Answer Sheet

Q1) You've enabled Application Insights for your web app. In which of the following Azure resources will telemetry data be stored for the app?

- In the Application Insights dashboard.
- ✅ In the Application Insights resource.

Explanation:-The web app sends its telemetry data to the Application Insights resource, where it's stored for analysis.

- In the web app.

Q2) Which action is NOT something a site reliability engineer would do?

- Proactively monitor and review application performance.
- ✅ Set up the server environment for testing.

Explanation:-SREs are concerned with the product reliability, so setting up the server environment for testing would not be an action the SRE does.

- Ensure the software has good logging and diagnostics.

Q3) Application Insights will send a performance degradation notification in which of the following scenarios?

- The database query returns no rows and an error is logged.
- A customer complaint bug is filed from the web site.
- ✅ A site dependency is responding more slowly than it used to.

Explanation:-Smart detection notifications for degraded performance are triggered three ways: response time degradation, dependency duration degradation, and a slow performance pattern of page load times, request response times, and dependency response times.

Q4) When writing alerts, you want to alert on symptoms rather than causes. What is an example of a symptom-based alert?

- ✅ Users in Australia cannot reach the web site.

Explanation:-Users in Australia not being able to reach the web site is a symptom. The cause might be a network outage in the region.

- There was a network outage in the Eastern region.
- The data sync from the replicated server failed.

Q5) What is the state of an alert that an administrator has reviewed?

- New.
- Closed.
- ✅ Acknowledged.

Explanation:-The Acknowledged state is when an administrator has reviewed the alert and started working on it.

Q6)

Assume one server can handle 5,000 requests per unit of time, and a web site experiences loads that vary relatively evenly from a low of 5,000 to a peak of 25,000.

The site is hosted in the cloud using virtual machines and each VM costs $4 per day.

What is the approximate annual difference in cost between providing elastic capacity that is sized to meet demand and constant capacity sized to handle peak loads?

- $1,240
- ✅ $2,920

Explanation:-If the average capacity is 15,000 requests per unit time and peak is 25,000, then the difference equates to two servers. (2 servers) X ($4/day) X (365 days/year) = $2,920.

- $600
- $4,680

Q7) Which of the following choices is NOT one of the benefits of scaling when scaling is done well?

- Fewer failures because of overwhelming the capacity of a single resource
- Stable performance regardless of the load on the system
- ✅ Less complexity in deployment

Explanation:-Scaling doesn't reduce the complexity of the system.

- Reduced resource cost (compared to provisioning for peak utilization)

Q8) Which of the following choices is a benefit of horizontal scaling compared to vertical scaling?

- Zero down-time as scaling occurs
- ✅ All of these

Explanation:-All three are reasons that horizontal scaling is more popular than vertical scaling in the cloud.

- Higher granularity in scaling
- Higher availability

Q9)

You are a cloud administrator in charge of ensuring that your organization's public-facing web site remains fast and responsive

at all times.

The site is hosted in an Azure App Service. It sees the heaviest traffic between 8:00 a.m. and 5:00 p.m. each day, but the load is somewhat inconsistent from one day to the next. In addition, it experiences infrequent burst loads with up to 10 times the normal traffic.

These bursts are difficult to predict, but slow the site to a crawl if additional resources aren't brought online rather quickly.

What approach would provide the best balance between responsiveness and cost?

- Manual scaling
- A combination of scheduled scaling and metrics-based scaling
- ✅ Auto-scaling based on a key metric such as CPU utilization or request rate

Explanation:-Properly configured, metrics-based auto-scaling makes sure that the site is scaled the right amount for cyclical loads as well as burst loads.

- Scheduled auto-scaling

Q10)

Consider the following scenario: you're using a load balancer with a round-robin scheduler as a front end to two web servers.

One web server is a medium instance that contains 2 cores and 8 GB RAM, while the other is a large instance with 4 cores and 16 GB RAM.

Which of the following scenarios is likely?

