotel
Resort
OK
Back
Restart


http://localhost:8080/CORVID/corvidsr;jsessionid=443998F685C382C3AE
Search...
Corvid Servlet Runtime
Exsys Servlet Runtime
Budget
<$1000
>$1000
OK
Back
Restart

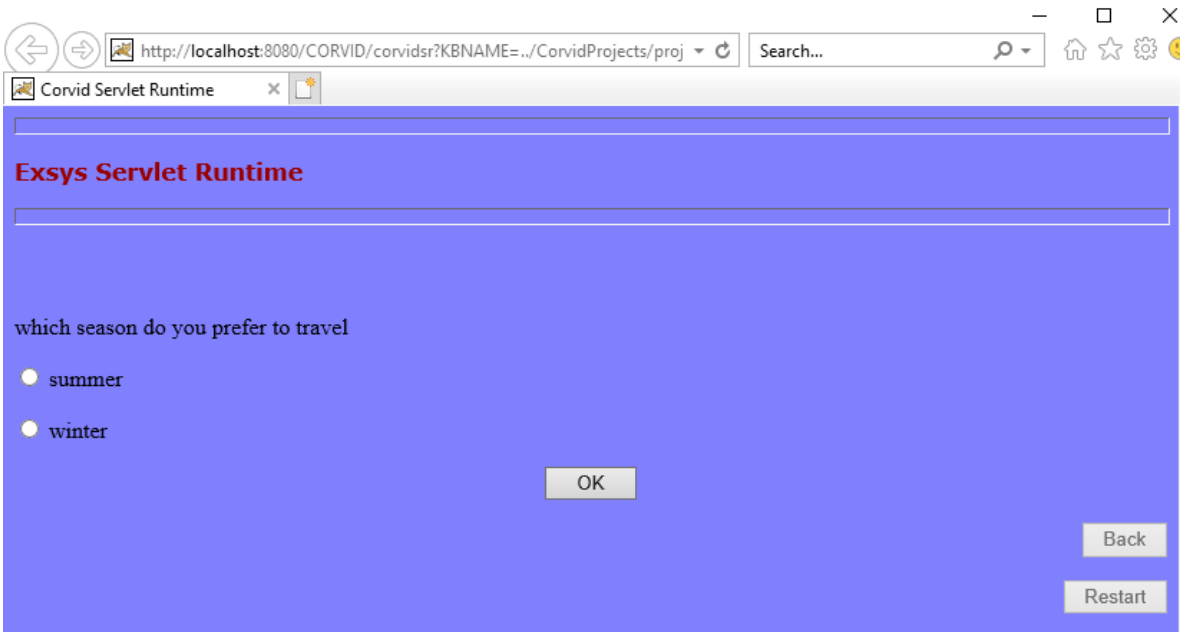
Hotel

