Topic 2, Case Study 2

Background
Requirements
You are a developer for Proseware, Inc. You are developing an application that applies a set of governance policies for Proseware's internal services, external services, and applications. The application will also provide a shared Horary for common functionality.

Policy service
You develop and deploy a stateful ASP.NET Core 21 web application named Policy service to an Azure App Service Web App. The application reacts to events from Azure Event Grid and performs policy actions based on those events.

The application must include the Event Grid Event ID field in all Application Insights telemetry.

Policy service must use Application Insights to automatically scale with the number of policy actions that it is performing.

Policies
Log policy
All Azure App Service Wet) Apps must write logs to Azure Blob storage. All tog files should be saved to a container named logdrop. Logs must remain in the container for 15 days.

Authentication events
Authentication events are used to monitor users signing in and signing out All authentication events must be processed by PoScy service Sign outs must be processed as quickly as possible.

Policy Lib
You have a shared library named Policy Lib that contains functionality common to all ASP.NET Core web services and applications. The Policy Lib library must:

- Exclude non-user actions from Application Insights telemetry.
- Provide methods that allow a web service to scale itself.
- Ensure that scaling actions do not disrupt application usage.

Other
Anomaly detection service
You have an anomaly detection service that analyzes log information for anomalies. It is implemented as an Azure Machine learning model. The model is deployed as a web service.

If an anomaly is detected, an Azure Function that emails administrators is called by using an HTTP WebHook.

Hearth monitoring
All web applications and services have health monitoring at the health service endpoint.

Issues
Policy loss
When you deploy Policy service, policies may not be applied if they were m the process of being applied during the deployment.

Performance issue
When under heavy load, the anomaly detection service undergoes slowdowns and rejects

connections.

Notification latency
Users report that anomaly detection emails can sometimes arrive several minutes after an anomaly is detected.

App code
EventGridController.cs
Relevant portions of the app files are shown below. Line numbers are included for reference only and include a two-character prefix that denotes the specific file to which they belong.

EventGridController.es

```
EG01 public class EventGridController : Controller
EG02 {
EG03   public static AsyncLocal<string> EventId = new AsyncLocal<string>();
EG04   public 1ActionResult Process([FromBody] string eventsJson)
EG05   {
EG06    var  events = JArray.Parse(eventsJson);
EG07
EG08    foreach (var @event in events)
EG09    {
EG10     EventId.Value = @event[id"].ToString();
EG11     if (@event["topic"].ToString().Containg("providers/Microsoft.Storage"))
EG12     {
EG13       SendToAnomalyDetectionService(@event["data"]["ur1"].ToString());
EG14     }
EG15
EG16     {
EG17       EnsureLogging(@event["subject"].ToString());
EG18     }
EG19    }
EG20    return null;
EG21 }
EG22  private void EnsureLogging(string resource)
EG23  {
EG24    . . .
EG25  }
EG26  private async Task SendToAnomalyDetectionService(string url)
EG27  {
EG28     var content = GetLogData(url);
EG29     var scoreRequest = new
EG30     {
EG31       Inputs = new Dictionary(string, List<Dictionary<string, string>>>()
EG32       {
EG33         {
EG34           "input1",
EG35           new List<Dictionary<string, string>>()
EG36           {
EG37             new Dictionary<string>, string>()
EG38             {
EG39               {
EG40                 "1ogcontent", content
EG41               }
EG42             }
EG43           }
EG44         },
EG45       },
EG46       GlobalParameters = new Dictionary<string, string>() {}
EG47     };
EG48     var  result = await (new httpClient()).PostAsJsonAsync("...",scoreRequest);
EG49     var  rawModelResult = await result.Content.AcadAs StringAsync();
EG50     var  modelresult = JObject.Parse(rawModelResult);
EG51     if (modelresult["notify"],HasValues)
EG52     (
EG53       . . .
EG54     }
EG55  }
EG56  private (string name, string resourceGroup) ParseResourceId(string resourceId)
EG57  {
EG58    . . .
EG59  }
EG60  private string getLogData(string url)
EG61  {
EG62    . . .
EG63  }
EG64  static string BlobStoreAccountSAS(string containerName)
EG65  {
EG66    . . .
EG67  }
EG68 }
```

LoginEvent.cs
Relevant portions of the app files are shown below. Line numbers are included for reference only and include a two-character prefix that denotes the specific file to which they belong.

```
LoginEvent.cs
LE01 public class LoginEvent
LE02 {
LE03
LE04    public string subject { get; set; }
LE05    public DateTime eventTime { get; set; }
LE06    public Dictionary<string, string> data { get; set; }
LE07    public string Serialize()
LE08    {
LE09        return JsonConvert.SerializeObject(this);
LE10    }
LE11 }
```

QUESTION 1
You need to meet the scaling requirements for Policy Service. What should you store in Azure Redis Cache?