- Both instances will receive an equal number of requests and the large instance will have twice the utilization, in terms of percentage of CPU and memory, of the medium instance.
- Both instances will be equally utilized in terms of percentage of CPU and memory and the medium instance will receive twice as many requests as the large instance.
- The large instance will receive twice as many requests as the medium instance and the large instance will have half the utilization, in terms of percentage of CPU and memory, of the medium instance.
- The large instance will receive twice as many requests as the medium instance and the large instance will have twice the utilization, in terms of percentage of CPU and memory, of the medium instance.
- ✅ Both instances will receive an equal number of requests and the large instance will have half the utilization, in terms of percentage of CPU and memory, of the medium instance.

Q11) Which of the following is NOT a scenario for which you would consider a serverless-computing solution?

- Code that serves as the 'glue' between other cloud services.
- A well-defined business workflow that kicks in every time an invoice is uploaded to cloud storage.
- ✅ A web site that experiences varying loads at different times of day, with occasional 10X spikes in traffic.

Explanation:-Serverless solutions are generally used for tasks that run frequently but not constantly.

- A database that experiences varying loads at different times of day, with occasional 10X spikes in traffic.
- Code that runs at a specified time each night to back up mission-critical data.

Q12) Which of the following test scenarios will not help testing the resiliency and readiness of a cloud service?

- ✅ All of these tests ensure the resiliency of the cloud service
- Randomly deleting the files that back up the production database of the main web server
- Turning off an entire datacenter or availability zone
- Randomly turning off VM instances that constitute the service

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Q13)

Consider the following scenario.

You're using Azure Load Balancer with a round-robin scheduler as a front end to two web servers.

One server is a medium instance with two cores and 8 GB of RAM.

The other server is a large instance with four cores and 16 GB of RAM.

Which of the following scenarios is likely?

- Both instances will be equally utilized (in terms of percentage of CPU and memory). The large instance will receive twice the load of the medium instance.
- Both instances will be equally utilized (in terms of percentage of CPU and memory). The medium instance will receive twice the load of the large instance.
- The large instance will receive twice the load of the medium instance. The large instance will have half the utilization (in terms of percentage of CPU and memory) of the medium instance.
- The large instance will receive twice the load of the medium instance. The large instance will have twice the utilization (in terms of percentage of CPU and memory) of the medium instance.
- ✅ Both instances will receive an equal amount of load. The large instance will have half the utilization (in terms of percentage of CPU and memory) of the medium instance.

Q14) Which of the following is not one of the benefits of scaling, when done well?

- Fewer failures due to overwhelming the capacity of a single resource
- Stable performance irrespective of load on the system
- ✅ Less complexity in deployment

Explanation:-Making a scalable application is more complex.
- Reduced resource cost (compared to provisioning for peak utilization)

Q15) Which of the following is not a recommended way to solve the variability problem that leads to a long tail?

- ✅ Scheduling the shortest jobs to run first to reduce queuing delay
- Simply accepting the results that are returned within the first 50 ms and generating the final response to the user based on incomplete or inaccurate data
- Speculative replication of jobs when resources are available
- Turning off power-saving and idling mechanisms on the servers

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Q16) What happens if a health probe isn't configured and a VM fails?

- Load Balancer removes the VM from the back-end pool.
- Load Balancer doesn't know which VM has failed and so stops sending requests to all VMs in the back-end pool.
- ✅ Azure Load Balancer won't notice the failure and continues to route traffic to the failed VM. This issue causes requests to time out.

Q17)

You closed a port in a network security group used by a virtual network that hosts the VMs in the Load Balancer pool.

How might this affect load balancing?

- Load Balancer queues client requests until the port is opened again. At that point, the requests are sent.
- ✅ If the port is used to send traffic to the VMs in the pool, then this traffic is blocked. All requests time out and eventually fail. If this port was a probe port, the VM is removed from rotation.

Explanation:-Traffic is blocked and all requests time out and eventually fail unless this port was a probe port. In that case, the VM is removed from rotation.
- If one is available, Load Balancer attempts to use a different port. Requests are sent to VMs through this port instead.

Q18) What does the average Health Probe Status metric indicate?

- The number of virtual machines available that will respond to client requests.
- ✅ The percentage of virtual machines in the back-end pool that are responding to health probe requests.
- The number of virtual machines in the back-end pool that are responding to health probe requests.

Q19)

You're monitoring the average packet count metric for a load balancer.

The average packet count suddenly increases by a significant amount, although the number of clients doesn't appear to have changed.