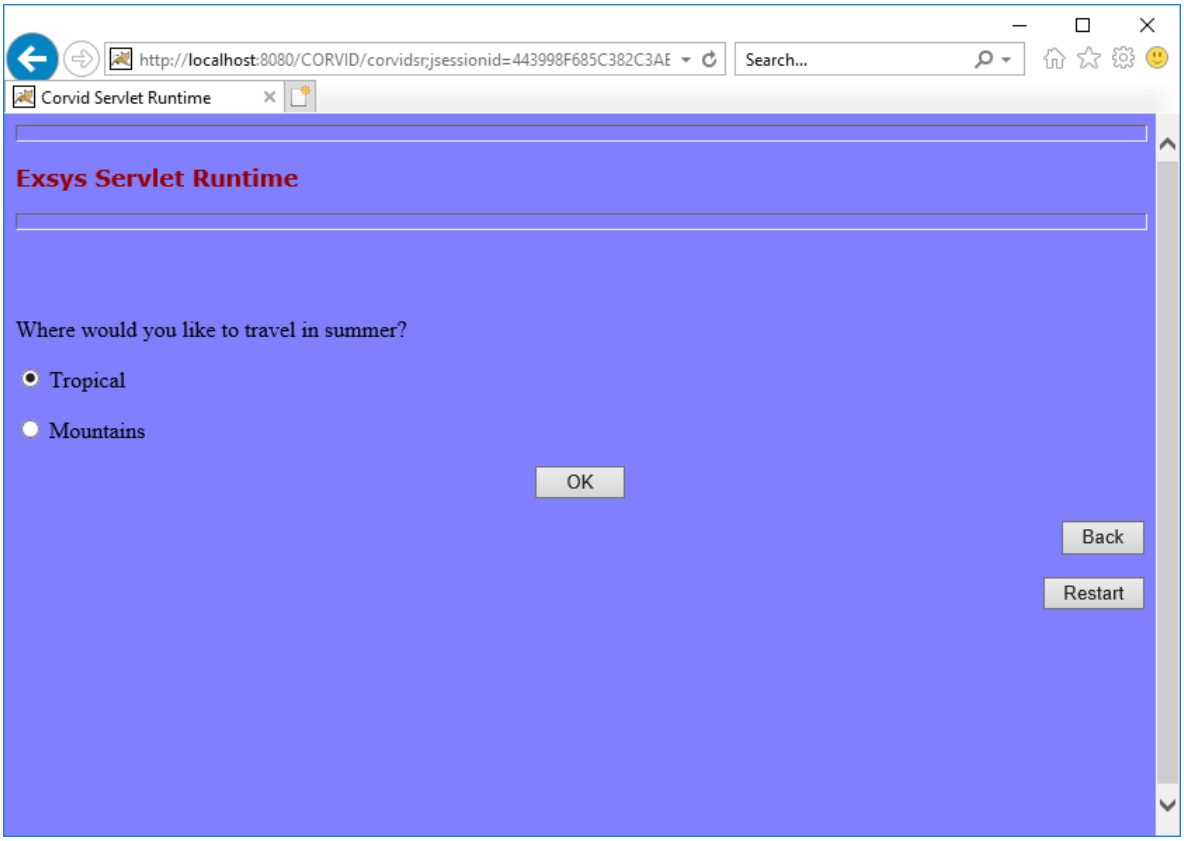


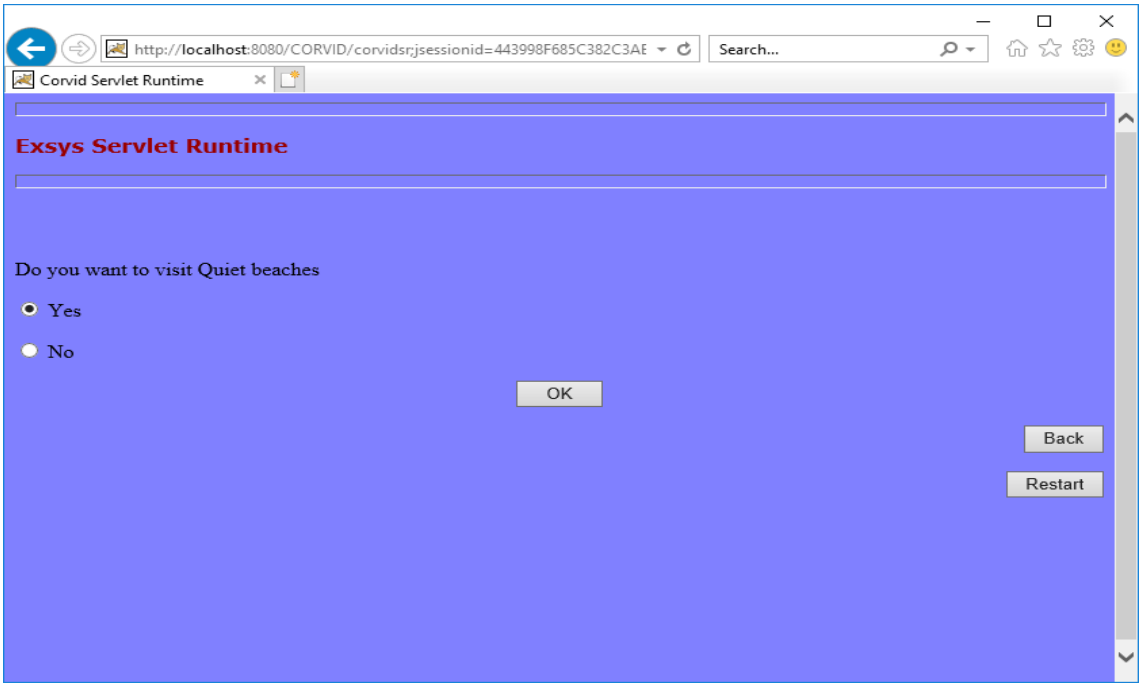
Resort

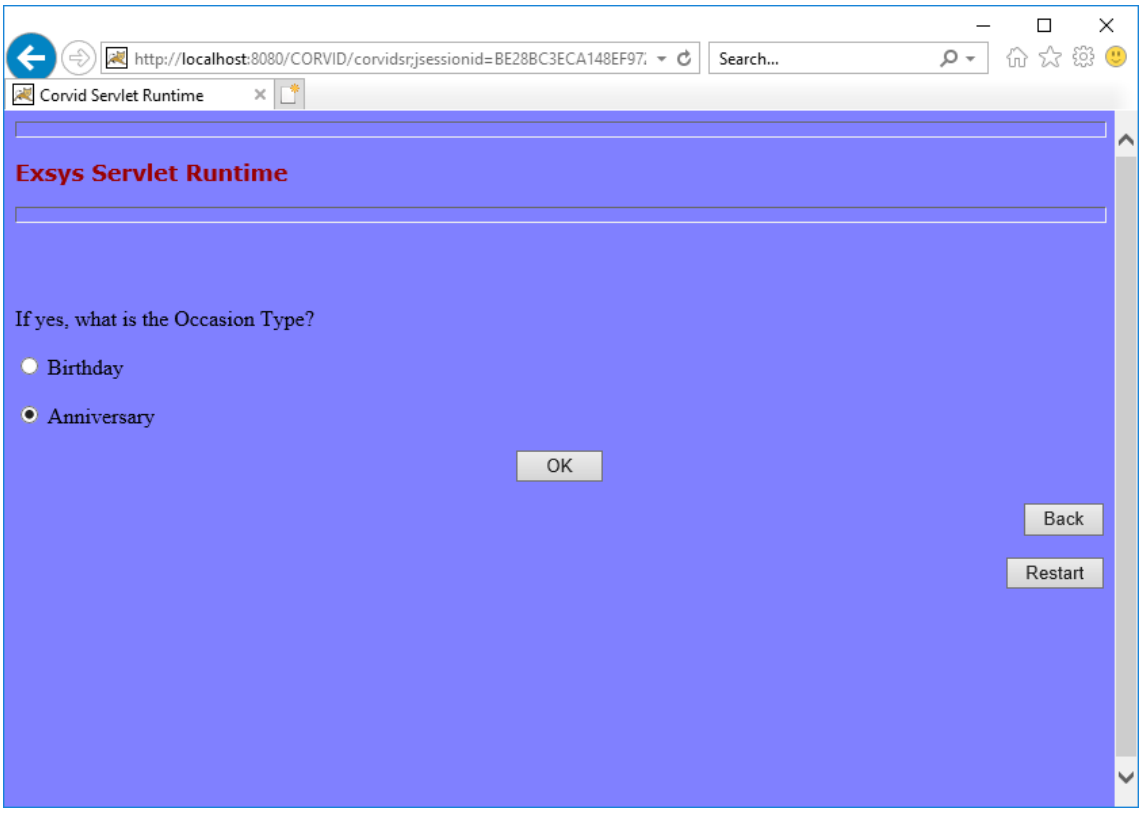


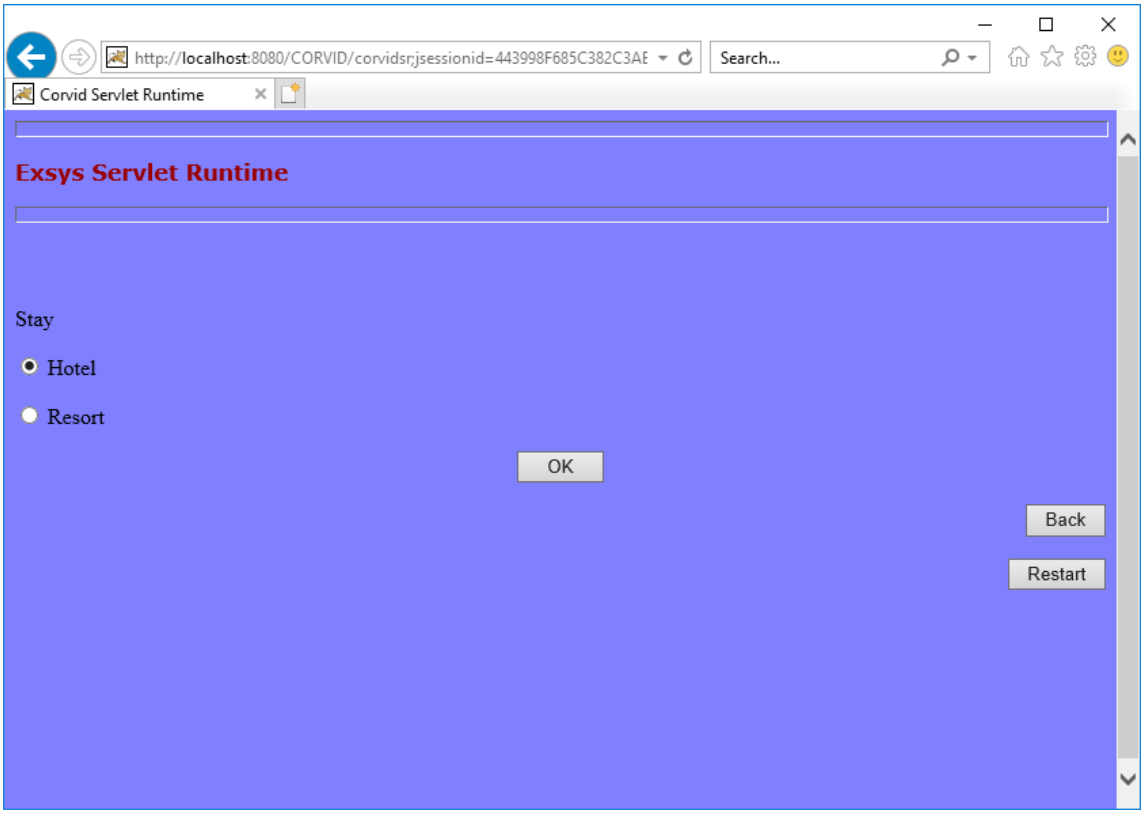
Summer -> Tropical -> Quiet Beach (Yes) -> **Anniversary** > Hotel / Resort