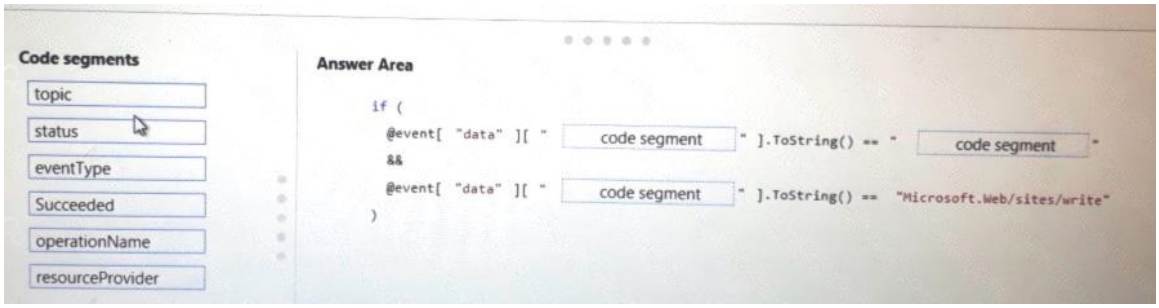
A. ViewState
B. HttpContext.tems
C. Session state
D. TempData

Correct Answer: B

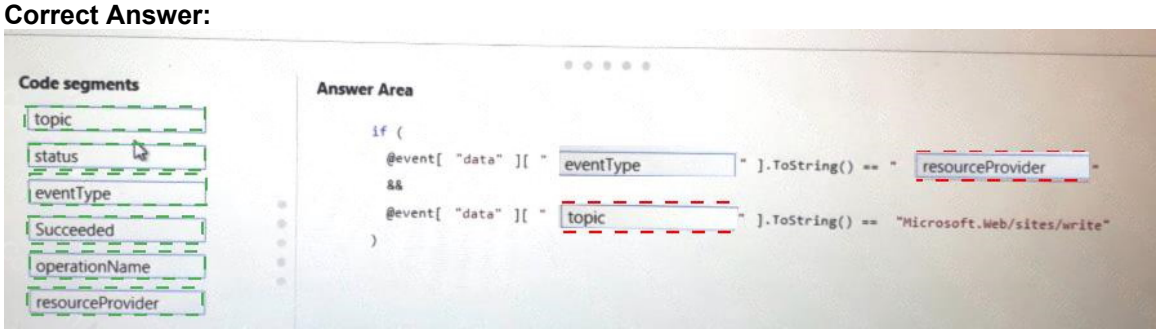
QUESTION 2
DRAG DROP
You need to add code at line EG15 in EventGndControllef.es to ensure that the tag policy applies to all services.

How should you complete the code? To answer, drag the appropriate code segments to the correct locations. Each code segment may be used once, more than once, or not at all. You may need to drag the Split bar between panes or scroll to view content.

NOTE: Each correct selection is worth one point.



Correct Answer:



QUESTION 3
You need to ensure that the solution can meet the scaling requirements for Policy Service. Which Azure Application Insights data model should you use?

A. an Application Insights trace
B. an Application Insights metric
C. an Application Insights dependency
D. an Application Insights event

Correct Answer: B

QUESTION 4
You need to resolve a notification latency issue.

Which two actions should you perform? Each correct answer presents part of the solution.

NOTE: Each correct selection is worth one point.

A. Ensure that the Azure Function is set to use a consumption plan.
B. Set Always On to false
C. Set Always On to true
D. Ensure that the Azure Function is using an App Service plan.

Correct Answer: AC

QUESTION 5
You need to ensure that the Policy service can implement the policy actions. Which code segment should you insert at line EG07 in EventGridController.cs?