What is the most probable cause?

- ✅ One or more virtual machines in the back-end pool are no longer responding to health probe requests and are no longer participating in load balancing.
- The load balancing rule has stopped directing traffic to one or more virtual machines in the back-end pool.
- Additional virtual machines have become available in the back-end pool.

Q20)

You want to track the average CPU usage of your Azure virtual machine over the last seven days.

What is the most straightforward way to do this?

- View the metric in the Monitor section by creating a graph and set the range to the last seven days.
- View the metrics for the virtual machine each day and store the values for each of the last seven days in a spreadsheet.
- ✅ View the metrics for the virtual machine on the Overview page and set the range to the last seven days.

Explanation:-The Overview page displays this graph by default. You can set the range to show a seven-day range.

Q21) What do you have to install or create to store simple boot diagnostics in Azure?

- ✅ An Azure storage account.

Explanation:-You need a storage account to store boot diagnostics data, the boot screenshots, and logs.
- Install the Azure Diagnostics extension.
- You don't have to install or create anything additional to store diagnostic logs in Azure.

Q22)

You create a custom chart and pin it to an Application Insights dashboard.

Other users of the dashboard can't see the new chart.

What should you do to resolve the problem?

- Choose a different aggregation method in the chart.
- Make sure you've specified a filter in the chart.

✅ Re-publish the Application Insights dashboard.

Explanation:-When you make changes to a dashboard in Azure, other dashboard users won't see the changes until you publish them.

Q23)

Users are complaining that a Web site you deployed to the cloud has suddenly become very slow.

Which of the following metrics might be helpful to you in resolving the problem?

- Average number of pages visited by each user
- Average page-load time
- ✅ Average length of time requests wait in the request queue

Explanation:-If a Web site seems slow, it is often because the Web server is receiving more traffic than it can handle. Request wait time is a common metric used to determine whether a server is overloaded.

- Bounce rate (the number of users who visit your site and immediately leave)

Q24) Which of the following statements about application performance monitoring (APM) platforms is NOT true?

- APM platforms can be used to trigger actions such as alerts sent to administrators and virtual-machine scaling
- Public cloud services such as AWS and Azure provide integrated monitoring services that may be used instead of (or in conjunction with) third-party APMs
- ✅ Public cloud services such as AWS and Azure provide integrated monitoring services that must be used instead of third-party APMs

Explanation:-AWS and Azure offer integrated monitoring services, but administrators are free to use third-party APMs as well.

- Agentless APM platforms typically rely on service logs to monitor performance

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Q25) A count of requests per minute reaching a server is an example of which of the following?

- None of these
- A correlation
- A performance indicator
- ✅ A performance metric

Explanation:-Requests-per-minute is a metric, not an indicator or a correlation.

Q26)

To monitor the performance of an application deployed to the cloud and determine when it needs to be scaled to meet demand, you've configured a dashboard to show the number of requests received per minute and the number of requests processed per minute.

The idea is that if the count of requests processed plateaus while the count of requests received continues to grow, the server might be saturated and you need more servers.

In this scenario, which of the following are you employing?

- A performance indicator
- ✅ A USE correlation

Explanation:-USE considers the number of requests processed during a given interval and the number of requests that couldn't be processed.

- A performance metric
- A RED correlation

Q27) The primary objective of a key performance indicator (KPI) is to:

- Determine who to blame when a system goes down
- Quantify the performance of a system as it relates to one of the following: health, success in meeting business objectives, user satisfaction, or speed in mitigating problems
- Log problems and the actions taken to correct them in a persistent data store for later analysis
- ✅ Trigger an action such as a warning or alert when something is wrong or is about to go wrong

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Q28) The basic principle of everyday remediation is to:

- ✅ Use performance metrics of various types to continually improve a system, even when it hasn't reached a breaking point.

Explanation:-The primary goal of everyday remediation is to continually make improvements to a system to head off problems before they occur.

- Use performance metrics of various types to promptly mitigate breakages when they occur, and to identify trends in the IT department's response time.
- Ensure that system administrators are aware when the ratio of requests processed to requests received falls below a specified threshold, usually 50%.
- Ensure that system administrators are aware when problems occur that affect the responsiveness of a system or its ability to serve business objectives.