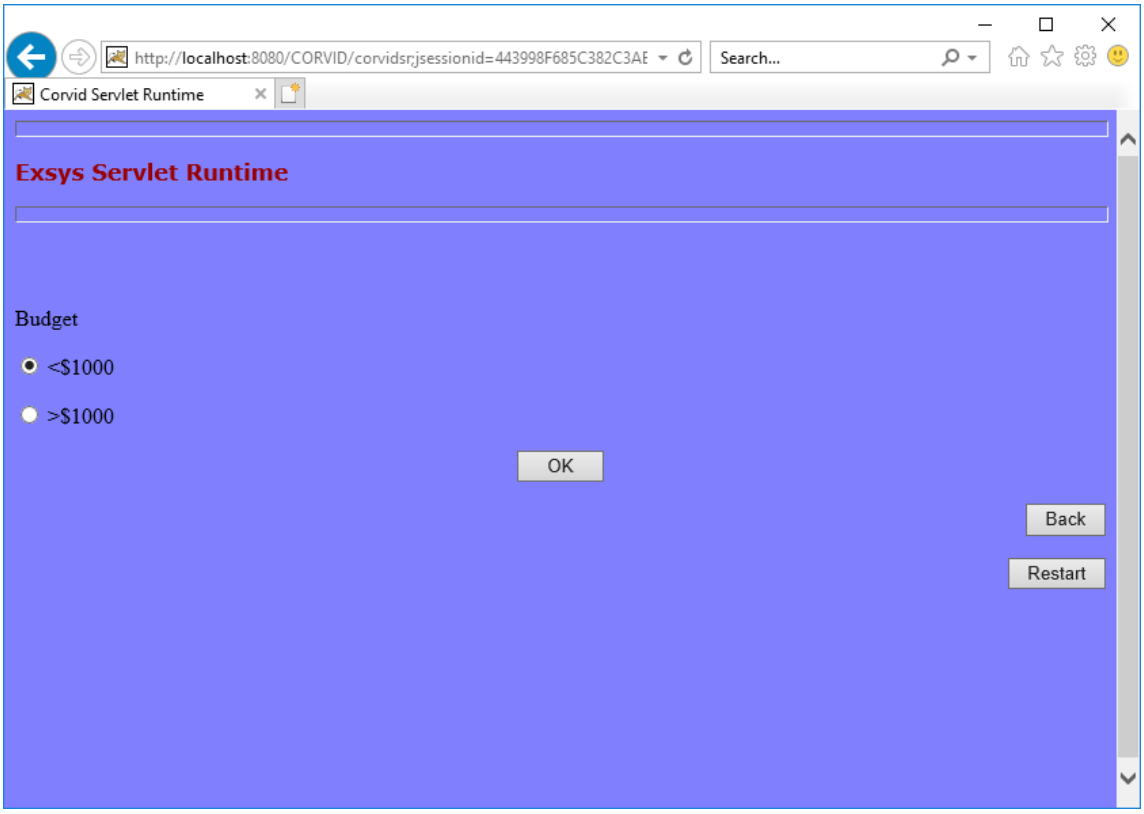




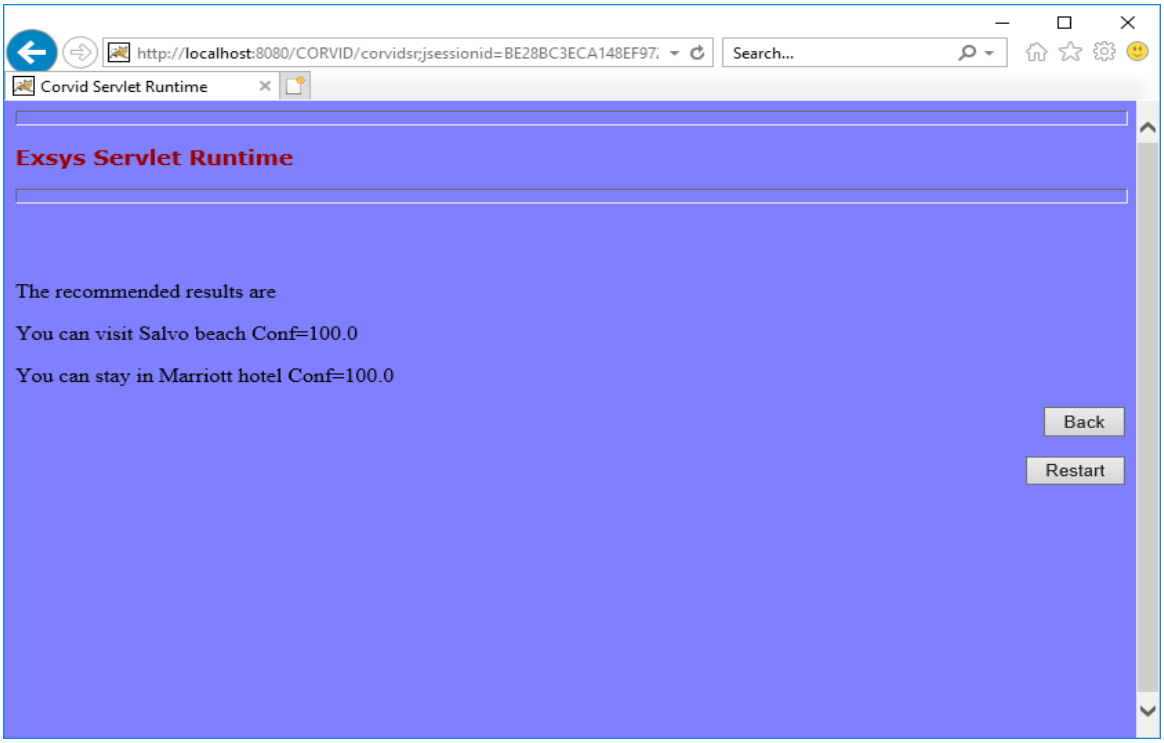

http://localhost:8080/CORVID/corvidsr;jsessionid=443998F685C382C3AE
Search...
Corvid Servlet Runtime
Exsys Servlet Runtime
Do you want to visit Quiet beaches
Yes
No
OK
Back
Restart


http://localhost:8080/CORVID/corvidsr;jsessionid=BE28BC3ECA148EF97
Search...
Corvid Servlet Runtime
Exsys Servlet Runtime
If yes, what is the Occasion Type?
Birthday
Anniversary
OK
Back
Restart

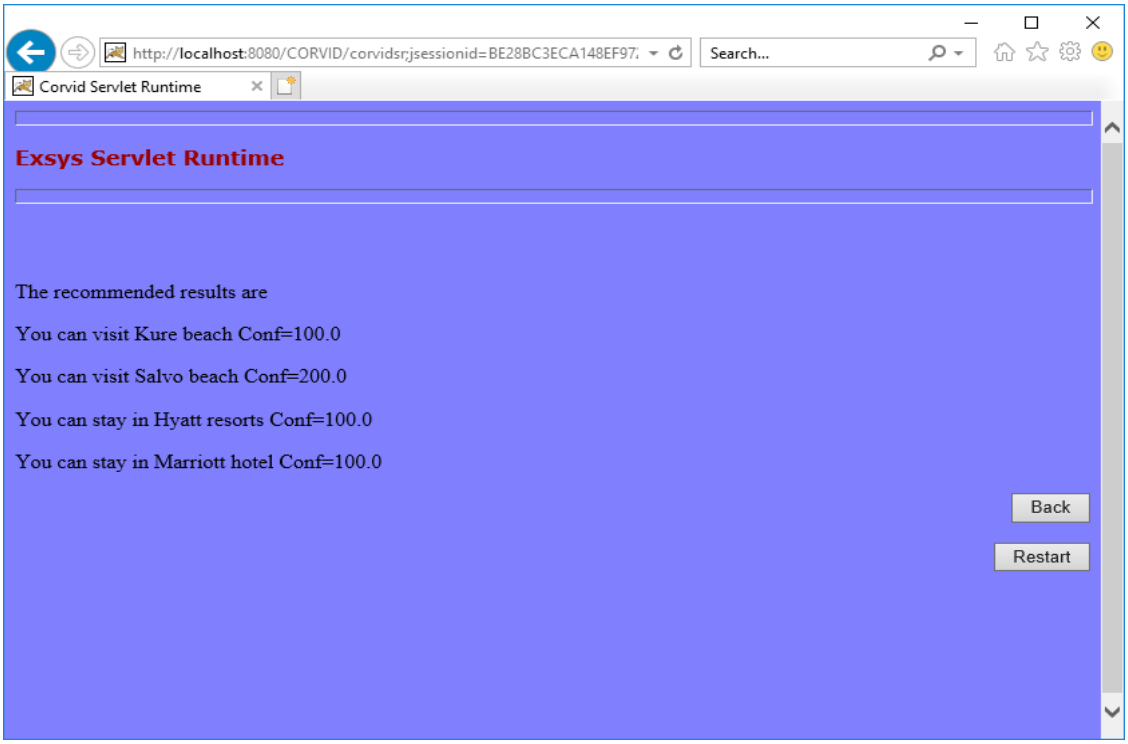

http://localhost:8080/CORVID/corvidsr;jsessionid=443998F685C382C3AE
Search...
Corvid Servlet Runtime
Exsys Servlet Runtime
Stay
Hotel
Resort
OK
Back
Restart


http://localhost:8080/CORVID/corvidsr;jsessionid=443998F685C382C3AE
Search...
Corvid Servlet Runtime
Exsys Servlet Runtime
Budget
<$1000
>$1000
OK
Back
Restart

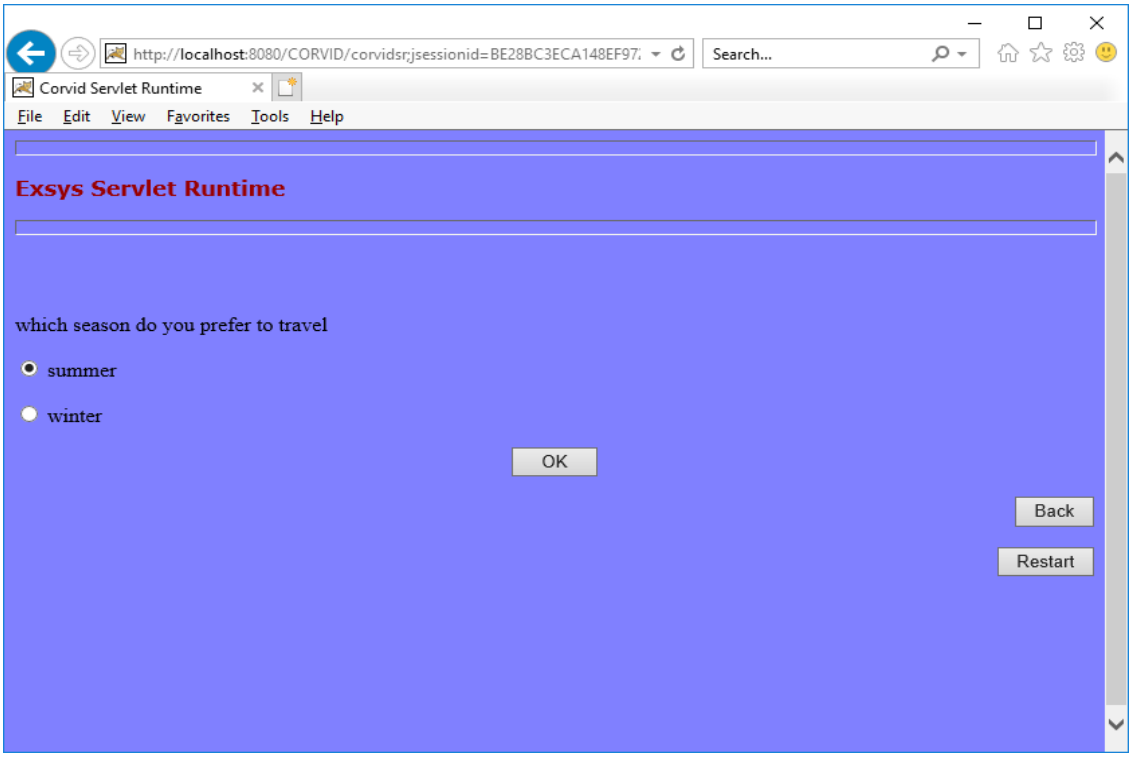
Hotel

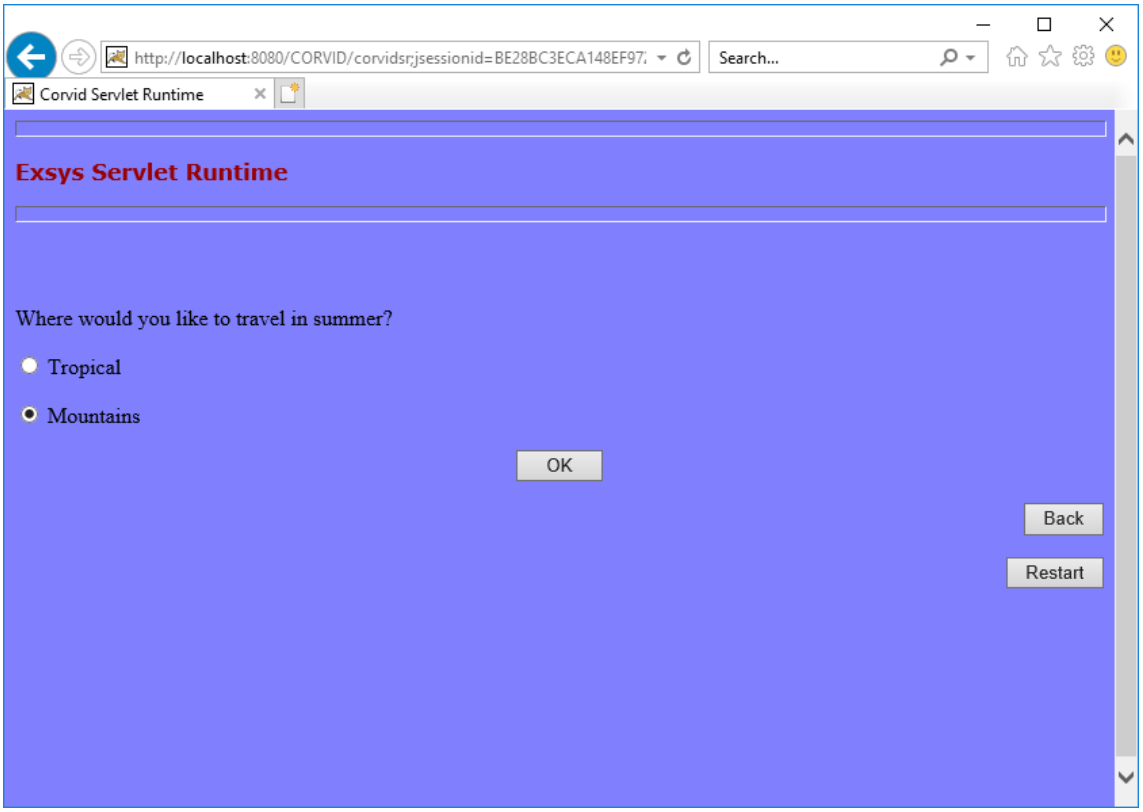


Resort

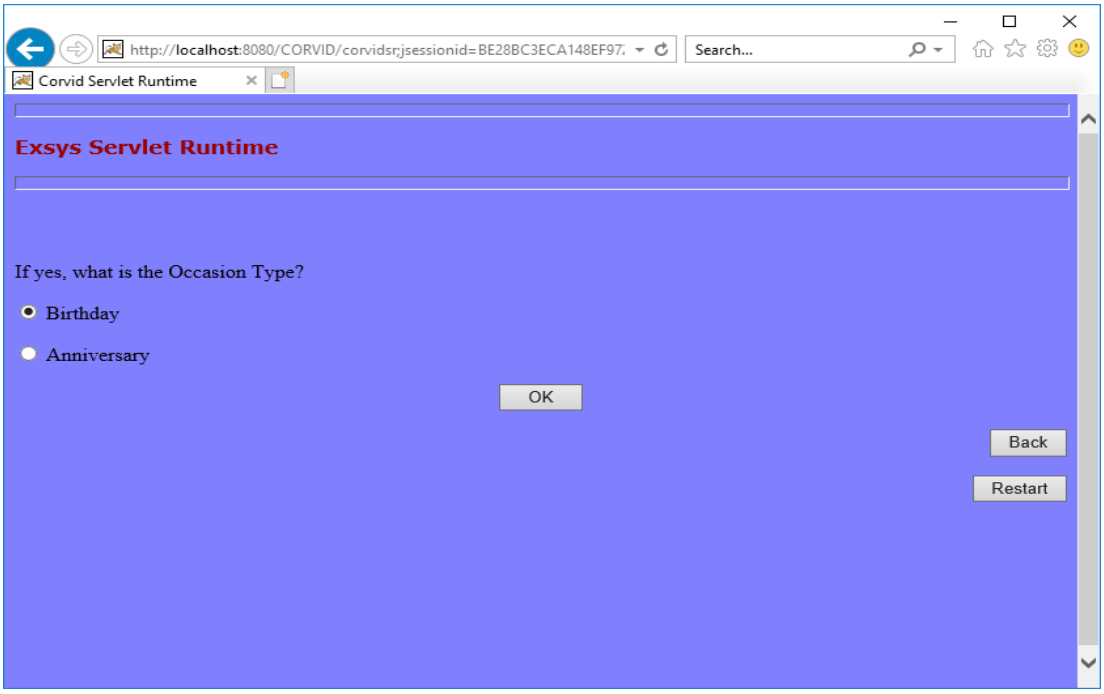


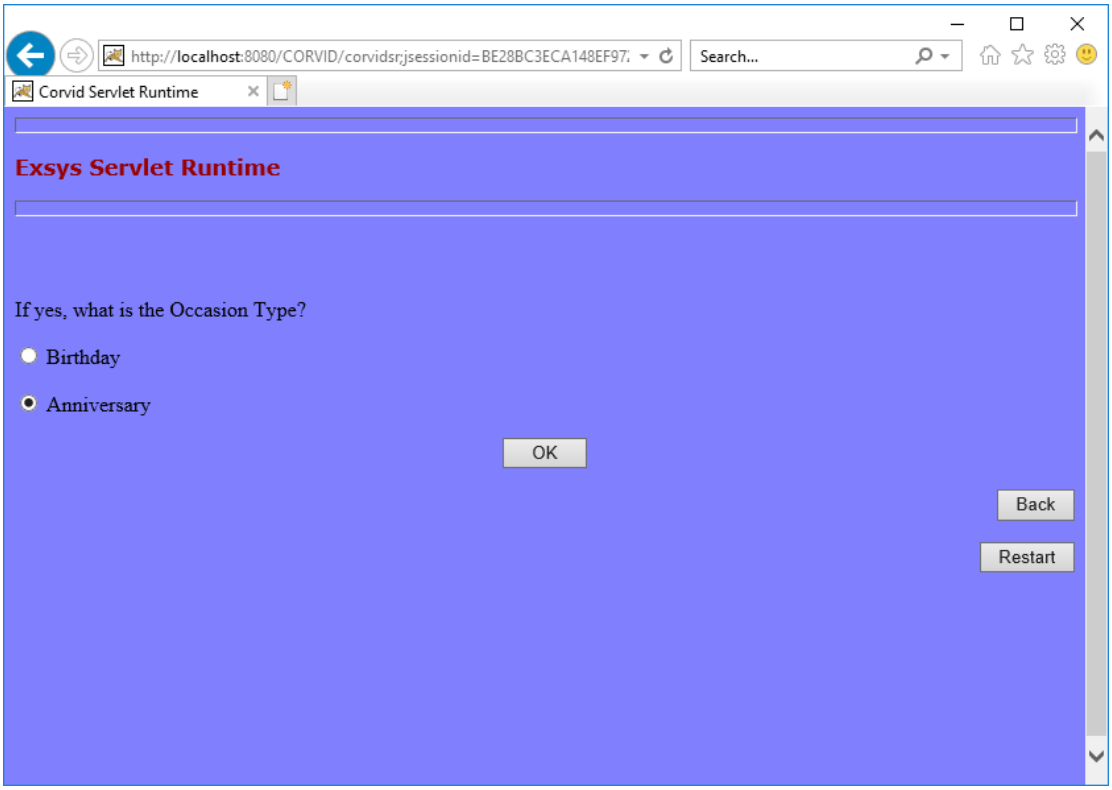
Summer -> Mountains -> Birthday/Anniversary > Hotel / Resort