Q29) Why would you use Azure Security Center?

- You want to secure an infrastructure that consists of only on-premises resources.
- You want to secure an infrastructure that consists of only cloud resources.
- ✅ You want to secure an infrastructure that consists of on-premises and cloud resources.

Explanation:-Azure Security Center helps you secure your on-premises and cloud resources.

Q30) How can you prevent persistent access to your virtual machines by using Azure Security Center?

- Use automation and orchestration to block access.
- ✅ Use just-in-time access to prevent persistent access.

Explanation:-With just-in-time access, your virtual machines are only accessed based on rules that you configure.

- Use playbooks to block access.

Q31) Artifacts from a GitHub Actions workflow can be saved with what action?

- The actions/download-artifact action
- The actions/checkout@v1 action
- ✅ The actions/upload-artifacts action

Explanation:-The actions/upload-artifacts action allows you yo save an artifact.

Q32) What is one way that GitHub Actions workflows can NOT be used?

- ✅ To upload a new secret to GitHub Secrets.

Explanation:-You can use GitHUb Actions workflows to do all of these tasks except upload secrets. You would not want your secret in plain text in a workflow file.

- To automate common repetitive tasks, such as welcoming new contributors to a repository.
- To automatically run test suites on each push
- To kick off a review process

Q33) Which action would you use to access a repository's code from the virtual machine provided by GitHub Actions?

- actions/setup-nodeZ
- npm install
- ✅ actions/checkout

Explanation:-The actions/checkout accesses a repository's code from the virtual machine provided by GitHub Actions

- actions/upload-artifact

Q34)

How many builds will the following matrix produce?

os: [ubuntu-latest, windows-2016] node-version: [8.x, 10.x, 12.x]

- 5
- 3
- ✅ 6

Explanation:-Each operating system is paired with each version of Node for a total of 6 builds.

Q35) How do you grant your GitHub repository access to Azure?

- Authenticate to Azure with GitHub
- ✅ Manage credentials using GitHub Secrets and use that secret name in the workflow

Explanation:-Storing your credentials in GitHub Secrets keeps them safe and assures they will not be exposed in plain text.

- It happens automatically
- Manage credentials by generating tokens locally

Q36) What can trigger a workflow for deploying to Microsoft Azure?

- ✅ Any event, just like any other Action

Explanation:-Any webhook event or event within GitHub can trigger a workflow

- Any events that affect the repository's default branch
- Only commit events

Q37) How do you make sure that your Azure credentials are not stored in plain text in your repository?

- Put your credentials directly in your workflow file.
- Use your GitHub token to authenticate into Azure
- ✅ Use GitHub Secrets to securely store your Azure credentials.

Explanation:-Storing your credentials in GitHub secrets allows you to use the credential in a workflow without exposing the credential in plain text.

Q38) Which type of version control enables you to work from your own copy of the main repository?

- Centralized version control
- Team Foundation Version Control
- ✅ Distributed version control

Explanation:-With distributed version control, everyone works from their own copy of the main repository. This ensures that no one is blocked from accessing the files they need.

Q39) A Git branch is used to:

- Create an entirely new repository that's not connected to the main repository.

✅ Make changes and experiment with the codebase without affecting other developers' work.
Explanation:-A Git branch points to a particular commit, or snapshot, of your entire repository. You can then propose your changes for others to review or discard them and try something else.
⚪ Copy only the part of the repository that you want to work with.

Q40) The git pull command:

⚪ Uploads changes from your local repository to the remote repository.
✅ Downloads and merges the latest changes from the remote repository into your local repository.
Explanation:-Run git pull when you want to synchronize with the latest changes from your team.

Q41) Which tool allows you to automate your responses to alerts?

✅ Use playbooks to automate your response to alerts.
Explanation:-Playbooks are automated procedures that you can run against alerts.
⚪ Use adaptive controls to automate your response to alerts.
⚪ Use just-in-time access to automate your response to alerts.

Q42) Why would you use Azure Application Insights?

✅ You want to analyze and address problems that affect your application's health.
Explanation:-You can analyze and address issues such as exceptions, failures, and availability problems.
⚪ You want to analyze and address problems that affect your on-premises infrastructure's security.
⚪ You want to analyze and address problems that affect your cloud infrastructure's security.