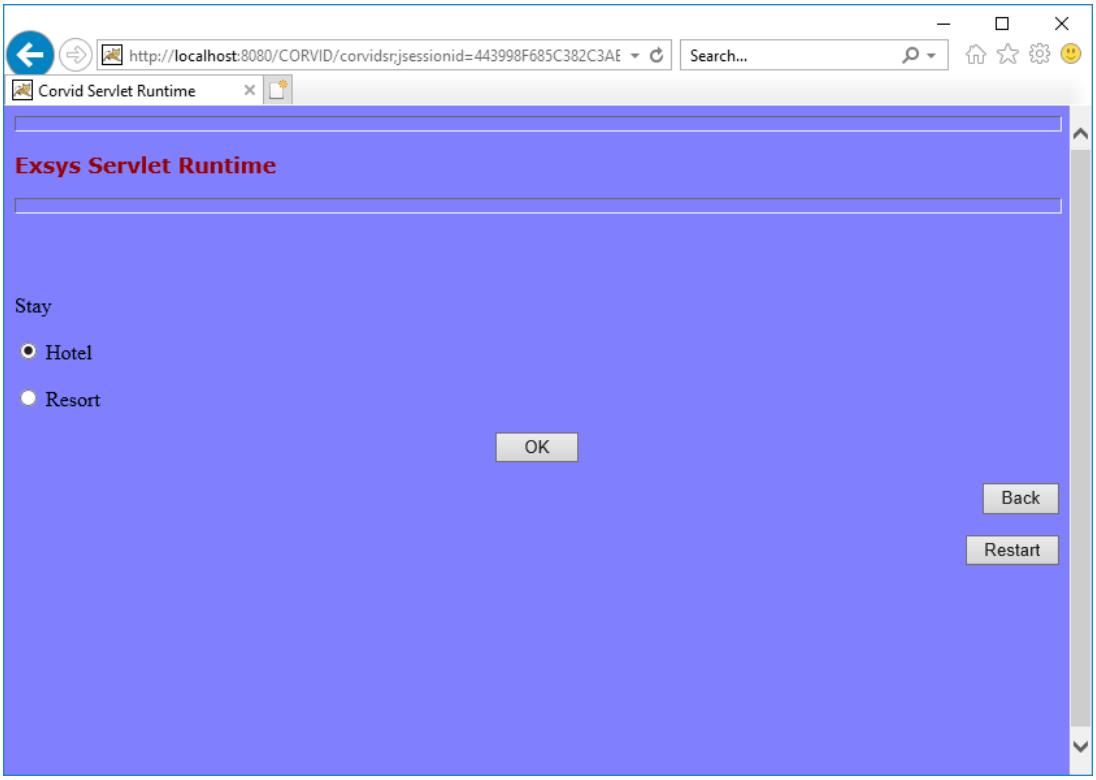


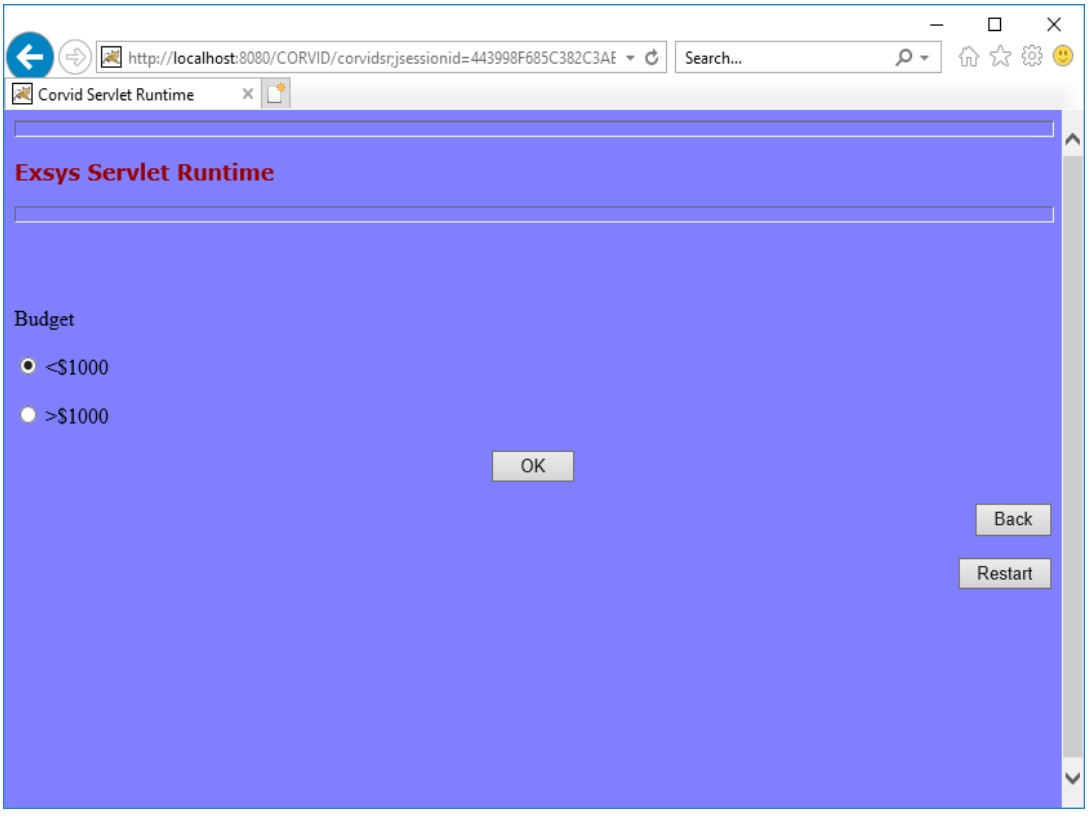


Birthday/Anniversary

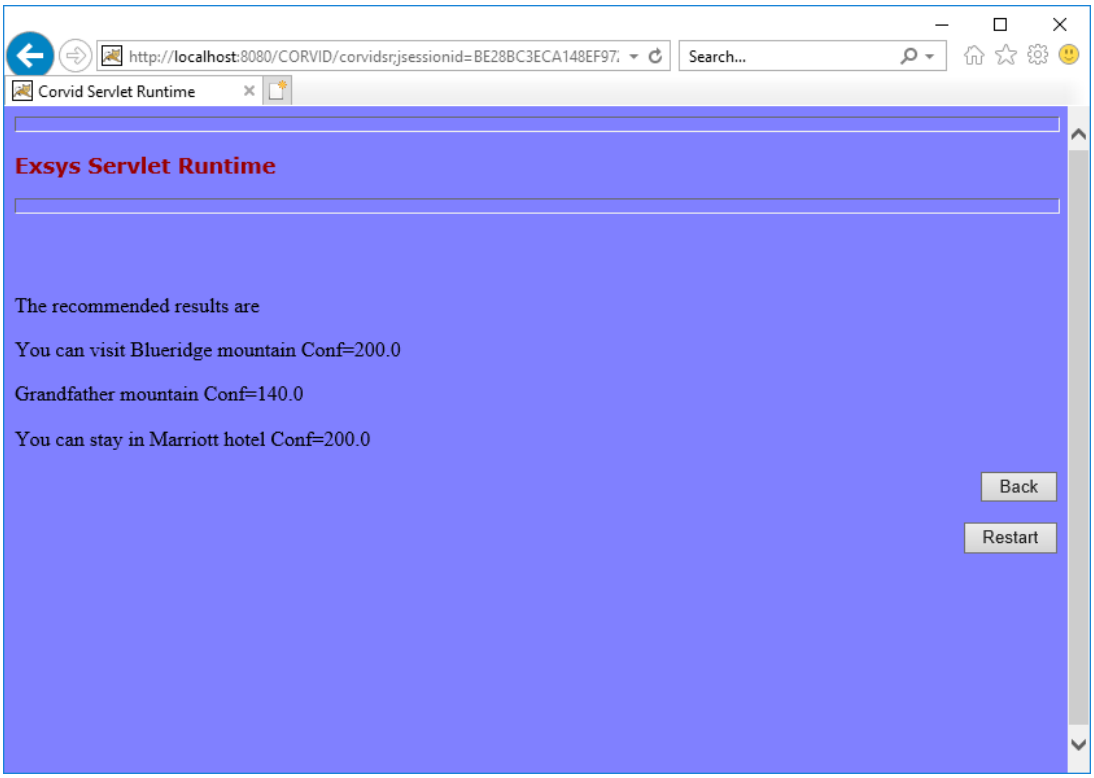


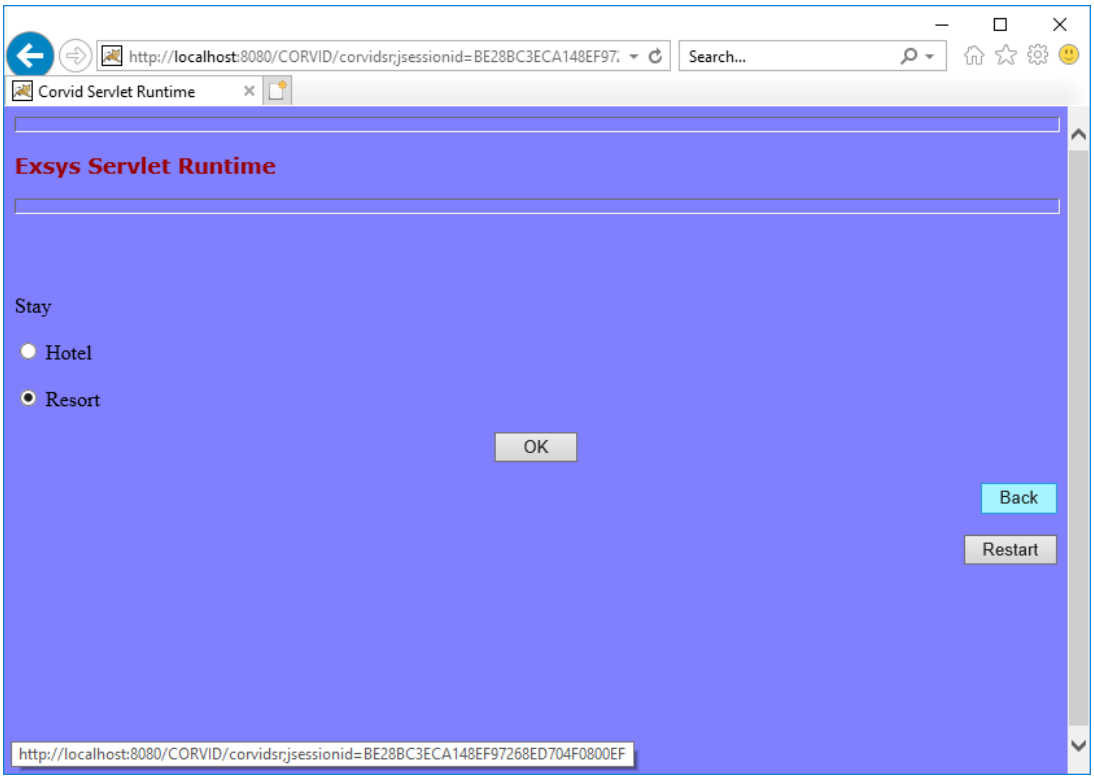


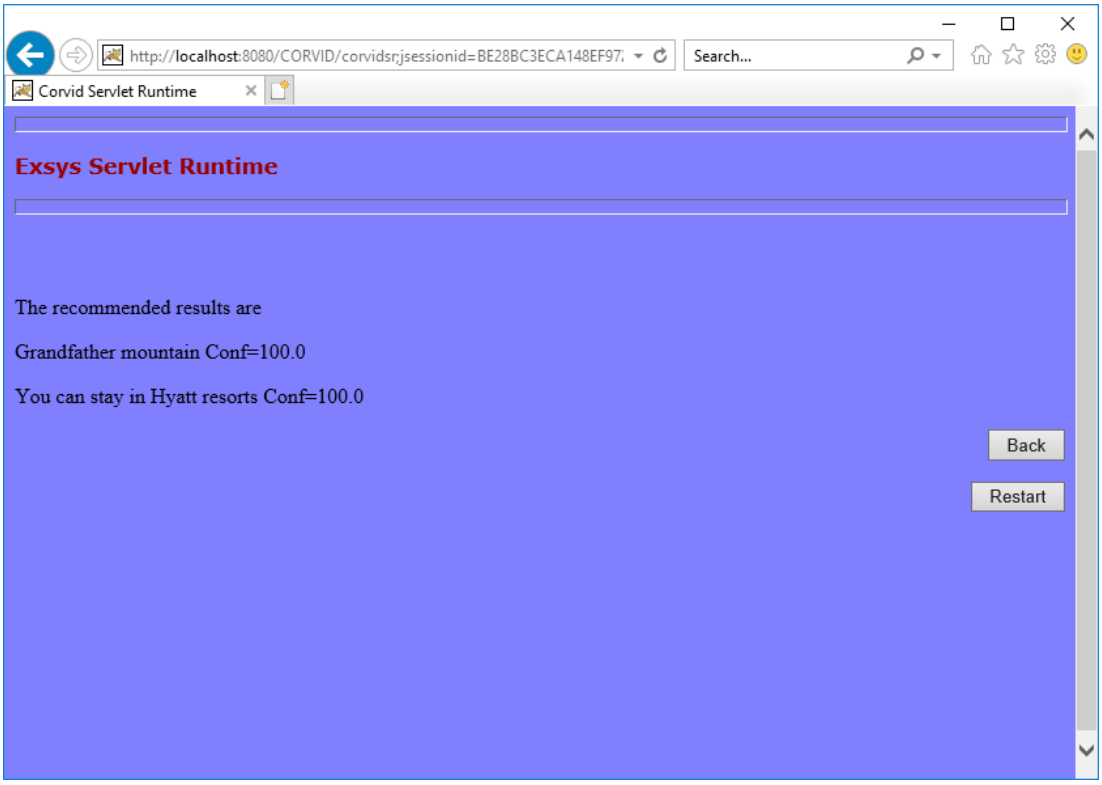

http://localhost:8080/CORVID/corvidsr;jsessionid=443998F685C382C3AE
Search...
Corvid Servlet Runtime
Exsys Servlet Runtime
Stay
Hotel
Resort
OK
Back
Restart


http://localhost:8080/CORVID/corvidsr;jsessionid=443998F685C382C3AE
Search...
Corvid Servlet Runtime
Exsys Servlet Runtime
Budget
<$1000
>$1000
OK
Back
Restart