Q43) How can you continuously monitor your applications from different geographic locations?

⚪ Use Log Analytics to continuously monitor your application from different geographic locations.
⚪ Use an instrumentation key to continuously monitor your application from different geographic locations.
✅ Use availability tests to continuously monitor your application from different geographic locations.
Explanation:-Availability tests let you monitor your application from multiple locations in the world.

Q44) How would you continuously monitor your release pipelines?

⚪ Use the application map to monitor your release pipelines.
✅ Use a continuous monitoring gate to monitor release pipelines.
Explanation:-Use the gate to stop deployment when an issue has been identified. Deployment will continue automatically when the issue is resolved.
⚪ Use availability tests to monitor your release pipelines.

Q45) Why would you use Azure Sentinel?

⚪ You want to be able to cross-query over data collected from multiple sources that span on-premises and the cloud.
✅ You want a detailed overview of your enterprise, potentially across multiple clouds and on-premises locations.
Explanation:-Azure Sentinel will help monitor and respond to security threats across your entire enterprise.
⚪ You want to improve the development lifecycle for an application that spans across on-premises and the cloud.

Q46) How do you set up Azure Sentinel on Azure?

✅ Create a workspace, and then add that workspace to Azure Sentinel.
Explanation:-You'll need to create a Log Analytics workspace.
⚪ Connect your data source, create a workspace, and then add Azure Sentinel to that workspace.
⚪ Create an Azure Sentinel instance, and then add Azure Sentinel to a workspace.

Q47) Sentinel has raised an incident. How can you investigate which users have been affected?

⚪ Use the investigation map, drill down into the incident, and look for playbooks.
✅ Use the investigation map, drill down into the incident, and look for user entities affected by the alert.
Explanation:-Use entities to view users that might have been in the path of a particular threat or malicious activity.
⚪ Use the investigation map, drill down into the incident, and look for data sources.

Q48) You need to write queries to analyze your log data. How would you do this?

⚪ Use a workspace to write your queries.
✅ Use Log Analytics to write your queries.
Explanation:-You can create and run queries on your logs and view results with Log Analytics.
⚪ Use the Log Analytics agent to write your queries.

Q49) How can you automatically collect security-related data from all newly created virtual machines into one central location?

⚪ Use a cross-resource query.
⚪ Use an instance of Application Insights.
✅ Use the Log Analytics agent.

Explanation:-The agent gathers security-related information from resources into a workspace.

Q50) How can you analyze both security-related data and application performance data together?

- Use automatic provisioning to query Azure Security Center and Application Insights workspaces together.
- ✅ Use a cross-resource query to query Azure Security Center and Application Insights workspaces together.

Explanation:-You use cross-resource querying to analyze the log data collected from separate workspaces.

- Use the Log Analytics agent to query Azure Security Center and Application Insights workspaces together.

Q51)

"Continuous Collaboration enables teams to innovate outside of the boundaries of planned meetings."

Which of the following value considerations conflict with the quoted statement?

- Customer collaboration over contract negotiation
- Working software over comprehensive documentation
- ✅ Following a plan over responding to change

Explanation:-This value consideration conflicts with the quoted statement.

Q52)

Aligning KPIs with habits is important because it helps achieve positive business outcomes.

Which of the following habits is important for reinforcing KPIs and setting teams up for success?

- Valuing team capacity over non-actionable metrics
- ✅ Having a production-first mindset

Explanation:-Having a production-first mindset is an important habit for reinforcing KPIs and setting teams up for success.

- Valuing test results over variations in efficiency

Q53) What is value stream mapping?

- ✅ A methodology that helps visualize complex work systems and address the disconnects, redundancies, and gaps in how work gets done

Explanation:-This is a good description of value stream mapping.

- A concept that organizes objects of value in an idealized workflow stream
- An activity that maps value to different programming activities as a way to identify work components that have the highest value

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Q54) In addition to what's stated in its definition, what does value stream mapping help identify and quantify?

- Development milestones
- ✅ Waste

Explanation:-Value stream mapping helps identify and quantify waste.

- Customer value declarations

Q55) Which of the following is important for DevOps leadership to measure?