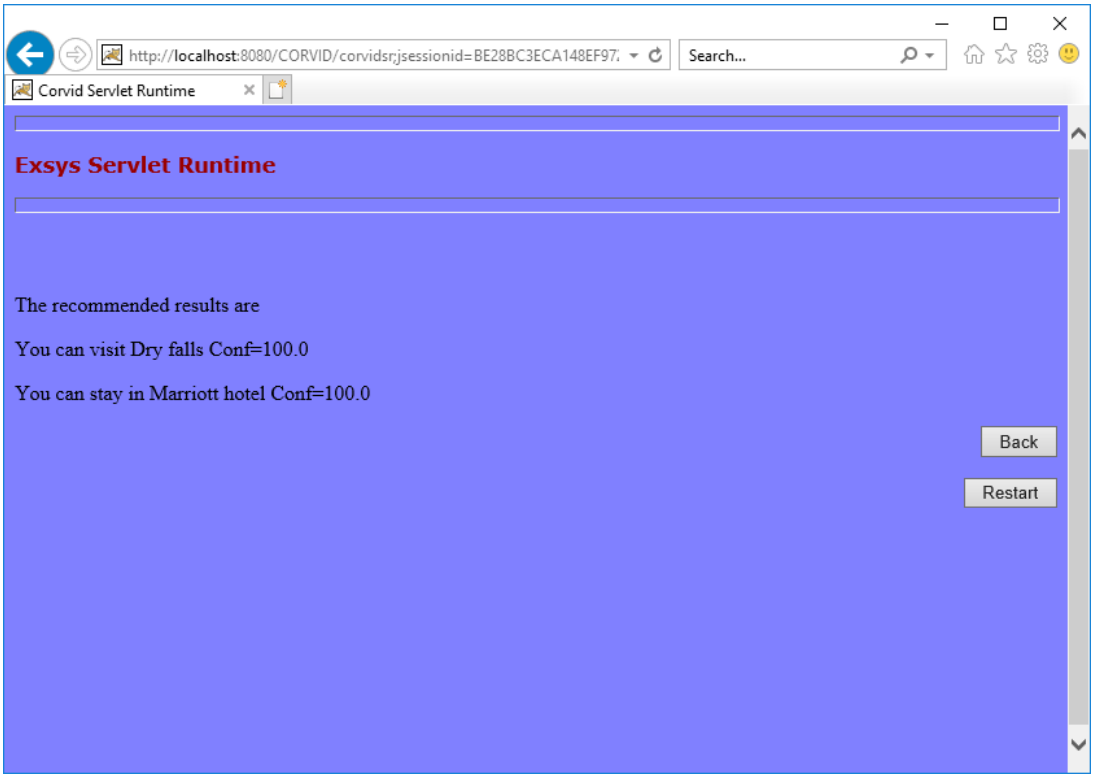
Hotel

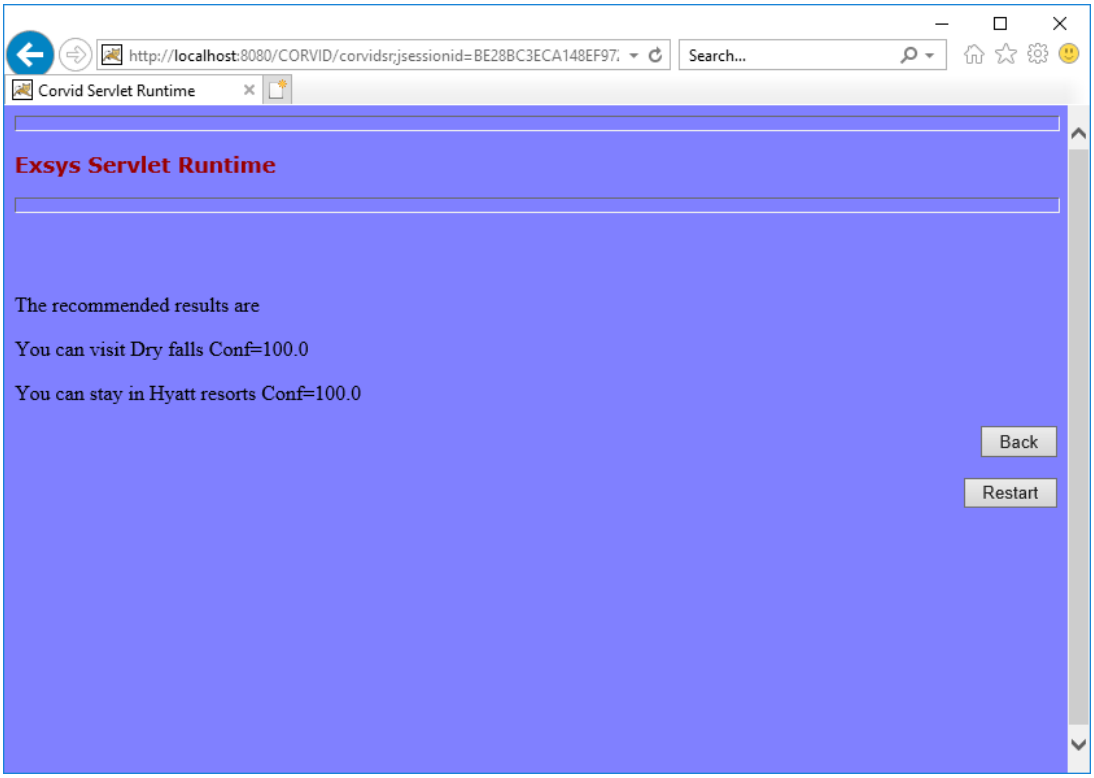
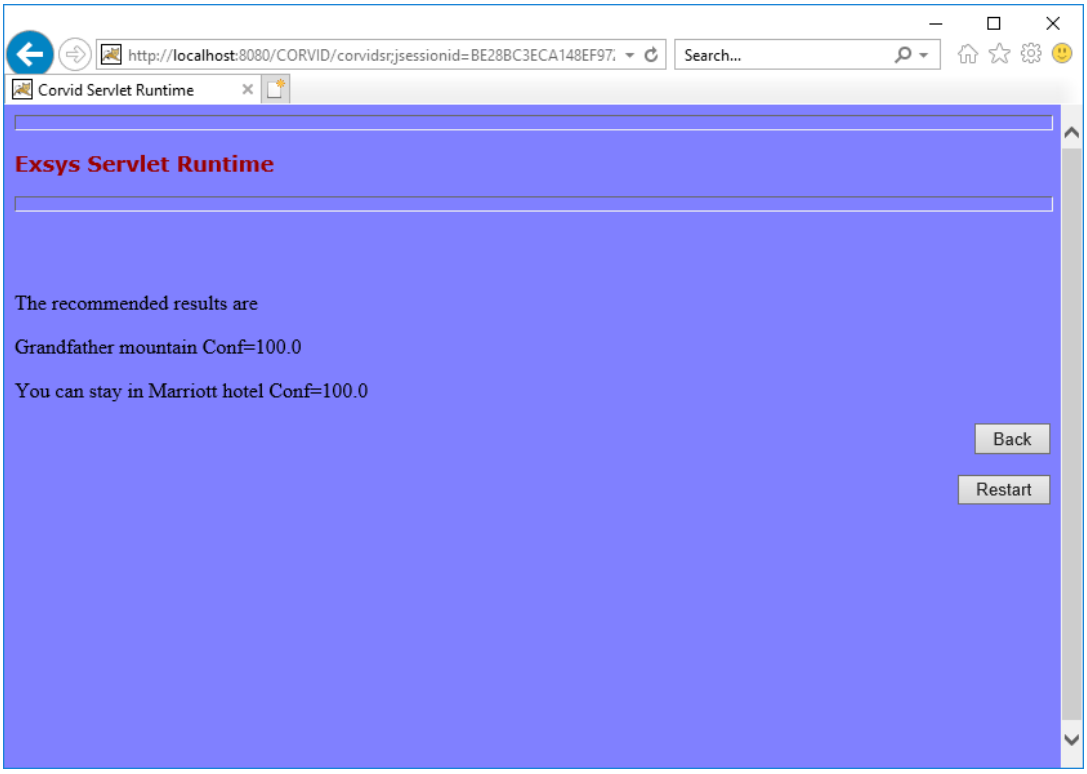
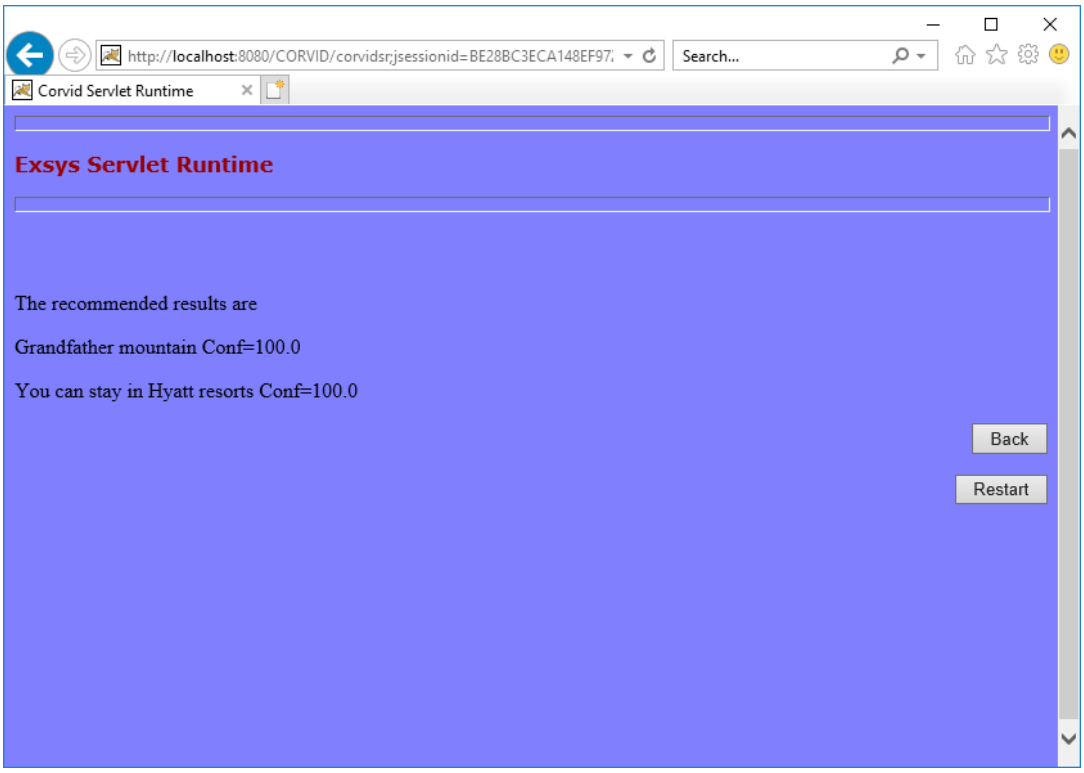

http://localhost:8080/CORVID/corvidsr;jsessionid=BE28BC3ECA148EF97
Search...
Corvid Servlet Runtime
Exsys Servlet Runtime
The recommended results are
You can visit Blueridge mountain Conf=200.0
Grandfather mountain Conf=140.0
You can stay in Marriott hotel Conf=200.0
Back
Restart


http://localhost:8080/CORVID/corvidsr;jsessionid=BE28BC3ECA148EF97
Search...
Corvid Servlet Runtime
Exsys Servlet Runtime
Stay
Hotel
Resort
OK
Back
Restart
http://localhost:8080/CORVID/corvidsr;jsessionid=BE28BC3ECA148EF97268ED704F0800EF


http://localhost:8080/CORVID/corvidsr;jsessionid=BE28BC3ECA148EF97
Search...
Corvid Servlet Runtime
Exsys Servlet Runtime
The recommended results are
Grandfather mountain Conf=100.0
You can stay in Hyatt resorts Conf=100.0
Back
Restart

Winter -> Tropical/Mountains -> Birthday/Anniversary > Hotel / Resort - Results





Winter -> Tropical/Mountains -> Birthday/Anniversary > Hotel / Resort - Results