- ✅ Impact

Explanation:-DevOps leadership should measure impact.

- Number of bugs
- Team velocity

Q56) Why is it difficult to pull together various processes into Continuous Delivery?

- Because the waste elimination process is more time-consuming than other processes.
- ✅ Because Continuous Delivery requires a combination of people, process, and automation working together.

Explanation:-This is why it's difficult to pull together various processes into Continuous Delivery.

- Because increased deployment frequency leads to team burnout.

Q57) Which is the most important question to ask as a way to understand delivery performance in an organization?

- ✅ How big is your deployment pain to production?

Explanation:-This is the important question to ask as a way to understand delivery performance.

- How does your organization identify and remedy deployment failures?
- How many deployments does your organization achieve in a week?

Q58) Which of the following is a benefit of Continuous Delivery?

- Fault-focused monitoring
- Improved code production metrics
- ✅ Faster ROI

Explanation:-This is one of the many benefits of Continuous Delivery.

Q59) What false assumption should you beware of when striving for Continuous Quality?

✅ The more bugs that are found and fixed, the better the quality

Explanation:-This is a false assumption about Continuous Quality.

- Quality is primarily a marketing asset and yields few other benefits
- Quality should be assured by tests conducted by a dedicated team

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Q60) Who is primarily responsible for the existence of bugs in software?

- The coder and the tester
- ✅ The product owner, the coder and the tester

Explanation:-All of these persons, together, are primarily responsible for bugs in software.

- The product owner and the coder

Q61) Which of the following provides a set of tools for monitoring, allocating, and optimizing your Azure costs?

- Total Cost of Ownership Calculator (TCO)
- Azure Pricing Calculator
- ✅ Azure Cost Management

Explanation:-Azure Cost Management is an Azure product that provides a set of tools for monitoring, allocating, and optimizing your Azure costs.

Q62) Which of the following can be used to estimate cost savings when migrating to Azure?

- Usage meter
- ✅ Total Cost of Ownership calculator

Explanation:-The TCO calculator is a tool that you use to estimate cost savings you can realize by migrating to Azure.

- Pricing calculator

Q63) What are the capabilities that Azure Advisor can provide recommendations for?

- High availability, performance, and cost
- ✅ High availability, security, performance, operational excellence, and cost

Explanation:-Azure Advisor provides recommendations on many different capabilities for your solutions.

- Costs only

Q64) What can you use Azure Cost Management for?

- A tool in Azure that lets you define how much you want to spend, cuts of services when that allocation is met.
- See estimates of what your services might cost if you make a change.
- ✅ See historical breakdowns of what services you are spending your money on.

Explanation:-You can use the historical breakdowns to change how and why you spend on Azure.

Q65) Which tab of the Azure pricing calculator will you use to put together your estimate?

- Features
- ✅ Products

Explanation:-The products tab lets you pick what capabilities your solutions and cloud infrastructure needs.

- Estimate

Q66) Azure Monitor provides observability across what areas of your application stack?

- Azure App Service.
- On-premises infrastructure.
- ✅ Applications and infrastructure both in the cloud and on-premises.

Explanation:-Azure Monitor is a service in Azure that provides full-stack observability across applications and infrastructure both in the cloud and on-premises.

Q67) Which of these is an easy way to get full observability across all of your Azure resources?

- Combine your Azure resources in two resource groups, one for the application and one for the infrastructure, and use Application Insights and Infrastructure Monitor for resource groups to monitor the health and performance across all of you application resources.
- Combine your Azure resources in a resource group and use Application Insights to monitor the health and performance across all of you application resources.
- ✅ Combine your Azure resources in a resource group and use Azure Monitor for resource groups to monitor the health and performance across all of you application resources.

Explanation:-Azure Monitor for resource groups provides a basic way to keep track of the health and performance of your entire application and enables you to drill down into individual components so that you can troubleshoot failures.

Q68)

You're monitoring your application's health and performance with Application Insights.

What feature of Application Insights sends you an automatic alert when it detects an unusual pattern?

- Profiler
- Usage Analysis

Smart Detection

Explanation:-Smart Detection provides automatic alerts that adapt to your app's normal patterns of telemetry and trigger when there's something outside the usual pattern.